NEHRU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

(Affiliated to Bharathiar University Accredited with "A+" Grade by NAAC, ISO 9001:2015 (QMS) Certified, Recognized by UGC with 2(f) &12(B), Under Star College Scheme by DBT, Govt. of India) Nehru Gardens, Thirumalayampalayam, Coimbatore - 641 105, Tamil Nadu, India. E-mail: <u>nascoffice@nehrucolleges.com</u>. Web Site: <u>www.nehrucolleges.net</u>.

REGULATIONS, CURRICULUM & SYLLABUS B.Sc. COMPUTER SCIENCE



Effective from 2023-2024

REGULATIONS

NEHRU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

REGULATIONS FOR UNDERGRADUATE DEGREE COURSES

Choice Based Credit System blended with Outcome Based Education Regulations with effect from the Academic Year 2023-2024

Definition

a) Programme – A course of study leading to the award of a degree in a discipline.

(E.g.: B. Sc. / B. Com.)

- b) Branch Discipline of study (e.g. B.Sc. Computer Science)
- c) Curriculum The various courses (subjects) a student must study in a particular branch.
- d) Course The Theory & Practical subject offered under each curriculum.
- e) Credit A unit of measurement based on the duration of the contact hours, content and quality of the subject matter.

1. UG Curriculum

The UG Curriculum follows CBCS pattern and the medium of instruction is English.

2. Eligibility for Admission to the Course

Candidates for admission to the first year of the UG degree programmes are required to **have passed the higher secondary examination** (Academic or Vocational) conducted by the Govt. of Tamil Nadu in the relevant subjects or other examinations accepted as equivalent thereto by the Parent University, subject to such other conditions as may be prescribed thereof.

3. Duration of the Programme

The UG programme will comprise six semesters with two semesters per academic year, extending over a total duration of three years. Examination shall be conducted at the end of every semester for the respective courses. Each semester has 90 instructional days consisting of 5 teaching hours per working day. Thus, each semester has 450 teaching hours and the whole programme has 2700 teaching hours.

4. Choice Based Credit System (CBCS)

All Undergraduate Programmes offered by the University shall be under Choice Based Credit System (CBCS). Choice based credit system is introduced with the aim of offering flexibility in the choice of courses to the students.

Objectives of the Choice Based Credit System

- > To facilitate the students to have greater flexibility in their choice of courses.
- To widen the spectrum of knowledge of students by means of Core, Allied, Project / Electives, Value Education, Environmental Studies and Skill Based Subjects.
- To revamp the curriculum which enables to impart entrepreneurial skills and placement potentials qualities.
- To incorporate need based knowledge in tune with the location and neighborhood of the Institution.
- To allocate credit points to each paper of the study based on the weightage of the contact hours, content and quality.
- To extend opportunities to fast learners in order to earn additional credit from advanced as well as additional courses.
- To maintain the total credit points of each programme on par with international standards.

5. Outcome Based Education (OBE)

OBE is an **educational** theory that bases each part of an **educational** system around goals (**outcomes**). By the end of the **educational** experience, each student should have achieved the goal.

Objectives of Outcome based curriculum

- The programme outcomes and Programme specific outcomes are clearly identified and unambiguously specified regarding the content, context and competence.
- The expected outcome should be defined by setting bench marks for each level of the programme. Benchmark should tackle and define specifically, the goals of the curriculum and verify ways to access whether the students have reached these goals at the level of study;
- OBE is driven by assessments that focus on well defined learning outcomes and not by other factors such as what is taught, the duration taken by the student to achieve the outcomes or which path the students take to achieve their targets. In OBE, assessment techniques must be with clear description of expected performance.

Definitions

Outcome: An outcome of an educational Programme is what the student should be able to do at the end of a Programme / Course / Instructional Unit.

Levels of Outcomes

- Programme Outcomes: POs are statements that describe what the students graduating from any of the educational Programmes should be able to do.
- Programme Specific Outcomes: PSOs are statements that describe what the graduates of a specific educational Programme should be able to do.
- Course Outcomes: COs are statements that describe what students should be able to do at the end of a course

Learning Outcomes: It describes levels of achievement that can be attained across the domains of learning. Here K1 representing Remember; K2 – Understanding;
K3 – Apply; K4 – Analyze; K5 – Evaluate, K6 – Create are used to measure the levels of achievement in learning.

6. Course of Study

The Course of Study for the UG degree courses of all branches shall consist of the following:

6.1. Part I : Language : Tamil or any one of the modern / Classical languages i.e. Malayalam, French and Hindi.

It is absolutely obligatory for all the UG students to study a language under part I. A student can select and study any one of the languages offered under part I. The syllabus drafted would enable the students to communicate with the ease and effectiveness in that language. It shall be offered during the Semesters I to IV with one examination at the end of each semester.

6.2. Part II : Language : English

The study of English has been made mandatory for all UG students under part II. English being the window to the outer world in the context of the globalization scenario, the contents of the syllabus is tailored in a fashion suitable for imparting the classical and the modern facets of the language and literature, besides conferring a mastery of fluency and command over the language, providing a clout to compete for employment opportunities. The subject shall be offered during the Semesters I to IV with one examination at the end of each semester.

6.3. Part III : Core Subjects, Allied Subjects and Project or Elective Courses:

1) Core Subjects : Each programme has a group of Core courses arranged semester wise. The syllabi of the core courses will enlighten the students in the acquisition of the basic concepts of their respective disciplines, besides getting focused on to the recent trends. The core courses will span over six semesters and examination shall be conducted in the core subjects at the end of every semester.

2) Allied Subjects : In all disciplines, the UG students must study Allied courses along with the core courses, which would supplement, suit and support the major course of study. The Allied Subjects is to be studied during the first four semesters of the UG programmes and examination shall be conducted at the end of every semester.

3) **Project , Internships and Electives with three Courses :** In all disciplines, the UG student shall undergo a Project and Internships (if any) and he / she must study three Elective Courses.

Three Elective courses are to be offered one in the V semester and two in the VI Semester. Elective subjects are to be selected from the list of electives prescribed by the concerned Board of Studies during the fifth and Sixth Semester along with the Core Subjects.

A student shall take up a project work in addition to his elective subjects. The report of the study should be submitted at the end of course duly certified by the supervisor and forwarded by the Head of the Department / Principal of the College. The Head of the Department of the programme concerned shall assign a project supervisor, who in turn shall assign the topic and monitor the project work of the student.

A student shall complete Internship (if any) as per the recommendations of BoS concerned.

6.4. Part IV

- a) Those who have not studied Tamil up to XII std and taken a Non-Tamil language under Part-I shall take Tamil Comprising of two Courses. The course content of which shall be equivalent to that prescribed for the 6th Standard by the Board of Secondary Education and they shall be offered in the third and fourth semesters.
 - b) Those who have studied Tamil up to XII std and taken a Non-Tamil language under Part-I shall take Advanced Tamil comprising of two Courses in the third and fourth semesters. (OR)

- c) Others who do not come under the above a + b categories can choose the following Nonmajor electives (NME) comprising of two courses with 2 credits each (4 credits) in the third and fourth semesters.
 - 1) Consumer Affairs / Gender Sensitization / Women's Rights (III semester.)
 - 2) General Awareness (**IV semester**.)
- Note: The assessment for the category in Part IV 1 b and 1 c subjects shall be through End Semester examination (ESE) for the total marks prescribed. There shall be no Continuous Internal Assessment (CIA).
- 2. Skill Based Subjects : For UG degree, four skill based subjects are to be offered one each in III, IV, V and VI Semesters based on the skill based courses recommended in Naan Muthalvan scheme of Govt. of Tamilnadu. The examination shall be conducted in the skill based subjects at the end of the semesters where they are offered.
- 3. Ability Enhancement Compulsory Course Human Rights and Constitution of India: It is a course to impart the knowledge about the basic Human rights, Classification of human rights, Human Rights Commission and Constitution of India. The total mark is 50 for 2 credits. One Internal Examination shall be conducted for 25 marks in the II semester during CIA III and there is no ESE. The learning outcomes are further measured by various assessment criteria for 25 marks by the course teacher concerned.
- 4. Ability Enhancement Compulsory Course Environmental Studies : It is a course on Environmental Science which underlines the importance of environment apart from sensitizing students to the dimensions of Environmental problems. The total mark is 50 for 2 credits. One Internal Examination shall be conducted for 25 marks in I semester during CIA III and there is no ESE. The learning outcomes are further measured by various assessment criteria for 25 marks by the course teacher concerned.
- **5. Human Values and Yoga Practice:** It is a course to inculcate human values among students to develop physical, mental, social and spiritual health which will enhance personality of the students and also improve the institutional climate in the campus. Human Values and Yoga Practice is offered during Semesters I and II with one hour of Yoga and one hour of Human values to be handled alternatively in a week. This course carries a total of 50 marks comprising 25 marks of Internal Practical Assessment for Yoga and 25 marks of written Examination for Human values during CIA III of Semester II.

- 6. Skill Based Open Elective Courses (Extra Departmental Courses): Any student studying any programme can do course except the course offered by his / her Department. All the UG programmes shall offer two skill based courses as Extra department Courses, during semester III with 2 credits each. The students can choose one among the courses offered by other departments. The examination will be conducted at the end of the semester. There shall be no continuous Internal Assessment (CIA).
- 7. Value Based Open Elective Courses (Intra School Courses) : During Semester IV, list of Open Elective Courses are offered to Students. These Courses are value based and help to inculcate the values and positive attitude among the Students. Each School will offer a list of courses and the Students shall choose any one open Elective Course they prefer and appear for the Examination to earn 2 mandatory credits. The examination will be conducted at the end of the Semester. There shall be no continuous Internal Assessment (CIA). However the NCC Cadets will appear for theory paper in NCC to earn these credits.
- 6.5. Part V : Extension Activities : Every student shall participate compulsorily for period of not less than two years (4 semesters) in any one of the programmes. (NSS / Sports and Games / YRC / RRC)

Each student must choose any one of the courses offered during the first four semesters. The object of the slot is to build- up the ethics, awareness and involvement in social service, acquisition of knowledge and training in discipline leading to national integration and patriotism, and feeling fit and fine through participation in games and athletics.

The student's performance shall be examined by the staff in-charge of extension activities along with the Head of the respective departments and a senior member of the Department on the following parameters.

- > 20% of marks for Regularity of attendance
- 60% of marks for Active Participation in classes / camps / games / special camps / programmes in the College / District / State / University activities.
- > 10% of marks for Exemplary Awards / Certificates / Prizes.
- > 10% of marks for other Social components such as Blood Donations, Fine Arts, etc.

The grades will be awarded at the end of the Fourth Semester. The mark sheet shall carry the gradation relevant to the marks awarded to the candidates. The marks shall be sent to the Controller of Examinations before the commencement of the final semester examinations.

Range of Marks	Grade Point	Letter Grade	Description
90 - 100	9.0 - 10.0	О	OUTSTANDING
80 - 89	8.0 - 8.9	D+	EXCELLENT
75 – 79	7.5 - 7.9	D	DISTINCTION
70 - 74	7.0 - 7.4	A+	VERY GOOD
60 - 69	6.0 – 6.9	А	GOOD
50 - 59	5.0 - 5.9	В	AVERAGE
40-49	4.0-4.9	С	SATISFACTORY
00-39	0.0	U	RE-APPEAR
ABSENT	0.0	AAA	ABSENT

Table 1 : Grades for Extension Activity

This grading shall be incorporated in the mark sheet to be issued at the end of the semester. (Handicapped students who are unable to participate in any of the above activities shall be required to take a test in the theoretical aspects of any one of the above fields and be graded and certified accordingly)

7. Additional Credit Course

Students are given the opportunity to undertake optional papers, additional to their compulsory papers, in order to gain additional credit that would boost their grades. These are not mandatory. Students can earn to a maximum of 10 credits.

S. No.	Subject	Credit / course	Total credits
1	Presentation / Publication of Research papers in International Conferences / Journals.	1	1
2	Completion of Diploma / Certificate Courses	1	1
3	Self Study Papers	1	2
4	MOOC Courses prescribed by the Departments	1	2
5	Achievements - Sports / Social Activities / Co curricular / Extracurricular Activities at University / District / State / National / International levels	1	1
6	Swachh Bharath Summer Internship Programme	2	2
7	Visits Abroad for Participation in International Academic events	1	1
		Total	10

Table 2: Regulations for Additional Credits

Rules: The Students can earn additional credits only if they complete the above during the course period (II to V Sem.) and based on the following criteria. Proof of Completion must be submitted to the Office of Controller of Examinations to award additional credits.

- 1. Students can earn an additional credit if they present / publish research papers in International conferences / reputed Journals
- Students can complete Diploma / Certificate Courses for a minimum of 30 hrs (II to V Sem. only) from reputed centres and the same certificate shall be produced to earn a credit. They shall be guided by the Department if needed.
- **3.** Students can earn one credit, if they complete One Self Study Paper prescribed by the Department. The Departments shall offer two Self Study Papers.
- 4. Students can earn one Credit, if they complete any one MOOC courses prescribed by the Department. Students shall earn a maximum of 2 Additional Credits by completing 2 online courses.
- Award Winners in Sports / Social Activities / Co curricular / Extra Curricular Activities at University / District / State / National / International levels can earn one Extra Credit by producing the Certificate.
- 6. As per the direction of Ministry of Human Resource Development, Swachh Bharath Summer Internship Programme is introduced to the students as an optional paper. Students interested to join the internship programme are required to register and report the activities conducted during the internship period on the website https://sbsi.mygov.in. They shall gain 2 credits if they produce Swachh Bharath Internship Certificate provided by MHRD on completion of their internship.
- **7. Extra Credit for NCC Cadets** : NCC Cadets shall gain Extra credits as mandated by UGC and Bharathiar University apart from 2 credits to be added for Part V-Extension Activity during Semester VI. The regulations for the Extra credits shall be communicated to the Cadets through the NCC Officer of the College.

Somoston	Credits Allocated		Domorks	
Semester	Camp	Theory	KtinarKs	
III	2		Credits if 1st camp merged with 3 rd Semester	
IV		2	Under Value based Open Elective course (Mandatory credit)	
V	2		Credits if 2 nd camp merged with 5 th Semester	
Total	6 cr	edits		

Regulations for Awarding credits to NCC Cadets

8. Value Added Course

Each Department shall conduct a Value Added Course to their students during III and IV Semesters for 50 to 60 hours. The MoU with the Industry shall be signed and the Classes shall be conducted without affecting the regular class hours. The Examination and the Valuation shall be conducted by the Industry. The HoD of concerned department shall forward the marks to the Examination section during the end of IV semester and the Grade shall be awarded by the CoE. This is based on the Naan Muthalvan scheme of Govt. of Tamilnadu.

9. Scheme of Examination

Table 3: Summary: CBCS for Undergraduate programmes with language for Four Semesters

Components of Study	No. of Subjects	Credit per Subject #	Total Credits	Marks	Total Marks
Part-I: Tamil / Other Languages	2 + 2 = 4	3	12	75	300
Part-II : English	2 + 2 = 4	3	12	75	300
Part-III					
Core subjects	14 -18	2/3/4	64-66	50 / 75 / 100	
Allied subjects	4-6	2/3/4	14 -16	50 / 75 / 100	2300
Electives	3	4	12	100	
Part-IV 1. (a) Those who have not studied Tamil up to XII std. and taken a non-Tamil language under part-I shall take basic Tamil comprising of two courses(level will be at 6 th std.) (b) Those who have studied Tamil up to XII std and taken a non –Tamil language under part-I shall take Advance Tamil comprising of two courses. I others who do not come under a + b can choose non-major elective comprising of two courses.(NME)	2	2	4	50	100
2. Skill based subjects	4	3	12	75	300
3. Human Rights and Constitution of India	1	2	2	50	50
4. Environmental Studies	1	2	2	50	50
5. Human Values and Yoga Practice	1	2	2	50	50

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6. Value Added Course	1	-	-	-	Grade
7. EDC (Extra Departmental Course)	1	2	2	50	50
8.Open Elective Courses	1	2	2	50	50
Part V: Extension activities	1	2	2	50	50
		Total	144		3600
Additional Credits	II – V Semesters 10			10 credit	S

- No CIA marks for Additional Credit
- No CIA Tests or ESE for Extension Activities.
- For Value added course, Examination shall be conducted by the Industry for 100 marks for a duration of 3 hours.

10. Requirement to appear for the Examinations

Attendance Requirements for the Students appearing for ESE

- The guidelines of attendance requirement issued by Bharathiar University are adopted by the College. Attendance shall be considered semester- wise (not annually).
- A candidate shall be permitted to appear for the Semester Examinations in any semester, if he / she secures not less than 75% of attendance in the total number of working days during the semester and if his / her progress has been satisfactory, and his / her conduct has been satisfactory.
- Those who have obtained below 75% and above 65% of attendance shall pay condonation fee and shall write the examination in the same semester with due permission from the Principal.
- Those who have below 65% and above 50% of attendance are not eligible to write the examination in current semester subjects but are permitted to continue their studies in the next semester provided that this is the first time that the candidate earned attendance between 50% and 65%. Else the candidates have to discontinue the course and re-join in the same semester subjects in the next year with proper approval of the Principal. However, the candidates are eligible to write arrear subjects if any.
- Those who have below 50% of attendance have to redo the semester.

11. Restrictions to appear for the examinations

- a) Any candidate having arrear paper(s) shall have the option to appear in any arrear paper along with the regular semester papers.
- b) Candidates who fail in any of the course of Part I, II, III, IV & V of UG degree examinations shall complete the course concerned within 5 years from the date of admission to the said programme, and if they fail to do so, they shall take the examination in the texts / revised syllabus prescribed for the immediate next batch of candidates. If there is no change in the texts / syllabus they shall appear for the examination in that course with the syllabus in vogue until there is a change in the texts or syllabus. In the event of removal of that course consequent to change of regulation and / or curriculum after 5 year period, the candidates shall have to take up an equivalent course in the revised syllabus as suggested by the Chairman of the concerned board of studies and fulfill the requirements as per the regulations for the award of the degree.

12. Medium of Instruction and Examinations

The Medium of instruction and Examinations for the courses of Part I, II & IV shall be in the language concerned. For part III courses, the medium of instruction and the medium of Examination are English.

13. Distribution of Marks

The following are the distribution of marks for Examination & Evaluation pattern:

Table 4 : Distribution of	Marks betweer	n End Semester	Exam (Theory)	and Internal
	Assessm	ent is 75 : 25		

	External Internal		External Internal Overal		
Total Marks	Max. Marks	Passing Minimum for External alone	Max. Marks	for Total Marks (Internal + External)	
100	75	30	25	40	
75	55	22	20	30	
50	40	16	10	20	

S. No.	For Theory - UG courses Distribution of Ma			
01.	CIA I	5	4	2
02.	CIA II (Online Test)	5 4 2		
03.	CIA III	6	5	4
04.	OBE Evaluation – Tool 01	3	2	1
05.	OBE Evaluation – Tool 02	3	2	1
06.	OBE Evaluation – Tool 03	3	3	-
	TOTAL MARKS	25	20	10

Table 5 : The following are the Distribution of marks for the Continuous Internal Assessment in the theory papers of UG programmes

14. Continuous Internal Assessment (CIA)

Three CIA's shall be conducted at regular Intervals. CIA I shall be a 2 hours written test for a maximum of 50 marks and CIA II shall be conducted as Computer Based test (MCQ's) for 50 marks. CIA III shall be conducted as Model Examination for ESE.

15. OBE Evaluation - Assignment / Seminar / Role play, etc.

Three OBE Assessment parameters are decided for each course to evaluate the achievement of course outcomes which shall be assessed by the concerned course teacher. The marks allotted to this component will be awarded based on the performance of the candidate. The Rubrics for awarding the marks shall be maintained by the Course Teacher concerned.

Table 6 : Distribution of Marks between End Semester Exam (Practical) andInternal Assessment is 60:40.

	E	xternal	Internal	Overall Passing Minimum
Total Marks	Max. Marks	Passing Minimum for External alone	Max. Marks	for total marks (Internal + External)
100	60	24	40	40
75	45	18	30	30
50	30	12	20	20

S. No.	For - UG practical Courses	Dis	tribution of 1	Marks
01.	Laboratory Performance - Assessment Tool 01*	5	4	3
02. Laboratory Performance - Assessment Tool 02*			4	3
03.	Laboratory Performance - Assessment Tool 03*	5	4	3
04.	Test 1 : During Mid semester	10	7	4
05.	05. Test 2 : As model test at the end of the semester		7	4
06. Observation Note Book			4	3
Total Marks			30	20

Table 7 : Distribution of marks for the Continuous Internal Assessment in

UG practical courses

* For measuring the Course Outcomes

16. Observation Notebook & Regularity

The marks allotted for observation notebook & regularity are awarded based on the performance of students in writing procedure, results of the practical done during every practical class, regularity in attending practical class, which will be accounted based on the attendance maintained separately for practical class, and punctuality in the submission of observation notebook.

Table 8 : Distribution of marks for the External Assessment in UG Practical courses

S. No.	For - UG practical courses	Distribution of Marks		
1.	Experiment – I	20	15	10
2.	Experiment – II	20	15	10
3.	Record	10	10	5
4.	Viva Voce	10	5	5
	TOTAL MARKS	60	45	30

Table 9 : Distribution of marks for Project and Viva Voce examinations /

Industrial Training of UG programmes

	External Internal		Overall Passing		
Total Marks	Max. Marks	Passing Minimum for External alone	Max. Marks	Minimum for Total Marks (Internal + External)	
100	60	24	40	40	
75	45	18	30	30	

Industrial Training Courses.					
S. No.	For - UG Project courses / Industrial Training	Distribut	ion of Marks		
1.	Review – I	10	7		
2.	Review – II	10	7		
3.	Review – III	10	7		
4.	Document, Preparation and Implementation	10	9		
	TOTAL MARKS	40	30		

Table 10 : Distribution of marks for the Continuous Internal Assessment in UG Project / Industrial Training Courses.

Table 11 : Distribution of marks for the External Examination in UG Project / Industrial Training courses

S. No.	For - UG Project / Industrial Training courses Distribution of Mar		
1.	Record Work and Presentation	40	30
2.	Viva Voce	20	15
	TOTAL MARKS	60	45

Table 12 : The courses which have only Continuous Internal Assessment and no End Semester Examinations (ESE)

S. No.	Subject	Total Marks
1.	Environmental Studies	50
2.	Human Rights and Constitution of India	50
3.	Basic Tamil I	50
4.	Basic Tamil II	50
5.	Human Values and Yoga Practice	50
	TOTAL	250

For the above mentioned subjects, the examinations shall be only Continuous Internal Assessment (CIA) as prescribed in the syllabus. The marks shall be furnished to the CoE.

S. No.	Subject	Total Marks
1.	Non – Major Electives / Advanced Tamil I	50
2.	General Awareness / Advanced Tamil II	50
3.	Skill Based Open Elective Courses	50
4.	Value Based Open Elective Courses	50
	TOTAL	200

Table 13 : The courses which have only End Semester Examinations (ESE) ar	nd
no Continuous Internal Assessment	

17. Passing Minimum

A candidate who secures **not less than 40%** in the End Semester Examination and 40% marks in the External Examination and Continuous Internal Assessment put together in any theory course of Part I, II, III & IV shall be declared to have passed the examination in the subject (Theory and Practical). Thus the minimum pass mark for theory subject is 30 out of 75 in ESE and also 40 marks out of 100 (CIA+ESE).

A candidate who passes the examination in all the courses of Part I, II, III, and IV & V shall be declared to have passed, the whole examination. Thus to obtain UG degree a student should pass in all the courses prescribed in the concerned programme and also he / she should earn 144 credits.

18. Marks & Grade

Once the marks of the CIA and End Semester Examinations for each of the course are available, they shall be added. The mark thus obtained shall then be converted to the relevant letter grade as per the details given below to indicate the performance of the candidate.

Table 14 :	Conversion of Marks to Grade Points & Letter Grade(Performance in a course /
paper)	

Range of Marks	Grade Point	Letter Grade	Description
90-100	9.0-10.0	0	Outstanding
80-89	8.0-8.9	D+	Excellent
75-79	7.5-7.9	D	Distinction

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70-74	7.0-7.4	A+	Very Good
60-69	6.0-6.9	А	Good
50-59	5.0-5.9	В	Average
40-49	4.0-4.9	С	Satisfactory
00-39	0.0	U	Re-Appear
ABSENT	0.0	AAA	Absent

19. Grade Point Average (GPA)

Grade point average (GPA) is calculated for each part taking into account all the courses studied under each part. Calculation of grade point average semester-wise and part-wise is as follows:

 $GPA = \frac{Sum of the multiplica tion of grade points by the credits of the courses}{Sum of the credits of the courses in a semester}$

$$\mathbf{GPA} = \frac{\sum_{i} (\mathbf{C}_{i} * \mathbf{G}_{i})}{\sum_{i} \mathbf{C}_{i}}$$

Where C_i = Credit earned for course i in any semester.

 G_i = Grade points obtained for course i in any semester.

20. Cumulative Grade Point Average (CGPA)

For the entire program CGPA is calculated in the following manner:

$$\mathbf{CGPA} = \frac{\sum_{n} \sum_{i} C_{ni} * G_{ni}}{\sum_{n} \sum_{i} C_{ni}}$$

CGPA = Sum of the multiplica tion of grade points by the credits of the entire programme under each part

Sum of the Credits of the Courses of the entire programme under each part

21. Classification of CGPA

A candidate who has passed all the examinations under different parts (Part-I to Part V) is eligible for the following part wise computed final grades based on the range of CGPA.

CGPA	Grade	Classification of Final Result
9.5-10.0	O+	Einst Class Examplemy
9.0 and above but below 9.5	0	First Class - Exemplary
8.5 and above but below 9.0	D++	
8.0 and above but below 8.5	D+	First Class with Distinction
7.5 and above but below 8.0	D	
7.0 and above but below 7.5	A++	
6.5and above but below 7.0	A+	First Class
6.0and above but below 6.5	А	
5.5 and above but below 6.0	B+	Second Class
5.0 and above but below 5.5	В	Second Class
4.5 and above but below 5.0	C+	Third Class
4.0 and above but below 4.5	C	
0.0 and above but below 4.0	U	Re-appear

Table 15 : Classification of performance of Students based on the Cumulative Grade Points Average

A candidate who passes all the examinations in Part I to Part V securing following CGPA and Grades shall be declared as follows **for Part I or Part II or Part III**:

- a) A candidate who has passed all the Part-III subjects examination in the first appearance within the prescribed duration of the UG programmes and secured a CGPA of 9 to 10 and equivalent grades "O" or "O+" in part III comprising Core, Electives and Allied subjects shall be placed in the category of "First Class Exemplary".
- b) A candidate who has passed all the Part-III subjects examination in the first appearance within the prescribed duration of the UG programmes and secured a CGPA of 7.5 to 9 and equivalent grades "D" or "D+" or "D++" in part III comprising Core, Electives and Allied subjects shall be placed in the category of "First Class with Distinction".
- c) A candidate who has passed all Part-III subjects examination of the UG programmes and secured a CGPA of 6 to 7.5 and equivalent grades "A" or "A+" or "A++" shall be declared to have passed that part in "**First Class**".

- d) A candidate who has passed all Part-I or Part-II subjects examination of the UG programmes and secured a CGPA of 6 and above and equivalent grades "A" or "A+" or "A++" shall be declared to have passed that parts in "First Class".
- e) A candidate who has passed all the Part-I or Part-II or Part-III subjects examination of the UG programmes and secured a CGPA of 5.0 to 6 and equivalent grades "B" or "B+" shall be declared to have passed that parts in "Second Class".
- f) A candidate who has passed all the Part-I or Part-II or Part-III subjects examination of the UG programmes and secured a CGPA of 4.0 to 5 and equivalent grades "C" or "C+" shall be declared to have passed that parts in "Third Class".
- g) There shall be no classifications of final results for Part IV and Part V. However, those parts shall be awarded with final grades in the End semester statements of marks and in the Consolidated statement of marks.

22. Improvement of Marks in the subjects already passed

Candidates desirous of improving the marks awarded in a passed subject in their first attempt shall reappear in the subsequent semester only. The improved marks shall be considered for classification but not for ranking. When there is no improvement, there shall not be any change in the original marks already awarded.

23. Conferment of the Degree

No candidate shall be eligible for conferment of the Degree unless he / she

- i. Has undergone the prescribed course of study for a period of not less than six semesters in an institution approved by / affiliated to the University or has been exempted from in the manner prescribed and has passed the examinations as have been prescribed therefore.
- Has completed all the components prescribed under Parts I to Part V in the CBCS pattern to earn 144 credits.
- Has successfully completed the prescribed Field Work/ Institutional Training (if any) as evidenced by certificate issued by the concerned authorities.

24. Ranking

A candidate who qualifies for the UG degree course passing all the examinations in the first attempt, within the minimum period prescribed for the course of study from the date of admission to the course and secures I or II class shall be eligible for ranking and such ranking shall be confined to 10 % of the total number of candidates qualified in that particular branch of study or maximum of Three Ranks whichever is lower. However the Programmes will be considered for ranking only when there are minimum of 10 students completing that Programme. The improved marks shall not be taken into consideration for ranking.

25. Question Paper Pattern

The question paper pattern for CBCS pattern syllabi for the candidates admitted from the Academic year 2023-24 are as follows:

A. Question Paper Pattern for Part I/Part II/Core /Allied/Elective/Skill Based Subjects

Knowledge Level Section Marks Description K1, K2, K3 1 - 10A(Answer all the questions) $10 \ge 1 = 10$ MCQ 11 – 15 B (Either or pattern) K2, K3 $5 \ge 5 = 25$ Short Answers K3, K4 16 - 21C (Answer 3 out of 6) $3 \ge 10 = 30$ Descriptive/ Detailed Application Based/ D (Compulsory Question) $1 \ge 10 = 10$ K3, K4 22 HOTS

B. Question Paper Pattern for Part I/Part II/Core /Allied/Elective/Skill Based Subjects

Time : 3hrs

Marks: 55

Marks: 75

Knowledge Level		Section	Marks	Description
K1, K2, K3	1-10	A(Answer all the questions)	10 x 1 = 10	MCQ
K2, K3	11 – 15	B (Either or pattern)	5 x 4 = 20	Short Answers
K3 , K4	16-21	C (Answer 3 out of 6)	3 x 6= 18	Descriptive/ Detailed
K3, K4	22	D (Compulsory Question)	1 x 7 = 7	Application Based/ HOTS

C. Question Paper Pattern – Advanced Tamil, Open Elective Courses and Self Study Papers

Time: 3 Hours

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Max Marks: 50
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Knowledge Level		Section	Marks	Description
K2, K3	1 – 10	A (Answer all the questions)	$10 \ge 2 = 20$	Short Answers / Define
K3 , K4	11 – 15	B (Either or pattern)	5 x 6 = 30	Descriptive/ Detailed

For self study papers, Open Book Examination will be followed.

D. Question Paper Pattern for Part IV subjects

For Part IV papers like Environmental Studies, Human Rights and Constitution of India, Human Values & Yoga Practice, Examination time shall be **2 hours with maximum of 25 marks**. The pattern shall be 5 out of 10 Questions each carrying 5 marks.

NOTE: The questions should be numbered continuously running through the Sections A, B and C.

Questions should be evenly distributed among the unit in the syllabus in all the sections of the question paper. While framing questions with internal choice, the questions must be identified as (a) or (b).(e.g. 11. a or b). Further, the internal choice must be from the same unit.

ESE for General Awareness shall be conducted online with 100 multiple choice questions (with four options) to be evaluated online. $(100 \times 0.5 = 50 \text{ marks})$

For other courses in Part IV of UG programmes namely, **Consumer Affairs, Gender Sensitization, and Women's Rights** the question paper pattern shall be 5 out of 10.

The Controller of the Examinations shall arrange for the setting of question papers on the basis the syllabus and the pattern of question paper duly certified by the Chairpersons of the respective Board of Studies.

26. Syllabus

The syllabus for various courses shall be clearly demarcated into five viable units in each course.

27. Revision of Regulations and Curriculum

The above Regulation and Scheme of Examinations shall be in vogue without any change for a minimum period of three years from the date of approval. The College may revise / amend / change the Regulations and Scheme of Examinations, if found necessary.

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NEHRU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

REGULATIONS FOR POSTGRADUATE DEGREE COURSES

Choice Based Credit System blended with Outcome based Education Regulations with effect from the Academic Year 2022-2023

Definition

- a) Programme A course of study leading to the award of a degree in a discipline. (E.g.: M. Sc. / M. Com.)
- b) Branch Discipline of study (e.g. M.Sc. Microbiology)
- c) Curriculum The various courses (subjects) a student must study in a particular branch.
- d) Course The theory & practical subject offered under each curriculum.
- e) Credit A unit of measurement based on the duration of the contact hours, content and quality of the subject matter.

1. PG Curriculum

The PG Curriculum follows CBCS pattern and the medium of instruction is English.

2. Eligibility for Admission to the Course

A candidate who has passed the Degree Examination as main subject of study of this University or an examination of some other University accepted by the Syndicate as equivalent thereto shall be eligible for admission to the Master Degree of this College.

3. Duration of the Programme

This Course of Study shall be based on Semester System. This Course shall consist of four Semesters covering a total of two Academic years. For this purpose, each academic year shall be divided into two Semesters; the first and third Semesters; July to November and the second and the fourth Semesters; December to April. The Practical Examinations shall be conducted at the end of odd / even Semester. Each semester have 90 working days consists of 5 teaching hours per working day. Thus, each semester has 450 teaching hours and the whole programme has **1800 teaching hours**.

4. Choice Based Credit System (CBCS)

All Postgraduate Programmes offered by the University shall be under Choice Based Credit System (CBCS). Choice based credit system is introduced with the aim of offering flexibility in the choice of courses to the students.

Objectives of the Choice Based Credit System :

- > To facilitate the students to have greater flexibility in their choice of courses.
- > To revamp the curriculum, to impart entrepreneurial skills and placement potentials qualities.
- To incorporate need based knowledge in tune with the location and neighborhood of the institution.
- To allocate credit points to each paper of the study based on the weightage of the contact hours, content and quality.
- To extend opportunities to fast learners in order to earn Extra credit from advanced as well as additional courses.
- To maintain the total credit points of each programme on par with international standards.

5. Outcome Based Education (OBE)

OBE is an **educational** theory that bases each part of an **educational** system around goals (**outcomes**). By the end of the **educational** experience, each student should have achieved the goal.

Objectives of Outcome based curriculum :

- The programme outcomes and Programme specific outcomes are clearly identified and unambiguously specified regarding the content, context and competence.
- The expected outcome should be defined by setting bench marks for each level of the programme. Benchmark should tackle and define specifically, the goals of the curriculum and verify ways to access whether the students have reached these goals at the level of study;
- OBE is driven by assessments that focus on well defined learning outcomes and not by other factors such as what is taught, the duration taken by the student to achieve the outcomes or which path the students take to achieve their targets. In OBE, assessment techniques must be with clear description of expected performance.

Definitions

Outcome : An outcome of an educational Programme is what the student should be able to do at the end of a Programme/ course/ instructional unit.

Levels of Outcomes

- Programme Outcomes: POs are statements that describe what the students graduating from any of the educational Programmes should be able to do.
- Programme Specific Outcomes: PSOs are statements that describe what the graduates of a specific educational Programme should be able to do.
- Course Outcomes: COs are statements that describe what students should be able to do at the end of a course

Learning Outcomes : It describes levels of achievement that can be attained across the domains of learning. Here K1 representing Remember; K2 -Understanding; K3 - Apply; K4 - Analyze;
K5- Evaluate, K6 – Create are used to measure the levels of achievement in learning.

6. CBCS Curriculum

6.1. Part A : Core Components:

Core Courses : Each programme has a group of core courses. The syllabus of the core courses will facilitate the students in the acquisition of the basic concepts of their respective disciplines, besides getting exposure to the recent developments. This exposure will suitably guide the students towards their vertical mobility in their higher studies. Core courses will last till the fourth semester. It is mandatory for all PG students to complete an online course under SWAYAM / NPTEL platform between 2^{nd} and 3^{rd} semester.

6.2. Part B: Optional Courses - Advanced Learner's Courses : (ALC)

Students are offered the opportunity to undertake optional papers, additional to their compulsory papers, in order to gain additional credit that would boost their grades. These are not mandatory. The course will be a self study nature and the concerned departments will offer guidance. Other Advanced Learner's Courses shall be decided during the conduct of Board of Studies. The Examination will be of Open Book Examination model.

7. Requirement to appear for the examinations

Attendance Requirements for the Students appearing for ESE

- The guidelines of attendance requirement issued by Bharathiar University are adopted by the College. Attendance shall be considered semester- wise (not annually).
- A candidate shall be permitted to appear for the Semester Examinations in any semester, if he / she secures not less than 75% of attendance in the total number of working days during the semester and if his / her progress has been satisfactory, and his / her conduct has been satisfactory.

- Those who have obtained below 75% and above 65% of attendance shall pay condonation fee and shall write the examination in the same semester with due permission from the Principal.
- Those who have below 65% and above 50% of attendance are not eligible to write the examination in current semester subjects but are permitted to continue their studies in the next semester provided that this is the first time that the candidate earned attendance between 50% and 65%. Else the candidates have to discontinue the course and re-join in the same semester subjects in the next year with proper approval of the Principal. However, the candidates are eligible to write arrear subjects if any.
- Those who have below 50% of attendance have to redo the semester.

8. Restrictions to appear for the examinations

- a) Any candidate having arrear paper(s) shall have the option to appear in any arrear paper along with the regular semester papers.
- b) Candidates who fail in any of the course of PG degree examinations shall complete the course concerned within 5 years from the date of admission to the said programme, and if they fail to do so, they shall take the examination in the texts / revised syllabus prescribed for the immediate next batch of candidates. If there is no change in the texts / syllabus they shall appear for the examination in that course with the syllabus in vogue until there is a change in the texts or syllabus. In the event of removal of that course consequent to change of regulation and / or curriculum after 5 year period, the candidates shall have to take up an equivalent course in the revised syllabus as suggested by the Chairman of the concerned board of studies and fulfill the requirements as per the regulation curriculum for the award of the degree.

9. Medium of Instruction and examinations

The medium of Instruction and the medium of Examination is English.

10. Distribution

The following are the distribution of marks for examination & evaluation pattern. Distribution of Marks between End Semester Exam (Theory) and Internal Assessment is 75:25. The following table gives the distribution.

PG - PROGRAMMES (CBCS)

Table 16: Total credit points and tenure of study for M.A., M.Com, M. Sc. and MSW

Part	Courses	Semesters	Credit Points	Marks / Grade
III	Components Core / Electives / Internship / Project / Online course	I to IV	94	2350

11. Additional Credits

Students are given the opportunity to undertake optional papers, additional to their compulsory papers, in order to gain additional credit that would boost their grades. These are not mandatory. Students can earn to a maximum of 15 credits.

S. No.	Subject	Credit / Course	Total Credits
1.	Presentation of Research papers in International Conferences	1	1
2.	Publication of Research Papers in reputed Journals	1	1
3.	Advanced Learners Course	2	4
4.	MOOC Courses / Swayam prescribed by the Departments	2	4
5.	Visits Abroad for Participation in International Academics events	1	1
6.	Representation - Sports / Social Activities / Co curricular / Extracurricular Activities at University / District / State / National / International levels	1	2
7.	Swachh Bharath Summer Internship Programme	2	2
		Total	15

12. Continuous Internal Assessment (CIA)

Three CIA's shall be conducted at regular Intervals. CIA I and II shall be a 2 hours written test for a maximum of 50 marks each and CIA III shall be conducted as Model Examination for ESE.

13. OBE Evaluation - Assignment / Seminar / Role play, etc.

Three OBE Assessment parameters are decided for each course to evaluate the achievement of course outcomes which shall be assessed by the concerned course teacher. The marks allotted to this component will be awarded based on the performance of the candidate. The Rubrics for awarding the marks shall be maintained by the Course Teacher concerned.

14. Distribution of Marks

	F	External Internal		Overall Passing
Total Marks	Max. Marks	Passing Minimum for External alone	Max. Marks	Minimum for Total Marks (Internal + External)
100	75	38	25	50
75	55	28	20	38
50	40	20	10	25

Table 17 : Distribution of marks for External and Internal for theory papers of PG courses

Table 18 : Distribution of Internal marks for theory papers of PG courses

S. No.	For Theory - PG courses Distribution of Mar			f Marks
01.	CIA I	5	4	2
02.	CIA II	5	4	2
03.	CIA III	6	5	4
04.	OBE Evaluation – Tool 01	3	2	1
05.	OBE Evaluation – Tool 02	3	2	1
06.	OBE Evaluation – Tool 03	3	3	-
	TOTAL MARKS	25	20	10

Table 19 : Distribution of marks for External and Internal for Practical papers of PGCourses

	I	External	Internal	Overall Passing Minimum
Total Marks	Max. Marks	Passing Minimum for External alone	Max. Marks	for total marks (Internal + External)
100	60	30	40	50
75	45	23	30	38
50	30	15	20	25

S. No.	S. No. For PG Practical Courses		tribution of I	Marks
01.	Laboratory Performance - Assessment Tool 01*	5	4	3
02.	Laboratory Performance - Assessment Tool 02*	5	4	3
03.	Laboratory Performance - Assessment Tool 03*	5	4	3
04.	Test 1 : During Mid semester	10	7	4
05.	Test 2 : As model test at the end of the semester	10	7	4
06.	Observation Note Book	5	4	3
	Total Marks	40	30	20

Table 20 : Distribution of Internal marks for PG practical papers

Table 21 : Distribution of External marks for PG practical papers

S. No.	For - UG practical courses	Distribution of Marks		
1.	Experiment-I	20	15	10
2.	Experiment-II	20	15	10
3.	Record	10	10	5
4.	Viva Voce	10	5	5
	TOTAL MARKS	60	45	30

Table 22 : Distribution of marks for Project and Viva Voce examinations and ContinuousInternal Assessments and passing minimum marks for the Project / Industrial Trainingcourses of PG programmes

	External		Internal	Overall Passing
Total Marks	Max. Marks	Passing Minimum for External alone	Max. Marks	Minimum for Total Marks (Internal + External)
250	150	75	100	125
200	120	60	80	100
150	90	45	60	75
100	60	30	40	50

S. No.	For - PG Project courses	D	istribution	n of Mar	ks
1.	Review-I	20	15	10	10
2.	Review-II	20	15	10	10
3.	Review-III	20	15	10	10
4.	Document, Preparation and Implementation	25	20	15	10
5.	Research Paper Publication in Journals**	15	15	15	-
	TOTAL MARKS	100	80	60	40

Table 23 : Distribution of marks for the Continuous Internal assessment in PG Project / Industrial Training Courses

**Wherever it is not possible, an equivalent Assessment tool shall be prescribed by the Board Chairperson.

Table 24 : Distribution of marks for the External Examination in PG Project / Industrial Training courses

S. No.	For - PG Project courses		Distributio	on of Mark	S
1.	Record Work and Presentation	100	80	60	40
2.	Viva Voce	50	40	30	20
	TOTAL MARKS	150	120	90	60

15. Passing Minimum:

A candidate who secures **not less than 50%** in the End Semester Examination and 50% marks in the External examination and Continuous Internal Assessment put together in any courses shall be declared to have passed the examination in the subject (Theory and Practical). Thus the minimum pass mark is 38 out of 75 in ESE and 50 marks out of 100 (CIA+ESE).

A candidate who passes the examination in all the courses shall be declared to have passed, the whole examination. Thus to obtain PG degree, a student should pass in all the courses prescribed in the concerned programme and also he / she should earn 94 credits.

16. Grade:

Range of Marks	Grade Point	Letter Grade	Description
90 - 100	9.0 - 10.0	0	OUTSTANDING
80 - 89	8.0 - 8.9	D+	EXCELLENT
75 – 79	7.5 - 7.9	D	DISTINCTION
70-74	7.0 - 7.4	A+	VERY GOOD
60 - 69	6.0 - 6.9	А	GOOD
50 - 59	5.0 - 5.9	В	AVERAGE
00-49	0.0	С	RE-APPEAR
ABSENT	0.0	AA	ABSENT

 Table 25 :
 Classification of Grade for PG Students based on the Percentage of marks

17. Grade Point Average (GPA)

Grade point average (GPA) is calculated for each part taking into account all the courses studied. Calculation of grade point average semester-wise and part-wise is as follows:

 $GPA = \frac{Sum of the multiplica tion of grade points by the credits of the courses}{Sum of the credits of the courses in a semester}$

$$\mathbf{GPA} = \frac{\sum_{i} (\mathbf{C}_{i} * \mathbf{G}_{i})}{\sum_{i} \mathbf{C}_{i}}$$

Where C_i = Credit earned for course i in any semester.

 G_i = Grade points obtained for course i in any semester.

18. Cumulative Grade Point Average (CGPA)

For the entire program CGPA is calculated in the following manner.

$$\mathbf{CGPA} = \frac{\sum_{n} \sum_{i} C_{ni} * G_{ni}}{\sum_{n} \sum_{i} C_{ni}}$$

CGPA = _____ Sum of the multiplica tion of grade points by the credits of the entire programme under each part

Sum of the Credits of the Courses of the entire programme under each part

19. Classification of CGPA

A candidate who has passed all the examinations under different parts is eligible for the following part wise computed final grades based on the range of CGPA.

Table 26 :	Classification of performance of PG Students based on the Cumulative Grade
	Points Average

CGPA	Grade	Classification of Final Result	
9.5 - 10.0	O+	First Class – Exemplary *	
9.0 and above but below 9.5	0		
8.5 and above but below 9.0	D++		
8.0 and above but below 8.5	D+	First Class with Distinction*	
7.5 and above but below 8.0	D		
7.0 and above but below 7.5	A++		
6.5 and above but below 7.0	A+	First Class	
6.0 and above but below 6.5	А		
5.5 and above but below 6.0	B+	Second Class	
5.0 and above but below 5.5	В		

- a) A candidate who has passed all the subjects examinations in the first appearance within the prescribed duration of the PG programmes and secured a CGPA of 9 to 10 and equivalent grades "O" or "O+" in Core and Electives subjects shall be placed in the category of "First Class – Exemplary".
- b) A candidate who has passed all the subjects examinations in the first appearance within the prescribed duration of the PG programmes and secured a CGPA of 7.5 to 9 and equivalent grades "D" or "D+" or "D++" in Core and Electives subjects shall be placed in the category of "First Class with Distinction".
- c) A candidate who has passed all the subjects examinations of the PG programmes and secured a CGPA of 6 to 7.5 and equivalent grades "A" or "A+" or "A++" shall be declared to have passed in "First Class".
- d) A candidate who has passed all the subjects examination of the PG programmes and secured a CGPA of 5.0 to 6 and equivalent grades "B" or "B+" shall be declared to have passed in "Second Class".

20. Ranking

A candidate who qualifies for the PG Degree programme passing all the Examinations in the first attempt, within the minimum period prescribed for the programme from the date of admission to the programme and secures First or Second Class shall be eligible for ranking and such ranking will be confined to 10% of the total number of candidates qualified in that particular subject to a maximum of 10 ranks. However the Programmes will be considered for ranking only when there are minimum of 10 students completing that Programme. The improved marks will not be taken into consideration for ranking.

21. Improvement of Marks in the subjects already passed

Candidates desirous of improving the marks awarded in a passed subject in their first attempt shall reappear in the subsequent semester only. The improved marks shall be considered for classification but not for ranking. When there is no improvement, there shall not be any change in the original marks already awarded.

22. Conferment of the Degree

No candidate shall be eligible for conferment of the Degree unless he / she has undergone the prescribed programme of Study for a period of not less than four Semesters in the Institution or has been exempted there from in the manner prescribed and has passed the Examinations as have been prescribed.

23. Question Paper Pattern

A: Question Paper Pattern

Time: 3 Hours

Max Marks: 75

Knowledge Level	Q. No.	Section	Marks	Description
K1, K2, K3	1 – 10	A(Answer all the questions)	10 x 1 = 10	MCQ
K2, K3	11 – 15	B (Either or pattern)	5 x 5 = 25	Short Answers
K3, K4	16 – 21	C (Answer 3 out of 6)	3 x 10 = 30	Descriptive/ Detailed
K4, K5	22	D (Compulsory Question)	1 x 10= 10	Application Based/ HOTS

Time: 3 Hours

B. Question Paper Pattern

Max Marks: 55

Knowledge Level	Q. No.	Section	Marks	Description
K1, K2, K3	1 – 10	A(Answer all the questions)	10 x 1 = 10	MCQ
K2, K3	11 – 15	B (Either or pattern)	5 x 4 = 20	Short Answers
K3, K4	16 – 21	C (Answer 3 out of 6)	3 x 6 = 18	Descriptive/ Detailed
K4, K5	22	D (Compulsory Question)	1 x 7 = 7	Application Based/ HOTS

C. Question Paper Pattern – Advanced Learners Course

Time: 3 Hours

Max Marks: 50

Knowledge Level	Q. No.	Section	Marks	Description
K2, K3	1 – 5	A (Answer all the Questions)	$5 \times 4 = 20$	Short Answers
K3 , K4	6 – 10	B (Either or pattern)	$5 \times 6 = 30$	Descriptive/ Detailed

NOTE: The questions should be numbered continuously running through the Sections A, B and C.

Questions should be evenly distributed among the unit in the syllabus in all the sections of the question paper. While framing questions with internal choice the questions must be identified as (a) or (b). (e.g. 11. a or b). Further, the internal choice must be from the same unit.

The Controller of the Examinations shall arrange for the setting of question papers on the basis the syllabus and the pattern of question paper duly certified by the Chairpersons of the respective Board of Studies.

24. Revision of Regulations and Curriculum

The above Regulation and Scheme of Examinations will be in vogue without any change for a minimum period of three years from the date of approval of the Regulations. The Board may revise / amend / change the Regulations and Scheme of Examinations, if found necessary.

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CURRICULUM



NEHRU ARTS AND SCIENCE COLLEGE

(An Autonomous Institution affiliated to Bharathiar University) (Reaccredited with "A" Grade by NAAC, ISO 9001:2015 & 14001:2004 Certified Recognized by UGC with 2(f) &12(B), Under Star College Scheme by DBT, Govt. of India) Nehru Gardens, Thirumalayampalayam, Coimbatore - 641 105, Tamil Nadu.



Department of Computer Science

Programme: B.Sc. Computer Science

PROGRAMME OUTCOMES

PO1	Critical Thinking	Identify, formulate, review research literature and analyze complex computer science problems reaching substantiated conclusions using first principles mathematics, computer sciences.
PO2	Usage of Technology	Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex science activities with an understanding of the limitations.
PO3	Effective Communication	Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO4	Environment and Sustainability	Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO5	Individual and Team Work	Function effectively as an individual and as a member or leader in diverse teams, and in multidisciplinary settings
PO6	Ethics and Values	Apply ethical principles and commit to professional ethics and responsibilities and norms of the science practice.
PO7	Social Interactions	Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional science practice.
PO8	Life Long Learning	Engage in lifelong learning and Work on career enhancement and adapt to changing personal, professional and societal needs.


NEHRU ARTS AND SCIENCE COLLEGE

(An Autonomous Institution affiliated to Bharathiar University) (Reaccredited with "A" Grade by NAAC, ISO 9001:2015 & 14001:2004 Certified Recognized by UGC with 2(f) &12(B), Under Star College Scheme by DBT, Govt. of India) Nehru Gardens, Thirumalayampalayam, Coimbatore - 641 105, Tamil Nadu.



Department of Computer Science

Programme: B.Sc. Computer Science

PROGRAMME SPECIFIC OUTCOMES (PSOs)

After the successful completion of the programme, the students are expected to

PSO1	Understand the programming concepts and methodology & the functionality of hardware and software aspects of computer systems
PSO2	To provide the structure and development methodologies of software systems, acquire professional skills and knowledge of software design process. Familiarize the practical competence with a broad range of programming language and open source platforms
PSO3	To apply mathematical methodologies to solve computation task, model real world problem using appropriate data structure and suitable algorithm
PSO4	To comprehend and write effective project report in multidisciplinary environment in the context of changing technologies
PSO5	To use knowledge in various domains and identify research gaps to hence and provide solution to new ideas



NEHRU ARTS AND SCIENCE COLLEGE

(AUTONOMOUS) (Affiliated to Bharathiar University Accredited with "A+" Grade by NAAC, ISO 9001:2015 (QMS) Certified, Recognized by UGC with 2(f) &12(B), Under Star College Scheme by DBT, Govt. of India)



Nehru Gardens, Thirumalayampalayam, Coimbatore - 641 105, Tamil Nadu, India.

E-mail: nascoffice@nehrucolleges.com. Web Site: www.nehrucolleges.net.

Scheme of Examination

Programme Name: Bachelor of Computer Science

Programme Code: UCS

(Applicable to the students admitted during the year 2023-2024 onwards)

ter		Code		ion veek	E	Xami Ma	natio rks	n	
Semest	Part	Course (Name of the Course	Instructi hours / v	Duration Hours	CIA	ESE	Total	Credits
	_	23U1TAM101/ 23U1HIN101/	Elanthamizh Rachnathmak Hindi						
	I	23U1MAL101/	Kadhayum Samskaaravum	4	3	20	55	75	3
		23U1FRN101	Le Francais Fondamental -I						
	II	23U2ENG101	Professional English - I	4	3	20	55	75	3
		23U3CKC101	Core Paper I: Python Programming	5	3	25	75	100	4
Ι	III	23U3CKC102	Core Paper II: Digital Fundamentals and Computer Architecture	5	3	25	75	100	4
		23U3CSP101	Core Paper III: Practical in Python Programming	4	3	40	60	100	4
		23U3MIA101	Allied Paper I: Mathematics for Computer Science	5	3	25	75	100	4
		21U4ENV101	*@Ability Enhancement Compulsory Course Environmental Studies	2	3	50	-	50	2
	IV	22U4HVY201	@Value Education: Human Values and Yoga Practice	1	-	-	-	μ	-
				30				600	24
	Ι	23U1TAM202/ 23U1HIN202/ 23U1MAL202/ 23U1FRN202	Pynthamizh Sanchar Hindi Novalum Bhashaapadanavum Le Francais Fondamental -II					75	3
	II	23U2ENG202	Professional English - II	4	3	20	55	75	3
П		23U3CKC203	Core Paper IV: Java Programming	5	3	25	75	100	4
		23U3CKC204	Core Paper V:Data Structures	5	3	25	75	100	4
	III	23U3CSP202	Core Paper VI: Practical in Java Programming and Bio-Computing	4	3	40	60	100	4
		23U3MIA202	Allied Paper II: Discrete Mathematics	5	3	25	75	100	4

	IV	21U4HRC202	*@ Ability Enhancement Compulsory Course Human Rights and Constitution of India	2	3	50	-	50	2
		22U4HVY201	@ Value Education: Human Values and Yoga Practice	1	2	50	-	50	2
				30				650	26
	Ι	23U1TAM303/ 23U1HIN303/ 23U1MAL303/ 23U1FRN303	Arunthamizh Sahityak Hindi Kavithayum Smaranayum Le Francais General - III	4	3	20	55	75	3
	II	23U2ENG303	Communicative English - I	4	3	20	55	75	3
	III	23U3CKC305	Core Paper VII: Operating Systems	4	3	20	55	75	3
		23U3CSC303	Core Paper VIII: Object Oriented System and Design	4	3	20	55	75	3
		23U3CSP304	Core Paper IX: Practical in Case Tools	3	3	30	45	75	3
III		23U3MIA303	Allied Paper III: Operations Research	4	3	25	75	100	4
	IV	23U4CSZ301	Skill Based Paper I: Practical in Agile Software Development	3	3	30	45	75	3
		22U4NM3BT1 / 22U4NM3AT1/ 22U4NM3CAF/ 22U4NM3GST/ 22U4NM3WRT	 # @Basic Tamil – I / ##Advanced Tamil – I / * NME: Consumer Affairs / Gender Sensitization / Women's Rights 	2	2	50		50	2
		SBOEC	Skill Based Open Elective Courses - Extra Departmental Course	2	3	-	50	50	2
		23U4CDVALC	Skill Enhancement Add on Course - Institute Industry Linkage	-	-	-	-	-	-
				30				650	26
	Ι	23U1TAM404/ 23U1HIN404/ 23U1MAL404/ 23U1FRN404	Muthamizh Prayogik Hindi Drisyakalaa Saahithyam Le Francais General - IV	4	3	20	55	75	3
	II	23U2ENG404	Communicative English - II	4	3	20	55	75	3
		23U3CKC407	Core Paper X: RDBMS and MySQL	4	3	20	55	75	3
	III	23U3CKC408	Core Paper XI: R Programming	4	3	20	55	75	3
		23U3CSP405	Core Paper XII:Practical in R Programming	3	3	30	45	75	3
IV		23U3BTA404	Allied Paper IV: Fundamentals of Bioinfomatics	4	3	20	55	75	3
	IV	23U4CSZ402	Skill Based Paper II: Practical in HTML, CSS, Java Script	3	3	30	45	75	3

		22U4NM4BT2 / 22U4NM4AT2/ 22U4NM4GEN	# @Basic Tamil – II / ##Advanced Tamil - II / General Awareness	2	2	50		50	2
	III	23U3CSV406	Internship	-	-	50	-	50	2
	IV	VBOEC	Value Based Open Elective Courses – Intra School Course	2	3	-	50	50	2
		23U4CSVALC	Skill Enhancement Add on Course - Institute Industry Linkage	-	-	-	-	-	Grade
				30				675	27
		23U3CSC507	Core Paper XIII: Data Communication and Networks	5	3	25	75	100	4
		23U3CJC506	Core Paper XIV: Artificial Intelligence	5	3	20	55	75	3
	III	23U3CSC508	Core Paper XV: Android Programming	5	3	20	55	75	3
V		23U3CSP509	Core Paper XVI: Practical in Android Programming	5	3	30	45	75	3
		23U3CKE501/ 23U3CKE502/ 23U3CKE503/ 23U3CKE504	Discipline Specific Elective Paper I	6	3	25	75	100	4
	IV	23U4CSZ503	Skill Based Paper III: Practical in Networking	4	3	30	45	75	3
				30				500	20
		23U3CSC610	Core Paper XVII: Full Stack Development	6	3	25	75	100	4
		23U3CSV611	Project and Viva-Voce	6	-	40	60	100	4
VI	III	23U3CKE605/ 23U3CKE606/ 23U3CKE607/ 23U3CKE608	Discipline Specific Elective Paper - II	6	3	25	75	100	4
		23U3CSE609/ 23U3CSE610/ 23U3CSE611/ 23U3CJE612	Discipline Specific Elective Paper - III	6	3	25	75	100	4
	IV	23U4CSZ604	Skill Based Paper IV: Practical in Full Stack Development and BioPerl	6	3	30	45	75	3
	V	23U4EXT601	Extension Activities	-	-	50	-	50	2
				30				525	21
	•		Total					3600	144
			Additional Credit Optional (II-VI)						8\$

Basic Tamil -Students who have not studied Tamil up to 12th standard.

##Advance Tamil – Students who have studied Tamil language up to 12th standard and chosen other languages under part I of the UG programme but would like to advance their Tamil language skills.

* NME – Student shall choose any one course out of three courses.

@ No End Semester Examinations. Only Continuous Internal Assessment (CIA)

\$ - Not included in Total marks and CGPA Calculation

** Examination and Evaluation for value added course shall be conducted by the Industry and the marks shall be submitted to the Controller of Examination for the award of the degree.

Elective Papers	Course Code	Group	Name of the Course
	23U3CKE501	А	Blockchain Technology
Elective	23U3CKE502	В	Next Generation Networks
Paper - I	23U3CKE503	С	Internet of Things
	23U3CKE504	D	Big Data Analytics
Elective	23U3CKE605	Α	Software Quality Assurance
	23U3CKE606	В	Information Security
Paper - II	23U3CKE607	С	Cloud Computing
	23U3CKE608	D	Cyber Security
	23U3CSE609	А	Data Mining and Warehousing
Elective	23U3CSE610	В	Machine Learning Techniques
Paper - III	23U3CSE611	C	PC Hardware & Troubleshooting
	23U3CJE612	D	Digital Marketing

ELECTIVE PAPERS:

EXTRA DEPARTMENTAL COURSE

• Students need to opt a Course other than the Course offered by their Department.

S. No.	Semester	Course Code	Course Title
1	III	22U4CS3ED1	Multimedia Technologies
2		22U4CS3ED2	Web Designing

Intra School Course offered by the Department to other Department Students (within the School)

S. No.	Course Code	Name of the Course
1	22U4VBOE01	Design Ecosystem
2	22U4VBOE02	Design Thinking
3	22U4VBOE03	Disaster Management
4	22U4VBOE04	Environmental Pollution and Waste Management (EMS)
5	22U4VBOE05	History of Ancient India
6	22U4VBOE06	Indian Knowledge System
7	22U4VBOE07	Principles of Intellectual Property Rights
8	22U4VBOE08	Science, Society and Culture
9	22U4VBOE09	Community Engagement
10	22U4VBOE10	Emotional Intelligence
11	22U4VBOE11	Fundamentals of Tourism
12	22U4VBOE12	Health Education
13	22U4VBOE13	Media and Politics
14	22U4VBOE14	Positive Psychology and Work Life
15	22U4VBOE15	Professional Ethics

16	22U4VBOE16	The Science of Happiness	
17	NCC	h.	

- Students shall opt any course within their Schools.
- NCC Students who qualify NCC B Certificate Examination need not appear for these open Electives. The Credits shall be transferred.

Self-Study Paper offered by Computer Applications Department

S. No.	Semester	Course code	Course Title	
1		22UCSSS01	Libre Office	
2	Semester II to V	22UCSSS02	Management Information System	

@w/mmh

ואר א אאת איז Chairman Board of Studies in Computer Applications Nehru Arts and Science College Coimbatore.

BoS - Chairman Department of Computer Science Nehru Arts and Science College (Autonomous) Coimbatore - 641 105.

Cou	irse Code	Title										
23 U	1TAM101		Part - I : Elant	hamizh (இளந்தமிழ்)							
Ser	nester: I		Credits: 3	CI	A: 20 Marks	ESE: 55 Marks						
Course	Objective	மொழ மாண	 மொழி இலக்கியத்தின் வாயிலாக அறம் சார் பண்பு மற்றும் ஆளுமைமிக்க மாணவர்களை உருவாக்குதல்.									
Course	Category	Skil	Skill Development (மாணவர்களின் மொழித்திறனை ஊக்குவித்தல்)									
Develop	pment Needs	Regi	Regional (உலக அளவில் தமிழ் மொழியின் அவசியத்தை உணர்த்துதல்)									
Course	Description	மாண மொ	ாவர்களின் மொழித்திறனை ஊக்குவ ழியின் அவசியத்தை உணர்த்துதல்	பித்தல் மர்	லும் உலக அளவி	ல் தமிழ்						
Course	Outcomes			Teac	ching Methods	Assessment Methods						
CO 1	சங்க இ சீர்திருத்தச்)லக்கி சிந்த	யங்கள் வாயிலாக சமூகச் னைகள் பெறப்படும்.	காணொ	விரிவுரை/ ளிப்பட விளக்கம்	ஒப்படைவு						
CO 2	அற இஏ வாழ்வியல்	லக்கிய பண்பு	பங்களின் வழி தமிழர்களின் களைக் கற்று அறிதல்.		விரிவுரை	குழுத்திட்டம்						
CO 3	பெண்ணியச் மாணவர்களு	ங் ≀ நக்கு	கவிஞர்களின் படைப்புத்திறனை உணர்த்துதல்	காணொ	விரிவுரை/ 'ளிப்பட விளக்கம்	கருத்தரங்கு						
CO 4	சிறுகதைகள மாணவர்களு	ளின் நக்கு	வழி சமூக கருத்துகளை அறிவுறுத்தல்	ഖിറ്റിപ്പഞ	ர / குழு விவாதம்	ஒப்படைவு						
CO 5	தமிழ் இலக்	கிய	வரலாற்றுத் திறனை வளர்த்தல்	ഖിரിപ്പൽ	ர/ குழு விவாதம்	கருத்தரங்கு						
Offered	l by தமிழ்த்த	൏										
Course	Content : El	antha	amizh (இளந்தமிழ்)		Instructional Hou	ırs / Week : 4						
Unit	Descriptio	n	Text Book		Chapt	ers						
I	சங்க இலக்கி	யம்	1. ஐங்குறுநூறு 2. பதிற்றுப்பத்து 3. பத்துப்பாட்டு - முல்லைப்பாட்டு 4. சிறுபாணாற்றுப்படை	ł	கிள்ளைப்பத்து (281-290) பாடல்கள் இரண்டாம் பத்து (11-15 ஐந்து பாடல்கள்) முல்லைப்பாட்டு முழுவதும் (1-103 வரிகள்)							
			Instructiona	al Hours	12 Но	urs						
Suggest	ted Learning I	Metho	ods: நாடக முறையில் கலந்துரைய	ாடல்								
II	அற இலக்கிய நீதிநூல்கள்	فال	 அறன் வலியுறுத்தல் புகழ் வாய்மை நாலடியார்-பொருட்பால் நான்மணிக்கடிகை 	31 - 40 குறட்பாக்கள் 231 - 240 குறட்பாக்கள் 291 - 300 குறட்பாக்கள் 11 ஆவது அதிகாரம் (கூடா நட்பு 1-10) முகல் ஐந்து பாடல்கள்								
G			Instructiona	al Hours	12 Ho	urs						
Suggest	ted Learning 1	Metho	ods: கலந்துரையாடல்									
III	பெண்ணியக் கவிதைகள்		1. ஆண்டாள பாயதாஷுன 2. கவிஞர் இளம்பிறை 3. சுகிர்தராணி 4. அ. வெண்ணிலா		பூச்சி வாழ்க்கை- சுட தொட்டிச்செடி அம்மா நீரில் அலையும் முச	பம் பேசும் கிளி கம்						
G			Instructiona	al Hours	12 Ho	urs						
Suggest	ted Learning 1	Metho	ods : புதுக்கவிதை எழுதும் திறன் (பெற்றமை								

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			1. குட்டி ரேவதி நின							நிறைப	நிறைய அறைகள் உள்ள வீடு							
					2. බසු	gui Ciona	கன்					ധ്നത്ത	ர டாக்டர்					
IV	சிறுகன	தக	ள்		3. ச.த	நிழ்ச்ெ	ிசல்வ	ன்				ഖെപി	லாடு போய்					
					4. ഖര	ன்ணநி	லவன்					எஸ்த	எஸ்தர்					
					5. உเ	மாமகே	ஸ்வர	1				மரப்பா	மரப்பாச்சி					
							In	stru	ction	al Hour	'S	12 Hou	irs					
Suggested Learning Methods : சிறுகதை படைக்கும்							ம் தி	றன்	பெற்றமை									
				1	1. புதுக்	. புதுக்கவிதையின் தோற்றமும்												
N7	தமிழ் (ഉരു	க்கிய	I	ഖണ്	ர்ச்சியும்						~						
v வரலாறு				2	2. சிறுக	கதையில	ன் தே	ாற்றபு	த	மழ இலக்கிய	1 97119011	<u>I</u> RI						
				3	3. цфи	ும், கு	ցիուն	பற்றி	Ìш –	- ഖ്	ிளக்கம்							
								Ι	İnstr	uctio	nal Hour	s	12 Hours					
Suggeste	Suggested Learning Methods : குழு விவாதம்																	
										To	tal Hour	s	60 Hou	irs				
Text Books இளங்கலை முதலாம் ஆ						ற் ஆக	 ன்டுத்	தமிழ்	ழ்மா	ணவர்கள	ரக்குரிய 	பாடநூல்'' இள	ந்தமிழ்"					
	தொகுபபு: தமிழத்துறை ,நேரு கலை மற்றும் அறிவியல் கல்லூரி, கோயம்புத்தூர். – – – – – – – – – – – – – – – – – – –																	
Referei	சங்க இலக்கியம் - உ இரா.இளங்குமரனார், (நிறைய அறைகள் உ 10-ஆவது வீதி, சென்						உரை முலை _ள்ள 1னை.	யாசிர் எவர்.ட வீடு	ரியா ஒளவை. துரைசாமிப்பிள்ளை, பதிப்பாசிரியாகள .பி.தமிழ்மகன், தமிழ்மண் அறக்கட்டளை, சென்னை.17. - குட்டிரேவதி எழுத்து பிரசுரம், 11மாடல் நகர்,									
Web	. URLs		htt	tps://y	outu.b	e/2SM	IM5L	vZY	00									
					Tools	for As	sessm	ent (2	20 M	[arks])							
CIA	I		CIA	II	C	IA III		Sei	eminar Assignme		nent	Group Project	Total					
4			4			5			2		2		3	2	0			
								Maj	ppin	g								
PO / CO	PO1	PC	02 1	PO3	PO4	PO5	PO6	PC	07	PO8	PSO1	PSO2	PSO3	PSO4	PSO5			
CO1	-	-		Н	-	Н	Н	М	I I	Н	L	L	L	L	L			
CO2	-	-		М	-	Н	L	Н	[Н	L	L	L	L	L			
CO3	-	-		L	-	М	М	Н	[Н	L	L	L	L	L			
CO4	-	-		H	-	Н	Μ	Μ	I	L	L	L	L	L	L			
CO5	-	-		H	-	Н	L	H	[Н	L	L	L	L	L			
H-High;	M-Medi	um;	L-Lo	ow .								T 1						
		Col	irse (desigr	ied by							Verif	ied by chairi	nan				
	Dr. S. Satheesh kumar									Dr. A.	Sridevi							

Course	e Code								
23U1H	IN101		Part - 1 - Rachnathmak Hindi	(रचनात्मक हिंदी)					
Semes	ster: I		Credits: 3 CIA:	ESE: 55 I	Marks				
			(Common to all UG Prog	rammes)					
Course Objective हिंदी भाषा का अच्छा ज्ञान प्राप्त करने के लिए।									
Course	Categor								
Develop									
Course Description Improves Accuracy & Quality, Improves Communication Skills									
Course	Outcom	es		Teaching Methods	Assessme	nt Methods			
CO 1	नाटक आसपार	से रच त की	नात्मकता का विकास होता है। यह हमारे दुनिया को समझने में भी मदद करता है।	Lecture / Video Methods	Assi	ignment			
CO 2	कहानिय जगाने	गं में म	छात्रों की कल्पना और जिज्ञासा को 1दद करती हैं।	Case Studies	Grou	p Project			
CO 3	व्याकरण और स कहानी कल्पना	ग हिंर्द मझने लेखन शक्ति	ो भाषा को सही ढंग से बोलने, लिखने में मदद करता है। विज्ञापन लेखन और छात्रों को उनके रचनात्मक लेखन और को विकसित करने में मदद करेगा।	Lectures / Video Lessons	Se	eminar			
CO 4	अनुवाद बनाता	सभी है।	Lecture / Video Methods	Assignment					
CO 5	गद्यांश संदर्भ वे में आप	Lecture / Dumb Charades	Seminar						
Offered	by Hi	ndi							
Course	Content			Instructio	onal Hours	s / Week : 4			
Unit			Description		Text Book	Chapters			
Ι	नाटव	क लड़	ाई – 1979 – सर्वेश्वर दयाल सक्सेना		1	All			
				Instruction	al Hours	12			
Suggest	ed Learı	ning N	Methods : Visual Learning						
Π	कहा 1. मजर 2. ठाकु 3. चीफ 4. भोल	ना – बूरी' - र का र की र ाराम व	1	1 to 4					
				Instruction	al Hours	12			
Suggest	ed Learn	ning I	Methods : Auditory						
III	 अनुप्र करन् 2. विज्ञा 3. दिए 	न्नयुक्त 11। पन ले गए स्	व्याकरण – सज्ञा, सवनाम, क्रिया और खन ांकेतों से कहानी लेखन।	Iaश्वषण का पहचान	1	1,2,3			

									Instr	uctiona	l Hours	5	12
Suggeste	ed Lean	rning I	Metho	ds : Co	mprehens	ive writi	ng						
IV	अनुवा	दः अं	ांग्रेज़ी से	हिंदी	(अनुवा	ाद अभ्य	स - 3) 1	- 10 3	नुच्छेद	3	1	1,2
									Instr	uctiona	l Hours	5	12
Suggeste	ed Lean	rning I	Metho	ds : A	uditory, V	isual							
V	पारिभ	াষিক হা	ब्दावली	, गह	ग्रांश लेखन						5	1	,2
									Instr	uctiona	l Hours	s	12
Suggeste	ed Lear	rning I	Metho	ds: C	omprehen	sive writ	ing						
										Tota	l Hours	s (50
Tex	t Book	S	2 3 4 5 6	. 2. . अनुव . ^{Bhan} . भाषा . श्री र संदर्भ	कहाना स ाद अभ्यास ^{catdarsh} शास्त का ामदेव , द ग्रंथ	ग्रह - 3 nan.co पारिभाषि याकरण	दक्षिण . ^{nz} क शब्द प्रदीप,	भारत f कोश लोक भ	हेंदी प्रचार - राजेंद्र भारती प्रक	सभा , द्विवेदी गशन, इव्	चेन्नई – ताहाबाद	17	
Refere Web. UI	nce Bo RLs	oks	1 2 3	. हिंदी . हिन्दी . आर्धुा	नाटक औ अलोचना नेक हिंदी	र रंगमंच की परी व्याकरण	। – डं भाषिक और र	ॉ राम शब्दावल चना –	कुमार वम् ती – पेपर डॉ. वार्	र्ग रबैंक रुदेव नंदन	प्रसाद		
				Т	ools for A	Assessr	nent (2	20 Ma	rks)				
CIA	I	CL	A II	(CIA III	As	signme	ent	Semina	ar (Froup roject	То	tal
4			4		5		2		2		3	2	0
						Map	ping						
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	-	-	Н	М	М	L	-	-	L	L	L	L	L
CO2	_	-	Н	L	L	Н	-	_	L	L	L	L	L
CO3	-	-	-	L	Μ	Н	-	-	L	L	L	L	L
CO4	-	-	М	М	Н	L	-	_	L	L	L	L	L
CO5	-	-	L	Μ	Н	L	-	-	L	L	L	L	L
H-High;	M-Mea	lium; I	L-Low										
		Cour	se desi	gned k	ŊУ					Verifie	ed by Cl	nairma	n
		Dr.S	S.Swar	nalatha	l				D	r.S.Swa	rnalatha		

Course C	Code								
23U1MAL101 Part - I : Kadhayum Samskaaravum (കഥയും സംസ്കാരവും Somester: I Credite: 3 CIA: 20 Marks ESE: 55 Max									
Semes	ster: I		Credits: 3 C	CIA: 20 Marks	I	ESE: 55 N	Iarks		
			(Common to all UC	F Programmes)					
Course	Objectiv	/e	ആധുനികകാലത്തെ മലയാളക അവബോധം ഉണ്ടാക്കുന്നു	ഫകളെ കുറിച്ചും	സംസ്	കാരത്തെ	കുറിച്ചും		
Course	Categor	у	Skill Development						
Develop	oment N	eeds	Regional						
Course	Descrip	tion	Improve accuracy & quality, i	mprove communic	ation				
Course	Course Outcomes Teaching Methods								
CO 1	കഥയും അഭിരു	ടെ സം ചിയെ	ംവേദനം ആസ്വാദകന്റെ യ പൂർത്തിയാക്കുന്നു	Lecture / Vid Methods	leo	Assig	gnment		
CO 2 പ്രകൃതിയുമായി ബന്ധപ്പെടുന്ന കഥാപരിസരം Case studies						Group	Project		
CO 3 ഭക്ഷണവും അതിന്റെ സംസ്കാരവും Lectures / Video കൂട്ടായ്മ ഉണ്ടാക്കുന്നു Lessons						Ser	ninar		
CO 4 ഭക്ഷണത്തിന്റെ മൂല്യം Lecture / Video തുർത്ഥവത്താക്കുന്നു Methods						Assig	gnment		
CO 5 ആശയ വിപുലനം Lecture / Dumb Charades						Seminar			
Offered	by M	alaya	lam						
Course	Content			Instr	uction	al Hours	/ Week : 4		
Unit			Description			Text Book	Chapter s		
I	ചെറ 1. ന 2. ന 3. ന 4. മ 5. ന	റുകഥം പരുന്നു പാലാ കുളവ മരണമ കക്കും	കൾ - സമകാലിക ക ത് - ഇ.സന്തോഷ്കുമ ഴഴിമഥനം - കെ.രേഖ വാഴ - വി .എം .ദേവദാ മുണ്ടാക്കിക്കളിക്കാം - പി .വി കളി - ഫ്രാൻസിസ് നൊറോ	ഥകൾ വാർ സ് ഷാജികുമാർ നെ		1	1 to 5		
				Instru	ctiona	l Hours	12		
Suggest	ed Lear	ning N	Methods : Visual Learning						
1. വെള്ളപ്പൊക്കത്തിൽ - തകഴി 2. ബസു യാത്ര - കേശവദേവ് 3. മരപ്പാവകൾ - കാരൂർ 4. മാണിക്കൻ - ലളിതാംബിക അന്തർജനം 5. ജന്മദിനം - ബഷീർ							6 to 10		
a	1.7	• •		Instru	ctiona	l Hours	12		
Suggest	ed Lear	ning N ນັ ດ ລວດ	Nethods : Auditory	ഭേദങ്ങൾ					
സംസ്കാര പഠനം - കേരളത്തിലെ രുചിഭേദങ്ങൾ III 1. കാസർകോടും കന്നയാളവും ദൈവവിപ്ലവത്തിന്റെ കണ്ണൂരും						1	1,2,3		

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	2. സ 3. മ	ാമൂതിര ലപ്പുറം	രി ,മുട്ട കേരള	ളമാല ളത്തിൻ	എരൻ റെ ര	റ് ,ബ്രാ അറേബ	ഹ്രണാ ച്യ)ൾ -(C	കാഴിക്കേ	ວຮັ)			
									Inst	ructiona	al Hou	rs	12
Suggeste	ed Lea	rning l	Metho	ds : Co	ompre	hensiv	e writ	ing					
IV	സം 1. ചേ 2. ക	ംസ്കാര ചട്ടായിം രിമ്പനം	െ പഠന യെ ഉ കളുടെ	ം - ം റ്റത് ശു നാട്ടിന	കര്ളത ൂരാട്ടാ ർ - ഗ	തിലെ - തൃശ്ശ പാലക്ക	രുചിം റ്റൂർ റാട്	ഭദങ	ൾ		1	2	4,5
									Inst	ructiona	al Hou	rs	12
Suggeste	ed Lea	rning l	Metho	ds : A	uditory	, Visual					-		
V നവമാധ്യമങ്ങൾ - വിവർത്തനം 1 Instructional Hours													,2,3
Instructional Hours													12
Suggested Learning Methods : Comprehensive writing													(0)
													60
1. ചെറുകഥകൾ - (10 ചെറുകഥകൾ) 2. സംസ്കാര പഠനം - നാടൻ കേരള എക്സ്പ്രസ്സ് ഡോ.സി. ഗണേഷ്, ഗ്രീൻ ബുക്ക്സ് തൃശ്ശൂർ 3. നവമാധ്യമങ്ങൾ - ടി.കെ .സന്തോഷ്കുമാർ ഡി.സി.ബുക്ക്സ് കോട്ടയം													
Referer Book	1. എം. അച്യുതന്ത് - ചെറുകഥ ഇന്നലെ ഇന്ന് - ഡ്ലസ്ലമുകസ് കോട്ടയം 2. ചെറുകഥയുടെ ഛന്ദസ്- വി. രാജകൃഷ്ണൻ മാതൃഭൂമി ബുക്സ് കോഴിക്കോട് 3. പുതിയ കഥ പുതിയ വായന - എഡി : ഡോ.ഷീബാ ദിവാകരൻ പുസ്തകലോകം പ്രസദ്ധീകരണം കോഴിക്കോട് 4. കേരള സംസ്കാരം - എ .ശ്രീധര മേനോൻ നാഷണൽ ബുക്സ് കോട്ടയം 5. ന്യൂസ് റൂമിന്റെ അകവും പുറവും - ബി.ആർ .പി.ഭാസ്കർ ഗ്രീൻ ബുക്സ് തെവും പുറവും - ബി.ആർ .പി.ഭാസ്കർ ഗ്രീൻ ബുക്സ് പോട്ടം												
Web. Ul	RLs	http://	www.k	eralac	ulture	.org>li	iterat	ure					
				Т	ools fo	or Asse	ssmer	nt (20	Marks)				
CIA	I	CL	A II	C	IA III	As	signn	nent	Semina	ar G	Froup roject	То	tal
4	ļ		4		5		2		2		3		20
						Ma	pping						
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO	B PSO1	PSO2	PSO3	PSO4	PSO 5
CO1	H	H	H	Μ	Н	Η	H	Η	L	L	L	L	L
CO2	H	H	H	L	Н	Μ	H	H	L	L	L	L	L
CO3 H M H M H M L L L L												L	
CO4 H H L M L H H H L L L L L												L	
CO5 H L L L H H H L L L L L L													
H-H1gh;	M-Me	dium; l	L-Low										
	Course designed by Verified by Chairman												
		Ms.	N. RA	JANI					Dr	. SMITH	IA C. B	•	

Cou	rse Code		Title									
23U 1	FRN101	Part - I : Le	Part - I : Le Français Fondamental - I									
Sem	ester : I	Credits : 3 C	IA : 20 Marks	ESE : 55	Marks							
		(Common to all UC	Programmes)									
Course	Objective	Acquisition of standard French	through fundament	al French gran	nmar.							
Course	Category	Skill Development										
Develop	ment Needs	Global										
Course	Description	This course has basic knowled solid foundation in the acquisit French grammar	ge of the French gra ion of standard Fren	mmar and aim hch through fu	s to build a ndamental							
Course	Outcomes		Teaching Metho	ds Assessmer	nt Methods							
CO 1	Learn basic F French civilis	French grammar along with sation	Lecture	Assi	gnment							
CO 2	Knows the ge	ender of nouns	Word game/ Lecture	Se	minar							
CO 3	Learn Negati	on, articles, and understand the	Lectures / Vide	eo (Quiz							
~~ .	usage of prep	bositions.	Tutorial / Cas	e								
CO 4	Learn Futur J	proche, Pronominal verb,	Studies	Assi	gnment							
CO 5	Know to self sentences	-introduce and translate simple	Lecture /	Grou	p project							
Offered	by French											
Course	Content		Instru	ctional Hours	s / Week : 4							
Unit		Description		Text Book	Chapters							
Ι	Mes cinq sens o	en action		1	0							
			Instruct	ional Hours	12							
Suggest	ed Learning N	Methods: Worksheets , Readin	g practice									
II	S'ouvrir aux a	nutres		1	1							
·			Instruct	ional Hours	12							
Suggest	ed Learning N	Methods: Kahoot App, Works	neets									
III	Partager son	lieu de vie		1	2							
			Instruct	ional Hours	12							
Suggest	ed Learning N	Methods : Audio & Visual, Spe	eaking practice									
IV	Vivre au quot	idien		1	3							
I			Instruct	ional Hours	12							
Suggest	ed Learning N	Methods : Comprehensive Wr	iting									

V	S'ouvri	r à la cı	ılture								1		4
									Ins	tructio	onal Ho	irs	12
Suggest	ed Lea	rning I	Method	ds: Tra	anslati	ng si	mple se	nten	ces, comj	oreher	nding the	passage	.
										Т	'otal Ho	irs	60
Text Bo	Text BooksSaison 1 Méthode de Français – Marie-Noëlle Cocton, Anouchka De Oliveira, Dorothée Dupleix (Unit 0 to 4)												
Referen	ce bool	KS	A1 F	Echo N	léthod	e de F	Français						
Web. Ul	RLs		Ling	ua.cor	n, TV :	5 app	,						
					'ools fo	or Ass	sessmen	nt (20	Marks)				
CIA	I	CL	A II	C	IA III	A	ssignm	ent	Semin	ar	Quiz	T	otal
2	1		4		5		2		2		3		20
						Μ	apping		_	-			
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	РО	8 PSO1	PSO	2 PSO3	PSO4	PSO5
CO1	-	-	Н	М	Н	Н	-	-	-	-	-	-	-
CO2	-	-	Н	L	Н	М	-	-	-	-	-	-	-
CO3	-	-	-	М	М	Н	-	-	-	-	-	-	-
CO4	-	-	L	М	L	Н	-	-		-	-	-	-
CO5	-	-	L	-	Н	-	-	-	-	-	-	-	-
H-High;	M-Mee	dium; I	L-Low										
		Course	e desig	ned by	y					Ver	ified by	Chairm	an
D. Balaji								D. Bal	aji				

Course	Course Code Title								
23U2E	- I								
Semes	ter : I		Credits : 3 C	IA	: 20 Marks	ESE : 55	Marks		
			(Common to all UG	Pr	ogrammes)				
Course	Objectiv	/e	To help students to imbibe, de fine tune their productive skill	vel s.	op, practice and u	se the LSRV	V skills and		
Course	Categor	у	Skill Development						
Develop	oment No	eeds	Global						
Course	Descript	tion	SD: Helps to develop LSRW s	kil	1				
Course	Outcom	es			Teaching Method	ls Assessm	ent Methods		
CO 1	Recogn through	ize lis	stening, and reading proficiency prose discourses.		Lecture/Tutoria	l Ass	ignment		
CO 2	Use and skills th	d inten nrougl	pret imaginative, and creative n the poetic genre.	l Ass	ignment				
CO 3	Enhanc effectiv	e the vely th	students to use English rough short story.	l Sp	eaking				
CO 4	Execute academ	e and nics ar	l R	eading					
CO 5	Evaluat	te the	LSRW skills through literature.		Lecture/Tutoria	1 V	riting		
Offered	by De	epartr	nent of English						
Course	Content				Instruc	tional Hou	rs / Week : 4		
Unit			Description			Text Book	Chapters		
	Prose								
	Leigh Hu	ınt – C	Getting Up On Cold Morning						
Ι	Rajagopa	alachai	ri – Tree Speaks			1	1-3		
	A.G. Gai	diner	– On the Rule of the Road	т					
	Listenin	g Acti	vity – Comprehension practice from	mŀ	Tose.	mal Hauna	12		
Suggest	ed Lear	ning N	Methods : Flipped Learning		Instructio	onal Hours	12		
88	Poetry	0	Π						
	John Mi	lton –	- On His Blindness						
II	Maya A	ngelo	u -Phenomenal Women			1	4-6		
	A. K. Ra	amanı	ıjan – A River						
Speaking Activity – Group Discussion Forum									
I					Instructio	onal Hours	12		
Suggest	ed Lear	ning I	Methods : Flipped Learning						

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ш	Short S O. Henn R. K. N Oscar V Readin	Stories ry – The arayan Vilde - ' g Acti	e Last I – The M The Ha vity –	Leaf Missing ppy Pri Pronu	g Mail nce nciation	n pract	ice ar	nd enl	har	ncement	from	1		7-9
	511011-5	lones								T (1 77		10
										Instr	uction	al Hour	S	12
Suggest	ed Lea	rning l	Metho	ds:Tu	itorial									
IV	Grami Parts o Tenses Kinds o Writin	mar f Speed of Sent og Activ	ch ences vity – F	Paragra	ph Wr	iting u	sing g	ramm	nar	Compo	nents	1	10)-13
										Instr	uction	al Hour	s	12
S	luggest	ed Lea	rning	Metho	ods : T	utorial								
	Writin	a Skill			Jub • 1	utoriu								
v	Letter V Notice, Memo, Minute	Writing Writin Advert s of the	(Forma g Circu tisemen Meetir	al & Int lar t 1g	formal)							1	14	4-17
				U						Instr	uction	al Hour	s	12
Suggest	od I ba	rning I	Motho	de • Al	RI					mou	uction	ur mour		
Buggesu	cu Lea	i iiiig i	vietno	us . Al								. 1 . 77		()
			r								Tot	al Hour	S	60
Text Bo	oks		Com	piled b	by the l	Depart	ment o	of Eng	glis	sh, NAS	C.			
Referen	ce Boo	ks	CLII TAN the s	2 (Co SCHE tudents	ntent NOTI s by the	& La E: (Tex e depai	nguag kt: Pre rtment	ge In escribe t and t	teg ed the	chapters college	Learnir s or pa	ng) – N ges will b	Iodule be giver	by 1 to
Web. Ul	RLs		https:	://www	v.youtu	be.cor	n/wato	ch?v=	Q	UPneyZ	ZNf0			
				Т	ools fo	r Asse	essmei	nt (20	M	larks)				
CT A	-		A TT				•	,		, 		1.	т	
CIA	. 1	CL	AII	C.		As	signn	nent	- 1	speakin	Ig R	leading	10	tal
4			4		5		2			2		3	2	0
			-		U		-			-		U		0
						Ma	pping	5						
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO)8	PSO1	PSO2	PSO3	PSO4	PSO5
C01	м	T	н	T	М	М	н	M	ſ	н	н	M	н	м
	IVI			L 	101			IVI	1 -					
CO2	M	L	H	L	Н	Μ	H	M	1	H	Н	M	H	M
CO3	М	L	Н	L	Н	Н	Н	Н	[Н	Η	М	Н	М
CO4	Μ	L	Η	L	Н	L	Н	H	[Н	Η	М	Н	Н
CO5	Н	М	Н	L	Н	Н	Н	Н	[Н	Н	Н	Н	М
H-High;	M-Me	dium; l	L-Low									•		
		Course	e desig	ned by	V						Verif	ied by Cl	nairma	n
D Pradeek					,			Dr. R.	Ma	lathi				

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]=[Cou	rse Code			Title							
23U30	CKC101		Core Paper I: Python Programming								
Seme	ester: I		Credits: 4 C	IA: 25 Marks	ESE: 75	Marks					
			mmon to B. Sc. IT / AIML / B	CA / DCFS /CS/ CS	(DS))						
Course	Objective	(To develop algorithmic soluti	ons to simple compu	ational pro	blems using					
	-		Python								
Course	Category		Employability								
Develo	pment Nee	ds	Global								
Course	Descriptio)n	This course will provide a prag programming. It helps to fam string methods and file operati	matic and hands-on in niliarize with differen ons.	troduction to t data types	o the Python s, operators,					
Course	Outcomes	5		Teaching Methods	Assessme	nt Methods					
CO 1	Understa simple p	nd t ytho	he basics of Python and write n program.	Lecture	Ass	ignment					
CO 2	Develop Statemen	Py at an	thon programs with Control d List method.	Demonstration	Se	eminar					
CO 3	Apply Tu develop s	iples simp	s, Functions and Set Iterators to ble applications	Demonstration		Quiz					
CO 4	Apply P Exceptio	ytho ns fe	n Strings, Multithreading and or problem solving.	Flipped Classroom	Program	n Execution					
CO 5	Manipula Handling	ate 5.	Files and perform Event	Lecture	Program	n Execution					
Offered	l by 🛛 Info	rma	ntion Technology								
Course	Content			Instructional Hour	s / Week : 5	5					
Unit			Description		Text Book	Chapters					
I	Fundamen Application Memory r Python- K Styles: Da Evaluation	ntals ns – nana eyw ta T of E	of Python Programming: Intro Installation-Sample Program-Pyti gement in Python-Comparison b ords, Identifiers, Statements, Ind ypes – Literals – Variables-Opera Expression-Sample Programs.	oduction – Features – hon Virtual Machine- between C, Java and entation. Syntax and tors and Expressions-	1	1,2					
				Instruction	nal Hours	15					
Suggest	ed Learning	g Me	ethods: Video lectures about the	basics of Python Prog	amming						
п	Controllec - Conditio Arrays-Se Keyboard	d Lo on C que -Ac	op - Exit Controlled Loop – Cou Controlled Loop - Nested Loop nces - Python Lists: Read a cessing Elements of a List- Mod	- Sample Programs. a List type from a difying Elements of a	1,2	3,4,5,9					
	List – Das	r ymon List Methods. Instructio	 1al Hours	15							
Sugges	ted Learni		10								
IIITuples - Need of a Tuple - Sequence of Unpac programs. Dictionaries: Making a Diction Dictionary Operations - Sets- Iterators and Programs. Functions: Defining Functions-Ca				Icking – Methods –Sample ionary-Basic Operations- nd Generators – Sample 1 6,7 Calling Functions-Passing							

	Arguments-Variable Length Arguments-Return Statements-Nesting of Passing Arguments-Anonymous Functions-Recursive Functions- Scope of Local and Global Variables.												
									Instr	uctiona	l Hour	s	15
Suggest	ed Lea	rning]	Metho	ds: De	velop	small	progra	amme	s using t	uples			
88	String	s in Py	thon:	Readi	ng - A	ccessi	ng _ N	Aodify	ving – Fir	ding -			
IV	Iteratin Except	ig thro	ugh a Multit	String breading	- Buil	d-in S	tring 1	Functi	ons. Erro	rs and	2		8
	Елеері	.10115	withit	lincaun	15				Instr	uctions	Hour	e l	
Suggest	ed Lea	rning	Metho	ds: De	velon	small 9	annlic	ation		uction	ii iioui	5	
Files and Directory Access: Files and Streams - Opening a File -													
Reading/Writing Operations in a File - Other operations in a File -													
V Iterating through a File - Splitting Words - Serialization and 1													3.17
Deserialization. Events: Event Objects - Binding callbacks to events -													- ,
Event names - Keyboard events - Mouse Events - Sample Programs													
									Instr	uctiona	l Hour	s	15
Suggest	ed Lea	rning]	Metho	ds: La	borate	ory pra	actice						
00	Total Hours 75Hrs												
	1. Ch.Satvanarvana, M.Radhika Mani, B.N. Jagadesh, Python Programming,												
T (D			Un	iversity	Press	Pvt. Lto	d.2018	•	U			C	U,
Text Bo	OKS		2. Dr	.S.A.Ki	ulkarni,	Proble	m Sol	ving a	nd Python	Program	nming, 2	nd Edit	ion,
			Ye	sdee Pu	ıblishin	g,2018		C	•	Ū.	U U		
			1. All	len B. I	Downey	y, Thinl	k Pytho	on: Ho	w to Thin	k Like a	Comput	er Scien	tist,
Doforon	a Roo	ka	2ne	d editio	n, Upda	ated for	[·] Pytho	n 3, Sł	nroff/O'Re	illy Publ	ishers,20)16	
Kelel en		N3	2. Gu	ido van	Rossu	m and F	Fred L.	Drake	Jr, An Intr	oduction	to Pytho	n – Revi	ised
			and	d updat	ed for H	ython (3.2, Ne	etwork	Theory Lt	d.,2011.			
Web. U	RLs		https	://wwv	v.w3sc	hools.c	com/p	ython/					
				То	ols for	Asses	sment	t (25 N	Marks)				
CIA	I	CI	AII	C	IA III	As	signn	nent	Semina	ar	Quiz	To	tal
5			5		6		3		3		3	2	5
						Ma	pping	5					
CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO	8 PSO1	PSO2	PSO3	PSO4	PSO5
CO1	Н	Н	Н	L	Μ	Μ	-	-	М	Н	Н	Μ	М
CO2	Μ	Μ	Μ	Μ	Н	Μ	-	-	Н	Н	Н	Μ	Н
CO3	Н	L	Μ	Н	Μ	Μ	-	-	М	Н	Н	Μ	Μ
CO4	Μ	Н	L	Μ	L	L	-	-	Н	М	Н	Н	Μ
CO5	Μ	Μ	Н	Н	Μ	Н	-	-	Н	Н	Μ	Н	Н
H-High;	M-Me	dium; l	L-Low										
		Cours	e decio	med b	V				Vori	fied by	Chairm	an	
Course designed by verified by Chairman													
Dr. D. S	uryapra	ıbha]	Dr. J.	Maria Shy	yla			

NASC

2023

Course	e Code			Title							
23U3C	KC102		Core Paper II: Digital Fundamentals and Computer Architecture								
Semes	ster: I		Credits: 4 CI	A:25 Marks	ESE:75	Marks					
		L	(Common to B. Sc. CS	/ IT / BCA)							
Course	Objectiv	ve	To enable the students to know Boolean algebra, CPU Architect	about the Operation of	ons in digita and its funct	al computer, tionality					
Course	Categor	y	Skill Development								
Develop	oment Ne	eeds	Global								
Course	Descript	tion	Understand Number Conversion circuits. Analyze memory organicomputers.	, the concept of I/O zation and multipro	organization cessor in dig	and logic ital					
Course	Outcom	es		Teaching Method	s Assessme	nt Methods					
CO 1	Perform logic ga	n nun ates.	nber conversion and identify the	Lecture, Problem Based Teaching and Tutorial		Quiz					
CO 2	Design	basic	combinational logical circuit.	Lecture Demonstration		Quiz					
CO 3	Unders	tand t	he concept of I/O organization	Video Lessons	Ass	ignment					
CO 4	CO 4 Apply priority to interrupts and use it for data transfer. Lecture, Tutorial Assign										
CO 5	Analys multipr	e ocess	memory organization and or in digital computers.	Lecture, Tutorial	Se	eminar					
Offered	by Co	omput	ter Science								
Course	Content			Instru	ctional Hour	rs / Week: 5					
Unit			Description		Text Book	Chapters					
I	Digital I Number Hexadect represent Circuits: Serial Ac Digital L	ogic - Syst imal B ation, Half Ider, H ogic: 7	- Digital Operations - Digital Comp tem and Binary Codes: Decin Binary addition, Multiplication, Divis Complements, BCD, Excess3, Gra adder, Full adder, Parallel binary Half subtractor, Full subtractor, Parall The Basic Gates –NOR, NAND, XO	al, Binary, Octal, ion – Floating point y Code. Arithmetic adder, BCD adder, el binary subtractor- R Gates.	1,2	1,3,4					
		C		Instructi	onal Hours	15					
	Combine	Sugge	I Logic Circuits: Boolean algeb	ra-Karnaugh map -	Solving						
п	Canonica combinat Sequentia Demultip	al form tions al circ plexers	1 – Construction and properties –In - Product of sum, Sum of prod cuits: Flip-Flops: RS, D, JK, and - Decoder -Encoder – shift registers	nplicants – Don't card ucts, simplifications T - Multiplexers - -Counters	1,2	2,5,6					
			×	Instructi	onal Hours	15					
	T	0	Suggested Learning	Methods: Video P	resentation						
III	Input - Interfac Mapper Strobe	ce – I/ d I/O Contro	O Bus Versus Memory Bus – Isolat – Example of I/O Interface. Asynch ol and Handshaking- Modes of Trans	ed Versus Memory - ronous data transfer	3	11					
			<u> </u>	Instructi	onal Hours	15					
			Suggested Learning	Methods: Report I	reparation						

IV	Priority Interrupt: Daisy- Chaining Priority, Parallel Prior Interrupt. Direct Memory Access: DMA Controller, DMA Trans Input – Output Processor: CPU-IOP Communication-Se Communication-Character Oriented Protocol, Data Transparen Bit Oriented Protocol.												11
									Inst	ructio	al Hour	s	15
				S	novest	ed Lea	rning	Met	nds Rei	ort Pr		n	
	Memo	rv Or	oaniza	tion [.]	Memo	rv Hi	erarchy	v _	Main M	emory-	puruno		
	Associ	ative n	nemors	v Har	lware	Organi	ization	, Mat	ch Logic	Read			
	Operat	ion W	rite O	neratio	n Cac	$\mathbf{M}_{\mathbf{h}}$	amory		chi Logic	Direct			
V	Set and		a More	peratio	M. Cat	a into l	Caeba	Initia	lization	Direct,	3		12
	Set-ass Multin		e Map	mg –	otion S	g mio v truotur	Lacile	milia	lizatioii.	otion			
	Interpro	Cossor I	Commu	nicatio	n and S	whethe	rization	n	soi Aibiu	ation,			
	merpre	CC5501	Commu	meano		syncino	mzatio		Inc	muetio	ol Hour	6	15
				C.	nagoat	ad I ac	mina	Matl	IIIS ada Vi	doo Dro	antotio	5	13
				3	uggesi	eu Lea	irning	wieu	1005 - VI				75
			1 1 7 7		0.11	D'				10	al Hour	S	/5
			1. V.	K. Puri	&Heni	ryDigit	al Ele	ctron	ics Circu	its and	Systems	5, IMH,	1997.
Text Bo	oks		2. M.	Morri	s Mano	o, Con	puter	Syste	em Archi	tecture	, PHI pul	olication	ns,2000.
Referen	ce Bool	ks	1. M 1996	. Cart	er, Co	mpute	Arch	nitect	ure, Sch	aum'S	Outline	Series,	ТМН,
Web. U	RLs		https:	//www	.educt	ba.com	/digital	l-com	puter-fun	dament	als/		
				То	ols for	Asses	sment	(25 N	(Jarks)				
CIA	I	CI	AII	C	IA III	Δ	sionm	ent	Semin	ar	Oniz	То	tal
5			5	0.	6	110	3		3	u1	3	2	5
		l	5		0		•		5		5		
						Ma	pping						
CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO	8 PSO1	PSO2	PSO3	PSO4	PSO5
CO1	Н	Н		Μ	М		Μ	Н	Н	Н	Н	М	М
CO2	Н	Н		Μ	М		М	Н	Н	Н	Н	М	М
CO3	Н	Н		Μ	М		Μ	Н	Н	Н	Н	Н	Н
CO4	Н	Н		Μ	Μ		Μ	Н	Н	Н	Н	Н	Н
CO5	Н	Н		М	М		М	Н	Н	Н	Н	Н	Н
H-High;	H-High; M-Medium; L-Low												
		iiuiii, I											
		Course	e desig	ned by	y _				Ver	ified by	Chairm	an	

NASC 2023

Course	e Code	de Title						
23U3C	CSP101 Core Paper III: Practical in Python Programming							
Semes	ster: I		Credits: 4	CIA	: 40 Marks	ESE: 60	Marks	
Course	Objectiv	ve	To introduce the concepts	of pyth	on programming of	constructs.		
Course	Categor	у	Employability					
Develop	oment No	eeds	Global To development skill set ir	nytho	n programming ar	d apply the c	oncents to	
Course	Descript	tion	develop applications in or	rder to	meet the Local and	d Global need	ls.	
Course	Outcom	es			Teaching Metho	ds Assessme	nt Methods	
CO 1	Devel	op sin	pple Python programs.		Program Demonstration	Progra	m Creativity	
CO 2	Under statem	stand	and apply the concept of co	ntrol	Program Demonstration	Deb	ugging	
CO 3	Apply function	the cons fo	oncept of looping constructs r solving basic programs.	s and	Laboratory Practice	Applica	tion of Logic	
CO 4	04 Develop programs for sorting of Strings, Lists, Tuples and File handler. Constructivist learning Program Developme Croate programs using Linear and Binary Demonstration Program Developme						Development	
CO 5	Create Search	te programs using Linear and Binary Demonstration Program Developm						
Offered	by Co	by Computer Science						
Course	Content				Instr	ructional Ho	ırs / Week: 4	
Unit			Lis	t of Pr	actical			
1	Write a p number,	oython Colleg	program that displays the folloge name, Course subjects.	owing i	nformation: Yourna	me, FullAddre	ss Mobile,	
2	Write a operator	pytho :	n program to find the larges	t three	integer using if-el	se and condit	onal	
3	Write a shoulded display	pytho nter a the nu	n program that asks the user negative number to signal the mbersinorderandtheir sum.	to enter to end	er a series of posit: of the series) and t	ive numbers (the program s	The user hould	
4	Write a	pytho	n program to find the produ	ct of tw	o matrices.			
5	Write re	cursiv	ve functions for GCD of two	o intege	rs.			
6	Write re	cursiv	ve functions for the factorial	ofpos	itive integer.			
7	Write re	cursiv	ve functions for Fibonacci S	equenc	e upto given numl	ber n.		
8	Write re	cursiv	e functions to display prime	e numb	er from 2 to n.			
9	Write a p	oython	program that writes a series of	f randor	n numbers to a file	from 1 to n and	l display.	
10	Write a	pytho	n program to sort a given se	quence	: String, List and	Tuple.		
11	Write a python program to make a simple calculator.							
12	2 Write a python program for Linear Search and Binary Search.							
13	13 Write python program in which a function (with single string parameter) is defined and calling that function prints the string parameters given to function.					calling that		
14	Write python program in which a class is define, then create object of that class and call simple print function define in class.							
					,	Total Hours	60	

Suggest	Suggested Learning Methods: Solving Case studies, Program development, Code Review and Peer Coding													
	Tools for Assessment (40 Marks)													
Laboratory Performance-	I ahoratory	Laboratory Performance- Program Debugging			st 1 Te		Test 2	Obser Note	vation Book	То	tal			
5			5		5		10	10 10 5				4	0	
						M	appin	ng						
CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	7 P	08	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	Н	Η	-	Μ	Η	-	Μ		Η	Н	Н	Н	Μ	Μ
CO2	Н	Н	-	Μ	Н	-	M		Η	Н	Н	Н	Μ	Μ
CO3	Н	Н	-	М	Н	-	M		Η	Н	Н	Н	Н	Н
CO4	Н	Н	-	Μ	Н	-	M		Η	Н	Н	Н	Н	Н
CO5	Н	Н	-	М	Н	-	M		Η	Н	Н	Н	Н	Н
H-High; N	M-Mec	lium; I	L-Low											
	Course designed by Verified by Chairman													
Dr.Juliet	Dr.Juliet Rozario Dr.N.Kavitha													

Course	e Code		T	ìtle		
23U3M	[IA101	Allied Paper I : M	athem	atics for Compu	ter Science	
Semes	ster: I	Credits: 4	CIA	25 Marks	ESE: 75	Marks
		(Common to B.Sc CS	5, IT,D	CFS / BCA)		
Course		To enable the students to learn	concep	ots of Statistical	and Numeri	cal Methods
Objecti	ve	used in Computer applications.				
Course		Skill Development				
Catego	ry	Skii Development				
Develop Needs	oment	Regional				
Course		This course covers a mix	of a	pplied linear a	algebra, St	atistics and
Descrip	tion	Numerical Analysis; it cove	ers a	central point	of conta	ct between
		Mathematics and Computer scien				
Course	Outcom	ies	Assessm	ent Methods		
	Know	Probl	em solving			
CO 1	proble	m for Eigen values and Eigen vect	ors.	Video Lecture	s	Skill
CO 2	Solve	Simultaneous Linear algebraic		Lectures /	٨٥	ianmont
	equation	ons.		Tutorial	Ass	signment
CO 3	Relate	various formulae in Numerical		Lectures /	S	eminar
	Differe	entiation and Integration		Video Lecture	s S	
CO 4	Evalua	ate the Measures of central tendence	су	Lectures / Pee	r Probl	em solving
	and dis	spersion.		Teaching	1	Skill
		se Correlation and Regression		Lecture / Tutoria	.1	Quiz
Offered	by M	latnematics				
Course	Content	t		Instructional H	ours / Wee	k :5
Unit		Description			Text Book	Chapters
	Matric	es: Introduction – Types of Matr	rices –N	Aatrix Operation	5	
-	- Deter	rmination – Inverse of a matrix	K - Ra	ink of a Matrix		
1	Charact	teristic equation of a Matrix – Col	ndition	for consistency	- 1	4
	vectors	- Cayley - Hamilton theorem	Eigen	values and Eiger	1	
	vectors	Cayley Hammon theorem.		Instructio	nal Hours	15
Suggest	ed Lear	ning Methods: Problem Solving	Practi	ce		02 Hrs
	System	of Simultaneous Linear Algeb	oraic E	Equations: Gau	ss	
II	Elimina	ation, Gauss Jordon, Gauss Jacob	bi Met	hod, Gauss Seid	al 2	4
	method	(up to 3x 3 matrices).				
				Instructio	nal Hours	15
Suggest	ed Lear	ning Methods: Class Test		1 = 100		02 Hrs
	Numer	ical Differentiations: Newton's	s forw	ard Difference		
III	Backwa	ard Difference – Stirling's formula	l. Dul	Simm son?	2	9
	1/3 rd m1	e & Simpson's $3/8^{\text{th}}$ rule	KUI	- Sumpson's		
	1/3 IUI			Instructio	nal Houre	15
Suggest	ed Lear	ning Methods: Problem Solving	Practi			02 Hrs
IV	Measu	res of Central Tendency: Mea	in Med	lian and Mode -	- 3	7.8

	Empiri Measu	mpirical Relationship between mean, median and mode. [easures of Dispersion: Range, Quartile deviation												
	and Sta	indard	deviat	ion.	0	, .								
										Instru	ctiona	l Hours	5	15
Suggeste	d Lear	ming N	Aetho	ds :Q	uiz							1	02	Hrs
V	Correl Correla Regres Regres	ation: ition an s sion: sion.	Intro Ind Spea Regre	duction arman' ession	, Sca s Ranl equa	tter Di c Corre tion o	agran lation of va	n - n. ariabl	Karl es	l Pears – Lin	on's lear	3	10	0,11
										Instru	ctiona	l Hours	;	15
Suggeste	d Lear	ning N fNLeo	/letho oEiMi	ds: Pr nM	oblem	Solvin	ıg Pra	actic	e				02	Hrs
inceps.//yo	utu.00	II (Leo	<u>50</u> jiiii	111/1							Tota	l Hours	75	Hrs
Text Boo Reference Books	oks ze	1. P. (F 2. P.I 5.0 U 3. S. R 1. 2.	Kanda For B. S Un Kandas Chanda Jnit II Jnit II Jnit III . P. Gu Lorit V E. B LTE . P.A. Publ	samy ar Sc - I Se it I- Ch amy, & Comp : Chaj Chaj Pg.N pta, Sta 2017. V: Chaj Rang Z: Chaj alaguru D, Reprin Navanit ishers, S://youtu	d Thil mester apters K.Thil any L [*] oter 4, oter 9, Vo : 28 tistica oter 7 ge, Q.1 oter 10 samy, nt, 200 ham, I Trichy 1.be/M	agavath agavath), S.Cha is 1,2,3,4 agavath $\Gamma D, Rev Section Section 31-297, I Metho (only M D and S) & 11, Numeri 8. Busines 7 - 21.G7t6SV$	y, Ma and an 4 - Pg y an vised 2 n: 4.1 ns: 9.1 299-3 ods,Su Jean, S.D) P <u>Pg.Na</u> ical M s Mat	them ad Correlation ad Correlation ad K 2005. - - 4.2 1 - 317. . altan . Yes . Yes . Yes . Yes . A .	natic mpai : 03- : 03-: 03- : 03-: 03-: : 03-: : 03-: 03-:	s for B. ny Ltd, 1 -972. navathy .7-4.9 1 .7, 9.9, ad & Son and Mc 81-189, .05,414 Fata Mc and Sta	Sc. Bra New D , Nun Pg.No 9.13, 9 ns, Fou ns, Fou ode), C 198-2: -423,4 Graw H atistics	anch I–V elhi, 2004 merical : 112-12 0.14 rth editio Chapter & 22,275-2 57-488. Hill publis , (Part II	ol.II 4. Metho 21, 145- n, 3 (only 280,287 Shing co 3), Jai	ds , 159 -293. mpany
web. Ur	ALS	2.	https	s://www	<u>youtu</u>	be.com/	watch	n?v=1	MiT	<u> 06JFN</u>	<u>04</u>			
				Too	ls for	Assess	ment	(25	Mai	rks)				
CIA	I	CIA	п	CIA I	II	Pro Solvin	blem g Ski	lls	As	signme	ent S	Seminar	Т	otal
5		5		6			3			3		3		25
						Mar	oping							
CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	7 P	08	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	H	H	L	M	M	M	M		L I	H	H	H	H	H
CO2 CO3	н u	H M		IVI M	IVI M		IVI M		L I	M	IVI I	H U	М Ц	M
CO3	п Н	M		M	M	H	M	-	L L	Н	M	п	п М	Н
C04	H	M	L	M	M	Н	M		L	Н	M	Н	Н	M
H-High;	M-Med	lium; L	L-Low	141	141		141	·		11	191			141
		Course	desig	ned by	7					Verif	ied by	Chairn	nan	
S.Ruth K	S.Ruth Kethsial T.Chandrapushpam													

Cours	ourse Code Title								
21U4E	NV101		Ability Enhancement Compulsory Cou	rse - Envir	se - Environmental Studies				
Semes	ster : I		Credits : 2	С	EIA : 50 M	arks			
		1	(Common to all UG Programmes)						
Course	Objectiv	e	This course enables the students to reco multiple factors in environmental challens competently matters of environment conc	gnize the ges and cor	interconne nmunicate	ctedness of clearly and			
Course	Category	7	Employability						
Develop	oment Ne	eds	National & Global						
	1		Course Outcomes	Teach Meth	ning ods	Assessment Methods			
CO 1	Underst and soc evaluat	tand l cial a ion of	key concepts from economic, political, halysis as they pertain to the design and renvironmental policies and institutions	Lect Video L	ure/ ectures	Album Preparation			
CO 2	Underst physica environ	tand c l s ment	concepts and methods from ecological and ciences and their application in al problem solving.	Lect Peer Te	ure/ aching	Album Preparation			
CO 3	Solve the of environment of environm	he eth ronme ural s	tical, cross-cultural, and historical context ental issues and the links between human ystems.	AB Gro Discus	L/ oup sions	Group Discussions			
CO 4	Reflect citizens comple	critio , con x, inte	Video L Gro discuss	essons/ oup sions	Group Discussions				
CO 5	Apply s and un environ	systen nderst ment	ns concepts and methodologies to analyse and interactions between social and al processes.	Field	visits	Field visit Report			
Course	Content			Instruct	tional Hou	rs / Week : 2			
Unit			Description		Text Book	Chapters			
Ι	Natural resource	Reso s, Foo	urces: Forest resources, Water resources, I od resources, Energy resources and Land re	Mineral sources.	1	2			
				Instruction	nal Hours	6			
Suggest	ed Learn	ing N	Aethods: Video lectures			·			
п	Ecosyste Introduc of ecosy ecosyste oceans, e Activity	ems: tion, stem m, A estuar : Pre	function; function h, Desert s, rivers,	1	3				
	·		· · · · ·	Instructio	nal Hours	6			
Suggest	ed Learn	ing N	Aethods: Peer Teaching						
III	Environ control pollution manager Activity	ment meas n, Ma nent. : Dis	cal Pollution: Definition Causes, effectives of Air pollution, Water pollution and Noise pollution, Solutions for water pollution	cts and on, Soil id waste	1	5			
			Ponution	Instruction	nal Hours	5 6			

Suggest	ted Lea	rning	Metho	ds : Gr	oup D	iscussi	ion						
IV	Social water Issue s Activi	Issue harves summi ty: I	es and sting, wa ts' and p dentify	the Er atershe possibl and	d mana e solut analy	ment: agementions ar ages a	Water nt, Envi nd Publi Socia l	conser ronme c awar Issu	vation, ntal eth eness. e and	rain ics - an	1		6
	Envir	onmei	nt issue	in you	r local	ity.			T4-		I II		(
Suggos	tod I og	mina	Matha	la D	ala Dla				Instr	ructional	I Hours	5	0
Sugges	Disost	rning or 1	Monogo	$\frac{18}{mont}$	Flor	y ode	Fortha	akas	Cyclo	nos			
V	Lands main e Earthc	lides: 1 elemer juakes	From m ts of a , Cyclor	nanager mitigar nes and	ment t tion an Lands	o mitig d mea lides	gation o	f disas f strate	gy: Flo	nes, ods,	2		16
G		•	2.5.42		-				Instr	uctional	l Hours	5	6
Suggest	ted Lea	rning	Metho	ds : Gr	roup D	iscussi	ion			·	-		1 1 /
Field V Mounta	vork: v in), Vis	visit to hit to li birds	o local a ocal pol Study o	area to luted s f simpl	docur site (Ui le ecos	nent E rban / [vstem:	nvironi Rural /: Pond	nental industr River	assets (ial / Ag Hill slor	River / ricultura	Forest / l), Stud	Grass y of c	s land / ommon
plants, I	insects,	on as,	Study o	i onip.		<u>ystem.</u>	1 0110, 1			Total	Hours	5	30
T		1	. Shasl	ni Chav	vla. A	Text E	Book of	Enviro	nmenta	l Studies	, Tata N	IcGrav	w-Hill,
Te: Book	XL (c)•		2012										
DUUK	(5).	2	. From	UGC	websit	e: http:	s://wwv	ugc.a/	c.in/old	pdf/mod	elcurric	ulum/e	env.pdf
		1	. Agar	wal, K	.C. 200	1 Env	ironme	ntal Bio	ology, N	lidi Publ	ic Ltd.,	Bikan	er.
		2	Jadha	iv, H &	zBhosa	lle, V.M	M. 1995	Enviro	onmenta	al Protect	tion and	Laws	
Dofor	0000	3	Hima Meki	nnov 1	UD.HOU	ise, De	2011 284 h P M	p. 1006 1	Environ	mantal S	cianca	vetor	ns dr
Book		5	Solut	ions	vi.L. &	.Senoe	II K.IVI.	1990.1		memai S		system	is a
DUUM	(5)•	4	. Odur	n, E.P.	1971 I	Fundar	nentals	of Eco	logy. W	.B. Saur	ders Co	. USA	. 574 p
		5	. Rao I	MN &I	Datta, A	A.K. 19	987 Wa	ste Wa	ter treat	ment, O	xford &	IBH	I I
			Publi	cation	Co. Pv	rt. Ltd.	, 345 p.						
				То	ols for	Asses	sment	(50 Ma	rks)				
Ecosys Prej	tem All paratio	oum n	Field report	l visit : submi	and ssion	Gro rela	oup dis ated to Disast	cussion their l ter Ma	ns abou ocality nageme	t issues / about ent	CL Te	A st	Total
	10			10				5			25	5	50
						Ma	pping				I		
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	-	L	Н	Н	Н	Η	L	L	L	L	L	L
CO2	L	-	L	Н	Н	Н	Н	L	L	L	L	L	L
CO3	L	-	L	Н	Н	Н	Н	L	L	L	L	L	L
CO4	04 L - L H H H H L L L L L L												
CO5	L	-	L	Н	Н	Н	Н	L	L	L	L	L	L
H-High	; M-Me	dium;	L-Low				l	I	I				
		Cour	e decia	ned by	v			Vo	rified b	v Chair	man		
Dr M Tha	Course designed by Verified by Chairman Dr M Thangayal Dr M Thangayal												
	ingaver							1 11. 1 11d1	iguvei				

Cou	irse Code	Code Title						
23U	1TAM202	Part - I :	Pynthamizh (பைந்தமிழ்)				
Sen	nester: II	Credits: 3 CIA	: 20 Marks	ES	SE: 55 Marks			
Course	Objective	மொழி இலக்கியத்தின் வாயிலாக மாணவர்களை உருவாக்குதல்.	அறம் சார் பஎ	ன்பு மற்றும்	ஆளுமை மிக்க			
Course	Category	Skill Development (மாணவர்களி	ர் மொழித்திறன	னை ஊக்குவ	ித்தல்)			
Develop	oment Needs	Global /Regional(உலக அளவி	ல் தமிழ் மொழி	ியின் அவசிப	பத்தை உணர்த்துதல்)			
Course	Description	மாணவர்களின் மொழித்திறனை உ மொழியின் அவசியத்தை உணர்	ளக்குவித்தல் ம துதல்	ற்றும் உலக	5 அளவில் தமிழ்			
Course	Outcomes		Teaching	Methods	Assessment Methods			
CO 1	பக்தி இல நெறிகளை ம	லக்கியங்கள் வழி வாழ்வியல் றாணவர்களுக்கு எடுத்துரைத்தல்	விரிவுரை/கா விளக்	ணொளிப்பட கம்	ஒப்படைவு			
CO 2	சிற்றிலக்கியா வாழ்க்கை சு	ங்களின் மூலம் தமிழர்களின் ₄றுகளை எடுத்துரைத்தல்	ഖിரിഖ	குழுத்திட்டம்				
CO 3	தமிழ் நா சிந்தனைகனை	வல்களின் வழி சமுதாயச் ளக் கூறுதல்	விரிவுரை/கா விளக்	ணொளிப்பட கம்	கருத்தரங்கு			
CO 4	இலக்கண அ	றிவை வளர்த்தல்	ഖിரിഖ	ரை	ஒப்படைவு			
CO 5	தமிழ் இலக்ச அடையச் செ	6ிய வரலாற்றுத்திறனை மேம்பாடு ⊧ய்தல்	விரிவுரை விவா	7/ குழு தம்	கருத்தரங்கு			
Offered	l by	தமிழ்த்துறை						
Course	Content: Pyr	ithamizh (பைந்தமிழ்)		Instruction	nal Hours / Week : 4			
Unit		Description		Text I	Book & Chapters			
I	பக்தி இலக்கியங்க	 திருமந்திரம் - மூன்றாம் (அதிகாரம் 2) நாலாயிரத் திவ்வியப்பிரட பெரியாழ்வார் மாணிக்கவாசகர்-எட்டாம் திருநாவுக்கரசர்- திருவரா 	தந்திரம் பந்தம்- திருமுறை ங்கமாலை	ந்திரம் அட்டமாசித்திகள் 5தம்- திருப்பல்லாண்டு அச்சோப்பதிகம் திருமுறை நான்காம் திருமுறை - தமாலை				
		Instruc	tional Hours		12 Hours			
Sugges	sted Learning	Methods: ஆன்மிக சிந்தனைத்தி	நன் பெற்றமை	01 100 பா	u obrat			
п	சிற்றிலக்கியங்	 கலம்பகம் - நந்திக்கலம் பள்ளு – முக்கூடற்பள்ளு குறவஞ்சி – திருக்குற்றா பிள்ளைத்தமிழ் - மீனாட் பிள்ளைத்தமிழ் பட்டினத்தார் பாடல்கள் 	பகம் ந லக்குறவஞ்சி சியம்மை	350 - 360 1-10 செய்ய 1 -10 செய் 358 - 367	செய்யுள்கள் புள்கள் பயுள்கள் பாடல்கள்			
~		Instruc	tional Hours		12 Hours			
Suggest	ted Learning N	Methods : கலந்துரையாடல்						
III	நாவல்	1. இமையம் (வெ.அண்ணாம	തെസ)	ചെ	சல்லாத பணம்			
a		Instruc	tional Hours		12 Hours			
Suggest	ted Learning N	Aethods : நாவல் எமுகும் கிறன் (പ്പന്നത്ഥ					

IV	இல	க்கண	тю́	1. வல் 2. வல் 3. யாப் (எயு 4. பாவ	லினம் லினம் ப்பின் உ ஓத்து (பின் வ		தமிழ்	தமிழ் இலக்கணம்							
								I	nstructio	nal Hou	rs 12	Hours			
Suggest	ed Lear	ning	Metho	ds: വ്	ിழെധി	ன்றி த	5மிழ் எடு	ழதுத	ல்						
V	V தமிழ் இலக்கிய வரலாறு 1. சிற்றிலக்கியத்தின் தோற்றமும் வளர்ச்சியும் 2. புதினத்தின் தோற்றமும் வளர்ச்சியும் 3. பக்தி இலக்கியத்தின் தோற்றமும் வளர்ச்சியும் 4. விண்ணப்பங்கள், மடல்கள் எழுதச்செய்தல் Instructional Hours											தமிழ் இலக்கிய வரலாறு			
				rs 12	Hours										
Suggest	ed Lear	ning	Metho	ds: @	நழு வி	வாதம்)								
									Т	otal Hou	rs 60	Hours			
Text	Books		 இளங்கலை முதலாம் ஆண்டுத்தமிழ் மாணவர்களுக்குரிய ப "பைந்தமிழ்" தொகுப்பு: தமிழ்த்துறை, நேரு கலை மற்றும் அ கல்லூரி, கோயம்புத்தூர். 												
Referen	ice Bool	ks	1. தரு திரு 2. தமி நி ை	மந்தரா ப.இரா நெல்லே ழண்ண லயம் outu.b	ம் - ம மநாத வலி, ல் - ட மதுரை e/cL89	பன் பிள் பிள் ர. DsSZq_	நாக்கி நோக்கிஎ _FI	அரு விஎ ல் தட	நள்ள தரு ாக்க உ மிழ் இலச்	ஹாசகம _ரையுடன கிய வர	- சுத்தாந்த ர கழக லாறு, மீனாட்	ைவளிய வெளிய சிப் புத்	தா பீடு, தக		
				То	ols for	Asses	sment (2	0 Ma	rks)						
CIA	I	C	IA II	C	IA III		Semina	r	Assignm	ent G	roup Project	To	tal		
4			4		5		2		2		3	2	0		
							Mappin	g							
PO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	POS	8 PSO1	PSO2	PSO3	PSO4	PSO5		
CO1	М	L	Н	L	Η	Н	М	Η	L	L	L	L	L		
CO2	H		M	L	H		H	H	L			L	L		
<u>CO4</u>	н u	 т		L I	м ч	M	H M	H T				<u>ь</u>	I I		
C04 C05	Н	L	H	L	Н	L	H	H H		L	L	L			
H-High:	M-Medi	um; L	-Low	-											
		Cour	se desig	ned by						Veri	fied by Chairm	an			
Dr. S. Satheesh kumar Dr. A.Srid									Sridevi						

Course	e Code			Title			
23U1H	IIN202		Part - 1 Sanchar I	Hindi (संचार हिर्न्द	(f,		
Semes	ter: II		Credits: 3	CIA: 20 Marks		ESE: 55 N	Marks
			(Common to all UG P	rogrammes)			
Course	Objectiv	/e	पाठ्यक्रम संवादी हिंदी में पारंगत हं	ोने में मदद करता है⊥	<u>-</u>		
Course	Categor	у	Skill Development				
Develop	pment Ne	eeds	National				
Course	Descript	tion	Improves Reading and Transl	ation Skills.			
Course	Outcom	es		Teaching Metho	ds	Assessme	nt Methods
CO 1	कविता समझें। अंतर्निहि	की मू मुक्त त साम	ल शब्दावली और व्यावहारिक तत्वों को छंद और कविता के पारंपरिक रूपों में नान्य तकनीकों को समझें।	Lecture / Vide Methods	°O	Assi	gnment
CO 2	छात्र वि में प्रदर्धि व्याख्या में सक्षग	भिन्न प्र र्शेत क करने न होंगे	ाकार की संवादात्मक स्थितियों में हिंदी रने, चित्रित करने, नाटक करने और के लिए अर्जित कौशल को लागू करने	Case Studies		Grou	p Project
CO 3	छात्र औ सक्षम ह	ौपचारि ड़ोंगे।	क और अनौपचारिक पत्र लिखने में	Lectures / Vide Lessons	ectures / Video Lessons		
CO 4	अनुवाद बनाता	सभी है।	लोगों के बीच प्रभावी संचार को सक्ष	F Lecture / Vide Methods	0	Assi	gnment
CO 5	छात्र हिं विषय प होंगे ⊥	दी भा ार विधि	षा के वक्ता के साथ किसी भी सामान्य भेन्न स्तरों पर बातचीत करने में सक्षम	Lecture / Dum Charades	ıb	Se	minar
Offered	l by Hi	ndi					
Course	Content			Instructional Hou	urs /	Week: 4	
Unit			Description			Text Book	Chapters
Ι	आधुनिक	हिंदी व	काव्य : रश्मिरथी , रामधारी सिंह 'दि	नकर '		1	All
				Instruct	iona	l Hours	12
Suggest	ted Learı	ning I	Methods : Visual Learning				02 Hrs
Π	एकांव 1 . शिवा 2 . औरंग 3 . रीढ़ 4 . सिपाह	की संग्र जी क जेब क की हड्डू ही की	गह ः ा सच्चा स्वरूप – सेठ गोविंददास गी आखिरी रात – रामकुमार वर्मा ड्री – जगदीशचंद्र माथुर माँ – मोहन राकेश			1	1 to 4
				Instruct	iona	l Hours	12
Suggest	ted Learn	ning I	Methods : Auditory				02 Hrs
III	पत्र लेख पत्र , नौ	ान : करी वे	(छुटटी पत्र , संपादक को पत्र , ृ लिए आवेदन पत्र , निजी पत्र)	पुस्तकों के लिए आदे	হা	1	1,2,3
				Instruct	iona	l Hours	12

Т	T	\neg
U		J

Suggeste	ed Lea	rning I	Metho	ds : Co	mprehens	ive writi	ng					02	Hrs
IV	अनुवाद	: हिंर्द	ो से अं	ग्रेजी (अनुवाद	अभ्यास	- 3)	1 - 3	10 pas:	sages	3		1,2
									Inst	ructio	nal Hou	rs	12
Suggest	ed Lea	rning I	Metho	ds : Au	iditory, V	isual						02	Hrs
v	बोलचाल डॉक्टर	की हि - रोगी,	न्दी : 4. स	1. शि ाक्षात्कार	क्षक - 5. दो ^र	विद्यार्थी गत्री 6.	2. ग्राह माँ - र	रक-दुक बेटा	गनदार	3.	5		1,2
									Inst	ructio	nal Hou	rs	12
Suggest	ed Lea	rning I	Metho	ds: Co	omprehen	sive writ	ing					02	Hrs
			1							T	otal Hou	rs	60
Referen	ce Boo	ks	1. र 2. स 3. 3	श्मिरथी Iरस एक Iनुवाद उ	/ रामधार्र ांकी नाटक अभ्यास –	िसिंह " र्ग : डॉ. 3 दक्षि	दिनकर' रामकुग ण भारत	' – क मार वम न हिंदी	विता कोम् f प्रचार सः	श भा , ^{न्}	वेन्नई -1		
Reference Books 1. श्रेष्ठ हिन्दी एकांकी -डॉ विजयपाल सिंह 2. बोलचाल : पं० अयोध्या सिंह उपाध्याय 3. हिंदी व्याकरण निबंध और पत्र लेखन -डॉ. एन. एल. माथुर													
Web. Ul	RLs		www	webd	unia.con	n							
				Т	ools for A	Assessn	nent (2	0 Mai	rks)				
CIA	Ι	CL	A II	0	CIA III	As m	sign Ient	S	eminar	,	Group project	To	tal
4			4		5		2		2		3	20	0
						Марр	oing						
CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	Н	Н	М	L	М	L	М	L	L	L	L	L
CO2	М	L	Н	L	Н	Н	Н	L	L	L	L	L	L
CO3	Н	L	L	L	М	Н	М	Н	L	L	L	L	L
CO4	Н	М	М	М	L	L	L	Н	L	L	L	L	L
CO5	М	Н	L	М	М	Μ	М	М	L	L	L	L	L
H-High;	M-Mee	dium; I	L-Low										
		Cour	se desi	igned b	ру					Veri	fied by (Chairma	an
		Dr.	S.Swa	rnalat	ha				Dr.S	.Swar	nalatha		

Course	e Code					
23U1M	AL202	Part	t – I: Novalum Bhashaapadanav	IM (നോവലും ഭാഷ	ാപഠനവും)	
Semes	ter: II		Credits: 3 C	IA: 20 Marks	ESE: 55	Marks
		1	(Common to all UG P	rogrammes)		
Course	Objectiv	ve	വിദ്യാർത്ഥികളിൽ മലയാള ഭാഷ നോവലുകൾക്കുള്ള സ്ഥാനവും റ	യുടെ വികാസവും പായനാശീലവും വർ	മലയാള സാം ജിപ്പിക്കുന്നു	ഹിത്യത്തിൽ
Course	Categor	y	Skill Development			
Develop	oment N	eeds	Regional			
Course	Descrip	tion	Proper guidance, opportunities an their ambitions	d encouragement tha	t help them to	achieve
Course	Outcom	es		Teaching Method	ls Assessme	nt Methods
CO 1	സമ ജീറ	ൂഹത പിതം	തിലെ ഒരു വിഭാഗത്തിന്റെ	Lecture / Video Methods	Ass	ignment
CO 2	പ്രം മാറ്റ	ക്യതിര റങ്ങൾ	യുടെയും മറ്റു ജീവജാലങ്ങളുടെയു	• Case studies	Grou	p Project
CO 3	പ്രർ പ്ര(പ്ര	ക്യതി വർത്ത	നാശത്തിനെതിരായി ഒന്നിച്ചു മകുന്നു	Lectures / Vide Lessons	D Se	eminar
CO 4	സമ തിര	ൂഹത മിച്ചറി	തിലെ ഭാഷാസങ്കല്പം ിയുന്നു	Lecture / Video Methods	Ass	ignment
CO 5	നല്ല മനം	ഭാഷ സ്സിലാ	1 എങ്ങനെ സ്യഷ്ടിക്കാമെന്ന് ക്കുന്നു	Lecture / Duml Charades) Se	eminar
Offered	by Ma	alaya	lam			
Course	Content			Instructional Hours	s / Week : 4	
Unit			Description		Text Book	Chapters
Ι	നോവൽ) - ₁ (])ൻമകജെ		1	1 to 16
				Instructi	onal Hours	12
Suggest	ed Lear	ning I	Methods: Visual Learning			02 Hrs
II	നോവൽ) - n()ൻമകജെ		1	17 to 34
C	17	• •		Instructi	onal Hours	12
Suggest	ed Lear	nıng I	VIETNODS : Auditory Method			02 Hrs
III	നോവൽ) - n()ൻമകജെ		1	35 to 51
C				Instructi	onal Hours	12
Suggest	ea Lear		viethods : Comprehensive Writing			02 Hrs
IV	ഭാഷാപ	0(1)0	- തെളമ്പലനാളം	Instant	anal Hours	1,2,3
Suggest	ed Lear	ning I	Methods : Auditory & Visual Method	mstructi		02 Hrs
		8				

v	ഭാഷാം	പഠനം	- തെള്	- തെളിമലയാളം 1										
•									Instr	uctiona	l Hour	S	12	
Suggest	ed Lea	rning I	Methods	s: Com	prehensi	ve Writi	ng					02	Hrs	
										Tota	l Hour	s 60	Hrs	
Tex	t Book	S	1. ര 2. പ	രംബിക എം.എൻ	ാസുതൻ .കാരഗ്ഗേ) മാങ്ങ ൂരി, ഒര	ദാട്, പ്ര തളിമല)ൻമക യാളം	ജെ - ഡി പ	ി.സി.ബ ഗി.സി.ബ	ൂക്സ് േ ചുക്സ് ര	കാട്ടയം കോട്ടയം	o	
Refere	ence Bo	ooks	1. მ 2. ლ 3. ლ 4. ი ლ	പ്രാഫ.പ കാട്ടയം ഡാ. പ ധി.സി.ബ ഡാ.കെ.പ പസ്ഥാനം എരുമേല കാട്ടയം	എൻ.ക്യം മന രാ പുക്സ് എം. ജേ ങ്ങളിലൂ റി, മലര	ഷ്ണപ്പി കോട്ടയ ഭാർജ്, വ്വൈം സ വാള സ	ിള്ള, െ ര ആധുന ചി.സി.ശ ാഹിത	കെരളി ാർ, സ വിക മദ ബുക്ന പ്രം കാ	യുടെ ക മ്പൂർണ്ണമ ചയാള ന പ് കോട്ടർ ലഘട്ടത്ത്	ഥ - വ ലയാള സാഹിര യം റിലൂടെ	റി.സി.ബ് സാഹിം റ്യ ചരിപ്ര - ഡി.റ	ുക്സ് ത്യ ചര തം സി.ബുക	റിത്രം - ച്സ്	
We	b. URI	2 S	http://	www.ko	eralacu anoran	lture.o naonlin	rg>lite							
				100	DIS IOP A	Assessm	ient (2	U Mar	KS)		~			
CIA	I	C	IA II	CL	A III	Assig	gnmen	t	Seminar	. (p	Froup roject	То	tal	
4			4		5		2		2		3	2	,0	
						Марр	oing							
CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	Н	L	Н	Н	Н	Н	Н	Н	L	L	L	L	L	
CO2	Н	L	Н	М	Η	Μ	Н	Η	L	L	L	L	L	
CO3	М	L	М	М	М	Н	Н	Μ	L	L	L	L	L	
CO4	Н	L	L	Н	L	Н	Н	Н	L	L	L	L	L	
CO5	М	L	L	Μ	L	Н	Н	Н	L	L	L	L	L	
H-High;	M-Me	dium; I	L-Low											
		Cours	e design	ed by					Verifie	d by C	hairma	n		
Ms. N. RAJANI Dr. SMITHA								A C. R.						

Course Code		Title									
23U1FRN202		Part – I : Le Français Fondamental – II									
Sem	ester : II	Credits : 3 CI	ESE : 55 Marks								
		(Common to all UG Programmes)									
Course	Objective	This course is comprised of deep study of grammar categories and aims to									
Course	Category	Skill Development									
Develop	ment Needs	Global									
Course	Description	This course aims to develop communicative competence of the students in French, to create cultural awareness, to promote autonomy in learning French.									
Course	Outcomes		Teaching Methods	Assessment							
CO 1	Acquire an use the basic	understanding of French culture foundation of verbs.	' Lecture	Ass	gnment						
CO 2	Describe a j adjectives.	place, learn pronom en, y and	Tutorial / Case Studies	ase Seminar							
CO 3	Recall the ter	nses and learn Imparfait tense	Lectures / Video Lessons	Quiz							
CO 4	Write about COD,	the weather and learn pronom	Word game / Lecture	Assignment							
CO 5	Write sho Comprehend COI	rt passages and translate the passage and learn pronom	Lecture Group project								
Offered	by Departu	nent of French									
Course	Content		Instructio	onal Hours	s / Week : 4						
Unit		Description		Text Book	Chapters						
Ι	Goûter à la ca	mpagne		1	5						
			Instructiona	al Hours	12						
Suggested Learning Methods: Worksheets, TV5 App											
II	Voyager dans	sa ville		1	6						
		Instructiona	al Hours	12							
Suggested Learning Methods: Kahoot App, Duolingo											
III	Faire du neuf	avec du vieux		1	7						
			Instructiona	al Hours	12						
Suggested Learning Methods : Comprehensive Writing											

IV	Changer d'air										1		8		
Instructional Hours 12															
Suggested Learning Methods : Comprehensive Writing															
VDevenir éco-citoyen19													9		
Instructional Hours 12															
Suggested Learning Methods : Translating simple sentences and short passages															
Total Hours 60													60		
Text BooksSaison 1 Méthode de Français – Marie-Noëlle Cocton, Anouchka De Oliveira, Dorothée Dupleix (Unit 5 to 9)															
Reference Books A1 Echo Méthode de Français															
We	Web. URLsLingua.com, TV 5 app, Learn French by podcast (spotify)														
Tools for Assessment (20 Marks)															
CIA	I	CL	AII	C	IA III	A	ssignr	nent		Semina	ar	Quiz	Te	otal	
,	4		4	5			2			2		3		20	
						Μ	lappin	g		-					
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	7 PC	8	PSO1	PSO	PSO3	PSO4	PSO5	
CO1	-	-	Н	Μ	Н	Н	-	-		-	-	-	-	-	
CO2	-	-	Н	L	Н	Μ	-			-	-	-	-	-	
CO3	-	-	- M M H -		-	-				-	-	-			
CO4	-	-	L	Μ	L	Н	-		-	-	-	-	-	-	
CO5	-	-	L	-	Н	-						-	-	-	
H-High; M-Medium; L-Low															
Course designed by Verified by Chairman															
D. Balaji								D. Balaji							

Course Code		Title									
23U2ENG202		Part – II : Pr	- II								
Sen	nester : II	Credits : 3	ESE : 55 Marks								
		(Common to all UG Programmes)									
Course	Objective	To equip the students with the language skills and its functional usage Facilitate the insight and taste of Literature									
Course	Category	Skill Development									
Develo	oment Needs	Global									
Course	Description	SD: Helps to develop LSRW skill									
Course	Outcomes		Assessment Methods								
CO 1	Mastering li	fe skills through prose discourse.	Lecture/Tutorial	Assignment							
	Acquire eth	ics and values through poetic			00						
CO 2	genre.		Lecture/Tutorial	Ass	ignment						
CO 3	Recognise t through show	he nuances of English language rt stories.	Lecture/Tutorial	Sp	eaking						
CO 4	Enhance flu confidence.	nency over language with self-	Lecture/Tutorial	Re	eading						
CO 5	Examine h literature and	ow the language is used in develop LSRW Skills	Lecture/Tutorial	W	riting						
Offered	l by Departi	nent of English									
Course Content Instructional Hours / Week											
Course	Content		Instruction		5/ WCCK . 4						
Unit		Description	Instruction	Text Book	Chapters						
Unit	Prose E.M. Forster Mahatma Gar Issac Asimov Listening Ac	Description - Tolerance adhi - Women Not the Weaker Sex - The Fun They had tivity – Comprehension practice fr	rom Prose.	Text Book	Chapters 1-3						
Unit	Prose E.M. Forster Mahatma Gar Issac Asimov Listening Ac	Description - Tolerance adhi - Women Not the Weaker Sex - The Fun They had tivity – Comprehension practice fr	om Prose.	Text Book 1 al Hours	Chapters 1-3 12						
Unit I Sugges	Prose E.M. Forster Mahatma Gar Issac Asimov Listening Ac	Description - Tolerance adhi - Women Not the Weaker Sex - The Fun They had tivity – Comprehension practice fr Methods : Cooperative Learning	rom Prose. Instruction	Text Book 1 al Hours	Chapters 1-3 12						
Unit I Sugges	Prose E.M. Forster - Mahatma Gar Issac Asimov Listening Ac ted Learning I Poetry Robert Frost - William Blak Alexander Po Speaking Ac	Description - Tolerance adhi - Women Not the Weaker Sex - The Fun They had tivity – Comprehension practice fr Methods : Cooperative Learning - Stopping by Woods on a Snowy H e - A Poison Tree pe – Ode on Solitude tivity – Group Discussion Forum	om Prose. Instruction Instruction g Evening	Text Book 1 al Hours	Chapters 1-3 12 4-6						
Unit I Sugges II	Prose E.M. Forster - Mahatma Gar Issac Asimov Listening Ac ted Learning I Poetry Robert Frost - William Blak Alexander Po Speaking Ac	Description - Tolerance adhi - Women Not the Weaker Sex - The Fun They had tivity – Comprehension practice fr Methods : Cooperative Learning - Stopping by Woods on a Snowy H e - A Poison Tree pe – Ode on Solitude tivity – Group Discussion Forum	rom Prose. Instruction S Evening Instruction	Text Book 1 al Hours 1 al Hours	Chapters 1-3 12 4-6 12						
Unit I Sugges II Sugges	Prose E.M. Forster - Mahatma Gar Issac Asimov Listening Ac ted Learning I Poetry Robert Frost - William Blak Alexander Po Speaking Ac	Description - Tolerance adhi - Women Not the Weaker Sex - The Fun They had tivity – Comprehension practice fr Methods : Cooperative Learning - Stopping by Woods on a Snowy H e - A Poison Tree pe – Ode on Solitude tivity – Group Discussion Forum Methods : Inquiry Based Learning	om Prose. Instruction g Evening Instruction	Text Book 1 al Hours 1 al Hours	Chapters 1-3 12 4-6 12						
Unit I Sugges II Sugges	Prose E.M. Forster - Mahatma Gar Issac Asimov Listening Ac ted Learning I Poetry Robert Frost - William Blak Alexander Po Speaking Ac ted Learning I Short Stories Mark Twain - Japanese Folk Hector Hugh Reading Act Short-stories	Description - Tolerance adhi - Women Not the Weaker Sex - The Fun They had tivity – Comprehension practice fr Methods : Cooperative Learning - Stopping by Woods on a Snowy H e - A Poison Tree pe – Ode on Solitude tivity – Group Discussion Forum Methods : Inquiry Based Learning The Cat and the Painkiller Tale - The Envious Neighbour Munro (Saki) – The Open Window ivity – Pronunciation practice and	rom Prose. Instructions B Evening Instructions Instructions Instructions	Iterat Text Book 1 al Hours 1 1 1 1	Chapters 1-3 12 4-6 12 7-9						
Unit I Suggess II Suggess III	Prose E.M. Forster - Mahatma Gar Issac Asimov Listening Ac ted Learning I Poetry Robert Frost - William Blak Alexander Po Speaking Ac Speaking Ac ted Learning I Short Stories Mark Twain - Japanese Folk Hector Hugh Reading Acti Short-stories	Description - Tolerance adhi - Women Not the Weaker Sex - The Fun They had tivity – Comprehension practice fr Methods : Cooperative Learning - Stopping by Woods on a Snowy H e - A Poison Tree pe – Ode on Solitude tivity – Group Discussion Forum Methods : Inquiry Based Learning - The Cat and the Painkiller - Tale - The Envious Neighbour Munro (Saki) – The Open Window ivity – Pronunciation practice and	rom Prose. Instruction B Evening Instruction ng V enhancement from Instruction	I 1 al Hours 1 1 1 1 1 1	Chapters 1-3 1-3 4-6 12 7-9 12						

IV Grammar Articles Concord Active and Passive Voices Direct and Indirect Speech Writing Activity – Paragraph Writing using grammar Components Instruction Suggested Learning Methods : Direct Method V Resume Writing Email Writing Dialogue Writing Dialogue Writing Dialogue Writing												10 s 14	10-13 12 14-17	
	Creative Writing													
Suggest	ed Lea	rning]	Metho	ds : Ao	rtivity	Based	Learn	ing	Instr	uctiona	l Hour	tours 12		
Juggest	cu Lleu				cervicy	Dubeu	Louin			Tota	l Hour	s	60	
Text Bo	oks		Com	piled b	y the l	Depart	ment of	f Engl	lish NAS	С.				
Reference BooksCLIL (Content & Language Integrated Learnin TANSCHE NOTE: (Text: Prescribed chapters or pay the students by the department and the college)										Learning s or pag	ng) – Module by ges will be given to			
Web. U	RLs													
					ools fo	or Asse	essmen	t (20	Marks)					
CIA	I	CI	A II	C	IA III	As	signm	ent	Speakin	ng Reading		Total		
4	4		4	5			2		2		3	20		
						Ma	pping							
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO	B PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	М	L	Н	L	М	М	Н	M	Н	Н	М	Н	М	
CO2	М	L	Н	L	Н	М	Н	М	Н	Н	М	Н	М	
CO3	М	L	Н	L	Н	Н	Н	Н	Н	Н	М	Н	М	
CO4	М	L	Н	L	Н	L	Н	Н	Н	Н	М	Н	Н	
CO5	Н	М	Н	L	Н	Н	Н	Н	Н	Н	Н	Н	М	
H-High;	M-Me	dium;	L-Low			L			•		1	I		
Course designed by								Verified by Chairman						
D Pradeek								Dr. R Malathi						
Cou	ırse Code		Title											
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23 U	3CKC203	CKC203 Core Paper IV: Java Programming												
Sem	ester: II	Credits: 4 CIA	ESE:	75 Marks										
		(Common to B. Sc.	. CS / DS / IT)											
Course	Objective	To gain knowledge about basic Ja java programs and understan inheritance, polymorphism and p	ava language synta: d the principles ackages.	and seman of classe	ntics to write s, methods,									
Course	Category	Employability												
Develop	oment Needs	Global												
Course	Description	To understand the Object-Orien Control statements, arrays, pack multithreading and Develop netw	ted Paradigm and kages and interface vorking application	develop pro s, Exceptions	ograms using on Handling,									
Course	Outcomes	ls Assessm	nent Methods											
CO 1	Rememb Object-O	Clar Par	ss ticipation											
CO 2	Develop Control s	Qui	Z											
CO 3	Apply the interfaces	e principles of packages and s.	Sen	ninar										
CO 4	Design Ja concepts Multithre	ava application using the of Exception Handling and eading.	s Sen	ninar										
CO 5	Develop and AW	applications using IO Streams Γ.	Lecture	Assignment										
Offered	by Compu	ter Science												
Course	Content	Ι	nstructional Hour	s / Week :	5									
Unit		Description		Text Book	Chapters									
Ι	Fundamental Oriented Par Programming Application o History – Fea and Internet Java: simple Statements – .	1	1,2											
			Instruction	al Hours	15									
Suggest Video le	ectures about	Aethods: the basics of JAVA Programmin	Ig											
п	Constants, Decision M ? : Operator Jumps in D Methods. A Two Dimen	Variables, Data Types, Operators aking and Branching: if, ifelse , Decision Making and Looping Loops - Labelled Loops, Clas rrays: One Dimensional Array-C sional Array.	and Expressions, e, nested if, switch, g: while, do, for – ses, Objects and Creating an Array-	1	4,5,6,7 & 8									

		Instructiona	l Hours	15		
Suggest	ted Learning N	Iethods: Code Debugging				
III	Interfaces: Interface-Ex Accessing I API Packag Creating Pa Adding a Cla	Multiple Interface-Introduction-Defining tending Interface-Implementing Interface- interface Variables. Packages: Introduction-Java es-Using System Packages-Naming Conventions- ackages-Accessing a Package-Using a Package- ass to a Package-Hiding Classes-Static Import.	1	10,11 & 12		
		Instructiona	l Hours	15		
Suggest	ted Learning N	Iethods : Simple Application Development				
IV	Exception Ha Classes- Typ Exceptions-Ha Multithreade Concept of ' Creation-Three Synchronization Joining Threa JDBC.	andling: Fundamentals-Hierarchy of the Exception pes of Exception –Exception Class-Uncaught andling Exception-User Defined Exception. d Programming: The Java Thread Model- Thread-Runnable Interface-Thread Class-Thread ad's Life Cycle-Thread Scheduling- on and Deadlock-Inter Thread Communication- ds-Suspending, Resuming and Stopping Threads-	2	10 & 11		
		Instructiona	l Hours	15		
Suggest	ted Learning N	Iethods : Apply the programs in the JAVA Softwa	re			
V	Input/Output Classes: Input and Output Operations-Hierarchy of Classes in java.io Package-File Class-Input Stream and Output Stream Classes-File Input Stream and File Output Stream Classes-Reader and Writer Classes-Random Access File Class- Stream Tokenizer. Applets: Applet Basics-Applet Life Cycle- Running Applets-Methods of the Applet Class-Graphics Class-Color Class-Font Class-Limitations of Applets. Abstract Window Toolkit: AWT-AWT Classes-Hierarchy of Classes in Java.awt Package-Control Fundamentals-Component Class-Basic Component Class2					
		Instructiona	l Hours	15		
Suggest	ted Learning M	Iethods : Simple Application Development				
		Tota	l Hours	75Hrs		
Text Bo	ooks	 E. Balagurusamy, Programming with Jaw McGraw Hill Publication, 3rd Edition, 2007 ISRD Group, Introduction to Object Or Through Java, Tata McGraw Hill Publication Java Network Programming, 4th Edition, Orie 	r a – A P iented Pr n, Forth Ro lly Publica	rimer, Tata ogramming eprint 2008. attion		
Referei	nce Books	 Patrick Naughton& Hebert Schildt, The Com 2, Tata McGraw Hill Publication, 3rdEdition, 2 John R. Hubbard, Programming with Jav Publication, 2nd Edition, 2009 	plete Ref 2002 a , Tata M	erence Java IcGraw Hill		
Web. U	URLs	https://www.w3schools.com/java/defa	ault.asp			

B. Sc., CS / DS / IT

Tools for Assessment (25 Marks)													
CIA	ш	Class Participation			Assignment		eminar	Total					
5		5		6			3		3		3	2	5
	Mapping												
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	Н	Н	-	Μ	Н	-	М	Н	Н	Н	Н	М	М
CO2	Н	H	-	Μ	Н	-	М	Н	Н	Н	Н	М	М
CO3	Н	Н	-	Μ	Н	-	М	Н	Н	Н	Н	Н	Н
CO4	Н	Н	-	Μ	Н	-	М	Н	Н	Н	Н	Н	Н
CO5	Н	Н	-	Μ	Н	-	М	Н	Н	Н	Н	Н	Н
H-High; I	H-High; M-Medium; L-Low												
	Course designed by Verified by Chairman												
Dr.Juliet	Dr.Juliet Rozario Dr.N.Kavitha												

Course	e Code			,	Title		
23U3C	KC204		Core Pape	r V	: Data Structures		
Semes	ter: II		Credits: 4 C	IA	: 25 Marks	ESE: 75	Marks
			(Common to B. Sc. C	S /	/ IT / BCA)		
Course	Objecti	ve	To enable the students to und Linked list, Searching and Sor	lers tin	stand about the vari g, apply them to sol	ous techni ve complex	ques such as x programs.
Course	Categor	·у	Skill Development				
Develop	oment N	eeds	Global				
Course	Descrip	tion	To understand the concept of A searching and sorting and appl appropriate Data Structure.	Arr y t	ays, Stacks and Que o solve real world p	eues, Linke roblem usi	d list, ng
Course	Outcom	es			Teaching Methods	Assessme	nt Methods
CO 1	Unders Stacks	tand t and Q	he representation of Arrays, Ducues.		Lecture	Group	Discussion
CO 2	Solve t	he pro	oblems using Queues and List.		Constructivist Approach		Quiz
CO 3	Demonstrate different types of Tree Tutorial					S	eminar
CO 4	Design Algorithm to perform different types Video Lessons					S	eminar
CO 5	Illustra and app approp	te Syn ply to riate I	mbol, hash and File organization solve real world problem using Data Structure.	1	Lecture	Ass	ignment
Offered	by Co	ompu	ter Science	1			
Course	Content	ţ			Instruct	tional Hou	rs / Week: 5
Unit			Description			Text Book	Chapters
I	Introdu Arrays Arrays. Express	uction : Axi Stack	a: Overview - create Programs - omatization - Sparse Matrices (s& Queues: Fundamentals - Multiple Stacks and Queues.	- -	nalyse Programs. Representation of - Evaluation of	1	1,2,3
	•				Instruction	al Hours	15
	Sugge	sted I	Learning Methods: Write Algo	prit	thms for Real time	Scenario	
Π	Writing recursio represen using lin	citing Recursive program - simulating Recursion - efficiency of cursion. Queues and List: The queue and its sequential presentation - Linked list - List in C - An example Simulation ing linked list - other list structure					
	Instructional Hou						15
	Sugge	sted I	Learning Methods: Write Algo	orit	thms for Real time	Scenario	
III	algorit applica repres	hm tions	- representing list as Binary - Game trees. Graphs: A Flow on of Graph - Graph traversal ar	rat pr	Trees and their oblem - The linked spanning forests	2	5,8
					Instruction	al Hours	15
	_	•~	Suggested Learnin	ng l	Methods: Group D	iscussion	
IV	Interna - Heap	al Sor Sort	ting: Insertion Sort - Quick Sor - Shell Sort.External Sorting	:t - g:	2-Way Merge Sort Storage Devices -	1	7.8

K-Way Merging. Sorting With Tapes: Balanced Merge Sorts - Polyphase Merge.													
	- 71-		0						Inst	ruction	nal Hours	1	15
				S	Sugges	ted Le	earnin	g Met	thods: Gi	oup D	Discussion		
V	Symbo Hash 7 Files: F File Or Linked	ol Tabl Fables: Files, Qu rganiza Organi	e: Stat Hashi Jeries a tion: S zation.	ic Tree ng Fu nd Seq equent	e Table nctions uential tial Org	es - Dy s- Over Organi ganizati	rnamic rflow zations on- Ra	Tree Handl S- Inde	Tables. ing. x Techniq Organiza	ues - tion-	1	9,	10
Instructional Hours 15										15			
				Su	ggeste	d Lea	rning	Meth	ods - Vid	eo Pre	esentation		
Total Hours 75											75		
Text Boo	Text Books 1. Ellis Horowitz &SartajSahni, Fundamentals of Data Structures, Galgotia Publication.2. Aaron M. Tenenbaum, YedidyahLangsam, Moshe J.Augenstein, Data Structure using C. Pearson Education. 2009.												
Reference Web. UF	ce Boo	ks	1. E 2. J 3. M 1. E	Ellis H Compu ean-Pa Structu Mark A nternat	lorowit: ter Alg ul Tre res wit llen W ional U	z, Sar gorithm mblay h App feiss, D niversi	tajSahi ns, Gal and blicatio ata St ty, Pea miz.co	ni&San gotia F Paul ons, Se ructun rson E om/ds	nguthevarI Publication G.Sorenso cond Editi res and A ducation,	Rajasek Is Pvt L n, An .on, Tat Igorith Second	aran, Fun .td, 1999. Introduc ta MaGraw m Analysis Edition, 19	dament tion to Hill,200 s in C, 1 997.	als of Data 08. Florida
				To	ols for	·Asses	smen	t (25 I	Marks)				
CIA	I	CL	A II	CLA	A III	Part	Class cicipat	ion	Assignm	ent	Seminar	То	tal
5			5		6		3		3		3	2	5
						Ma	apping	Ş					
CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO	8 PSO1	PSO2	PSO3	PSO4	PSO5
CO1	Н	Н	М	М	М	_	М	Н	Н	Н	Н	М	М
CO2	Н	Н	М	М	М	-	М	Н	Н	Н	Н	М	М
CO3	Н	Н	М	М	М	-	Μ	Н	Н	Н	Н	Н	Н
CO4	Н	Н	М	М	М	-	Μ	Н	Н	Н	Н	Н	Н
CO5	Н	Н	М	М	М	-	Μ	Н	Н	Η	Н	Н	Н
H-High;	M-Mee	dium; l	L-Low										
		Course	e desig	ned by	y				Veri	fied b	y Chairma	an	
M.Senthil Kumar Dr.N.Kavitha													

Course	Code			Т	itle				
23U3C8	SP202		Core Paper VI : Practica	l in Jav	a Programming a	and Bio-Computing			
Semester	r: II		Credits: 4	0	CIA: 40 Marks	ESE:60 Marks			
Course Ob	jective		To enable the students to develop problem solving skills and programming ability in Java Language						
Course Ca	tegory		Employability						
Developme	ent Needs		Global						
Course Des	scription		Develop simple and con	mplex a	pplications at Glob	al needs.			
Course OutcomesTeaching MethodsAssessment Methods									
CO 1	Develop array and	progr mult	ams to iimplement the strir iple inheritance concepts.	ng,	Program Demonstration	Program Creativity			
CO 2	Debugging								
CO 3Apply the concept of package to illustrate reusability.Program DemonstrationApplica Logic									
CO 4	Develop t Applets a	the pr nd A	ograms for the concepts of WT.		Program Demonstration	Program Development			
CO 5	Create ap	plicat	ion for file handling.		Program Demonstration	Program Development			
Offered by	Comj	outer	Science	_					
Course Co	ntent			In	structional Hours	/ Week : 4			
			Program	List					
1. Writ	e a Java Ap	plicat	ions to extract a portion of a c	character	string and print the e	extracted string			
2. Writ	e a Java Pro	ogram	to implement Quick Sort Alg	gorithm					
3. Writ	e a Java Pro	ogram	to implement the concept of	Interface	s				
4. Writ	e a program	to in	plement the concept of Excep	ption Ha	ndling				
5. Writ mult	e a Java Pro iplication ta	ogram Ibles a	to implement the concept of and assign three different prior	multithre rities to t	eading with the use of hem.	f any three			
6. Writ	e a Java pro	gram	to import classes from user d	efined pa	ackage and creating p	ackage			
7. Writ	e a java pro	gram	to perform Linear and Binary	Search					
8. Writ	e a Java Pro	gram	to draw several shapes in the	created	windows				
0									

9. Write a Java Program to implement Stack and Queue Operations

10. Split DNA sequences into condon

11. Analyze and retrieve Protein sequences from protein database

12. Perform pair wise and multiple sequence alignment using BLAST tool

13. Read the Fasta file given in the input and print the identifier, name and description

14. Identify the disease from the given nucleotide sequences using BLAST tool.

Sug	Suggested Learning Methods: Simple Application development												10	hrs
											Tota	l Hou	rs 60) Hrs
				Т	ools for	·Ass	ess	ment (40 Mai	:ks)				
 Laboratory Performance- Application of Logic Laboratory Performance- Program Creativity 				Lahoratorv	Laboratory Performance- Program Debugging		Test 1	1 Test 2		Obs Not	ervatio te Book	n T	Total	
5			5		5			10		10		5		40
						Μ	app	ping						
CO \ PO	PO1	PO2	PO3	PO4	PO5	РО	6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	Н	Н	L	М	Н		L	М	Н	Н	Н	Н	М	М
CO2	Н	Н	L	М	Н		L	Μ	Н	Н	Н	Н	М	М
CO3	Н	Н	L	М	Н		L	Μ	Н	Н	Н	Н	Н	Н
CO4	Н	Н	L	М	Н		L	Μ	Н	Н	Н	Н	Н	Н
CO5	Н	Н	L	Μ	Н		L	Μ	Н	Н	Н	Н	Н	Н
H-High; M-Medium; L-Low														
	Course designed by									Verif	ied by	Chairm	nan	
Dr.Julie	Dr.Juliet Rozario							D	r.N.Ka	vitha				

B. Sc., CS, DS, IT, AIML, DCFS, BCA

Cour	se Code		1	Title							
23U3	MIA202	Allied Pape	Allied Paper II : Discrete Mathematics								
Sem	ester: II	Credits: 4	ESE:7	'5 Marks							
		(Common to B.Sc CS,DS,I	T,AIN	IL,DCFS / BCA)						
Course	Objective	To learn about the discrete	struct	ure for computer	based appli	cation.					
Course	Category	Skill Development									
Develop	ment Needs	Regional									
Course	Description	This course is to understan backbones of computer sci introduce logic, proofs, set with an emphasis on applic	d and the ence. It is, related to the content of th	use abstract discre in particular, this ions, functions, c in computer scie	ete structure course mea counting, an nce.	es that are nt to d graph					
Course	Outcomes			Teaching Metho	ods A	Assessment Methods					
CO 1	Learn th	e basic concepts of Set theory		Chalk & Talk	Unit 7	ſest					
CO 2	Impleme Logic in	nt the basic ideas of Mathematic Computer Science	al	Peer Teaching/ Chalk & Talk	Assig	nment					
CO 3	Classify Function	different types of Relations and s		Chalk & Talk	Semir	nar					
CO 4	Infer the theory.	concepts of Grammar and Autor	mata	GLM/ Chalk & Talk	Unit 7	ſest					
CO 5	Know th	e concepts of Graph theory		Chalk & Talk	Quiz						
Offered	by Mathe	matics									
Course	Content		Inst	ructional Hours	/ Week : 5						
Unit		Description			Text Book	Chapters					
I	Set Theo Types of set theor Fundame of sets ar	pry: Introduction-Set & its Elen sets-Venn-Euler Diagrams-Set y. ental products- Partitions of sets ad Duality-Inclusion and Exclusi	nents-S operat s – Mi on Pri	Set Description- ions & Laws of n sets- Algebra nciple	1	1					
				Instruction	al Hours	15					
Suggest	ed Learning	Methods : Problem Solving P	ractis	e		03 Hrs					
п	Basic Argumer	logical operations- Tautolog t-PDNF & PCNF - Method of p	gies-Co proof.	ontradiction –	1	12					
				Instruction	al Hours	15					
Suggest	ed Learning	Methods : Class Test		1		03 Hrs					
ш	Relation Relations Composi Function Composi	RelationsPartial order relationEquivalence relation13Composition of relations.FunctionsTypes of functions14Composition of functions.									
				Instruction	al Hours	15					
Suggest	ed Learning	Methods : Seminar	D	1		03 Hrs					
IV	Sted Learning Methods : Seminar 03 Languages:Operations on languages – Regular Expressions and regular languages. 1 Grammar:Types of grammars – Grammar Construction-Finite state machine – Finite State Automata, DEA, NDEA, Conversion of 1										

B. Sc., CS, DS, IT, AIML, DCFS, BCA

	ND	FA into	DFA.												
										Instr	uctio	nal H	Hours	8	15
Suggest	ed Lear	ning N	Iethod	$ \mathbf{s} : \mathbf{Q}$	uiz									03	3 Hrs
	Gra	ph Th	eory:	Basic 1	terminc	ology -	- path	ns, cyc	le &	Conn	ectiv	vity –		1	9
v	Sub	graphs	s – Ťyp	es of g	graphs.	0.	1								
· ·	Tree	es - Pro	opertie	s of tre	ees - B	inary t	rees-'	Traver	rsal o	of Bina	ary T	rees.		1	10
· · · · · ·										Instr	uctio	nal F	Iours	5	15
Suggest	ed Lear	ning N	/lethod	ls : Pr	oblem	Solvin	ig Pra	actise						03	8 Hrs
			_								T	otal H	Hours	s 75	5 Hrs
1. J.K. Sharma, Discrete Mathematics , Macmillan India Ltd, 2nd edition, 2005.															
			Un	it I :	Chapt	er 1, S	Sectio	on: 1.1	-1.7,	1.9,1.	10, 1	.12, 1	.14		
			Un	it II :	Chapt	er 12,	Section	on: 12	.1 – 1	12.3 &	z 12.	8, 12.9	9, 12.	11, 12.1	2 &
12.14															
Text Bo	oks		Un	it III :	Chapt	er 3, S	ectio	n: 3.3	- 3.7	, 3.11					
				·/ TX7	Chapt	ter 4, S		on: 4.1	-4.	5					
				1t I V :	Chapte	er 15, 3	Sectio	n: 15.	1-13. م)./ =					
			UII	πv.	Chapt	er 9, 5 or 10	Sectio	11. 9.1 on: 10	- 9.J 1 10) 3					
			1 I F	Trem	blay R	Mano	har I	Discret	<u>е Ма</u>	J.J othema	tics !	Struct	ures s	with	
D 4			AD	plicati	ons to (Compu	ter So	cience.	McG	Braw H	ill In	ternati	onal E	Edition. 2	2005.
Reference Books Image: Computer Second and															
			Co	mbina	torics, l	McGray	w Hill	l Interr	nation	nal Edit	tion,	2008			
			1. <u>h</u>	ttps://v	www.yo	outube.	.com/	watch:	?v=08	aOm2	pnKl	<u>xyY</u>			
			2. <u>h</u>	ttps://v	www.bi	ng.con	<mark>ı/ck/a</mark>	<u>1?!&&</u>	<u>p=15</u>	aa8c6	b70a	<mark>85b80</mark>	Jmltd	IHM9M	TY2MT
			Q	<u>yMjE</u>	<u>40SZp</u>	Z3VpZ	<u>2D011</u>	MDI3	YjUx	<u>ZS00Z</u>	<u>DBi</u>	LTQ2	<u>ODE</u>	<u>tYjUyZ</u>	<u>S0yZjdh</u>
			$\frac{N}{2}$	<u>zU3M</u>	GY1N	WMma	aW5z	aWQ9	NTQ	<u>)30Q8</u>	<u>kptn</u>	=3&hs	<u>sh=38</u>	<u>xfclid=0</u>	<u>d43c10</u>
Web. U	RLs			- <u>245e-</u> 6827f	6400b.8	<u>ci-</u> m_o1I	37 n7		w077		V2a	oT1Fo	XNic		ttVVR0
				vt5h3V	UdW.II	K2xnh	msr7	In Juh	St.ISX	XOmZ	G9ia	WO9	NiA4	MDEvN	$\frac{\mathbf{U} \mathbf{I} \mathbf{X} \mathbf{K} 0}{\mathbf{I} \mathbf{D} \mathbf{k} 3 0}$
			Ť	A4Nzł	xNzAv	vJm1p	ZD0v	wMjVl	ENKN	M3NU	ZBN	DEwC)EY0	QTAxN	TAyNU
			Q	2Qzc1	RkEON	/ITA4F	KjRB I	MDE1	JnZp	oZXc9	ZGV	'0YWI	sJkZ	PUk09V	klSRQ
			<u>&</u>	ntb=1											
				To	ols for	·Asses	ssmei	nt (50	Mar	rks)					
							Class								
CIA	I	CL	A II	CL	A III	Prat	ticina	, ition	Ass	signmo	ent	Qu	iz	Te	otal
			_		(1140		uon		2		2			25
5			5		0	Ma	<u> </u>	19		3				A	25
CO						111	аррп	ig					PS		
PO	PO1	PO2	PO3	PO4	PO5	PO6	POT	7 PC) 8 I	PSO1	PS	502	03	PSO4	PSO5
CO1	Н	Η	L	Μ	Н	Μ	M	N	1	L	1	М	Η	Μ	М
CO2	Н	Η	L	Μ	Н	Μ	M	H	I	L		L	Η	L	М
CO3	Н	Н	L	Μ	Н	Μ	M	H	I	Μ	l	М	Η	Н	Н
CO4	Н	H	L	Μ	M	Μ	Μ	N	1	L	l	M	Η	Μ	Μ
CO5	Н	Н	L	Η	Μ	Μ	M	H	1	Μ	l	М	Η	Н	Н
H-High;	M-Med	lium; L	-Low												
		Course	e desig	ned by	/					Veri	ified	by Cl	hairn	nan	
S.Ruth H	S.Ruth Kethsial Dr.N.Kavitha														

Course Code	Title					
21U4HRC202	Ability Enhancement Co Human Rights and Con	mpulsory Course - stitution of India				
Semester : II	Credits : 2	CIA: 50 Marks				

(Common to all UG Programmes)

Course Objective:

Understand the concept of human rights and the importance of Indian Constitution.

Course Outcomes:

C01	Understand the principal aspects of human rights and duties in a broad sweep.
CO2	Acquire the knowledge about the Fundamental Duties and Rights of Indian Citizen
CO3	To know the rights of women and Children in India
CO4	Understand the structure and importance of Indian Constitution
CO5	Know the functions of Government and Election Commission of India

Course Content

Instructional Hours / Week : 2

Unit	Description	
I	An Introduction to Human Rights :Values – Dignity, Liberty, Equality, Diversity - Human Rights – Meaning and features; Significance Classification of Human Rights - Rights and Duties – Correlation	Justice, Unity in of the study -
	Instructional Hours	6
	Human Rights and Fundamental Rights - Fundamental Rights and Fund	lamental Duties-
	Directive Principles - Role of Judiciary in the protection of Human	Rights- National
II	Human Rights Commission	
	Activity : Case Study related to Human Rights	-
	Instructional Hours	6
ш	Human Rights of Women and Children- Social Practice and Constitutio Female foeticide and infanticide-Physical assault and Harassment- Do Conditions of Working Women Activity : Conduct a Group Discussion on the above topics	nal Safeguards– mestic violence-
	Instructional Hours	6
IV	Constitution – Structure and Principles - Meaning and importance of Making of Indian Constitution –Sources - Salient features of India Government of Union- Government of State-Features of judicial system	of Constitution - n Constitution- n in India
	Instructional Hours	6
V	Federalism in India – Features - Local Government -Panchayat –Powers -Election Commission –Organisation and functions-Citizen oriented me Provisions and significance Activity : Seminar/ Role play related to Indian Constitution	s and functions easures – RTI –
	Instructional Hours	6
	Total Hours	30

Text Book:

1. **"Human Rights and Constitution of India",** Complied by Curriculum Development Cell, Nehru Artsand Science College.

Case Study and Report submission	Seminar / Role play	Group Discussion	Comprehensive test for 5×5 = 25 marks	Total
10	10	5	25	50

Tools for Assessment (50 Marks)

Mapping

PO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	-	-	-	L	Н	Н	Н	Н	L	L	-	-	-
CO2	-	-	-	L	Н	Н	Н	Н	L	L	-	-	-
CO3	-	-	-	L	Н	Н	Н	Н	L	L	-	-	-
CO4	-	-	-	L	Н	Н	Н	Н	L	L	-	-	-
CO5	-	-	-	L	Н	Н	Н	Н	L	L	-	-	-

H-High; M-Medium; L-Low

Course Designed by	Verified by
Dr. E Vijaya Gowri	Dr. N. Saranya

NASC | 2022

Course Code	Ti	tle
22U4HVY201	Value Education : Human	Values and Yoga Practice
Semesters : I & II	Credits : 2	CIA : 50 Marks

Course Objective:

- (Common to all UG Programmes)
- To help the students appreciate the essential complementarity between 'values' and 'skills' to ensure sustained happiness and prosperity, which are the core aspirations of all human beings.
- To prepare and distribute standardized Yoga teaching and training material with reference to institute health.

Course Outcomes:

CO1	To know the importance of Ethics to be followed in the Human life.
CO2	To inculcate a sense of respect towards harnessing values of life and spiritof fulfilling social responsibilities.
CO3	To gain knowledge about the values that develops life skills.
CO4	To understand and Practice Meditation & Surya Namaskar.
CO5	To understand and apply the knowledge for physical health and well being through Asanas

intent instructional Hours / Week : 1 (For Schesters 1 and H)
Description
uman Values – Introduction - Definition of Ethics and Values - Character and
onduct - Nature and Scope of Ethics. Individual and Society - Theories of Society -
cial Relationships and Society - Empathy: Compassion towards other beings.
Instructional Hours 4
If-realization and Human Values-Self-realization and Harmony-Rules and Regulations-
ghts and Duties-Good and Obligation-Integrity and Conscience. Obligation to Family-
ust and Respect-Codes of Conduct.
Instructional Hours 5
naracter Formation Towards Positive Personality: Truthfulness, Constructivity,
crifice, Sincerity, Self Control, Altruism, Tolerance, Scientific Vision. Refinement of
orries: Neutralization of anger-Intelligent quotient(IQ),Emotional quotient(EQ),Spiritual
actient (SQ)
Instructional Hours 5
wer of Meditation- Development of mind in stages - Mental Frequencies Methods for
oncentration. Meditation Practices - Surya Namaskar.
ysical Exercises - Kayakalpa Practices Training for Potentialising the Mind.
Instructional Hours 6
Hu Cc So Se Ri Tr Cl Sa Qu Qu Po Cc Ph

ASANAS

	Standing Posture: Tadasana, Utkattasana, arthaKadi Chakrasana, Trikonasana, Artha
	Chandrarasana, Padahastasana, Virabhadrasana, Vrikshasana, Artha,
	Natarajasana.
V	Sitting posture: Padmasana, Gomukasana, Ustrasana, ArdhaMatsyendrasana,
v	Patchimottanasana.
	Prone posture: Bhujangasana, shalabhasana, Dhanurasana, Chakrasana.
	Supine posture:Sarvangasana, Halasana, Matsyasana, Shanti asana
	Pranayama: Bhastrika, Bhramari, NadiShodhan
	Instructional Hours 10
	Total Hours 30

Text book:

1. "Value Education", compiled by Curriculum Development cell, Nehru Arts and Science

College.

Tools for Assessment

25 marks	25 marks
Comprehensive test in Units I to III for 25 marks during CIA III of Sem. II	Perform 02 Yoga postures for Practical exam to be conducted during the mid. of Sem. II

Mapping

PO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	-	-	-	Н	L	М	Н	Н	-	L	-	-	L
CO2	-	-	-	L	М	Н	М	Н	-	L	-	-	L
CO3	-	-	-	L	М	Н	S	Н	-	L	-	-	L
CO4	-	-	-	L	L	Н	М	Н	-	L	-	-	L
CO5	-	-	-	L	L	Н	М	Н	-	L	-	-	L

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman				
Karthi M	Dr. N Kavitha				

Course	e Code				Title	e						
23U1T	AM303	5		Part -]	: Arunthami	izh (அ	ரந்தமிழ்)					
Semes	ter: III		(Credits: 3	CIA: 20 N	CIA: 20 Marks ESE: 55 M						
Course	Objecti	ive	தமிழ்க்	ക്പപ്പിഡங്കണിൽ ഖழി ക	அறம் சார்ந்த ச	 றம் சார்ந்த சிந்தனைகளை உருவாக்குதல்						
Course	Catego	ry	Skill De	evelopment (மாணவர்கள	ரின் மொழித்தி	ன் மொழித்திறனை ஊக்குவித்தல்)						
Develop	ment N	leeds	Global	/Regional (உலக அளவ	ில் தமிழ் மொழியின் அவசியத்தை உணர்த்துதல்)							
Course	Descrip	otion	மாணவ அவசிய	ர்களின் மொழித்திறனை பத்தை உணர்த்துதல்	ஊக்குவித்தல்	் மற்றும்	உலக அளவில் தமிழ்	மொழியின்				
Course	Outcon	nes					Teaching Methods	Assessment Methods				
CO 1	தமி சிந்	ழ் நூல்க தனைகனை	ளில் அ ள வளர்	ணிநலம் அறிதல், அறம் த்தல்.	சார்ந்த		விரிவுரை/ காணொளிப்பட விளக்கம்	ஒப்படைவு				
CO 2	தமி கூற உ	lழ் இலக்க வவதன் மூ ணரச்செய்	6ிய வன லம் தமீ தல்.	ககளைக் பெழின் இலக்கிய வளத்தை	5		விரிவுரை	குழுத்திட்டம்				
CO 3	மாக உர	னவர்களில நவாக்குத	டையே ச ல்.	காலத்திற்கேற்ப மொழிவல	ளர்ச்சியை	சசியை விரிவுரை/ காணொளிப்பட விளக்கம்						
CO 4	நாட்	டின் சிற	ந்த குடிய	மக்களாக மாணவர்களை	உருவாக்குத	າ່ນ.	விரிவுரை// குழு விவாதம்	கருத்தரங்கு				
CO 5	LDITG	னவர்களில்	ன் மனந	லத்தை வளர்த்தல்.			விரிவுரை/ குழு விவாதம்	கருத்தரங்கு				
Offered	by	தமிழ்த்து	ന്ദ									
Course	Conten	t : Arun	thamizł	ı (அருந்தமிழ்)]	Instructional Hours / V	Week:4				
Unit	Ι	Descriptio	n	Text Book	Chapters							
Ι	காப்பி	1.சிலப்பதிகாரம் 2.மணிமேகலை 3.சீவகசிந்தாமணி 4.கம்பராமாயணம்			1.1 அடை 1.2.பீடிகை 1.3.பூமகக 1.4சுந்தரச	1.1அடைக்கலக்காதை (மதுரைக்காண்டம்-பகுதி- 15) 1.2.பீடிகைக் கண்டுபிறப்புணர்ந்தக் காதை-பகுதி-9) 1.3.பூமகள் இலம்பகம் (பகுதி- 11-2347-2377 பாடல்கள்) 1.4சுந்தரகாண்டம்(கடல் தாவுப்படலம் 1- 1 0பாடல்கள்)						
Instructional Hours 12 Hour												
Suggested Learning Methods: நாடக முறையில் கலந்துரையாடல்												
П	சைவ, சுவடிய	ഞഖഞ്ഞഖ, ിിധ്പல்	1. 2ந பிரா 3 .ச	தேவாரம் நாலாயிரத்திவ்வியப் பந்தம் வடியியல்	2.1.அருநல 2.2.ஆண்டா 2.3.சுவடியி 2.4 சைவம் 2.5 வைண	2.1.தாருநல்லூராப் வெருமணம் (பாடல் எண்-4157-4146) 2.2.ஆண்டாள் திருப்பாவை - (பாடல் எண்- 474-483) 2.3.சுவடியியல் - அறிமுகம் 2.4 சைவம் தமிழுக்குச் செய்த தொண்டு 2.5 வைனவம் தமிழுக்குச் செய்த தொண்டு						
	·		I	Instructional Hour	s			12 Hours				
Suggest	ed Lear	rning Me	thods :	பக்தி பாசுரங்கள் கலந்	துரையாடல்							

III	மொழித்	திறன்		1.நன்னு 2.தொல்	ால் காப்பிய	ம்	3.1 3.2 3.3	3.1 நூல் வரலாறு (முதல் நூல், வழி நூல், சார்பு நூல்) 3.2 மாணாக்கர் வரலாறு 3.3 ஆசிரியர் வரலாறு						
	(இலக்க	ணம்)		-			3.4	எ ண்வര	கை மெய்	ப்பாடுக	ກ່			
					<u>I</u>	nstruct	ional H	ours				12 Ho	urs	
Suggest	ed Learn	ing Me	thods :	மொழித்	திறன் எ	வாயிலா	க பிழை	்யின்றி ்	எழுதும்	திறன் (பெற்றமை			
IV	நாட்டுப்	புற		நாட்டுப்ப	പ്പന്തഖിധര	ΰ	4.1 4.2 4.3	 4.1. பழமொழிகள் 4.2. விடுகதைகள் 4.3 தமிழர்க்கலைகள் 						
	வழக்கா	றுகள					4.5	ட சாறு 5 வின	ையாட் ளையாட்	வழாபா டுகள் (ரு மடரும சிறுவர்,சிறுமிι	யர் மட்(நம்)	
						Ins	truction	nal Ho	urs			12 Ho	ırs	
Suggeste :	ed Learn	ning Me	thods	நாட்டுப்ப	പ്നാഖിധര	ல் வழி	நாட்டுப்ட	ற மக்ச	ണിൽ ഖ	ாழ்வியன	ல அறியச்செய்	தல்		
v	இலக்ச திறன்	லிய வரச	லாற்றுத்	தமிழ் (தமிழ் இலக்கிய வரலாறு 1. காப்பியத்தின் தோற்றமும் வளர்ச்சியும் 2. பக்தி இலக்கியத்தின் தோற்றமும் வளர்ச்சியும் 3. சமிமக காட்டுப்பறையல் வாலாறு									
						structio	nal Ho	ours	••		12 He	ours		
Suggeste	ed Learn	ning Me	thods:	பாடத்தி	ட்டத்தில	டுக்கப்பட்	_டுள்ள	இலக்கிu	_ வரலா	ற்றினை உணர்	த்துதல்			
Total H	lours											60 Hour	S	
Text Bo	oks	இளங் தொகு	கலை இ தப்பு: தமி)ரண்டாம் ிழ்த்துறை	ஆண்டு 3, நேரு) தமிழ் கலை	மாணவ மற்றும்	ாணவர்களுக்குரிய பாடநூல் "அருந்தமிம்" ற்றும் அறிவியல் கல்லூரி, கோயம்புத்தூர்.						
Referen	ce Books	த நாட் புதிய	டுப்புறவிய ப நோக்ச	பல் ஓர் . 5ில் தமிழ்	ஆய்வு: ஒ இலக்	டாக்டர் கிய வ	சு. சக் ரலாறு,	திவேல் மீனாட்சி	விஜயா ப் புத்தக	பதிப்பக 5 நிலை	ம் சென்னை. த பம், மதுரை- 62	மிழண்ண 5 001.	ல் -	
Web. URI	Ĺs	<u>http</u>	s://yout	u.be/EJc	<mark>/gyw7</mark> e	<u>94, htt</u>	os://you	tu.be/N	<u>Agtwme</u>	rl4 <u>yw</u>				
			r	Fools for	Assess	sment (20 Mar	ks)						
CLA	A I	(CIA II	0	CIA III		Seminar	inar Assignment Group Project			Group Project	Total		
4	ļ		4		5		2		2		3	2	0	
						N	Aapping							
PO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	H	L	Н	L	L	H	Μ	L	L	L	L	L	L	
CO2	М	L	Н	L	Н	L	М	Н	L	L	L	L	L	
CO3	H	L	L	L	Н	M	Н	Μ	L	L	L	L	L	
CO4	М	L	Н	L	М	М	Н	L	L	L	L	L	L	
CO5 H L M L H L								Н	L	L	L	L	L	
H-High; M	1-Medium;	L-Low		_										
		Cour	se desig	ned by				Verified by						
		Dr. S. 8	Satheesh	Kumar						١	Dr. A. Sridevi			

Course	Code			Title			
23U1H	IN303		Part I - Sahityak Hino	li (साहि	त्यिक हिंदी)		
Semest	er: III		Credits: 3 CI	A: 20 Ma	arks	ESE: 55	Marks
			(Common to all UC		mmes)		
Course	Objectiv	'e	चुनिंदा कविताओं के माध्यम को समझना।. संकलन में उपलब्ध कराए गए स सराहना।	से हिंदी वींत्तम नमृ	कविता की ्नों का उपयोग	उत्पत्ति ग करते हुए	और विकास र कविता की
Course	Category	y	Skill Development				
Develop	ment Ne	eds	National				
Course	Descrip	tion	Improves Writing Skills.				
		Cou	urse Outcomes	ing Methods	Assessm	ent Methods	
CO 1	ন্তার हिंव	दी भाष	।। से अच्छी तरह वाकिफ हो सकेंगे।	R	ole play	Assi	gnment
CO 2	व्यक्तिग कविताएँ	त अनु लिखत	भवों की पहचान करें जिनका उपयोग ो समय किया जा सकता है।	p learning Acting	Se	minar	
CO 3	कविता व समझें।	क्री मूल	१ शब्दावली और व्यावहारिक तत्वों क	Story	Narration	Assi	gnment
CO 4	छात्रों को	रचना	त्मक लेखन में अच्छा अभ्यास मिलेगा।	Grou and W	p learning Vork sheets	Grou	o Project
CO 5	पाठ्यक्रम करता है	न संव हे।	ादी हिंदी में पारंगत होने में मदव	Work Ex	sheets and kercises	Se	minar
Offered	by Hi	ndi					
Course	Content			Instructi	ional Hours	Week:4	
Unit			Description			Text Book	Chapters
Ι	नाटक –	सत्यग	मेव जयते – (श्री सूर्यनारायण मूर्ति)		1	3
<u> </u>	1 7	• •	<i>K</i> /1 1 1 7• 1 1 •		Instructiona	al Hours	<u>12</u>
Suggest	ed Learn	ning N	Tethods : Visual Learning		}		02 Hrs
II	प्राचान व पद्) (क	गव्य जव्य त	: कबार क दाह (10 दाहा), तरंग)	सूरदास	ቀ ዛሩ (4	1	2
					Instructiona	al Hours	12
Suggest	ed Learr	ning N	Methods : Auditory		<u> </u>		02 Hrs
III	 आधुनि जलियांवा - रामधा 2.संक्षिप्त 	कि व ला बा री सिंह नीकरण	गव्य : पुष्प की अभिलाषा– म ग़ में बसंत – सुभद्राकुमारी चौहान ह दिनकर I	गखनलाल , शक्ति	चतुर्वदी <i>,</i> और क्षमा	1	3
				Instructiona	d Hours	12	
Suggest	ed Learn	ning N	Methods : Comprehensive Writ			02 Hrs	
IV	अलंकार 2) दिए उ	ः 1 गए चि) अथे अलकार और शब्द अलंक वेत्र पर कुछ वाक्य लिखना ।		1	2	
<u> </u>				Instructional Hours		12	
Suggest	ed Learr	ning N	Methods : Auditory. Visual. Con	nprehen	sive		02 Hrs
			46				

V	गद्यांश एक शब	लेखन ब्द	, 7	गक्य भू	गुद्धि,	থাৰু থ্	ुद्धि, अ	। नेक	शब्द के	लिए	1		4
									Instr	uction	al Hours	S	12
Suggeste	d Lear	ning N	Metho	ls: c	ompre	ehensiv	ve writi	ing				02	Hrs
										Tot	al Hour	s 60	Hrs
Text Boo	oks		1 . 2	नाटव . काव	० - र य सुग्	त्त्यमेव नन –	जयते राजपाल	– (एंड र	श्री सूर्यन सन्स	ारायण	मूर्ति)		
Referenc	e Bool	KS	1 2	. हिंदी . ओंक	नाटक गर नाथ	और न वर्मा	रंगमंच , सामा [,]	- डॉ न्य हिंव	राम कु री अरिहंत	मार वम् त प्रकाश	र्ा रान इंडिया	। लिमिटे	ड
Web. UF	RLs		1. 2. 3. 4.	<u>www</u> <u>http:</u> <u>www</u>	w.webo s://ww w.bhas w.hind	lunia.c w.hind haindia isamay	o <u>m</u> ikunj.co <u>1</u> .com	<u>om</u>					
				То	ols for	Asses	sment ((20 M	arks)				
CIA	I	CL	A II	C	IA III	As	signme	ent	Semina	ar (I	Froup Project	То	tal
CIA 4	I	CL	A II 4	C	IA III 5	As	signme 2	ent	Semina 2	ar (I 3	Group Project	То 2	tal 0
CIA 4	I	CL	A II 4	C	IA III 5	As	signme 2 pping	ent	Semina 2	ar I 3	Group Project	То 2	tal 0
CIA 4 CO\PO	I PO1	CL PO2	A II 4 PO3	PO4	IA III 5 PO5	As Ma PO6	signme 2 pping PO7	ent PO8	Semina 2 PSO1	ar I 3 PSO2	Group Project	To 2 PSO4	otal 0 PSO5
CIA 4 CO\PO CO1	I РО1 Н	СІ. РО2 Н	A II 4 PO3 H	PO4 M	IA III 5 PO5 M	As Ma PO6 L	signme 2 pping PO7 H	ent PO8 M	Semina 2 PSO1 L	ar I 3 PSO2	Group Project PSO3	To 2 PSO4	tal 0 PSO5
CIA 4 CO\PO CO1 CO2	I РО1 Н Н	СІ. РО2 Н Н	A II 4 PO3 H H	PO4 L	IA III 5 PO5 M L	As Ma PO6 L H	signme 2 pping PO7 H M	ent PO8 M H	Semina 2 PSO1 L L	ar I 3 PSO2	Group Project PSO3	To 2 PSO4	tal 0 PSO5
CIA 4 CO\PO CO1 CO2 CO3	I PO1 H H L	СІ. РО2 Н Н М	A II 4 PO3 H H L	PO4 M L L	IA III 5 PO5 M L M	As Ma PO6 L H H	signme 2 pping PO7 H M M	ent PO8 M H L	Semina 2 PSO1 L L L L	ar I 3 PSO2	Group Project PSO3	To 2 PSO4 L L	tal 0 PSO5 L L
CIA 4 CO\PO CO1 CO2 CO3 CO4	I РО1 Н Н L М	CL PO2 H H M M	A II 4 PO3 H H L M	PO4 M L L M	IA III 5 PO5 M L M H	As Ma PO6 L H H L	signme 2 pping PO7 H M M L	ent PO8 M H L L	Semina 2 PSO1 L L L L L L	Ar I 3 PSO2 L L L	Group Project PSO3 L L L L	To 2 PSO4 L L L L	tal 0 PSO5 L L L
CIA 4 CO\PO CO1 CO2 CO3 CO4 CO5	I РО1 Н Н Ц М М	PO2 H H M M L	A II 4 PO3 H H L M L	PO4 M L L M M	IA III 5 PO5 M L L M H H	As Ma PO6 L H H L L	signme 2 pping PO7 H M M L L	ent PO8 M H L L L	Semina 2 PSO1 L L L L	ar I Image: state	Froipect Project PSO3 L L L L L	To 2 PSO4 L L L L	tal 0 PSO5 L L L L
CIA 4 CO\PO CO1 CO2 CO3 CO4 CO5 H-High;	I PO1 H H L M M M	PO2 H H M L lium; I	A II 4 PO3 H H L L L L -Low	PO4 M L L M M	IA III 5 PO5 M L M H H	As Ma PO6 L H H L L	signme 2 pping PO7 H M M L L	ent PO8 M H L L L H	Semina 2 PSO1 L L L L L L	ar I Image: state	Group Project PSO3 L L L L L L	To 2 PSO4 L L L L	tal 0 PSO5 L L L L L
CIA 4 CO\PO CO1 CO2 CO3 CO4 CO5 H-High; 1	I PO1 H H L M M M-Mec	PO2 H H M L lium; I	A II 4 PO3 H H L L L L -Low e desig	PO4 M L L M M	IA III 5 PO5 M L L M H H	As Ma PO6 L H H L L	signme 2 pping PO7 H M M L L L	ent PO8 M H L L H	Semina 2 PSO1 L L L L L	ar I Image: state st	Froipect Project PSO3 L L L L L t	To 2 PSO4 L L L L airman	tal 0 PSO5 L L L L L

Course	Code				Title			
23U1M	AL303		Part - I : Kavithayum S	Smara	nayum (കവിത	യും	സ്മരണം	ന്മും)
Semest	er: III		Credits: 3	CIA	A: 20 Marks		ESE: 55]	Marks
-			(Common to all U	U G Pr o	ogrammes)			
Course	Objecti	ve	കവിതാ സാഹിത്യ പര് അവബോധവും ആസ്വാദന വിദ്യാർത്ഥികൾക്ക് മ വ്യക്തിത്വങ്ങളെ പരിചയ	ിചയൻ റവും ഉ വതൃകൾ പ്പെടുത	ത്താടൊപ്പം പുര യ്രർത്തുക. യാവുന്ന സ തുക	തു ക ഗമൂഹ	ഹിതകളെ റത്തിലെ	കുറിച്ച് ഉന്നത
Course	Categor	у	Skill Development					
Develop	ment Ne	eeds	Regional					
Course	Descript	tion	Developing Personality ar	nd Self	confidence			
Course	Outcom	es			Assessment Methods		Assessme	nt Methods
CO 1	കവിര	തയില	ൂടെയുള്ള സംവേദനം	Smart board Chalk and Ta	ls/ alk	Assi	gnment	
CO 2	പ്രകൃ പ്രവദ	തിയും ർത്തന	ടെ ന സ്ര്വാർത്ഥമായ ങ്ങൾ		Group learni	ing	Sei	minar
CO 3	അധ്യ: ബോഗ	ാപക ധം ഉണ	വിഭാഗത്തിനിടയിൽ അവക ഭാക്കുന്നു	സറ	Peer Teachin	ng	Assi	gnment
CO 4	സമൂപ പ്രവദ	ഹത്തി ർത്തന	ന് മൂല്യബോധമുണ്ടാക്കുന്ന ങ്ങൾ		Group learni	ing	Group	Project
CO 5	സമൂപ	ഹത്തി	ൽ അധ്യാപനത്തിന്റെ പ്രാധ	ധാന്യം	Smart board Chalk and Ta	ls/ alk	Assi	gnment
Offered	by Ma	alaya	lam					
Course	Content			Ι	nstructional He	ours	/ Week : 4	
Unit			Description				Text Book	Chapters
Ι	നവീന ക	ംവിത	- പുതു കവിതകൾ				1	4
					Instruc	tiona	al Hours	12
Suggest	ed Learı	ning N	Aethods : Visual Learnin	g				02 Hrs
II	നവീന ക	ംവിത	- പുതു കവിതകൾ				1	3
					Instruc	tiona	al Hours	12
Suggest	ed Learı	ning N	Aethods : Auditory Metho	od				02 Hrs
III	കണ്ണീരും	ം കിനാ	ാവും - വി.ടി.ഭട്ടതിരിപ്പാട്				1	3
					Instruc	ctiona	al Hours	12
Suggest	ed Learı	ning N	Aethods : : Comprehensiv	e writi	ing			02 Hrs
IV	കണ്ടൽക	കാടുക	ംൾക്കിടയിൽ എന്റെ ജീവിര 	തം - ക	ല്ലൻ പൊക്കുടൻ 		1	2
a .					Instruc	ctiona	al Hours	12
Suggest	ed Leari	ning N	Alethods: Auditory & Visual N	Aethods	\$,		02 Hrs
V	കണ്ടൽക	കാടുക	ംശക്കിടയിൽ പി)നറെ ജീവിം	ത്ര - ക	ംല്ലേന്ത പൊക്കുടന	TO	1	3
~		•			Instruc	ctiona	al Hours	12
Suggest	ed Learı	ning N	Aethods : Comprehensive W	riting		TT.	1.77	02 Hrs
				11/051 2		Tota	al Hours	60 Hrs
Text Bo	oks		വിഭാഗം എഡിറ്റു 2. കണ്ണീരും കിനാവും	ചുതു ക ചെയ്ത ം - വി.	ത 10 കവിതകൾ ടി.ഭട്ടതിരിപ്പാട് -ശ	ഹറു ഡി.സ	^{ം പോളെ} ജ റി. ബുക്ക്സ്	പലനാള

			3.	കണ്ട	ടൽകാട	ഴുകൾക	ഴിടയിര	ർ എന്	റെ ജീവ്	ിതം -	കല്ലേൻ െ	പാക്കുട	ൻ -	
				ഗ്രീന്	ർ ബുക്ക്	จัณ้		-				<u> </u>		
			1.	മലര	മാള ക	പിതാ	പഠനത	- ഡല	സച്ചിദാന	നന്ദൻ ,	മാത്യഭൂമ	പ്പ ബുക്	ัฒ้,	
				കോ	പ്ര ത്രാ	วรั		•			•	•		
			2.	കവ	ിതാ	സാഹ്	ിത്യ ച	ചരിത്രം	୦ - ୧୮	ധാ.എം	ം.ല്1ലാവശ	തി കേ	രള	
Reference	Books			സാഹ	ഹിത്യം	അക്കാ	ദമി, ത്യ	ശൂർ	0 0			_		
Reference	DUURS		3.	ആധ	റുന് ക്രര	თ	മലയാ	ള്ക	പ്തയിര	ർ എ	ൻ. അജാ	യകുമാന	ð,	
	പഠനസംഘം, ചങ്ങനാശ്ശേരി 4. സാഹിത്യം മലയാളത്തിൽ ആത്മകഥ - നടുവട്ടം ഗോപാലകൃഷ്ണൻ													
	4. സാഹിത്യം മലയാളത്തിൽ ആത്മകഥ - നടുവട്ടം ഗോപാലകൃഷ്ണൻ , ഭാഷാ ണൻസിറ													
	4. സാഹാത്യം മലയാളത്തിൽ ആര്മക്ഷ - നടുമാട്ടം ഗോപാലകൃഷണൻ , ഭാഷാ ഇൻസ്റ്റിറ്റ്റ്യൂട്ട് , തിരുവനന്തപുരം													
Web. UF	RLs :		http:	//www	.keral	acultu	re.org>	>litera	ature					
				То	ols for	Asses	sment ((20 M	arks)					
CIA	Ι	CL	A II	C	IA III	A	ssignme	ent	Semina	ar	Quiz	To	tal	
4			4		5		2		2		3	2	0	
	CIA ICIA IICIA IIIAssignmentSeminarQuizTotal44522320													
Mapping														
CO \ PO	PO1	PO2	PO3	PO4	PO5	Ma PO6	pping PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	
CO\PO CO1	PO1 H	PO2 L	PO3 H	PO4 M	PO5 H	Ma PO6 H	pping PO7 H	PO8 H	PSO1 L	PSO2	PSO3	PSO4 L	PSO5 L	
CO \ PO CO1 CO2	PO1 H M	PO2 L L	РОЗ Н Н	PO4 M L	РО5 Н Н	Ma PO6 H M	PO7 H H	РО8 Н Н	PSO1 L	PSO2 L L	PSO3 L L	PSO4 L L	PSO5 L L	
CO\PO CO1 CO2 CO3	PO1 H M H	РО2 L L L	РОЗ Н Н L	PO4 M L M	PO5 H H M	Ma PO6 H M H	PO7 H H M	РО8 Н Н	PSO1 L L	PSO2 L L L	 PSO3 L L L 	PSO4 L L L	PSO5 L L L	
CO\PO CO1 CO2 CO3 CO4	PO1 H M H	PO2 L L L L	РОЗ Н Н L L	PO4 M L M M	PO5 H H M L	Ma PO6 H M H H	PO7 H H M H	РО8 Н Н Н	PSO1 L L L L L	PSO2 L L L	 PSO3 L L L L L 	PSO4 L L L L	PSO5 L L L L	
CO\PO CO1 CO2 CO3 CO4 CO5	PO1 H M H M	PO2 L L L L L	PO3 H H L L L	PO4 M L M M M	PO5 H H L H	Ma PO6 H M H H L	PO7 H H M H H H	PO8 H H H M M	PSO1 L L L L L L	PSO2 L L L L L	PSO3 L L L L L L L	PSO4 L L L L L L	PSO5 L L L L L L	
CO\PO CO1 CO2 CO3 CO4 CO5 H-High;	PO1 H M M M M-Mec	PO2 L L L L lium; I	PO3 H H L L L -Low	PO4 M L M M M	PO5 H H L H	Ma PO6 H M H H L	PO7 H H H H H H H	PO8 H H M M	PSO1 L L L L L L	PSO2 L L L L L	 PSO3 L L L L L L L 	PSO4 L L L L L	PSO5 L L L L L	
CO\PO CO1 CO2 CO3 CO4 CO5 H-High;	PO1 H M H M M M-Mec	PO2 L L L lum; I	PO3 H L L -Low	PO4 M L M M M	PO5 H H L H	Ma PO6 H M H H L	PO7 H H H H H H	PO8 H H M M	PSO1 L L L L L Veri	PSO2 L L L L	 PSO3 L L L L Mairman 	PSO4 L L L L L an	PSO5 L L L L L L	

Cours	Course Code Title								
23U1F	Inse Code Inte 1FRN303 Part – I : Le Français General – III								
Semes	ter : III		Credit	ts : 3	CIA	: 20 Marks	ESE : 55	Marks	
		1	(Common to al	l UG P	rogrammes)			
Course	Objectiv	e	Acquisition	n of standard Fr	ench b	y knowing more abo	out the cultu	ıre.	
Course	Category	7	Skill Deve	lopment					
Develop	pment Ne	eds	Global						
Course	Descript	ion	Improved u	understanding a	and com	munication			
Course	Outcome	es				Teaching Methods	Assessme	nt Methods	
CO 1	Learn nations,	abo hobł	out the other othe	Lectures/ Tutorial	Assi	gnment			
CO 2	Le pass	é con	npose, l'imp	Group Learning	Assi	gnment			
CO 3	Social 1	netwo	ork, les indic	Peer Teaching	Se	minar			
CO 4	Le disco	ours o	lirect et indi	Video Lecture / Lectures	Grou	p Project			
CO 5	To learr	n to a	nswer questi	ions orally in Fi	rench	Group learning	Assi	gnment	
Offered	l by De	partı	nent of Fre	nch					
Course	Content					Instruct	ional Hour	s / Week : 4	
Unit				Description			Text Book	Chapters	
Ι	La langu	e fran	caise en acti	on			1	1	
~						Instruction	al Hours	12	
Suggest	ted Learn	ing I	Methods :	Visuals					
II	Aller a	la rer	ncontre des	autres			1	2	
C .		• •		0 1	•	Instruction	al Hours	12	
Sugges	ted Learn	ing I	vietnods :	Group discus	ssions			-	
III	Enrichir s	on re	seau				1	3	
Suggest	ted Learn	ing I	Methods :	Group discu	ssions	Instruction	al Hours	12	
IV	Vivre l'i	nforn	nation	Group unou			1	4	
						Instruction	al Hours	12	
Suggest	ted Learn	ing I	Methods :	Visuals		mon uction		14	
V	T .	Interroger le passe 1 5							
	Interrogei	l le pa	asse				1	5	
	Interroger		isse			Instruction	al Hours	12	
Suggest	Interrogen	ing I	Methods :	Comprehen	sive wi	Instruction riting	al Hours	12	

			1.	Saise	on 2 M	léthode	e de F	França	is -	– Marie	-Noël	le Cocton	, Anouc	hka
Text Boo	oks			De C	Oliveira	a, Doro	othée	Duple	ix ((Unit 0	to 4)			
			1.	. Con	nexion	s 2	Meth	ode d	le I	Français	s Rég	gine Méri	eux , Y	ves
Reference	ce Bool	ks		Lois	eau									
Web. UI	RLs		1.	. www	w.acad	emia.e	du							
Tools for Assessment (20 Marks)														
CIA I CIA II CIA III Assignment Seminar Quiz Total												otal		
4			4		5		2			2		3	2	20
						Ma	ppin	g						
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO PO)8	PSO1	PSO	2 PSO3	PSO4	PSO5
CO1	-	-	Н	М	Н	Н	-	-		-	-	-	-	-
CO2	-	-	Н	L	Н	М	-	-		-	-	-	-	-
CO3	-	-	-	М	М	Н	-	-		-	-	-	-	-
CO4	-	_	L	М	L	Н	_	-		-	-	-	-	-
CO5	-	-	L	-	Н	-	-	-		-	-	-	-	-
H-High;	M-Me	dium; I	L-Low											
		Cours	e desig	ned by	y						Veri	fied by C	hairma	ın
D Balaji								D Ba	laji	i				

Cours	se Code			Title			
23U2	ENG303		Part – II : C	communicative English	– I		
Seme	ster : III		Credits : 3	CIA: 20 Marks	ESE : 5	55 Marks	
			(Common to All U	JG Programmes)			
Course	Objective		To enable the students to lea	rn the different genres o	f literature	and gain	
			a better understanding of the	English language.			
Course	Category		Skill Development				
Develop	pment Nee	ds	Global				
Course	Descriptio	n	SD: Helps to develop LSRW	' skill			
	Co	ours	se Outcomes	Teaching Methods	Assessme	nt Methods	
CO 1	Execute and relate	mor e it t	al, ethical and literary merits to the society.	Lecture/Tutorial	Assignment		
CO 2	Exhibit a poetry ar values th	a co nd e roug	omprehensive knowledge of xecute life skills and human gh it.	Lecture/Tutorial	Assi	gnment	
CO 3	Develop vocabula	read ry, t	ding strategies with enriched through short story.	Lecture/Tutorial	Spe	eaking	
CO 4	Identify through them in s	the the pec	use of English language study of Grammar and use ific contexts.	Lecture/Tutorial	ading		
CO 5	Interpret works in	the LSI	ir understanding of English RW mode	Lecture/Tutorial	riting		
Offered	l by Dep	artı	ment of English				
Course	Content			Instructi	onal Hours	s / Week : 4	
Unit			Description		Text Book	Chapters	
Ι	Prose J.B. Priest R.K. Nara E.M. Fors	ley yan ter	- Travel by Train - Headache - Tolerance		1	1 - 3	
G		-		Instruction	al Hours	12	
Suggest	Pootry	ng I	viethods : Intensive Reading				
II	William E Rudyard I Sarojini N	Blak Kipl aidu	e - The School Boy ing - If u - The Queen's Rival		1	4 - 6	
			~	Instruction	al Hours	12	
Suggest	ted Learni	ng I	Methods : Scaffolding Metho	d			
III	Short Sto O. Henry Edgar All Frank R.S	ries - Af an F tock	s fter Twenty Years Poe – Tell - Tale Heart kton - The Lady or The Tiger?		1	7 - 9	
				Instruction	al Hours	12	
Suggest	ted Learni	ng I	Methods : Flipped Learning				

IV	Herma	n Melv	ille-M	oby Di	ck (At	oridged	l Vers	ion)				1	10) - 13
	Instructional Hours 12 red Learning Methods : Flipped Learning													
Suggest	ed Lea	rning I	Metho	ds : Fl	ipped	Learn	ing							
V	Oral Compr Practic Invited DD Na Speak i Taking Mock Assign Readir Newsp Writin the Er Prepos	& Wr ehensione, obsectional Lecturational ing – I ing – I , and Viva ments, ng–Diff aper et ng – M trors a itions,	ritten on pra erving res, Co News I n Grou Conves Voce and Pe and Pe ferent c odals, ind He Idioms	Comr actice / view nferen Live, B up Diso rsation c, Ser cer-Tea Readir Conco ow to a and P	nunica from ing E- ce/ Ser BC, C cussion Mana ninar am-inte ag Stra rd, E-N avoic hrases	Ation Poetry conten minar l NN, V n Forum gemer Present eraction ategies Mail & d then , Collo	(Unit y, Pr t (wit Preser OA e m, pa nt, De ntation ns. in Po t Repo n, Se cation	I-IV) ose, h sub ntatior tc rticipa bating bating oetry, ort Wi ntence	Lia Onli titles as & nte in g, Do n C Pro Pro	stenin ine V s), Gu Tests, n the T efendi Classro ose, No g, Spo omple	g – oice est / and Furn ng / pom- ovel, tting tion,	1	14	4 - 17
										Instr	uctiona	l Hour	s	12
Suggest	ed Lea	rning I	Metho	ds : Ao	etivity	Based	Lear	ning						
			1								Tota	l Hour	S	60
Text Bo	oks		Unit	I–V: C	ompile	ed by t	he De	partm	ent c	of Eng	lish			
Referen Web. Ul	ce Boo	ks	TAN given	SCHE to the	NOTE studer	Langua E:(Text nts by t	age In : Pres the de	cribec partm	ed L l cha ent	apters (or page	s will be		
	-				0015 10	or Asse	essme	nt (20		irks)		D 11		
	. 1	CL	AII	C		As	signn	nent	2	Speaki	ng	Readin	ng	Total
4			4		5		2			2		3		20
						Ma	pping	5	_					
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO	8 1	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	М	-	Н	-	М	М	Н	Μ	[Н	Н	М	Н	М
CO2	М	-	Н	-	Н	М	Н	Μ	[Н	Н	М	Н	М
CO3	М	-	Н	-	Н	Н	Н	Н		Н	Н	М	Н	М
CO4	М	L	Н	-	Н	-	Н	Н		Н	Н	М	Н	Н
CO5	Н	М	Н	-	Н	Н	Н	Н		Н	Н	Н	Н	М
H-High;	M-Me	dium; I	L-Low											
		Cours	e desig	ned by	y						Verifi	ed by C	hairma	In
Dr Adap	patu Ai	ncy An	tony					Dr R	Mala	athi				

Cour	rse Code			Title			
23U3	CKC305		Core Pape	r VII: Operating Syst	ems		
Seme	ester: III	Cre	dits: 3	CIA: 20 Marks	ES	SE: 55 I	Marks
		(Con	nmon to B. Sc. CS	/ B. Sc. IT / BCA)			
Course	Objective	To unders	stand the importance	e of Operating System	and i	its funct	tionalities to
		manage re	esources of Comput	er and Peripherals.			
Course	Category	Skill Deve	elopment				
Develop	pment Needs	Global					
Course	Description	Describes Segmenta	the types of opera tions	ting system, memory	manag	gement,	Paging and
Course	Outcomes			Teaching Method	5	As N	sessment Aethods
CO1	Understand	the basic con	ncepts of	Lecture / Flippe	ł	As	signment
	operating s	ystem		Classroom		115	signinent
CO2	scheduling	e concepts of of process.	processes and	Lecture / Tutoria	ıl	As	signment
CO3	Apply the t	echniques of	managing the	Lecture		ç	aminar
	deadlock a	nd memory		Lecture		Ň	ociminai
CO4	Analyse the Paging and	e concepts of Page Replac	Segmentation of ement policies.	Lecture / Tutoria	ıl		Quiz
CO5	Apply varie	ous file syster	n implementation	Lecture / Case Stu	lies		Quiz
Offered	l by Comp	uter Applica	tions		ľ		-
Course	Content			Instru	ctiona	l Hour	s / Week : 4
Unit			Description] F	Fext Book	Chapters
Unit	Introduction	: Abstract vie	Description ews of an OS – Goa	als of an OS – OS and	T E	Fext Book	Chapters
Unit	Introduction the Compu	: Abstract vie ter System -	Description ews of an OS – Goa – Classes of Oper	als of an OS – OS and rating System: Batch] E	Fext Book	Chapters
Unit	Introduction the Compu Processing	: Abstract vie ter System - systems – Mu	Description ews of an OS – Goa – Classes of Oper ultiprogramming sy	als of an OS – OS and rating System: Batch rstems – Time sharing] IB	Fext Book	Chapters 1,2
Unit I	Introduction the Compu Processing systems – I System – M	: Abstract vie ter System - systems – Mi Real Time Operat	Description ews of an OS – Goa – Classes of Oper ultiprogramming sy perating System – ing systems	als of an OS – OS and rating System: Batch rstems – Time sharing Distributed Operating	E	Fext Book	Chapters 1,2
Unit	Introduction the Compu Processing systems – I System – M	: Abstract vie ter System - systems – Mu Real Time Op odern Operat	Description ews of an OS – Goa – Classes of Oper ultiprogramming sy perating System – ing systems	als of an OS – OS and rating System: Batch rstems – Time sharing Distributed Operating Instructi		Fext Book 1 Hours	Chapters 1,2
Unit I Suggest	Introduction the Compu Processing systems – I System – M ed Learning M	: Abstract vie ter System - systems – Mu Real Time Op odern Operat	Description ews of an OS – Goa – Classes of Oper- ultiprogramming sy perating System – ing systems gnment and Semina	als of an OS – OS and rating System: Batch rstems – Time sharing Distributed Operating Instructi r Preparation	onal 1	Fext Book 1 Hours	Chapters 1,2 12
Unit I Suggest	Introduction the Compu Processing systems – I System – M ed Learning M Processes an	: Abstract vie ter System - systems – Mu Real Time Op odern Operat Iethods: Assig ad Programs -	Description ews of an OS – Goa – Classes of Oper ultiprogramming sy perating System – ing systems gnment and Semina – Programmer View	als of an OS – OS and rating System: Batch rstems – Time sharing Distributed Operating Instructi r Preparation v of Process – OS viev	onal 1	Fext Book 1 Hours	Chapters 1,2 12
Unit I Suggest	Introduction the Compu Processing systems – I System – M ed Learning M Processes an of Process	: Abstract vie ter System - Systems – Mu Real Time Op odern Operat dern Operat Iethods: Assig d Programs - Controlling	Description ews of an OS – Goa – Classes of Oper- ultiprogramming sy perating System – ing systems gnment and Semina – Programmer View g Processes – Proce	als of an OS – OS and rating System: Batch rstems – Time sharing Distributed Operating Instructi r Preparation v of Process – OS view ess State Transitions	onal	Fext Book 1 Hours	Chapters 1,2 12
Unit I Suggest	Introduction the Compu Processing systems – I System – M ed Learning M Processes an of Process Process Con	: Abstract vie ter System - systems – Mu Real Time Op odern Operat Iethods: Assig d Programs - Controlling atrol Block –	Description ews of an OS – Goa – Classes of Oper ultiprogramming sy perating System – ing systems gnment and Semina – Programmer View g Processes – Proce Process Scheduling	als of an OS – OS and rating System: Batch rstems – Time sharing Distributed Operating Instruction r Preparation v of Process – OS view ess State Transitions g: Scheduling Concept	onal	Text Book 1 Hours	Chapters 1,2 12 3,4
Unit I Suggest	Introduction the Compu Processing systems – I System – M ed Learning M Processes an of Process Process Con and Termin Preemptive	: Abstract vie er System - systems – Mu Real Time Op odern Operat Iethods: Assign d Programs - Controlling trol Block – plogy – Fund scheduling po	Description ews of an OS – Goa – Classes of Oper- ultiprogramming sy perating System – ing systems gnment and Semina – Programmer View g Processes – Proce Process Scheduling lamental Technique	als of an OS – OS and rating System: Batch rstems – Time sharing Distributed Operating Instruction r Preparation v of Process – OS view ess State Transitions g: Scheduling Concept ess of scheduling – No scheduling policies	onal 1 v s n	Text Book 1 Hours	Chapters 1,2 12 3,4
Unit I Suggest	Introduction the Compu Processing systems – I System – M ed Learning M Processes an of Process Process Con and Termin Preemptive	: Abstract vie ter System - systems – Mu Real Time Op odern Operat Iethods: Assig d Programs - – Controlling trol Block – plogy – Fund scheduling po	Description ews of an OS – Goa – Classes of Oper- ultiprogramming sy perating System – ing systems gnment and Semina – Programmer View g Processes – Proce- Process Scheduling lamental Technique	als of an OS – OS and rating System: Batch rstems – Time sharing Distributed Operating Instruction r Preparation v of Process – OS view ess State Transitions c Scheduling Concept es of scheduling – No scheduling policies Instructi	onal 2	Text Book 1 Hours	Chapters 1,2 12 3,4 12
Unit I Suggest	Introduction the Compu Processing systems – I System – M ed Learning M Processes an of Process Process Con and Termin Preemptive	: Abstract vie ter System - systems – Mu Real Time Op odern Operat Iethods: Assig d Programs - Controlling trol Block – ology – Fund scheduling po	Description ews of an OS – Goa – Classes of Oper- ultiprogramming sy perating System – ing systems gnment and Semina – Programmer View g Processes – Proce Process Scheduling lamental Technique olicies - Preemptive	als of an OS – OS and rating System: Batch rstems – Time sharing Distributed Operating Instruction r Preparation v of Process – OS view ess State Transitions g: Scheduling Concept es of scheduling – No scheduling policies Instructi inar Preparation	onal 1 v s n onal 1	Text Book 1 Hours 1 Hours	Chapters 1,2 12 3,4 12
Unit I Suggest	Introduction the Compu Processing systems – I System – M ed Learning M Processes an of Process Process Con and Termin Preemptive ted Learning Deadlock: I	: Abstract vie ter System - systems – Mu Real Time Op odern Operat 1ethods: Assig ad Programs - - Controlling torol Block – ology – Fund scheduling po Methods: A Definition – D	Description ews of an OS – Goa – Classes of Oper- ultiprogramming sy perating System – ing systems gnment and Semina – Programmer View g Processes – Proce Process Scheduling lamental Technique plicies - Preemptive ssignment and Sem Deadlocks in Resource	als of an OS – OS and rating System: Batch rstems – Time sharing Distributed Operating Instruction r Preparation v of Process – OS view ess State Transitions g: Scheduling Concept es of scheduling – No scheduling policies Instruction inar Preparation rce Allocation – Hand	onal 1	Text Book 1 Hours 1 Hours	Chapters 1,2 12 3,4 12
Unit I Suggest II Suggest	Introduction the Compu Processing systems – I System – M ed Learning M Processes an of Process Process Con and Termin Preemptive ted Learning Deadlock: I deadlocks	: Abstract vie ter System - systems – Mu Real Time Op odern Operat Iethods: Assig ad Programs - Controlling trol Block – ology – Fund scheduling po Methods: A Definition – D – Deadlock	Description ews of an OS – Goa – Classes of Oper- ultiprogramming sy perating System – ing systems gnment and Semina – Programmer View g Processes – Proce Process Scheduling lamental Technique plicies - Preemptive ssignment and Sem Deadlocks in Resource Detection and	als of an OS – OS and rating System: Batch stems – Time sharing Distributed Operating Instruction r Preparation v of Process – OS view ess State Transitions g: Scheduling Concept tes of scheduling – No scheduling policies Instruction inar Preparation rce Allocation – Hand Resolution – Deadl	onal 1 v onal 1 v onal 1 ing ock	Fext Book 1 Hours	Chapters 1,2 12 3,4 12
Unit I Suggest II Suggest	Introduction the Compu Processing systems – I System – M ed Learning M Processes an of Process Process Con and Termin Preemptive ted Learning Deadlock: I deadlocks Prevention	: Abstract vie ter System - systems – Mu Real Time Op odern Operat Iethods: Assig ad Programs - - Controlling trol Block – ology – Fund scheduling po Methods: A Definition – E – Deadlock A	Description ews of an OS – Goa – Classes of Oper- ultiprogramming sy perating System – ing systems gnment and Semina – Programmer View g Processes – Proce Process Scheduling lamental Technique plicies - Preemptive ssignment and Sem Deadlocks in Resource Detection and Avoidance. Memory	als of an OS – OS and rating System: Batch rstems – Time sharing Distributed Operating Instruction r Preparation v of Process – OS view ess State Transitions g: Scheduling Concept ess of scheduling – No scheduling policies Instruction inar Preparation rce Allocation – Hand Resolution – Deadl v Management: Static	onal 1 v s n ling ock and	Text Book 1 Hours 1 Hours	Chapters 1,2 12 3,4 12 11
Unit I Suggest II Suggest	Introduction the Compu Processing systems – I System – M ed Learning M Processes an of Process Process Con and Termin Preemptive ted Learning Deadlock: I deadlocks Prevention dynamic Me	: Abstract vie er System - systems – Mu Real Time Op odern Operat Iethods: Assig ad Programs - Controlling trol Block – ology – Fund scheduling po Methods: A Definition – D – Deadlock A emory Allocat	Description ews of an OS – Goa – Classes of Oper- ultiprogramming sy perating System – ing systems gnment and Semina – Programmer View g Processes – Proce Process Scheduling lamental Technique olicies - Preemptive ssignment and Sem Deadlocks in Resour Detection and Avoidance. Memory	als of an OS – OS and rating System: Batch restems – Time sharing Distributed Operating Instruction r Preparation v of Process – OS view ess State Transitions cs Scheduling Concept ress of scheduling – No scheduling policies Instruction inar Preparation rce Allocation – Hand Resolution – Deadl v Management: Static Allocation Model – resting	onal 1 v onal 1 v onal 1 ing ock and use	Text Book 1 Hours 1 Hours	Chapters 1,2 12 3,4 12 11
Unit I Suggest II Suggest	Introduction the Compu Processing systems – I System – M ed Learning M Processes an of Process Process Con and Termin Preemptive ted Learning Deadlock: I deadlocks Prevention dynamic Me of Memory	: Abstract vie ter System - systems – Mu Real Time Op odern Operat Iethods: Assig ad Programs - - Controlling trol Block – ology – Fund scheduling po Methods: A Definition – E – Deadlock - Deadlock A emory Allocat – Contigue	Description ews of an OS – Goa – Classes of Oper- ultiprogramming sy perating System – ing systems gnment and Semina – Programmer View g Processes – Proce Process Scheduling lamental Technique plicies - Preemptive ssignment and Sem Deadlocks in Resource Detection and Avoidance. Memory pus Memory alloca	als of an OS – OS and rating System: Batch restems – Time sharing Distributed Operating Instruction r Preparation v of Process – OS view ess State Transitions g: Scheduling Concept es of scheduling – No scheduling policies Instruction inar Preparation rce Allocation – Hand Resolution – Deadl v Management: Static Allocation Model – re- ation – Non Contigu	onal I v onal I v onal I onal I ing ock and use ous	Text Book 1 Hours 1 Hours	Chapters 1,2 12 3,4 12 11
Unit I Suggest II Suggest	Introduction the Compu Processing systems – I System – M ed Learning M Processes an of Process Process Con and Termin Preemptive ted Learning Deadlock: I deadlocks Prevention dynamic Me of Memory Memory Al	: Abstract vie er System - systems – Mu Real Time Op odern Operat Iethods: Assig d Programs - - Controlling trol Block – ology – Fund scheduling po <u>Methods: A</u> Definition – D – Deadlock A mory Allocat – Contiguo ocation.	Description ews of an OS – Goa – Classes of Oper- ultiprogramming sy perating System – ing systems gnment and Semina – Programmer View g Processes – Proce Process Scheduling lamental Technique plicies - Preemptive ssignment and Sem Deadlocks in Resour Detection and Avoidance. Memory pus Memory alloca	als of an OS – OS and rating System: Batch restems – Time sharing Distributed Operating Instruction r Preparation v of Process – OS view ess State Transitions cscheduling Concept s of scheduling – No scheduling policies Instruction inar Preparation rce Allocation – Hand Resolution – Deadl v Management: Static Allocation Model – re- ation – Non Contigu	onal v s n onal v onal use ous	Text Book 1 Hours	Chapters 1,2 12 3,4 12 11 12
Unit I Suggest II Suggest	Introduction the Compu Processing systems – I System – M ed Learning M Processes an of Process Process Con and Termin Preemptive ted Learning Deadlock: I deadlocks Prevention dynamic Me of Memory Memory Al	: Abstract vie er System - systems – Mu Real Time Op odern Operat Iethods: Assign d Programs - - Controlling trol Block – ology – Fund scheduling po Methods: A Definition – D – Deadlock A emory Allocat – Contiguo ocation.	Description ews of an OS – Goa – Classes of Oper- ultiprogramming sy perating System – ing systems gnment and Semina – Programmer View g Processes – Proce Process Scheduling lamental Technique olicies - Preemptive ssignment and Sem Deadlocks in Resour Detection and Avoidance. Memory tion – The Memory ous Memory alloca	als of an OS – OS and rating System: Batch restems – Time sharing Distributed Operating Instruction r Preparation v of Process – OS view ess State Transitions g: Scheduling Concept ess of scheduling – No scheduling policies Instruction inar Preparation rce Allocation – Hand Resolution – Deadl v Management: Static Allocation Model – re- ation – Non Contigu	onal I v s n iing ock and use ous onal I	Text Book 1 Hours 1 Hours	Chapters 1,2 12 3,4 12 11 12

Manager	nent												
IV	Paging Basics prelimi segmer	 – Seg: – Der naries nation 	mentati nand F – Pag	ion – S Paging e repla	Segmer – Ove acemer	ntation erview nt poli	with P of Pag cies –	aging ging - Virtu	. Virtual I – Demano 1al Memo	Memory 1 Pagin ry usin	y: g 1 g		5
									Instr	ructiona	l Hour	s	12
Suggest	ed Lear	ning N	Iethod	ls: Pre	paratio	n for Q	uiz						
V	Layers Organiz – Files director OS (Se	of the zation and Fil ry Stru lf Stud	Input C – Disk le Oper ctures - y)	Output Schedu ations – Case	Contro 1ling. I – Func study (l Syste File sys lament on LIN	m (IOC tems: I al File UX OS	CS) – File Sy organ S ,UN	Overview ystem and izations – IX OS, At	of I/O IOCS ndroid	1		7
									Instr	ructiona	al Hour	s	12
Suggest	ed Lear	rning N	Aethod	ls: Cas	e Stud	lies on	Latest	Oper	rating Sys	stems			
										Tota	al Hour	s	60
Text Bo	oks		1. D 2 ¹	M Dh ^{1d} Editi	amdhe on, 20	re, "O 06.	peratir	ng Sys	stems- A	Concep	t –Base	d Appr	oach",
Referen	ce Bool	šs	2. A	Princip Abraha System	les", S m Silbe Conce	eventh erchatz epts", S	Edi , Peter Seventl	tion,P Baer n Edit	Pearson Ed Galvin,Gr ion, Pears	lucation eg Gagi on 2009	Inc.201 ne, "Op).	2. erating	5
Web. U	RLs		https:	://www	<u>.geeks</u>	forgee	ks.org/	operat	ting-syster	<u>ms</u>			
				To	ols for	Asses	sment	(20 N	Iarks)				
CIA	I	CI	A II	C	IA III	As	signm	ent	Semina	r (Quiz	To	otal
4			4		5		2		2		3	2	20
						Ma	pping						
CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	Н	Н	М	М	М	L	Μ	Н	Н	Н	Н	М	М
CO2	Н	Н	М	М	М	L	М	Н	Н	Н	Н	М	M
CO3	Н	H	M	M	M	L	M	H	H	Н	Н	Н	H
CO4	H	H	M	M	M	L	M	H	H	H	H	H	H
CO5		H Linner T	M	Μ	М	L	М	H	H	Н	Н	Н	H
H-High;	M-Mec	num; L	Low										
		Cours	e desig	ned by	7				Veri	fied by	Chairm	an	
Mrs M	Shoola	Newsh	eeba				Г)r K	Salvavina	volri			

Course	e Code			J	Title					
23U3C	SC303 Core Paper VIII - Object Oriented System and Design									
Semest	ter: III		Credits: 3	CIA:	20 MARKS	ESE: 55 N	IARKS			
Course	Objectiv	/e	To learn various concepts implement software system	, tools a ns.	and techniques that	t are used to	design and			
Course	Categor	y	Skill Development							
Develop	oment N	eeds	Global							
Course	Descript	tion	This technique enables the the concepts of objects programming (OOP) proce	e imple . OOD ess or li	mentation of a sof serves as part fecycle.	tware solution of the obj	on based on ect-oriented			
Course	Outcom	es		Teaching Metho	ods As	sessment Iethods				
CO 1	Under to diff	stand erenti	the UML and DFD concept ate logical and Physical DF	Lecture	Assign	ment				
CO 2	Apply time a	Class pplica	Relationship concepts for a nations	Tutorial	Unit Te	est				
CO 3	Design Diagra	n Clas ams fo	ss Diagrams and Interaction or Real time applications		Video Lessons	Semina	ır			
CO 4	Create and St time a	e Use tate tra pplica	Case Diagrams, Activity Di ansition Diagram for Real ations	agram	Lecture	Unit Te	est			
CO 5	Gener Diagra	ate Co ams fo	omponent and Deployment or Real time Applications		Video Lessons	Quiz				
Offered	l by Co	omput	ter Science							
Course	Content			In	structional Hour	s / Week : 4				
Unit			Description			Text Book	Chapters			
I	Introd of mod concep Develo DFD-v Differed data flo CASE S	luction deling otual opmen what ence H ow dia	n to UML: Overview of - principles of modeling- o model of the UML- at Life Cycle. is DFD-General Rules Between Logical data flow agram Y: Student MIS	f the U bject of Archite for Di diagran	ML- Importance riented modeling- ecture- Software rawing DFD- n and Physical	1	1,2,3			
					Instructio	nal Hours	12			
Suggest	ted Learn	ning N	Methods : Assignment	[ad-1'	Classes					
	Structu	irai M	Modeling: Basic Structural Modeling: Classes-							
II	Advan	ced re	Structural Modelling: Adv Structural Modelling: Adv	vanced	ans. classes- es- Packages	1	4,5,6			
	. 10 Y ull	20010	incontracto 19905		Instructio	nal Hours	12			
Suggest	ted Lear	ning I	Methods : Unit Test							

	Class	& Ob	iect Di	agram	s: Terr	ns and	conce	pts-	Co	nstructi	on of			
IIIClass & Object Diagrams: Terms and concepts- Construction of a class diagram- Common modeling techniques for Class & Object Diagrams-Interactions- Interaction diagrams1IIICASE STUDY: Payroll Processing System1														
III	Objec	1	7,8,	9										
				wroll I		ving Sv	uton un	15101	115			-		
	CASI		01.10	iyi0ii i	10005	sing Sy	stem			Inst	ructional	Hours	12	
Suggest	ed Lea	rning I	Metho	ls : Se	minar	,				mst	ucuonar	Hours	12	<u> </u>
	Beha	vioura	l Mo	delling	e: Use	e case	es- U	se c	case	Diag	rams-			
	Activ	ity Di	agrams	Adv	vanced	Beha	avioura	l N	lode	elling-	state			
IV	mach	ines_ r	rocess	ec an	d Th	reade-	Time		d	snace-	state	1	10.1	1
1 4	abort	diagra	ma	cs an		ICaus-	THIC	an	u	space-	state	1	10,1	1
	CACE													
		Harria	10											
Instructiona Suggested Learning Methods · Unit Test													12	<u> </u>
Suggest	eu Leal	rning I Siteetu	vietno nol	$\frac{15:0}{Mode}$	<u>mt re</u>		mnon	nta		Modal	ling	[
	Tech	niques	rai M	odellin	anng:	0. nhysica	al dat	ahaa	0	Model	an			
V	adan	inques table s	vstem_	Denl	ovmen	t - Co	omnon	avas ent	c- dia	orams	and	1	7	
•	Denl	ovmen	t diaor	ams	o y men		ompon	CIII	uiuz	Siams	and	1	,	
	CAS	E STU	DY: A	TM M	anager	nent S	vstem.							
										Inst	ructional	Hours	12	
Suggest	ed Lea	rning I	Metho	ls : Q	uiz									
		0									Total	Hours	60 H	lrs
			1.	Obj	ect Ori	ented S	System	Dev	velo	pment	using the	Unified		
Toyt Bo	oke			Mod	lelling	Langu	age, M	lcGra	awF	Hill Inte	rnational	edition,	1999	
I CAL DU	UKS		2.	Case	e Tools	s Conc	epts an	id Aj	ppli	cations	, Ivan N B	layross, l	3PB	
				Publ	icatior	IS								
Referen	ce Bool	ks	1.	Intro	oductio	on to	Objec	et- C	Drie	nted N	/lodelling,	Martin	a Seid	l,
			M	arion S	scholz,	Christ	tian Hu	ieme	$\frac{r, C}{1}$	jertiKaj	ppel, Easy	Reader	2011	2:0
Web. U	RLs		1.	https	<u>S://WWV</u>	v.youtu	be.com	/wate	ch?v	<u>=KG1 V</u>	W 30KAg	<u>J&list=Pl</u>	<u>INg6nhC</u>	<u> J1Ov</u>
			<u> </u>		<u>Ewsaiv</u>	VCUI0J	<u>n/jjZ/</u>							
				То	ols for	· Asses	sment	(20	Ma	rks)				
CIA	I	CL	AII	C	IA III	As	ssignm	lent		Semina	ar (Quiz	Tot	al
4			4		5		2			2		3	20)
						Ma	pping							
GO 1 DO						701		_	P	2001	200		-	PS
CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO	7	0 e	PSO1	PSO2	PSO3	PSO4	05
CO1	н	Н	М	Μ	Μ	L	M		о Н	Н	Н	Н	М	Μ
CO2	H	H	M	M	M	L	M		H	H	H	H	M	M
CO3	Н	Н	М	М	М	L	М		Η	Н	Н	Н	Н	Н
CO4	Н	Н	М	Μ	М	L	M		Η	Н	Н	Н	Н	Η
CO5	Н	Н	М	Μ	М	L	М		Η	Н	Н	Н	Н	Н
H-High;	M-Mee	dium; I	L-Low											
		Course	e decia	ned b	57					Vori	fied by C	hairmar)	
		Course	l ucsig	neu D	y					V CI I	neu by C	11a11 111a1		
Dr.D.Vi	mal Ku	mar					I	Dr.N	.Ka	vitha				

Course	Code			Ti	tle						
23U3C5	SP304		Core Pape	er IX : P	ractical in Case T	Tools	5				
Semester	r: III		Credits: 3	С	IA: 30 Marks		ESE: 45 Marks				
Course Ob	jective	<u> </u>	 To enable the students to get better understanding and knowledge in the field of CASE tools. To gain practical knowledge on developing case tools To develop UML diagrams for the real time problems 								
Course Ca	tegory		Skill Development								
Developme	nt Needs		Global								
Course Des	scription		Develop simple and comp	olex appl	ications at Global	need	S.				
		Cours	se Outcomes		Teaching Method	ds	Assessment Methods				
CO 1	Prepare Require Problem	the Pr ment	roblem Statement and Specification for the given				Applicationof Logic				
CO 2	Create E using CA	ERD A ASE 1	And DFD for the specificati TOOLs.	on	Program		Program Creativity				
CO 3	Design a activity	a Soft Diagr	ware using USE CASE and ams	l	Demonstratio	n	Program Debugging				
CO 4	Generate CASE T	e Cod 'ools	le from the Class diagram u	sing			Program Creativity				
CO 5	Analyze the Com	the apone	rchitecture of the software nt and DeploymentDiagram	using n			Program Development				
Offered by	Com	puter	Science								
Course Co	ntent			Ins	structional Hours / Week : 3						
For the Fo a) Pay b) Stu c) Lit d) Ho e) AT f) Ho g) Sto h) On i) Pla E-M 1. Writ	llowing Re yroll Proce ident MIS orary Mana stel Manage 'M Manage 'Spital Man ock Mainte line Ticket tform Assi lail Client I te the comp	eal tin ssing gemen ement agemen agem nance t Rese ignme Mana plete j	ne Systems (Any 3) System ent System nt System t System ent System ervation System ent System gement System problem statement.	Document.							
3. Drav	w the entity	y rela	tionship diagram.								

4.	4. Design DFD for real time problem.												
5.	5. Draw use-case diagrams.												
6.	6. Draw the activity diagram for the given application.												
7. Construct state chart and sequence diagram for use-case.													
8. Assign objects in sequence diagram to classes and generate the class diagram and convert into JAVA/VB CODE.													
9.	9. Draw the Component Level Diagram.												
10.	10. Draw the Deployment Diagram.												
Sug	gested	Learni	ng Meth	ods: Vi	deo Le	ssons							
	Total Hours 45 Hrs												
	Tools for Assessment (30 Marks)												
Laboratory	Performance- Application of Logic	0	Laboratory Performance-	rrogram Creativity	Laboratory Performance- Drogram	Debugging		Test 1		Test 2	Observation Note	Book	Total
	4		4		4			7		7	4		30
						Maj	pping						
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO	7 PO8	B PSC	1 PSO2	PSO3	PSO4	PSO5
CO1	Н	Н	L	М	Н	L	M	Н	H	Н	Н	М	М
CO2	Н	Н	L	М	Н	L	M	Н	Н	Н	Н	М	М
CO3	Н	Н	L	М	Н	L	М	Н	Н	Н	Н	H	Н
CO4	H	H	L	M	H	L	M	H	H	H	H	H	H
CO5		H		М	Н	L	M	H	H	H	H	H	H
H-High	i; M-Me	edium;	L-Low										
Course designed by Verified by Chairman													
Dr.D.V	imal Ku	ımar						Dr.N.F	Cavitha				

Course	e Code]	ſitle			
23U3M	IA303		Allied Paper I	II:	Operations Re	search		
Semeste	er: III		Credits : 4	CIA	: 25 Marks	ESE:	75 Mai	·ks
			(Common to all UG	Pro	grammes)			
Course	Objectiv	ve	On successful completion o mathematical applications in environment	f th in	ne course the dustries, decisi	studen on ma	ts to l king fo	earn various or real time
Course	Categor	у	Skill Development					
Develop	oment N	eeds	Global					
Course	Descrip	tion	Operations research is an analy Decision-making that is useful	tica/ tica/	l approach of prie management	oblem- of orgai	solving nizations	skill and 5.
Course	Outcom	hods	Assess	ment Methods				
CO 1	Classif advanta	y diffe ages ii	erent OR models and knowing th a decision making environment	eir	Group learn Lectures	ing/	As	signment
CO 2	Recogn assignm solution	nize nent j n.	and formulate transportation problems and derive their optim	on, nal	Peer Teach Lectures	ing/	τ	Jnit Test
CO 3	Gain replace	know ment	ledge about Game theory a models.	Lectures/ Tu	orial		Seminar	
CO 4	Outlini	ng the	Queuing Theory concepts.		Group learn Lectures	ing/	As	ssignment
CO 5	Constru schedu	uct Ne ling th	etwork models (PERT & CPM) ne project.	for	Video Lectu Lectures	res/		Quiz
Offered	by M	athen	natics					
Course	Content				Instruction	al Hou	ırs / We	ek :4
Unit			Description			Text	t Book	Chapters
I	Linear using G	progra raphic	amming – Mathematical Formucal Method-Canonical and Standa	ulati ard f	on-Solving LPI form of LPP.		1	2, 3
	Simplex	Meth	nod - Big-M Method, Principles of	of D	uality.		1	4,5
					Instruc	tional	Hours	12
Suggest	ed Lear	ning I	Methods: Problem Solving Prac	ctice		-		
п	Solution Corner Method MODI I	ortati s – Rule, - 1 Metho	on Problems: Introduction – In Balanced Transportation Proble Least Cost Method , Voge Unbalanced Transportation Pro d (Non Degeneracy).	itial em l's blen	Basic Feasible : North West Approximation n-Optimality –		1	10
	Assignment Problem:Introduction –Hungarian Assignmentmethod –Maximization in Assignment problem-Unbalanced1Assignment problem- Travelling salesman problem.1							
					Instruc	tional	Hours	12
Suggest	ed Lear	ning N	Methods: Seminar	<u></u>		0 0		
III	Game matrix Graphic	with al Me	ry: Concept of Pure and Mixed and without saddle point - n ethod - Dominance Property.	Stra x 2	tegies – Solving & 2 x m gar	g 2 x 2 nes by	1	17

	Repla Value Group	cemen - Rat Repla	t mod e of F cement	lels: H Return t.	Elemer - Dep	itary preciat	Replation -	cement Individ	Models lual Rep	- Pre lacemer	sent nt –	1		18
									Ins	structio	nal H	[ours		12
Suggeste	ed Lea	rning I	Metho	ds : Gi	roup D	Discus	sion							
IV	Queui of Qu Probal	ing The euing S oility D	eory (l System istribut	Deriva – Ope	tions prating	not in Char ing Sy	nclude acteris ystems	ed):Intro stics of s - Birth	oduction Queuing death pr	– Elem ; systen ocess.	ents ns –	1		20
_	Classi popula	fication ation me	of Qu odels. (euing	Mode	ls: Sin odel II	ngle S & Mo	Gerver - odel III)	finite ar) – Proble	nd infin ems only	ite y.	1		20
	Instructional											lours		12
Suggeste	ed Lea	rning I	Metho	ds :htt	ps://yo	outu.b	e/xGł	xpXk-A	nWU					
V	Network Scheduling: Critical Path Method–Principles of Network Construction: Forward Pass – Backward Pass computations –Types of Floats- Practical Problems in Networking Methods.1 VPERT: Critical Path – Probability of completion of project-Difference between PERT and CPM1										1		21	
	Instructional Hours													12
Suggeste	ed Lea	rning I	Metho	ds : Pr	oblem	Solvi	ing Pr	actice						
Total Ho										lours		60 Hrs		
Text Books1.Kanti Swarup, P.K. Gupta, Man Mohan, Operations & Sons, 1997.									ions F	Resear	ch,	S. Chand		
Referen	ce Boo	oks	1. 01 2. N	Hamd f India J. K. S IacMil	y A Ta PVT.I Sharma lan Inc	ha, O LTD, 8 , Ope lia Ltc	perati 8th edi ration 1,2008	ions Re ition, 20 ns Resea	search –)08. arch The	An int	roduc d App	tion, F licatio	ons,	tice Hall
Web. Ul	RLs		1. <u>http</u> 2. <u>http</u>	os://you os://wv	utu.be/ ww.you	4U3B tube.c	<u>5lr-M</u> com/w	<u>qM.(Int</u> /atch?v=	=2AOhC	<u>1</u> to OR WhwOF) <u>Ko</u> (PE	PERT concepts)		
				T	ools f	or Ass	sessme	ent (25	Marks)					
CIA	Ι	CL	АП	N	Iodel		Semir	har .	Assignm	ent I	Period Quizz	ical zes		Total
5			5		6		3		3		3			25
						Ν	Mappi	ing						
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO	3 PS	04	PSO5
CO1	Η	М	L	Μ	Μ	L	Μ	Н	М	М	Н	Ν	Л	М
CO2	Н	М	L	Μ	Η	Μ	Μ	М	M	М	H	N	Л	М
CO3	H	M	L	L	H	M	M	M	M	M	H	N	Λ	M
CO4	H	H	L	L H H H M H M M H M M									M	
CO5 H H L H H H M H M M H									N	/1	M			
п-пign;	ivi-ivie		L-LOW											
Course designed by Verified by Course designed by C								y Cha	irmar	ı				
P.Sheeba	ı Mayt	bell						Dr.T.C	handrapu	shpam				

Course	Code		Ti	itle					
23U4CS	SZ301	Skill Based Paper I : Pi	actical	in Agile Software	e Development				
Semeste	er: III	Credits: 3	CIA	: 30 MARKS	ESE: 45 MARKS				
Course Ob	jective	This course makes student le associated with each of the principles and practices of agi and relevance to the student.	earn the agile le softw	the fundamental principles and practices gile development methods. To apply the offware development on a project of interest					
Course Ca	tegory	Employability							
Developme	ent Needs	Global							
Course Des	scription	To Understand the process of the Local and Global needs.	Agile S	gile Software Development in order to meet					
	C	Course Outcomes		Teaching Metho	ds Assessment Methods				
CO 1	Interpret t engineerir developm	he concept of agile software ng and its advantages in software ent.	e		Applicationof Logic				
CO 2	Analyze the specific ag	he core practices behind several gile methodologies.		Program	Program Creativity				
CO 3	Understan generate s	d the use of JavaScript to dynan print reports.	nically	Demonstratio	on Program Debugging				
CO 4	Analyze a process in	nd interpret time tracking data for provement.	or		Program Creativity				
CO 5	Identify an Agile proj	nd manage critical dependencies ects.	in	n Program Developmen					
Offered by	Comp	uter Science							
Course Co	ntent		Ins	structional Hours / Week : 3					
		Program I	List						
1. Wr	ite a javasci	ipt code for Dynamic Sprint Re	port Gei	nerator.					
2. Crea	ate a javasc	ript for Agile Team Member Per	forman	ce Tracker.					
3. Wri	te a javascr	ipt program for Agile Task Prior	itizatio	1.					
4. Der	nonstrate th	ne working of Dependency Map	ping To	ol.					
5. Sho	w the funct	ioning of Agile Task Time Tracl	ker.						
6. Den	nonstrate th	e working mechanism of Scrum	Master	Toolkit.					
7. Den	nonstrate th	e working mechanism of Scrum	Master	Toolkit.					
8. Den	nonstrate th	e functioning of Automated Tas	k Assig	nment Tool.					

9.	9. Create an Agile Team Communication Chatbot.												
10.	10. Create an User Story Mapping Tool.												
11.	11. Generate an Automated Testing Dashboard.												
12. Create an Agile Metrics Dashboard.													
Sug	Suggested Learning Methods: Video Lessons												
Total Hours 45 Hrs													
	Tools for Assessment (30 Marks)												
Laboratory	Performance- Application of Logic	â	Laboratory Performance-	rrogram Creativity	Laboratory Performance- Drogram		lest l		Test 2	Observation Note	Book	Total	
	4		4		4		7	1		7	4		30
						Ma	apping						
CO \ PO	PO1	PO2	PO3	PO4	PO5	POe	6 PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	Н	Н	L	М	Н	L	Μ	Н	Н	Н	Н	М	М
CO2	Н	Н	L	M	Н	L	M	H	Н	H	Н	M	M
CO3	Н	H	L	M	H	L	M	H	H	H	H	H	H
CO4	H	H	L	M	H	L	M	H	H	H	H	H	H
	п • М М-	H		IVI	н	L	IVI	н	н	п	П	п	п
п-пign	, 101-1016		, L-LOW										
		Cou	urse desi	gned l	oy 🗌				Verif	ied by	Chairm	nan	
Dr.B.N	arasimh	nan						Dr.N.Ka	vitha				

Course	e Code	Title											
22U4N	M3BT1			Part IV : Basic T	amil -	- I (அடிப்படைத்தமிழ்	- I)						
Semest	ter: III		Credit	s: 2	CIA: 50 Marks								
		l	(Common to all UG	Prog	rammes)							
Course	Objectiv	e	தமிழ் மொழி	ியைக் கற்பித்தல்–ெ	மாழித்திறனை வளர்த்தல்.								
Course	Category	7	Skill Develo	opment (மாணவர்கள்	ரின் மொழித்திறனை ஊக்குவித்தல்)								
Develop	ment Ne	eds	Regional (த	மிழ் மொழியின் அவ	வசியத்தை உணர்த்துதல்)								
Course	Descript	ion	மாணவர்களி	ன் மொழித்திறனை	ஊக்குவித்தல்								
Course	Outcome	es	I			Teaching Methods	Assessment Methods						
CO 1	தமிழ் எ வாசித்த	ாழுத்து ஸ் ஆ	க்கள் அறிமுக கியவற்றின் ப	கம் செய்தல் மற்றும் யன்பாடு.		குழு விவாதம்	ஒப்படைவு						
CO 2	பிறமொ	ழிகற்	றல் ஆர்வம் த	தூண்டல்.		குழு விவாதம்	கருத்தரங்கு						
CO 3	பிறமொ	ழி அப்	ிவுத் திறன் ே	மேம்படச்செய்தல		விரிவுரை/ காணொளிப்பட விளக்கம்	குழுத்திட்டம்						
CO 4	வார்த்ன	த அ	மைக்கும் திறவ	ர் பெறச்செய்தல்.		விரிவுரை/ குழு விவாதம்	குழுத்திட்டம்						
CO 5	கையெ	ழத்துத்	த்திறன் பெறச்(செய்தல்.		குழு விவாதம்	குழுத்திட்டம்						
Offered	by தம	ிழ்த்து	றை		-								
Course Content : Basic Tamil – I அடிப்படைத்தமிழ் - I Instructional Hours / Week : 2 Hours													
Unit	Γ	Descrij	ption	Text Book		Chaj	pters						
Ι	தம் அடிப்	ிழ் பெ படைச்	மாழியின் க் கூறுகள்	இலக்கணம்	1.உயிர்எழுத்துக்கள் 2.மெய் எழுத்துக்கள் 3.உயிர்மெய் எழுத்துக்கள்								
			In	structional Hours			6 Hours						
Suggest	ed Learn	ing M	lethods : নাে	த்துக்களை எழுதும்	மற்று	ம் வாசிக்கும் திறன்	பெற்றமை						
п	சொ	ல் அ6	மைத்தல்	இலக்கணம்	1.ஓர் 2.இர 3.தமீ 4.வன 5.செ	எழுத்து ஒருமொழி ண்டுமுதல் ஐந்து எர றிழ் மாதங்கள் பெயர், ன்ணங்கள் பெயர், ால் ஆக்கம்	ழத்துச்சொற்கள் ,கிழமைகளின் பெயர்						
			In	structional Hours			6 Hours						
Suggest	ed Learn	ing M	lethods : តម្រ្	த்துக்களை கொண்டு	சொ	<u>ந்</u> களை உருவாக்கும்	பயிற்சி பெற்றமை						
III	6	தொடர	மைப்பு	தொடரமைப்பு	1.எழு 2.செ	ஒவாய் யப்படுபொருள்							
			In	structional Hours			6 Hours						
Suggest	ed Learn	ing M	lethods : சொ	ற்களைக் கொண்டு	தொடர் 	ர உருவாக்கும் பயிற்	சி பெற்றமை						
IV	குற	ிப்பு எ	ழுதுதல்	இலக்கணம்	1.தெ 2 பச்	ாடரமைப்பு கி வலைப்ப							
I			In	structional Hours	ற	ு அமைப்பு	6 Hours						
Suggest	ed Learn	ing M	In Iethods : பத்	தி அமைப்பு உருவா	ட க்கும்	திறன் பெற்றமை							

V	பிழை	ழநீக்கு தல	່ານ		இலக்க	கணம்		1.ஒற்றுப்பிழை 2.வாக்கியப் பிழை						
				Inst	tructio	onal Ho	ours	6 Hours						
Suggest	ed Lea	rning M	ethods	: இலக்	கணப்	பிழை	இன்றி	े न(फुट्ट	நும் திறன்	பெற்ற	மை			
					Т	otal Ho	ours	30 Hours						
Text Bo	oks		1.	இளங் தமிழ்	பகலை த்துறை	வர்களு மற்று	க்குரிய ட ம் அறிவி	பாடநூல் பல் கள்	"அரிச்சுல ல்லூரி,சே	வடி" தொ எயம்புத்த	குப்பு: ரர்.			
Referen	ce Boo	ks	1. 2.	பவண சென் தொல் சென்	ாந்தி (பனை—4(லனை—4(ல்காப்பி னை -1	ல் பூஎ சயர் ட	லியூர்க்கேச பதிப்பு,உல	சிகன் உ லகத் தட	_ரை,சார மிழாராய்	்தா பதிப் ச்சி நிறுவ	பகம், பனம்,			
Web. U	RLs		https:/	//youtu.	be/P7v	vUnjI6	<u>vY, ht</u>	tps://y	outu.be/Z	Zx4R3y	ZseuQ.			
				ſ	Тос	ment	(50 Mar)	ks)		I				
CIA	Ι	CIA	II	CIA	III	Semi	nar	A	ssignme	nt	Group	Total		
											Project			
8		8		1	0		8		8		8		50	
						N	lappi	ing				I		
CO/P	PO	PO2	PO3	PO4	РО	PO6	PO	PO	PSO	PSO	PSO	PSO4	PSO5	
0	1 T	т	т	т	5	м	7 11	8	1	2	3			
			н u		н	M	н т							
CO2 CO3	H	L	H	L	L	M	M	H	I	L	L	L	L	
CO4	H	L	M	L	L	M	H	M	L	L	L	L	L	
CO5	М	L	Н	L	М	Μ	Н	Н	L	L	L	L	L	
H-High;	M-Me	dium; L-	Low			1		1			1		<u> </u>	
Course designed by										V	erified b	y Chair	man	
Dr. S. Satheesh kumar										Dr.	A. Srid	levi		

Course	se Code Title											
22U4NI	M3AT1		Part – IV : A	dva	nced Tamil – I							
Semest	er : III		Credits : 2		ESE : 50 M	arks						
			(Common to all UG Prog	ram	mes)							
Course	Objectiv	ve	புதுக்கவிதை உருவாக்கும் திறன் வ	uளர்த்தல் - மொழித்திறனை மேம்படுத்துதல்								
Course	Categor	y	Skill Development (மாணவர்களின்	மொ	ழித்திறனை ஊக்குவித்த	ல்)						
Develop	oment Ne	eeds	Regional (தமிழ் மொழியின் அவசிய	பத்ன	த உணர்த்துதல்)							
Course	Descript	ion	மாணவர்களின் மொழித்திறனை ஊச்	ஊக்குவித்தல்								
Course	Outcom	es		J	Feaching Methods	Ass M	essment ethods					
CO 1	புதுக்க	விதை	படைக்கும் திறன் வளர்த்தல்		விரிவுரை	குழு	த்திட்டம்					
CO 2	படைப்ப	ாக்கத்தி	ிறன் அறிவு பெறச்செய்தல்.	ഖി	ரிவுரை/ குழு விவாதம்	கரு	த்தரங்கு					
CO 3	தகவல் பெறச்செ	தொடர் சய்தல்	பியலுக்கான கடிதம்,அமைவுத்திறன்	கா	விரிவுரை/ ணொளிப்பட விளக்கம்	கருத்தரங்கு						
CO 4	மொழின பெறச் (யப்பினு செய்தல்	ழயின்றிப்பேசும் ,எழுதும் திறன் ்		விரிவுரை	ஒப்	പതലഖു					
CO 5	கடிதம் பெறுதல்	តម្រូរ).	துதல் மற்றும் மொழியறிவைப்	கா	விரிவுரை/ னொளிப்பட விளக்கம்	குழு	த்திட்டம்					
Offered by தமிழ்த்துறை												
Course	Content				Instructional	Hours /	Week:2					
Unit	Desc	ription	Text Book	Chapters								
				1.1. தேசபக்திபாடல் தாயின்								
Ι	பகுக்கவி	கை	1. பாரதியார்		மணிக்கொடி பாரீ	τ						
	-191000 0 21	, y	2. பாரதுதாசன		1.2. பாரதிதாசன்(தமிழ்	மொழிப	ற்று –					
					கனியிடை, தமிழுக்	கும் அ	முதென்று)					
					Instructional H	Iours	6					
Suggeste	ed Learni	ng Met	.hods : கவிதை எழுதும் திறன் பெற்	றடை	ם							
					2.1. சொற்ப்பிழை நீக்க	ю						
Π	பிழை நீச்	குதல்	இலக்கணம்		2.2. தொடர்ப்பிழை நீக்க	வ்க						
					2.3. பத்தி எழுதச் செய்	பதல்						
					Instructional	Hours	6					
Suggeste	ed Learni	ng Met	hods : வாக்கியங்களைப் பிழை இன்ற	றி எடு	ழதும் திறன் பெற்றமை							
					3.1. தொகை நிலைத் (தொடர்						
III	இலக்கன வளிக்கவ்	កប់ បណ្ដំ ស	^{ந்சி} இலக்கணம்		3.2. தொகா நிலைத்தெ	ாடர்						
	പബര്മം	U			3.3.ஆகுபெயர் வகைகள்	π						
I			I		Instructional	Hours	6					
Suggeste	ed Learni	ng Met	hods : இலக்கணப் பிழை இன்றி எழுத	தும்	பயிற்சி பெற்றமை							
			4.1. பாராட்டுக்கடிதம்									
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			4.2. நன்றிக்கடிதம்									
IV	கடிதம் எழுதுதல்	ல இலக்கணப் பயிற்சி ஏடு	4.3. அழைப்புக்கடிதம்									
			4.4. அலுவலகக்கடிதம்									
			4.5. நட்புக்கடிதம்									
	I		Instructional Hours	6								
Suggest	ed Learning Met	hods : கடிதம் எழுதும் திறன் (பெற்றமை									
V	هم، خواب مرومه		1. வேலு நாச்சியார்									
v	യ്യരാജന്വ ബിബ	று தமழ் இலக்காப் வரலாறு 	2. கப்பலோட்டிய தமிழன்									
			Instructional Hours	6								
Suggest	ed Learning Met	. hods : தமிழ் இலக்கிய வரலாற்றி	ர் சிறப்பினை அறிய பெற்றமை									
-			Total Hours	30								
		1. இளங்கலை தமிழ் ப	மாணவர்களுக்குரிய பாடநூல் ''த	ிரட்டு"								
Text Bo	oks	தமிழ்த்துறை. தொகுப்பு: த	தமிழ்த்துறை, நேரு கலை மற்றும் அறி	ഖിധ്രல்								
		கல்லூரி, கோயம்புத்தூர்.										
		1. பாரதியார் – பாரதியார்கவி	ிதைகள், அபிராமிபதிப்பகம், 7- பி,கொ	டிமரத்								
		தெரு, சென்னை – 013										
Referen	ce Books	2. பவணந்கிமுனிவர் – நன்	னால். பலியர்க்கேசிகன் உடை	சாரகா								
		ு பகிப்பகம். சென்னை - 040	0	12								
Web II												
Web. U	KL5											
	Course	designed by	Verified by									
Dr C Ca	theash Vyman											
Dr 5 58	uneesn Kumar		JT A STIDEVI									
1												

Cour	se Code	Tit	tle		
22U4N 21U4N	M3CAF/ M3CAF	Non Major Elective	: Consumer A	ffairs	
Seme	ster : III	Credits : 2	E	SE : 50 Ma	arks
		(Common to all UG Program	mes)		
Course	Objective	To enable the students to understand markets	the concepts of	Consumer	s and
Course	Category	Employability			
Develop	ment Needs	National & Global			
		Course Outcomes	Teachin Method	g s	Assessment Methods
CO 1	Know thei consumer	r rights and responsibilities as a	Lecture Video Lec	e/ tures	Assignment
CO 2	Gain know in India	vledge about Consumer protection law	Lecture Peer Teac	e/ hing	Seminar
CO 3	Understan consumer	d the procedure about redressed of complaints	Lecture Group Discu	e/ ussion	Seminar
CO 4	Learn al agencies a	oout Consumer related regulatory nd Norms	Lecture Role Pla	e/ ay	Assignment
CO 5	Comprehe Consumer	nd Business Firms, Interface with s.	Lecture Group Disc	e/ ussion	Quiz
Offered	by Depa	rtment of Business Administration			
Course	Content		Instruct	ional Hou	rs / Week : 2
Unit		Description		Text Book	Chapters
I	Conceptua Consumer, of markets Concept of (MRP), Fa relevant law Consumer Dissatisfied	I Framework - Consumer and Market Nature of markets: Liberalization and with special reference to Indian Consu Price in Retail and Wholesale, Maximum ir Price, GST, labelling and packagin vs, Legal Metrology. Complaining Behaviour: Alternatives Consumers; Complaint Handling Process	ts: Concept of Globalization Imer Markets, m Retail Price g along with available to ss.	1	1 & 2
			Instruction	al Hours	6
Suggest	ed Learning	g Methods : Video lectures			1
п	The Consu Objectives Guidelines goods, spur unfair trade	mer Protection Law in India and Basic Concepts: Consumer rig on consumer protection, Consumer goo ious goods and services, service, deficier practice.	ghts and UN ods, defect in ncy in service,	1	5 & 6
			Instruction	al Hours	6
Suggest	ed Learning	Methods : Peer Teaching			

ш	Grieva Protect Who c Limitat Disposa	nce Re tion La can fil ion per al f cas es and	edressa aw e a c riod; P ses, Re penalti	al Mec omplai rocedu lief/Re es.	hanisr int? G re for f emedy	n unde frounds filing a availat	er the s of t nd hea ble; Te	Indian filing a aring of emporary	Consun compl a compl y Injunc	ner aint; aint; tion,	2		1
•			•						Instr	uctiona	l Hours	5	6
Suggest	ed Lear	ning N	Aetho	ls : Gr	oup D	iscussi	on						
IV	Role of self-reg Agenci Insuran	Indus gulation es i. Te ii. Fo ce : IR	stry Ra n (ISR) lecomi bod Pro DA an	egulato Protec nunica oducts: d Insu	ors in (ction P ttion: T FSSA rance (C onsu olicies TRAI I Ombud	mer P , Cons , Cons	rotectio umer Pr	n - Indu otectior	ıstry ı	2		4
									Instr	uction	al Hours	5	6
Suggest	ed Lear	ning N	Iethod	ls : Ro	ole Pla	y						1	
V	Conter Consur organiz Mislead Consur Quality standar Hallma	nporations ations ling Adner He y and ds; Ro rking,	ry Issu Aloven and dvertis lpline, l Sta ble of Licens	es in C nent i thei ements Compa ndard BIS, 1 ing and	Consur n Inc r rol s and s arative izatior indian d Surve	ner Af lia: le in ustaina Produ Produ i: Vo Standa eillance	fairs Form con able co ct testi pluntar ards M e.	ation consumer onsumptions ing. Ty and fark (IS	of cons protection, Nat Mand I), Ag-1	umer ction, ional atory nark,	2	6	& 7
I		U,		0					Instr	uction	al Hours	5	6
Suggest	ed Lear	ning N	Aetho	ls : Gr	oup D	iscussi	on						
88		0								Tota	al Hours	5	30
Refere	nce Boo	ks		1. Kh Aw 2. Cho Pro	anna, S ⁄asthi. oudhar ovision	Sri Ran (2007) y, Ran s and F	n, Sav Consu n Nare Proced	ita Hans umer Af esh Pras ure, Dee	pal, She fairs, U ad (200 p and E	eetal Ka niversit 5). Cor Deep Pu	poor, an ies Press sumer P blication	d H.K. rotectio s Pvt L	n Law td.
						Ma	pping						
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	-	-	-	М	Н	Н	М	М	-	-	-	-
CO2	L	-	-	-	М	Н	Н	Μ	М	-	-	_	-
CO3	L	-	-	-	М	Н	Μ	Μ	М	-	-	-	-
			1		М	н	Н	Μ	Μ	-	-	-	-
CO4	L	-	-	-	101	11							
CO4 CO5	L L	-	-	-	M	Н	Н	М	М	-	-	-	-
CO4 CO5 H-High;	L L M-Med	- - ium; L	- - Low	-	M	Н	Н	М	М	-	-	-	-
CO4 CO5 H-High;	L L ; M-Med	- - lium; L C ours e	- - Low	- ned by	M	H	H	М	М	- Verifi	- ed by	-	-
CO4 CO5 H-High; Dr. R A	L L ; M-Med	- lium; L C ourse parajan	- -Low e desig	- - ned by	M M	H	H	Dr. R A	M Ayyapı	- Verifi parajan	- ed by	-	_

Cours	se Code		נ	ſitle			
22U41	NM3GST		Non Major Elective	: Gen	der Sensitizat	tion	
Semes	ster : III		Credits : 2		ESI	E : 50 Mar	ks
			(Common to all UG Progr	ammes)		
Course	Objective		To raise awareness of gender, pror with key concepts and principles of	note g gendei	ender equality sensitization.	, and equip	p learners
Course	Category		Skill Development, Employability a	nd Ent	repreneurship		
Develop	pment Nee	ds	Local, National and Global				
Course	Descriptio	n	The course aims an exploration construction, gender issues and chal- key concepts and principles of gen and equity.	n of llenges nder se	overview of in India, and ensitization to	gender, i equips lear promote i	its social rners with nclusivity
Course	Outcomes	5		Teac	ching Method	s Ass M	sessment Iethods
CO 1	Learn stereotyp	gen es.	der roles, socialization, and	Dir	ect Instructior	n Ass	signment
CO 2	Recogniz	ze t d lev	he gender discrimination causes, vels in institutions.	Dir	ect Instructior	n S	eminar
CO 3	Identify families,	the and	gender identity formation, types, socialization in India.	V	ideo Lessons	Ass	signment
CO 4	Understa enrollme achievem	nd nt, nent	the gender concerns in access, retention, participation, and	Dir	ect Instructior	n Ass	signment
CO 5	Apply the	e La	ws Related to Women	Dir	ect Instructior	n Ex	hibition
Offered	l by Dep	artı	nent of Costume Design and Fashio	n			
Course	Content				Instructio	onal Hours	s / Week : 2
Unit			Description			Text Book	Chapters
I	Gender S Introduction Definition Meaning, Determini	ocia on- is, D ng (Alisation and Gender Roles: Meaning of Sex and Gender, Gender Agents of Gender Socialisation, Definitions, Nature of Gender Gender Roles/Stereotypes	er Soci Gendo Roles,	ialisation– er Roles- Factors	1	-
~		_			Instruction	nal Hours	6
Sugges	ted Learni	ng I	Methods : Group discussions				
II	Gender D Gender D Discrimin Discrimin	Disc Disc atio atio	crimination: crimination - Meaning and Caus n, Areas of Gender Discrimin n at Different Levels of Institutions	ses of nation,	f Gender Gender	1	-
					Instruction	nal Hours	6
Suggest	ted Learni	ng I	Methods : Video documentaries and	l films			
ш	Gender Id Gender Id Identity, 7 Gender So	dent dent Typ ocia	tity: ity - Meaning, Formation and Fac es of Gender Identity, Types of Fa lisation within Indian Families	etors o milies	f Gender in India,	1	-
					Instruction	nal Hours	6
Suggest	ted Learni	ng I	Methods : Case Method				

	Gende	er Con	cerns:										
IV	Gende	r Conce	erns Re	elated t	o Acce	ess, En	rolme	ent, Rete	ntion,		1		-
	Partici	pation,	and A	chieve	ment								
									I	nstructio	onal Ho	ours	6
Suggest	ed Lea	rning 1	Metho	ds : Vi	ideo do	ocume	ntarie	es and fi	lms		1		
	Laws	Relate	d to W	omen:									
	Laws F	Related	to Rap	e, Law	s Relat	ed to D	Owry	- Dowry	Prohib	ition Act,			
V	1961, I	Laws Re	elated to	o Rema	rriage,	Laws R	lelated	l to Divo	rce, Law	s Related	1		_
•	to Prop	perty In	heritan	ce, Lav	vs Rela	ated to	Traff	icking, C	Constituti	ional and	-		
	Legal A	Aspects	related	to Woi	men - V	Vomen	's Res	ervation	$B_{1}II - H_{1}$	story and			
	Current	t Status							T		1.11		
Suggost	od I oo	rning	Matha	de · C	asa Ma	thad			l	nstructio	onal Ho	ours	0
Suggesi	cu Lea	i inng i	victilo	us . Ca						Т	otal Ho	nirs	30
		1.	Gend	er Sc	hool a	and Sc	ociety	: Self-	learnin	g Mater	ial, M	ANGA	LORE
Text Bo	oks		LINIU	FDCI	TV Dr	inted o	t Date	acon Tac	hnolog	ios Banc	alora (0018	
			UNI	V LIKSI	11,11	inteu a			.moiog.	ies, Dang		2018	
Referen	ice	1.	Unite	ed Nat	ions D	Develop	oment	Progra	mme. (2014). C	Gender	Equalit	y and
Books			Wom	en's E	mpowe	erment	: Traiı	ning Ma	nual. Ne	ew York:	UNDP).	
		1.	Cour	sera - ł	nttps://	www.c	ourse	ra.org/co	ourses?c	juery=ge	nder%2	20sensit	ization
	DI	2	edX.	. httns:	//www	edv o	ra/lea	rn/gende	r_cencit	ization			
Web. U	RLS	2.		- <u>mups.</u>	// vv vv vv	<u>.cux.o</u>	<u>1 g/ ICa</u>		<u>1-5011511</u>	<u>12at1011</u>	,		
		3.	Uder	ny - hti	tps://w	ww.ud	emy.c	com/topi	c/gende	r-sensitiz	zation/		
						Μ	appi	ng					
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	Н	М	М	М	М	Н	Н	М	-	-	-	-	-
CO2	Н	М	М	М	Н	Н	М	М	-	-	-	-	-
CO3	Н	М	М	М	М	Н	Η	М	-	-	-	-	-
CO4	Н	М	М	М	L	Н	Н	М	-	-	-	-	-
CO5	Н	М	М	М	М	Н	М	М	-	-	-	-	-
H-High:	M-Me	dium; l	L-Low										
		Cours	e desig	ned by	y				Ve	rified by	Chair	man	
M Nand	hini							Dr S Jay	apriya				

Cour	se Code			Title	9		
22U4N /21U4N	M3WRT M3WRT		Non Major Elective	e : Wo	men's Rights		
Seme	ster : III		Credits : 2		ES	E : 50 Mar	ks
		1	(Common to all UG Pro	gramme	es)		
Course	Objective		To facilitate the awareness abou intellectual or cultural contribut	it the so ions of	ocial, economi Women in Ind	ical, politica dia.	al,
Course	Category		Skill Development				
Develop	oment Need	5	National				
Course	Description		Apply the knowledge of Rights	related	to women for	their bette	rment.
Course	Outcomes]]	Feaching Methods	Assessm Methods	ent S
CO 1	Aware of	oas	sic constitutional rights	Le Stud	cture/ Case ly/ Role Play	Se	minar
CO 2	Gain awar	en	ess on Political rights	Le Stud	cture/ Case y/ Role Play	Rol	e Play
CO 3	Understan	d i	ndividual and familial rights	Le Stud	cture/ Case ly/ Role Play	Rol	e Play
CO 4	Grasp the in India	pro	ovisions for Women's Rights	Le Stud	cture/ Case y/ Role Play	Ro	e Play
CO 5	Develop a Protection	n u M	Inderstanding of the lechanisms for women	Le Stud	cture/ Case y/ Role Play	Assi	gnment
Offered	by Depa	rtı	nent of Social Work			-	
Course	Content				Instructi	onal Hour	s / Week : 2
Unit			Description			Text Book	Chapters
Ι	Constitution relating to state policy and educate University Rights for Centers - I Commission	na wo - 1 ior De Wo Leg n	Al Rights of Women in India : omen - Fundamental rights - Direction right to equality – rights against e hal rights - the right to constitu- claration of Human Rights -Enfo omen and Children - Role of Ce gal AID cells, Help line, State	Indian ective exploita itutiona prceme ills and and N	constitution principles of ation cultural al remedy - nt of Human l Counseling ational level	4	2
					Instruction	al Hours	6
Suggest	ed Learning	g N	Iethods : Seminar				
п	Political R in India - I leader - representati Rural and ideologies a	i gh Ele pre on url	ats of Women in India: Political ctoral process – women as voter essure group, 73rd and 74 th of women in local self –govern ban local bodies - Reservation I women's issues.	l Right rs - ca amer nment of wo	s of Women ndidates and ndment and – women in men - party	5	1

Suggested Learning Methods : Role Play

Instructional Hours

6

ш	Women – Crim Harassr Rape Lo	n's Rig e Aga nent a pophol	ghts: A linst W nd Dov les in P	Access /omen wry De tractice	to Jus Dome eaths - –Law	tice: Ir estic V Moles Enforc	ntrodu Violen statior cemen	action – (ace – Do n – Sexua at Agency	Crimina owry R al Abus 7	l Law elated se and	3	,	7
I	_								Instr	uctional	Hours	; (6
Suggeste	ed Lear	ning N	Aethod	ls : Ro	le Play	V							
~~88***	Womer	1's Rig	phts: V	iolence	e Agai	nst Wo	men -	– Domes	tic Vio	lence			
IV	The Pro Marriag 1856 - 7	otection ge Vali The Do	n of W dation owry P	omen Act 19 rohibit	from I 982 - T ion Ac	Domest 'he Hin t 1961	tic Vi Idu W	olence A /idow Re	ct 2005 emarriag	5, The ge Act	3		5
									Instr	uctional	Hours	; (6
Suggeste	ed Lear	ning N	Aethod	ls : Cr	reative	Art A	Assign	nments				<u> </u>	
	Special	Won	nen V	Velfare	e Law	s: Sex	cual]	Harassm	ent at	Work			
V	Places, Represe Immora Develoj Protecti	Rape entation al Traff pment ion of (e and n (Prol fic (Pre and E Childre	Indenibition eventio Empow en from	ecent n) Act, n) Act rermen n sexua	Repre 1986, 1956 , 1956 t, Role I Offer	esenta Imm - Act e of nces A	tion, T noral Tra is Enacte Rape Ci Act 2012	he Ind fficking d for W risis Ce	decent g, The Vomen enters.	3		9
									Instr	uctional	Hours	; (6
Suggeste	ed Lear	ning N	Aethod	ls : Co	mmun	nity Pa	rticip	oation Pr	ogram				
		0				v	-		0	Total	Hours		60
			1.	P. D.	Kaush	ik "W	omen	Rights'	' Book	well P	ublicatio	on 200	7 UN
				Centre	for H	uman	Right	s. Discri	iminatio	on again	st Won	nen (Ge	eneva:
				World	Camp	aion fo	r Hun	nan Rioh	ts 1994))			iiie vu.
Doforer		ka	2	Δ ones	Flavia	(100)	2) "(Tive us "	Give u). e Thie D	av Our	Daily F	Pread.
NCICI CI		ND	<i>2</i> ,	Proced	ures ar	nd Case	- I aw	z on Mair	ntenanc	e" Mail	is Rom	bany 1 hav	J1000.
			3	Δ anes	Flavi	a (190	00) "	I aw and	Gende	e Ineque	ality. Tł	pe Polit	ics of
			J	Wome	n''s Rid	a. (199 ahts in	India		New D	elhi			105 01
				wonie			•						
						Iviaj	pping	;					
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	7 PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	М	Η	М	М	Η	М	Μ	Μ	-	-	-	-	-
CO2	Н	М	М	Н	М	М	Н	Н	-	-	-	-	-
CO3	Н	М	М	Η	М	Η	Μ	Μ	-	-	-	-	-
CO4	Μ	Η	М	Н	М	М	Μ	Н	-	-	-	-	-
CO5	Н	М	М	Н	М	Н	Μ	М	-	-	-	-	-
H-High;	M-Med	ium; L	Low		<u> </u>	1	1	1		1	1		
		Course	e desig	ned by	7				Verif	fied by (Chairm	an	
			0.000	<u> </u>									

23U	1TAM404		Pa	rt - I :	Muthamizh	ı (முத்தமிழ்)				
Sem	nester: IV		Credits: 3	CIA:	20 Marks	ESE: 55 M	arks			
Course	Objective	சங்ககாக	ல மக்களின் வாழ்வ	பியல் எ	யாயிலாக பஎ	ன்பாட்டுக் கூறுகளை உ	டணர்த்துதல			
Course	Category	Skill De	evelopment (மாணவ	யர்களில	ா மொழித்தி	றனை ஊக்குவித்தல்)				
Develop	oment Needs	Global/	Regional (உலக உ	அளவில்	தமிழ் மொ	ழியின் அவசியத்தை உ	உணர்த்துதல்)			
Course	Description	மாணவர் மொழிய	ாகளின் மொழித்திற 1ன் அவசியத்தை உ	னை உ உணர்த்	ாக்குவித்தல் துதல்	மற்றும் உலக அளவ	<u></u> வில் தமிழ்			
Course	Outcomes					Teaching Methods	Assessment Methods			
CO 1	தமிழர்களின்	வாழ்விய	ல் பண்புகளைக் கற்	று அற்]தல்.	விரிவுரை/காணொளிப் பட விளக்கம்	ஒப்படைவு			
CO 2	தமிழ் இலக்க இலக்கிய வ	ിய ഖങ്ങ നத்தை ഉ	5களைக் கூறுவதன் உணரச்செய்தல்.	கூறுவதன் மூலம் தமிழின் சய்தல். கேம்ப மனவளர்ச்சியை விரிவரை/காணொளிப்						
CO 3	மாணவர்களி உருவாக்குத	டையே க ல்.	ாலத்திற்கேற்ப மனவ	பளர்ச்சில	จนา	விரிவுரை/காணொளிப் பட விளக்கம்	கருத்தரங்கு			
CO 4	நாட்டின் சிற <u>ந்</u> உருவாக்குத	த குடிமக ல்.	க்களாக மாணவர்கன	മെ		விரிவுரை	ஒப்படைவு			
CO 5	மாணவர்களின	ர் மனநல	த்தை வளர்த்தல்.			விரிவுரை/குழு விவாதம்	கருத்தரங்கு			
Offered	l by தமிழ்த்த	துறை								
Course	Content: M	uthamiz	h (முத்தமிழ்)			Instructional Hou	ırs / Week : 4			
Unit	Description		Text Book		Chapters					
				1.	1.1 குறிஞ்சி: நின்ற சொல்லார்,					
	எட்டுத்தொகை	1. 1	நற்றிணை	1.	2 முல்லை :	இளமை பாரார், குறி	ிஞ்சி :			
-		2.	தறுந்தொகை •••••		நிலத்தினும், பாலை :ஆடு அமை					
I		3. I 4. I	பதிற்றுப்பத்து புற்நானூறு		விளைய	ாட்டு ஆயமொடு				
				1.	3 ஐந்தாம் பத	த்து : ஊன் தூவை அடி₀	சில்			
				1.	4. யாதும் ஊ	ரே பல் சான்றீரே, அ	ற்றைத்திங்கள்			
a						Instructional Hours	12 Hours			
Suggeste	ed Learning Me	thods: मा	ங்க இலக்கிய வழி ந	நற்பண்ட	களை அறிய	ச்செய்தல்				
		1.சிறுட	ாணாற்றுப்படை	2.	l கடையெயு	ջ வள்ளல்கள் சிறப்பு				
п	பத்துப்பாட்டு	2.குறிஞ்	சிப்பாட்டு	2.	2 அறத்தொ(டு நிற்றல்				
		3.பொ	ருநர்ஆற்றுப்படை	2.	3 மன்னனின்	ா விருந்தோம்பல <u>்</u>				
		4.மதுல	ரைக்காஞ்சி	2.	4 பாண்டிய 🤇	நெடுஞ்செழியன் குடிச்ச	சிறப்பு			
						Instructional Hours	12 Hours			
Suggest	ted Learning N	Iethods	: புலவர்களின் மான	ன்புகலை	ள வெளிப்ப(டுத்துதல்				
	ചന്ദ	1.நா 2 இ	ன்மணிக்கடிகை வியலை நாற்பாட	ഖ്	ளம்பிநாகனா டன் ோர் டனா	ள் - (1-5 பாடல்கள்) ர். (1.5 பாடல்கள்))			
III	அலக்கியங்கஎ	் 2. கு ர 3. க	ையலை நாற்பது ளவமி நாற்பது-	பு பெ	தஞ்சைந்தலா பாய்கையார்	ா - (1-5 பாடல்கள்) - (11-15பாடல்கள்	́п)			
	Ø	4.	சாரக்கோவை	ଭ	பருவாயின் பு	ழள்ளியார் (1-5 பாடல்க	, 5ள்)			
						Instructional Hours	12 Hours			
Suggest	ted Learning N	Iethods	: அற இலக்கியங்	பகளின்	மாண்புகளை	ா அறிய பெற்றமை	100010			
	தமிழ்ச் செயல	லிகள்			4.1 செயவ	ிகள் அறிமுகம்				
IV			தனித்தமிழ்		4.2 வகை	் கள்				

									4.3	மாழி	பெயர்ப்புச்	செயலி	கள்	
									4.4 த	மிழ்ச்	செயலிகள்	r		
						Instru	ictional	Hours					12 Hour	'S
Sugge	sted Le	arni	ing N	Aethod	ls : த	மிழ்ச் 🤇	செயலி	கள் பற்	றி அற	ியும்	வாய்ப்பு (ச	பெற்றமை		
					1				5.1 U	்தற்	பாருள், கரு	ப்பொருள்	, உரிப்	பொருள்
					1.ந	னனூல் ````) • •		5.2 ц	த்து .	அழகு			
V	இலக்	கன	ம்		2.6	தாலக	ទកបបាយ	Ш	5.3 ц	த்து (தற்றம்			
									<u>5</u> .4 چ	ந ங்கி	லத்திலிருந்	து தமிழி	اف	
									மொ	ழிபெ	யர்த்தல்			
					•	Instru	ictional	Hours				1	2 Hours	
Sugges	sted Le	arni	i <mark>ng</mark> N	Aethod	ls: @	லக்கண	ா மாண்	புகளை	அறியும்	் திற	3ன் பெற்றன	Ш		
							Total	Hours				6	0 Hours	S
75				1. இ	ாங்கன	ல முத	தலாம் ₋	ஆண்டு ் · · ·	தமிழ் ப	மாண	வர்களுக்குரி ·	ப பாடநு	ால்	
Tex	t Books	5		ெத க	ளகுபபு ல்லாரி,	: ``முத கோய	தமழ் ம்பக்கா	தமிழது ர்.	ട്വന്ദെ,	ĕநரு	கலை மற்ற	லும் அறிவ	ച്ചധര	
				1. சங்	க இ	லக்கியா	<u>ட்ட</u> ங்கள் -	ள' டுக்(கொகை	. பக்	காயாட்டு க	மக வெ	ոննե.	
Ref R	erence			தி	நநெல்(ഖേலി.			- <u>-</u>	, -p	g0	3		
D	0013			2. தஎ	ரித்தமி	ழ்- இஎ	ாசுந்தரப	ம், விகட	ன் பிரக	ஈரம்.	சென்னை.			
Web	o. URL	5	<u>httr</u>	<u>os://you</u>	<u>itu.be/</u>	<u>GrNnb</u>	<u>68Fd6v</u>	v, https	s://yout	u.be/	14-sEAUzX	P8.		
						Tools	for Ass	sessmen	nt (20 N	lark	s)			
CL	A I		CIA	II	CI	AIII	S	eminar	As	signn	nent P	Froup roject	Т	otal
4	<u>ا</u>		4			5		2		2		3		20
							N	Iapping		_				
PO / CO	PO1	P	02	PO3	PO4	PO5	PO6	PO7	PO8	P S O 1	PSO2	PSO3	PSO4	PSO5
CO1	М]	[H	L	H	H	М	H	L	L	L	L	L
CO2 CO3	<u>М</u> Н		u r	H H	L I	M H	<u></u> н	M M	<u>Н</u> Н	L	L	L	L	
CO3	M		L	M	L	H	H	H	M	L	L	L	L L	L L
CO5	Н	J	[]	L	L	М	Н	L	М	L	L	L	L	L
H-Higl	h; M-M	ediu	m; L	L-Low										
		Co	urse	design	ned by						Verified	l by <u>c</u> hai	irman	
		Dr.	S. S	atheesl	n kuma	ı					Dr. A. Sr	idevi		

Course	e Code	Code Title								
23U1H	IN404		Part I - Prayogik Hin	di (प्रायोगिक हिंदी)						
Semest	er: IV		Credits: 3 CI	A: 20 Marks	ESE: 55	Marks				
			(Common to all U	G Programmes)						
Course	Objectiv	ve	साक्षरता प्रशंसा और विश्लेषण व	के सौंदर्य, सांस्कृतिक औ	र सामाजिक	पहलुओं के				
			प्रति छात्रों को संवेदनशील बनान	ग						
			उन्हें विभिन्न कालों के प्रख्यात	लेखकों के हिंदी कथा सा	हित्य के बेहत	ारीन नमने				
			उपलब्ध कराना	••••		~				
Course	Cotogor	• 7	Skill Davelonment							
Dovelor	mont N	y ooda	Notional							
Develop			National							
Course	Descrip	tion	Improves Creative Writing.	Tasahing						
		Cou	irse Outcomes	Methods	Assessm	ent Methods				
CO 1	জার हिंब	दी भाष	॥ से अच्छी तरह वाकिफ हो सकेंगे।	Role play	Assi	gnment				
CO 2	पाठ्यक्र	म संव	ादी हिंदी में पारंगत होने में मदद	Group learning	Se	minar				
001	करता है	51		Acting	50	Seminar				
CO 3	छात्र आ	धुनिक	हिंदी साहित्य का ज्ञान प्राप्त कर	Story Narration	Assi	gnment				
	सकेंगे।					0				
CO 4	छात्रों को	निबंध	। लेखन में अच्छा अभ्यास मिलेगा।	and Work sheets	Grouj	o Project				
CO 5	छात्रों को फिल्म की समीक्षा करने का अभ्यास			Worksheets and	Se	minar				
	मिलेगा।			Exercises						
Offered	by Hi	ndi	1							
Course	Content	ţ		Instructional Hour	s / Week :	4				
Unit			Description		Text Book	Chapters				
Ι	विरुद्ध उ	उपन्या	स: (मृणाल पाण्डे)		1	4				
				Instruction	al Hours	12				
Suggest	ed Lear	ning]	Methods : Visual Learning	•		02 Hrs				
II	कथा मार	ला,	(मृदुला गग) लाटना आर लाटना :	ममता जयशकर)	1	3				
	,प्रसाद अ	गदमा	का बच्चा (यशपाल)							
C			M-41- J A J.4	Instruction	al Hours	12 02 Harr				
Suggest	ea Lear	ning				02 Hrs				
III	1.ादए ग 2.आधनि	ए अन् कि का	नुच्छद पर समाक्षा लिखना ल: प्रवतियां और कवि		1	3				
	;		<u>ر</u>	Instruction	al Hours	12				
Suggest	ed Lear	ning]	Methods : Comprehensive Wr	iting		02 Hrs				

	1.सामा	न्य नि	बंध: अ	ाधुनिक	शिक्षा	े प्रणार्ल	ो, मोब	ाइल	का दुष्परि	णाम,			
W	आध्निव	क य्वा	पीढ़ी	C					Ū.		1		2
IV		ے سے ج	مد		20						1		Z
	2. ह	दा म द	रा गङ्	कहाना	क लि	ए सारा	খ লিও	्रना।					
									Instr	uctiona	l Hour	s .	12
Suggest	ed Lea	rning [Metho	ds : A	uditor	y, Vis	ual, C	ompi	ehensive	•		02	Hrs
V	सिनेमा	समीक्ष	ा : पद्म	नावत							1		4
									Instr	uctiona	l Hour	s .	12
Suggest	ed Lea	rning	Metho	ds : C	ompre	ehensi	ve wri	ting				02	Hrs
			1							Tota	l Hour	s 60	Hrs
			1.	विरु	र्ध उपन	-यासः	(मृणाल	न पाण्डे	डे)				
			2.	कहार	नी कुंज	, गोविंट	, प्रकाश	न , म	थुरा				
Text Bo	oks		3.	हर ह	ु लि बेगा	ने - मद	ला गर्ग	. राज	ु पाल एंड सं	स . दिल्ले	गे		
			4.	मेरा	परिवार	, लोक¥	, गारत प्रब	काशन	, इलाहाबा	द			
			1	. संजर	य चौहान	न . समब	कालीन '	हिंदी स	गहित्य विच	वार और '	वेवाद . अ	गशा कित	नाबें
			2	 श्री ज		- , र	त चरीच	्रोक	ਘਾਟਰੀ ਧੁਣ	ाशन भन	गरातार		
			2.	ਾਮ। ਵ		;		, (1197 •••••	जारता त्रपग चिंकी		।।।।।।। - - •-		
Referen	ce Boo	ks	3.	51 9	सुदव न	।दन प्रस	ાલ, સાથ	पुनिक	ाहदा व्याव	PY 01 2114	रचना, म	॥रता भव	1न
				प्रका	शक						_		
			4.	. ओंक	ार नाथ	वर्मा, व	सामान्य	र्ग हिंदी	, अरिहंत	प्रकाशन	भारत लि	ਸਿਟੇਤ	
			1	www	v webd	lunia co	m						
			2.	www	v.hindi	kunj.co	m						
Web II	RLs		3.	hind	i-natak	-vikas.	html						
			4.	WWV	v.bhasł	naindia.							
			5. 6.	https	s://eboo	samay. ok.pusta	ak.org/						
				Too	ls for	Assess	sment	(20]	Marks)				
CIA	T	CI	A II	C	аш	As	ssignm	nen	Semin	ar (Group	То	tal
		01	4		_		<u>t</u>			P	roject	10	0
4			4		5	<u> </u>	<u> </u>		2		3	2	U
						IVIA]	phing						PSO
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO	8 PSO1	PSO2	PSO3	PSO4	5
CO1	L	M	H	M	M	L	H	L	L	L	L	L	L
CO2		M	H	H	L	H		M	L	L		L	L
	M NI			L M	L U	H I	IVI M		L			L T	
C04	H	H	IVI	I	H		H	<u>п</u> Н		L L		L	
H-High:	M-Me	dium:	L-Low	L	11	L	11	1		L		Ľ	L
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			_										
		Course	e desig	ned by	y					Verifie	ed by C	hairma	n
		Course	e desig	ned by	y					Verifie	ed by C	hairma	n
		Course Dr.S.	e desig Swarna	ned by	y				Dr.S	Verifie S.Swarn	ed by C	hairma	n
		Course Dr.S.	e desig Swarna	ned b y	y				Dr.S	Verifie S.Swarn	ed by C	hairma	n

Cour	se Code			Title		
23U1N	MAL404	Part - I : Drisyakal	laa Saal	hithyam (ദ്വശ്യ	കലാസാഹിര	ຫງວ)
Seme	ster: IV	Credits: 3	CIA	: 20 Marks	ESE: 55	Marks
		(Common to all U	UG Pro	grammes)		
Course	Objective	സിനിമ എന്ന മാധ്യമത്തിര	റ്റെ വി	വിധ തലങ്ങളെ	ആഴത്തിൽ മന	സ്സിലാക്കാൻ
~	<u> </u>	കഴിയുന്നു.ദൃശ്യാവിഷക്ക	രണത്തെ	കുറിച്ചുള്ള അ	റെവ് ലഭിക്കുന	m <u>z</u> .
Course	Category	Skill Development				
Develop	ment Needs	Regional				
Course	Description	Guide and encourage ther	n to acl	nieve their ambi	tions	
	Co	urse Outcomes		Teaching Meth	ods Assessme	ent Methods
CO 1	തിരക്കഥ പ്രസക്ത	യിലെ സംഭാഷണത്തിന്റെ 1		Smart boards chalk and Ta	s/ Assi lk Assi	gnment
CO 2	മനക്കരു അംഗങ് മംഗളക	ത്തിലൂടെ വീട്ടിലെ എല്ലാ ദളെയും ദുഃഖം അറിയിക്കാരെ ർമ്മം നടത്തുന്നു.	ത	Group learni	ng Se	minar
CO 3	കുടുംബ ഉയർത്ത	ത്തിന്റെ തകരുന്ന മൂല്യത്തെ റുന്നു)	Peer Teachin	.g Assi	gnment
CO 4	ദ്യ ശ്യാന	പിഷ്ക്കരണം മലയാളത്തിൽ		Group learning	ng Grou	p Project
CO 5	രംഗവേ	ദിയുടെ അവതരണം		Smart boards chalk and Ta	s/ lk Assi	gnment
Offered	by Malay	alam				
Course	Content		Ir	nstructional Ho	ours / Week : 4	4
Unit		Description			Text Book	Chapters
Ι	തിരക്കഥ - ഒ	താൻ പ്രകാശൻ			1	5
				Instruc	tional Hours	12
Suggest	ed Learning	Methods : Visual Learning				02 Hrs
II	തിരക്കഥ - ഒ					
		താൻ പ്രകാശൻ			1	5
		താൻ പ്രകാശൻ		Instruc	1 tional Hours	5 12
Suggest	ed Learning	താൻ പ്രകാശൻ Methods : Auditory, Visual		Instruc	1 tional Hours	5 12 02 Hrs
Suggest	ed Learning തിരക്കഥ - ഒ	താൻ പ്രകാശൻ Methods : Auditory, Visual താൻ പ്രകാശൻ		Instruc	1 tional Hours	5 12 02 Hrs 3
Suggest	ed Learning തിരക്കഥ - ഒ ed Learning	താൻ പ്രകാശൻ Methods : Auditory, Visual താൻ പ്രകാശൻ Methods : Visual Learning		Instruc	1 tional Hours 1 tional Hours	5 12 02 Hrs 3 12 02 Hrs
Suggeste III Suggeste	ed Learning തിരക്കഥ - ഒ ed Learning നാടകം - ഭര	താൻ പ്രകാശൻ Methods : Auditory, Visual താൻ പ്രകാശൻ Methods : Visual Learning തവാക്യം		Instruc Instruc	1 tional Hours 1 tional Hours 1	5 12 02 Hrs 3 12 02 Hrs 2
Suggeste III Suggeste IV	ed Learning തിരക്കഥ - ഒ ed Learning നാടകം - ഭരം	താൻ പ്രകാശൻ Methods : Auditory, Visual താൻ പ്രകാശൻ Methods : Visual Learning തവാക്യം		Instruc Instruc Instruc	1 tional Hours 1 tional Hours 1 tional Hours	5 12 02 Hrs 3 12 02 Hrs 2 12
Suggeste III Suggeste IV Suggeste	ed Learning തിരക്കഥ - ഒ ed Learning നാടകം - ഭര ed Learning	താൻ പ്രകാശൻ Methods : Auditory, Visual താൻ പ്രകാശൻ Methods : Visual Learning തവാക്യം Methods: Auditory, Visual		Instruc Instruc Instruc	1tionalHours1tionalHours1tionalHours	5 12 02 Hrs 3 12 02 Hrs 2 12 02 Hrs
Suggeste III Suggeste IV Suggeste V	ed Learning തിരക്കഥ - ഒ ed Learning നാടകം - ഭര ed Learning നാടകം - ഭര	താൻ പ്രകാശൻ Methods : Auditory, Visual താൻ പ്രകാശൻ Methods : Visual Learning തവാക്യം Methods: Auditory, Visual തവാക്യം		Instruc Instruc Instruc	1tionalHours1tionalHours1tionalHours1tionalHours1	5 12 02 Hrs 3 12 02 Hrs 2 12 02 Hrs 3
Suggeste III Suggeste IV Suggeste V	ed Learning തിരക്കഥ - ഒ ed Learning നാടകം - ഭരം ed Learning നാടകം - ഭരം	താൻ പ്രകാശൻ Methods : Auditory, Visual താൻ പ്രകാശൻ Methods : Visual Learning തവാക്യം Methods: Auditory, Visual തവാക്യം		Instruc Instruc Instruc Instruc	1tionalHours11tionalHours11tionalHours11tionalHours	5 12 02 Hrs 3 12 02 Hrs 2 12 02 Hrs 3 12 12 12 12 12 12 12 12 12 12
Suggester III Suggester V Suggester	ed Learning തിരക്കഥ - ഒ ed Learning നാടകം - ഭര ed Learning നാടകം - ഭരം ലർ Learning	താൻ പ്രകാശൻ Methods : Auditory, Visual താൻ പ്രകാശൻ Methods : Visual Learning തവാക്യം Methods: Auditory, Visual തവാക്യം Methods : Visual Learning		Instruc Instruc Instruc Instruc	1tionalHours1tionalHours1tionalHours1tionalHours1tionalHours	5 12 02 Hrs 3 12 02 Hrs 2 12 02 Hrs 3 12 02 Hrs 02 Hrs
Suggeste III Suggeste V Suggeste	ed Learning തിരക്കഥ - ഒ ed Learning നാടകം - ഭര ed Learning നാടകം - ഭര ed Learning	താൻ പ്രകാശൻ Methods : Auditory, Visual താൻ പ്രകാശൻ Methods : Visual Learning തവാക്യം Methods: Auditory, Visual തവാക്യം		Instruc Instruc Instruc Instruc	1 tional Hours 1 tional Hours 1 tional Hours 1 tional Hours	5 12 02 Hrs 3 12 02 Hrs 2 12 02 Hrs 3 12 02 Hrs 60 Hrs
Suggeste III Suggeste IV Suggeste V Suggeste Te	ed Learning തിരക്കഥ - ഒ ed Learning നാടകം - ഭരം ed Learning നാടകം - ഭരം ed Learning ed Learning	താൻ പ്രകാശൻ Methods : Auditory, Visual താൻ പ്രകാശൻ Methods : Visual Learning തവാക്യം Methods: Auditory, Visual തവാക്യം 1. തിരക്കഥ - ഞാൻ 2. നാടകം - ഭരതവാം	പ്രകാശിക്യം, ജി.	Instruc Instruc Instruc Instruc നർ - ശ്രീനിവാസം ശങ്കരപ്പിള്ള	1 tional Hours 1 tional Hours 1 tional Hours 1 tional Hours Total Hours	5 12 02 Hrs 3 12 02 Hrs 2 12 02 Hrs 3 12 02 Hrs 60 Hrs 5 m
Suggesta III Suggesta V Suggesta V Suggesta Te:	ed Learning തിരക്കഥ - ഒ ed Learning നാടകം - ഭരം ed Learning നാടകം - ഭരം ed Learning ed Learning ed Learning ed Learning ed Learning	താൻ പ്രകാശൻ Methods : Auditory, Visual താൻ പ്രകാശൻ Methods : Visual Learning തവാക്യം Methods: Auditory, Visual തവാക്യം Methods : Visual Learning 1. തിരക്കഥ - ഞാൻ 2. നാടകം - ഭരതവാം 1. കഥയും തിരക്കഥവം എസ് കോട്ടയം 2. മലയാള സിനിമം ഡി.സി.ബുക്സ്	പ്രകാശ ക്യം , ജി. യും ഡേ യും ന	Instruc Instruc Instruc Instruc ന് - ശ്രീനിവാസം ശങ്കരപ്പിള്ള ാ.ആർ.വി.എം.ഭ സാഹിത്യവും	1 tional Hours 1 tional Hours 1 tional Hours 1 tional Hours Total Hours ന്റെ.ഡി.സി.ബുക റിവാകരൻ - പ	5 12 02 Hrs 3 12 02 Hrs 2 12 02 Hrs 3 12 02 Hrs 60 Hrs ຄາມ

			4. 5.	ຕວຣ ຕວຣ	ക സാപ കം കല	റിത്യ - യും ക	ചരിത്രം റഴ്ചയ	- ജി ും - പ	. ശ പി.	ങ്കരപ്പിള .ജി.സദാ	<u>36</u> - (നന്ദറ	ഡി. ർ - ഗ	സി.ബുക ഡി.സി.	ഄഀ൜ഁ വുക്സ്	
Web	o. URL	/S	<u>http:</u> http:	<u>//www</u> //www	v <mark>.keral</mark> v.mano	acultu orama	re.org> online.o	<mark>>lite</mark> com	rat	<u>ture</u>					
			F	То	ols for	Asses	sment (20 N	Ma	rks)					
CIA	I	CI	A II	C	IA III	signme	ent		Semina	ar	Gi Pr	roup oject	То	tal	
4		2			2			3	2	0					
						Ma	pping								
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	РО	8	PSO1	PSC)2	PSO3	PSO4	PSO 5
CO1	Η	L	Η	Н	Н	Η	Н	H	[L	L		L	L	L
CO2	М	L	Н	М	Н	М	М	Μ	1	L	L		L	L	L
CO3	Η	L	М	М	Μ	Η	Μ	H	[L	L		L	L	L
CO4	Н	L	L	Н	L	Н	Μ	M	1	L	L		L	L	L
CO5	М	L	L	Н	L	Н	Μ	M	1	L	L		L	L	L
H-High;	M-Mec	lium; L	L-Low												
	Course designed by Verified by Chaiman														
		Ms.I	RAJAN	JI N.					Dr	.SMI	TH	IA C. R.			

Cours	Course Code Title									
23U1F	RN404		Part – I : L	e Fi	rancais General – I	V				
Semest	ter : IV		Credits : 3	С	IA : 20 Marks	ESE :	55 Marks			
		1	(Common to all U	G P	rogrammes)					
Course	Objectiv	e	Acquisition of standard F communication	renc	h through French	grammar	and oral			
Course	Category	7	Skill Development							
Develop	oment Ne	eds	Global							
Course	Descripti	ion	Improved understanding and	com	munication					
Course	Outcome	es			Teaching Methods	Assessment Methods				
CO 1	learn p culture a	orono adapt	uns, gérondif along wit ation in foreign countries	h	Lectures /Tutorial	Assignment				
CO 2	French & futur	food [.] proc	culture, manners, futur simpl	Group Learning	Assi	gnment				
CO 3	Busines la conse	s and equer	l economic culture, la cause ence.	Peer Teaching	Seminar					
CO 4	Letter v passif, l	vritin es do	g official and to a patron, l ubles pronoms	Group Learning	Group Project					
CO 5	The c l'opposi l'infinit	ity tion e if	and country, urbanisation et la concession, le subjonctif	n, et	Group Learning	Assi	gnment			
Offered	by Dep	partr	nent of French							
Course	Content				Instructio	nal Hours	s / Week : 4			
Unit			Description			Text Book	Chapters			
Ι	Explorer	l'inco	nnu			1	1			
Suggest	ad Leann	:	Asthoda - Vienala		Instructiona	al Hours	12			
Suggest		,.				1				
11	Gouter 1	ínso	lite			1	2			
Suggest	ed Learn	ing N	Methods : Comprehensive w	Instructiona	l Hours	12				
	Consomm	ner au	trement		0	1	3			
111	Consonin	ici au			Instructions		12			
Suggest	ed Learn	ing N	Methods : Group discussions		mstructiona	u 110018	12			
IV	S'engage	er pou	ur une cause			1	4			
				Instructiona	l Hours	12				
Suggest	ed Learn	ing N	Methods : Visuals							

V	Repens	er le qu	otidien										1		5
										Instr	ructio	onal	l Hour	s	12
Suggest	ed Lea	rning I	Metho	ds : Gi	roup D	Discu	ission								
											Т	ota	l Hour	s	60
Text Bo	ooks		1.	. Saiso Oliv	on 2 M eira, Do	létho oroth	de de Fr née Dupl	ançais eix (U	– N nit	Marie-No 0 to 4)	oëlle	Coc	ton, And	ouchka E)e
Referen	ice Boo	ks	1.	. Con	nexions	3 2 1	Methode	de Fra	anç	ais Régi	ine M	érie	eux , Yve	es Loisea	u
Web. U	RLs		1.	. wwv	v.acade	mia.	edu								
Tools for Assessment (20 Marks)															
CIA I CIA II CIA III Assignment Seminar Quiz Total														tal	
	4		4		5		2	2		2			3		20
						N	Mappin	g							
CO \ PO	PO1	PO2	PO3	PO4	PO5	РО	6 PO2	7 PC)8	PSO1	PSC	02	PSO3	PSO4	PSO5
CO1	-	-	Н	М	Н	Н	[-	-		-	-		-	-	-
CO2	-	-	Н	L	Н	Μ	[-	-		-	-		-	-	-
CO3	-	-	-	М	М	Н	[-	-		-	-		-	-	-
CO4	-	-	L	М	L	Н	[_	-		-	-		-	-	-
CO5	-	-	L	-	Н	-	-	-		-	-		-	-	-
H-High; M-Medium; L-Low												1			
		Cours	e desig	ned by	y						Ver	ifie	d by C	hairma	n
D Balaji D Bal															

Course	e Code			r	Гitle			
23U2E	NG404		Part – II :	Comm	unicative Engl	ish –	II	
Semest	er : IV		Credits : 3	CIA	: 20 Marks		ESE : 5	5 Marks
			(Common to Al	l UG P	rogrammes)			
Course	Objectiv	ve	To equip the students with appreciation of literature.	n Langu	age Skills and	devel	op intere	st in and
Course	Categor	·у	Skill Development					
Develop	oment N	eeds	Global					
Course	Descrip	tion	SD: Helps to develop LSF	RW skil	1			
Course	Outcom	es			Teaching Met	hods	Assessm	nent Methods
CO 1	Unders prescri	tand t bed pr	the values of life reflected rose	in the	Lecture/Tuto	orial	As	ssignment
CO 2	Learn evidence	to inte ce.	orial	As	ssignment			
CO 3	Enhanc skills tl	e in roug	orial	S	Speaking			
CO 4	Unders	tand t	he performing art through c	łrama.	Lecture/Tute	orial]	Reading
CO 5	Acquir compet	e protency.	ficiency in English for	global	Lecture/Tute	orial		Writing
Offered	by De	eparti	nent of English				I	
Course	Content				Inst	ructio	onal Hou	rs / Week : 4
Unit			Description				Text Book	Chapters
I	Prose Francis Dr. Rad Sudha M	Bacoı hakris ⁄Iurty	n – Of Adversity shnan - Character is Desting - How I taught my grandmo	y other to	read		1	1
					Instructi	ional	Hours	12
Suggest	ed Lear	ning 1	Methods : Intensive Read	ing				
Π	II Sarojini Naidu - The Soul's Prayer Emily Dickinson - Death in the Opposite House William Blake – 1 2							
	London				Instructi	ional	Hours	12
Suggest	ed Lear	ning I	Methods : Scaffolding Me	thod				
III	Short S W. Som Edgar A Ruskin	tories erset Ilan F Bond-	Maugham - Mr. Know-All Poe-The Purloined Letter The Thief Story				1	3
	- cootinii -	_ 5114			Instructi	ional	Hours	12
Suggest	ed Lear	ning I	Methods : Flipped Learni	ng				

IV	Drama Williar	ı n Shak	espear	e – As	You I	.ike It					1		4
			1						Instru	ctional	Hours	1	12
S	Suggest	ed Lea	rning	Meth	ods : F	lipped	l Lear	rning					
V	GRAN Oral Comprobservi Lecture Nation Speaki Taking Defence Classree Readin Newsp Writin Restrice substitu	ing – actice, nvited d DD e Turn bating, s on Novel, Non- e word	1		5								
	Instructional												2
Suggested Learning Methods : Activity Based Learning													
00		0			v			0		Total	Hours	(50
Text Bo	oks		Unit	I – V:	Comp	iled by	the D	Departm	ent of E	nglish			
Referen	ce Boo	ks	CLII NOT the d	L (Cont E: (Te epartm	tent & xt: Pre lent)	Langu scribec	lage I d chap	ntegrate oters or	d Learni pages w	ing) – N ill be gi	Aodule to the total to the total tot	by TAN ne stude	SCHE ents by
WED. U.	NL5			т	a a la fa	A age		nt (20 N	(onlea)				
				1	0015 10	Dr Asse	essine		larks)				
CIA	I	CIA	II	CIA	III	Assig	gnmei	nt Se	minar	Pre	sentatio	n '	Fotal
4		4		5			2		2		3		20
						Ma	nning	σ					
	PO1	PO2	PO3	PO4	PO5	PO6	PO7		PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M		H	-	M	M	H	M	Н	H	M	Н	M
CO2	M	-	H	-	Н	M	Н	M	H	H	M	Н	M
CO3	М	-	Н	_	Н	Н	Н	Н	Н	Н	М	Н	М
СО4 М L H - Н - Н Н Н Н М Н											Н		
C05	Н	M	Н	_	Н	Н	н	Н	Н	Н	H	н	M
H-High;	M-Me	dium; l	L-Low	<u> </u>			1		1				1
		Cours	e desig	gned by	V					Verifi	ed by Cl	nairma	n
Dr. Ada	appatu 4	Ancy A	ntony				-	Dr. R M	alathi				

NASC 2023

Course	rse Code Title CKC407 Core Paper X: RDBMS and MYSQL										
23U3C	KC407		Core Paper X	: RDBMS and MYS)L						
Semest	er: IV		Credits: 3 C	IA: 20 Marks	ESE: 55 N	Aarks					
			(Common to B. Sc. CS	/ B. Sc. IT / BCA)							
Course	Objectiv	/e	To inculcate fundamental knowl manipulate information with the	edge in RDBMS concep real time datasets.	ts and make t	hem to create,					
Course	Categor	y	Skill Development								
Develop	ment No	eeds	Global								
Course	Descript	ion	The course gives introduction database programming techniq and database access.	to the fundamentals of ues emphasizing datab	relational dat	tabases using es, modelling					
Course	Outcom	es		Teaching Methods	Assessme	ent Methods					
CO1	Rement of data	iber th base.	e Data types and fundamentals	S Lecture / Flipped Classroom	Assi	gnment					
CO2	Unders Variou	tanding s queri	g the concept of Database and es in SQL.	l Lecture / Tutorial	Assi	gnment					
CO3	Applyin retrieve	ng the e inform	e concept in various tables to mation.	D Tutorial	S	eminar					
CO4	Unders cursors	tandin	g the concept of PL/SQL using	g Lectures / Tutorial	Seminar						
CO5	Able to in PL/S	o evalu SQL.	ate the errors and write trigger	S Lecture / Flipped Classroom	(Quiz					
Offered	by	Comp	outer Applications								
Course	Content			Instructional Hou	ırs / Week :	4					
Unit			Description		Text Book	Chapters					
Ι	Introdu Models System Databas Languag Data M Diagram	ction: – Data Struct e Mo ges. Da lodellin ns – De	Database - Purpose of Database Language – Transaction Mure.A Relational approach: Related – Integrity Rules – Tatabase Design: Data Modelling – Dependency –Normal fee-Normalization.	base Systems - Data Management - Overall ationships –Relational heoretical Relational og and Normalization: forms – Dependency	2,1	1					
				Instructio	onal Hours	12					

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Sugges	ted Learning Methods: Video lectures about the basics of Database		
п	Oracle9 <i>i</i> :Oracle9 <i>i</i> an introduction – SQL –SQL *Plus Commands – Errors & Help – Alternate Text Editors. Oracle Tables. DDL : Naming Rules and conventions – Data Types – Constraints – Creating Oracle Table – Displaying Table Information – Altering an Existing Table – Dropping, Renaming, Truncating Table – Table Types – Spooling – Error codes.	1	3,4
	Instructio	nal Hours	12
Sugges	ted Learning Methods:SQL Query Writing		
ш	Working with Table: Data Management and Retrieval: DML – Adding a new Row/Record – Updating and Deleting an Existing Rows/Records – Retrieving Data from Table -Restricting Data with WHERE clause – Sorting – Revisiting Substitution Variables – DEFINE command – CASE structure. Functions and Grouping: Built-in functions – Grouping Data. Multiple Tables: Joins and Set operations: Join – Set operations.	1	5,6
	Instructio	nal Hours	12
Sugges	ted Learning Methods: SQL Query Writing		
IV	 PL/SQL: A Programming Language: History – Fundamentals – Block Structure – Comments – Data Types – Declaration – Assignment operation – Bind variables – Substitution Variables – Printing – Arithmetic Operators. Control Structures and Embedded SQL: Control Structures – Nested Blocks – SQL in PL/SQL – Data Manipulation – Transaction Control statements. PL/SQL Cursors and Exceptions: Cursors – Implicit & Explicit Cursors and Attributes – Cursor FOR loops – SELECTFOR UPDATE – WHERE CURRENT OF clause – Cursor with Parameters – Cursor Variables – Exceptions. 	1	10, 11&12
	Instructio	nal Hours	12
Sugges	ted Learning Methods: Video lectures about the basics of PL/SQL		
V	 PL/SQL Composite Data Types: Records – Tables. Named Blocks: Procedures – Functions – Packages – Triggers – Data Dictionary Views 	1	13,14
	Instructio	nal Hours	12
Sugges	ted Learning Methods: Writing PL/SQL Procedures		
	To	otal Hours	60

B. Sc., / B. C. A.

NASC 2023

Text Boo	oks		1. N 2. A 0	VileshS Abrahar C oncep	hah ,"l n Silbe ts ", 3 ^{rc}	Databa erschat ¹ Editio	ise Sys z, Hen n, Mc0	tems l ry F.K Graw –	U sing O Corth, S. - Hill Co	racle" , 2 Sudarsl ompanies	2nd editi han , "D s, inc.	ion, PHI Database	e System
Reference	e Bool	ζS	1. Syste 2. Ge	Arun e ms" , 7 erald V	Majum FMH, 2 . Post ,	darΠ 2007. , "Data	ritimoy Ibase I	/Bhatta Manag	acharya, g ement S	"Da Systems	tabase ", 3rd E	Man dition, T	agement `MH.
Web. UF	RLs		https	://www	.tutori	alspoir	nt.com/	/sql/sql	-rdbms-	concept	s.htm		
Tools for Assessment (20 Marks)													
CIA I CIA II CIA III Assignment Seminar Quiz Total													
4	Ļ	2	1	5	;		2		,	2	3		20
					•	M	apping	5					
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	Н	Н	L	М	Н	L	М	Н	Н	Н	Н	М	М
CO2	Н	Н	L	М	Н	L	М	Н	Н	Н	Н	М	М
CO3	Н	Н	L	М	Н	L	М	Н	Н	Н	Н	Н	Н
CO4	Н	Н	L	М	Н	L	М	Н	Н	Н	Н	Н	Н
CO5	Н	Н	L	М	Н	L	М	Н	Н	Н	Н	Н	Н
H-High;	M-Med	lium; L	-Low										
	(Course	desig	ned by					Ve	rified by	y Chairn	nan	
Dr. A. Ka	alaivan	i					D	r. K. S	elvavina	ayaki			

Cour	ourse Code Title U3CKC408 Core Paper XI: R Programming											
23U3	CKC408	Core	er XI: R Progran	nming								
Seme	ster: IV	Credits: 3	CIA	:20 Marks	ESE	: 55 Marks						
		Common to B. Sc. C	S/CS	S(DS) and AIML								
Course	Objective	To enhance the student with the	e func	lamental concepts	of R Progr	amming						
Course	Category	Employability										
Develop Needs	ment	Global										
Course		This course provides the	basic	knowledge in	Data Ar	alysis, Data						
Descrip	tion	Manipulation, Graphics, Data I	Frame	s And Interfacing.								
Course	Outcomes			Teaching Methods	Assessm	ent Methods						
<u>CO1</u>	Recognize	the basics of R Programming		Lecture	Ass	signment						
CO_2	Understand	the concept of Matrices and Lis	sts	Tutorial	S	eminar						
CO3	Use of data	a frames and functions		Video Lectures	Duo ouo	Quiz Evention						
04	Describe u	he me operations and graphs	r	Flipped	Progra	ogram Execution						
CO 5	Models	The tween Linear and Non Linea	L	Classroom	Progra	m Execution						
Offered	by Comp	y Computer Science(Data Science)										
Course	Content	ŀ										
Unit	Description Text Book											
Ι	Introducin Functions in Common V operations then else –	g to R : Introducing to R – R D n R – Vectors – Scalars – Decla Vector Operations – Using all a – NA and NULL values – Filte Vector Element names.	Data S ration and a ring -	tructures – Help ns – Recycling – ny – Vectorized – Vectorized if-	Ι	1-2						
1				Instruction	al Hours	12						
Suggest	ed Learning	Methods : Video Lecturer										
п	Matrices : Creating Matrices – Matrix Operations – Applying Functions to Matrix Rows and Columns – Adding and deleting I rows and columns - Vector/Matrix Distinction – Avoiding Dimension Reduction – Higher Dimensional arrays – lists – Creating lists – General list operations – Accessing list components and values – applying functions to lists – recursive											
	Instructional Hours 12											
Suggest	d Learning Methods : Case Study Data Frames Matrix like aparations in											
III	Data Fram frames – me Factors and with factors functions – and values	tes: Creating Data Frames – Merging Data frames – Applying fur Tables – Factors and levels – C – Working with tables – Other : Control statements – Arithmetic – Default Values for argument	latrix- nction comme factor and s – F	like operations in s to Data Frames – on Functions used s and table related Boolean operators Returning Boolean	I	5-8						
1	values – F	unctions are objects – Environni	iciii d	na scope issues –		1						

	Writing Upstairs – Recursion – Replacement functions – Tools for Composing function code – Math and Simulation in R.													
	Con	iposinį	grundid	in code –	· wiatii a		ilation	ш к.						
									Ι	nstructio	onal I	Hours		12
Sugges	ted Le	arnin	g Metho	ods : As	signmen	nt								
IV	Class Inpu writ Gray Gray	sses: S it/outp ing fil phics phs to	3 Classo ut – acc es – a – Creat files – C	es – S4 (essing ke ccessing ting Gra Creating	Classes - eyboard the in aphs – Three-D	– Mana and mo ternet Custor Dimensi	ging yo onitor – Strii nizing onal p	our o – reading M Graj lots.	bjec ding lani phs	ets – g and pulation – Savir	_ ng	Ι	9	-12
									Ι	nstruction	onal I	Hours		12
Sugges	ted Le	arnin	g Metho	ods : Vi	deo Leo	cturer								
V	Inte Line Tim	e rfacin ear Mo e Serie	g : R to del – G es and A	other la eneralize uto-Cor	nguages ed Linea relation	s – Para ar mode – Clust	allel R els – N ering.	– Ba Ion-li	sic l near	Statistics r Models	- - II			15-17 20-22
									Ι	nstruction	onal I	Hours		12
Sugges	ted Le	earning	g Metho	ods : Gr	oup Dis	scussion	n						02	Hrs
	Total Hours 60 Hrs													
Text Books1.Norman Mation, —The Art of R Programming: A four of Software Designl, No Starch Press, 2011. 2.2.Jared P. Lander, —R for Everyone: Advanced Analytics and Addison-Wesley Data & Analytics Series, 2013.												and Gra	uphics,	
Refere	nce Bo	ooks	1. Wiley, 2. Statisti Inc, 20	Mark G 2013. Robert ical Anal 013. Rich	Knell, In Visis and Mard Cot	ntroduc progra ton(201	tory R ammin 13). Le	– The : A B g in F earnin	egir R, A g R	nner's Gu mazon D , O'Reill	rograi iide to igital y Med	Data Data South ia.	g Langu Visualiz Asia Se	age ^{II} , zation, ervices
				To	ols for .	Assessi	nent (20 M	ark	(s)				
CIA	I	(CIA II	C	IA III	As	signm	ent	S	eminar	Qu	ıiz	To	otal
4		4			5		2			2	3		20	
					_	Map	ping							
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PC)8	PSO1	PS O2	PS O3	PSO 4	PSO5
CO1	Н	Н	L	М	Н	L	Μ		Η	Н	Н	Н	Μ	Μ
CO2	D2 H H L M H L M H H H H M M													
CO3	Н	Н	L	Μ	Н	L	Μ		Η	Н	Η	Н	Н	Н
CO4	Н	Н	L	Μ	Н	L	Μ		Η	Н	Η	Н	Н	Н
CO5	Η	H	L	Μ	H	L	Μ	-	H	Н	Η	H	Н	Н
H-High	n; M-M	ledium	; L-Lov	V										
		Cou	rse desi	igned by	7					Verified	by C	hairm	an	
D. J. A	D. J. ANITHA MERLIN Dr. N. KAVITHA													

Course	Code			Т	ïtle						
23U3C	SP405		Core Paper X	KII : Pra	actical in R Program	nming					
Semeste	er: IV		Credits: 3	(CIA: 30 Marks	ESE:45 Marks					
Course Ob	ojective		To expose the student sot	the fun	damental concepts of	R Programming					
Course Ca	ntegory		Skill Development								
Developme	ent Needs		Global								
Course De	escription		Develop simple and comp	olex app	lications at Global n	eeds.					
	(Cours	se Outcomes		Teaching Methods	Assessment Methods					
CO 1	Develop structure	simp es	le programs using control		Program Demonstration	Applicationof Logic					
CO 2	Apply ve program	ector s	concepts to create simple		Program Demonstration	Program Creativity					
CO 3	Apply the programs	e conc	repts of matrices to create sim	ple	Program Demonstration	Program Debugging					
CO 4	Program Demonstration	Program Creativity									
CO 5	Create a of soil in	simp to a c	le program to convert pH l ordered factor	evels	ls Program Program Demonstration Developmen						
Offered by	y Com	puter	Science		·						
Course Co	ontent			In	structional Hours /	Week: 3					
1 11			Program	List							
1. W	rite a R pro	ogram	to get the details of the ob	jects in	memory.						
2. W	Vrite a R pro nd +50.	gram	to create a vector which co	ontains	10 random integer va	lues between -50					
3. W	rite a R pro	gram	to create a vector of a spec	cified ty	pe and length. Create	e vector of numeric,					
co	omplex, log	ical a	nd character types of length	h 6.							
4. W	rite a R pro	gram	to add two vectors of integ	gers type	e and length.						
5. W	5. Write a R program to create two 2x3 matrix and add, subtract, multiply and divide the matrixes.										
6. Write a R program to create a matrix from a list of given vectors.											
7. W	7. Write a R program to create a data frame from four given vectors.										
8. W	rite a R pro	gram	to extract first two rows fr	om a gi	ven data frame.						

Sug	Suggested Learning Methods: Simple Application development Total Hours													
										Tota	l Hou	rs 45	Hrs.	
				Т	ools for .	Asses	sment	(30 Mar	ks)					
Laboratory	Performance- Application of Looic	1081	Laboratory Performance-	rrogram Creativity	Laboratory Performance- Drogram		Test 1		Test 2	Observation Note	Book	Total		
	4		4		4			7		7	4		30	
						Ma	pping							
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO	7 PO8	PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	Н	Н	L	М	Н	L	М	Н	Н	Н	Н	М	М	
CO2	Н	Н	L	М	Н	L	M	Н	Н	Н	Н	М	М	
CO3	Н	Н	L	М	Н	L	Μ	Н	Н	Н	Н	Н	Н	
CO4	Н	Н	L	М	Н	L	Μ	Н	Н	Н	Н	Η	Н	
CO5	Н	Н	L	М	Н	L	Μ	Н	Н	Н	Н	Н	Н	
H-High	ı; M-Me	edium;	L-Low											
		Cou	ırse desi	gned l	by				Verif	ied by	Chairm	nan		
Dr.N.K	avitha						Dr.N.Ka	vitha	2					

Course	e Code]	ſitle							
23U3B	TA404		Allied Paper – IV Fu	ınd	amentals of Bioi	nfoi	rmatics					
Semest	ter: IV		Credits:3	CIA	:20 Marks		ESE:55 N	Aarks				
Course	Objectiv	ve	To expose the students with th	e fi	undamental conce	pts	of Bioinfo	ormatics				
Course	Categor	y	Skill Development									
Develop	oment No	eeds	Global	1								
Course	Descript	tion	The Fundamentals of Bioinf involves the application of co computational biology addr computing applied to cellular	orn omp ress and	natics is an inter- puting to the stud ses more gener sub-cellular struc	rdis y o al cture	ciplinary f genes an questions es.	course that nd proteins; involving				
Course	Outcom	es			Teaching Methods		Assessme	ent Methods				
CO 1	Tell the	e basic	es of database and data formats.		Lecture / Grou Learning	р	Assi	gnment				
CO 2	Explain method	n the ls of b	importance of alignment ar iological data analysis.	nd	Lecture/ Onlin Demonstration	e 1	Se	minar				
CO 3	Apply relation	align Iship b	ment in predicting taxonomic between the organisms	al	Lectures / Computing		(Quiz				
CO 4	Inspect underst relation	the s and ships	tructures of macromolecules ar the structure-functio	nd on	Lectures / Computing		Progran	n Execution				
CO 5	Know a	about	Applications of Bioinformatics.		Lecture / Case study	e	Program	n Execution				
Offered	by Bi	otech	nology	-								
Course	Content			Iı	nstructional Hou	rs /	Week:4					
Unit			Description				Text Book	Chapters				
I	Biologic the trans Proteom Genome	c al cla smissi ne.Ger e of He	assification and nomenclature on of genetic information, Gen nome of Prokaryotes, Genor omo sapiens	e,Ev le, (me	vaes dropping on Genome, Protein, of Eukaryotes,		1	1				
G		• •			Instructi	ona	l Hours	12				
Suggest	ed Leari	ning I ecenti	/lethods : v developed biological databa	1666	1							
	Introduc	tion a	nd history of bioinformatics – I	nte	rnet, World Wide		2	2, 10				
П	Web, W Databas	eb brov e brov	owser,EMB net, NCBI. File tran vsers and search engines.	nsfe	er protocol.			5, 6				
					Instructi	ona	l Hours	12				
Suggest	ed Lear	ning N	Aethods : Laboratory practice	e	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-						
III	Databa Blast, Entry	ase- D Gent forn	Definition, DBMS, Biological I bank, DNAsequence databases bats, carbohydrate databases	Dat s, I ,	abases – FASTA Protein databases Enzymedatabases	•	2	11				
	Pathw RDBN	ay da 1S. SC	atabases. Relational database	base model. Theory on				14				
					Instruction	ona	1 Hours	12				

Suggest	ed Lean	rning I	Metho	ds : Oi	ıline a	pplica	tion of	simil	arity sea	rching	tools			
IV	Introd sequen alignm Sequen	uction ce ali ent of nce Ali	to sec gnmen two se gnmen	ts, M equenc t, Clust	aligni easure es. Sig talW	ment: of s gnifica	The Do similariance of	ot plo ty, C align	t, Dot Pl Computin ments.M	ot and g the ultiple	2		4	
									Instr	uctiona	l Hours	5	12	
Suggest	ed Lea	rning l	Metho	ds : B	uild a	phylog	genetic	tree						
V	App	lication	ns of	Bioi	nform	atics:	gene j ll phyl	oredic	tion, ta	rget	2		15	
v	PFR	I Che	moinfo	rmatic	s s	L- CC	n, pnyi	ogen		y 515,	2		15	
	I LR		monno	matic	0.				Instr	nctiona	l Hours	2	12	
Suggested Learning Methods : Update through Research articles												12		
Total Hours 60 Hrs												Hrs		
	1 Arthur M Lesk Introduction to Bioinfor											Method:	s and	
	applications. Genomics, Proteomics and Drug Discovery Four												Fourth	
Text Bo	t Books edition PH publications.													
	2. Rastogi, C. S., NamitaMendiratta.,Bioinforma											Iethods	and	
	Applications, PHI Learning Pvt. Ltd., 4 th Edition, 2013.													
1. Teresa Attwood, Introduction to Bioinformatics, Pearson												earson		
Defense	Deel	.		Publica	ations,	1 st Edit	ion, 20	07.						
Referen	ICE BOO	KS	2.	Andrea	as D. E	Baxeva	nis, B.I	F. Fra	ncis Oue	llette, B	ioinforn	natics,	Wiley	
				Publisł	ners, 3 ^r	dEditio	on, 201	1.						
			1.	https:/	//www	.ncbi.n	lm.nih.	gov/b	ooks/NB	K14376	4/			
Web I	RLs		2.	https:/	//www	.expas	y.org/li	nks						
			3.	https:/	<u>//ww2.</u>	<u>chemis</u>	stry.gate	ech.ec	<u>lu/~lw26</u>	/course_	Informa	tion/45	<u>81/la</u>	
				<u>bs/tbp</u>	/rasmo	ol/rasm	<u>ol_tbp_</u>	fset.h	<u>itml</u>					
				To	ols for	Asses	sment	(20 M	(arks)					
CLA	I	CI	AII	C		As	signme	gnment Seminar Quiz Total						
4			4		5		2		2		3	2	0	
						Ma	pping							
CO \	PO	PO	PO	PO	PO	PO	P07	PO	PSO	PSO2	PSO	PSO	PSO	
PO	1	2	3	4	5	6	107	8	1	1502	3	4	5	
CO1	Н	H	M	L	L	Н	Н	Μ	M	Н	Н	Μ	-	
CO2	M	Н	H	L	L	M	H	Н	M	M	Н	Н	-	
CO3	Н	M	H	Μ	L	Н	M	H	Μ	H	М	-	M	
CO4	Н	Н	M L M H H M M M L										L	
CO5	Н	L	M	Μ	L	Н	L	Μ	H	-	L	Μ	M	
H-High	; M-Mee	dium; I	L-Low											
		Cours	e desig	ned by	7			Verified by Chairman						
Dr.N.Sa	Dr.N.Saranya							Dr.N.Kavitha						

Course (Code			Title			
23U4CS2	Z402	Skill Based Pap	per II: Practi	cal in H	ITMI	L, CSS and	JavaScript
Semeste	r: IV	Credits:3	CIA : 3	30 Marl	ks	ESE:	45 Marks
Course Obje	ective	To make the student familiarity inthe sam	s understand the and design	the Java webpag	Script ge usin	t programmi ig HTML ar	ing and develop d CSS.
Course Cate	egory	Skill Development					
Developmen	t Needs	Global					
Course Desc	ription	To develop the sk applications in order	kill-set of H r to meet the]	TML, (Local ar	CSS nd Glo	and Java Sobal needs.	Script to develop
Course Out	comes			Te	eachin	g Methods	Assessment Methods
CO 1	Create	Hyperlink between all w	veb pages	P E	Progra Demoi	m nstration	Program Creativity
CO 2	Develoy device a	p cascading style sheets and browser integration	(CSS) for	P E	Progra Demoi	m nstration	Debugging
CO 3	Design	the simple web pages u	P E	Progra Demoi	m nstration	Application of Logic	
CO 4	List and data typ	d apply basic concept lil bes in JavaScript	nd P E	Program Demonstration		Program Development	
CO 5	Classif ,lopping	y the concept of condition g statements and function	ts P D	Progra Demoi	m nstration	Program Development	
Offered by	Comp	uter Science					
Course Con	tent			Instruc	ctiona	l Hours / W	/eek:3
		P	rogram List				
1. Create	e HTML Pi	ogram to demonstrate dif	ferent logical s	style and	Usage	e of Pre tag	
2. Create	e HTML Pi	ogram to demonstrate dif	ferent physical	Style an	nd Blo	ck Quote.	
3. Write	a HTML F	Program to create webpage	e for departme	ntal store	e with	various List	tags.
4. Create	e a web pag	ge which displays the map	o of your state	link, eacl	h city	of the image	map,
5 Create	HTMI P	rogram to apply different	styles using in	line exte	ernal a	nd internal S	tyle
Sheets	s.	ogram to uppry unicient	segres using III	, 0.710	ci nui a	na marnar D	
6. Desig	n a Webpa	ge, creating bio data using	g CSS.				
7. Creat	e a JavaSo	cript Program to add two	string using c	concaten	nate		
8. Creat State	e a JavaSo ment	cript Program to check t	the given num	nber is p	orime	or not using	looping

9. Create a JavaScript Program to find factorial value n number using function

10. Create a JavaScript Program to find odd and even number from 1 to 100

11. Create a JavaScript Program to change the background color of the screen

12. Create a JavaScript Program using on MouseOver event handler

		Sugge	sted Lea	arning	Method	ls : Case	Stud	y and V	video L	essons			
										Tota	l Hou	rs 45	5 Hrs
				То	ols for .	Assessm	ent (3	0 Marl	ks)				
Laboratory Performance- Application of Logic			Laboratory Performance-	Program Creativity	Laboratory Performance- Program Debugging		Test 1		Test 2		Observation Note	Book	Total
	4	1	4		7 7 4					30			
						Mapp	ing						
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	Н	Н	L	М	Н	L	M	Н	Н	Н	Н	М	М
CO2	Н	Н	L	М	Н	L	M	Н	Н	Н	Н	М	М
CO3	Н	Н	L	М	Н	L	M	Н	Н	Н	Н	Н	Н
CO4	Н	Н	L	М	Н	L	М	Н	Н	Н	Н	Н	Н
CO5	Н	Н	L	М	Н	L	М	Н	Н	Н			
H-High	ı; M-Me	edium;	L-Low	•							·		•
		Cou	ırse desi	gned b	у			Verif	ied by	Chairm	nan		
M.Sent	hil kum	ar					D	Dr.N.Kavitha					

2022

Cours	e Code	Title								
22U4N	M4BT2				Part IV : Ba	sic Tam	$\operatorname{il}-\operatorname{II}$ (அடிப்படைத்தமி	þ - II)		
Semes	ter: IV		(Credi	its: 2		CIA: 50 M	larks		
					(Common to a	all UG P	cogrammes)			
Course	Objective		அற	இல	க்கியங்களை அ	றிமுகப்ப	டுத்தல்.			
Course	Category		Skil	ll Dev	elopment (மாண	ாவர்களின்	ப மொழித்திறனை ஊக்கு	தவித்தல்)		
Develop	ment Nee	ds	Reg	giona	l (தமிழ் மொழிய	பின் அவ	சியத்தை உணர்த்துதல <u>்</u>)		
Course	Descriptio	n	மால	னவர்ச	களின் மொழித்தி	ന്നത്തെ ഉ	ாக்குவித்தல்			
Course	Outcomes	5					Teaching Methods	Assessment Methods		
CO 1	அற இல வழி சமூ	லக்கிய pக அ	அறி றிவு (ിഖ്പ പ്ര പ്രെന്ത്വള	பறுதல் - சிறுகஎ 5ல்.	நைகள்	விரிவுரை / காணொளி வகுப்பு	ஒப்படைவு		
CO 2	தமிழ் எ வாசித்த	ழுத்துச் ல் ஆச	க்கள் சியவு	அறி ற்றின்	முகம் செய்தல் பயன்பாடு.	மற்றும்	குழு விவாதம்/ விரிவுரை	கருத்தரங்கு		
CO 3	பிறமொழ	ழி அறி	வுத்	திறன்	மேம்படச்செய்த	5ல்.	விரிவுரை/காணொளி ப்பட விளக்கம்	ஒப்படைவு		
CO 4	மொழிப்	பெயர்ப்	புத் த	திறன்	மேம்படச்செய்த	ல்.	விரிவுரை/ குழு விவாதம்	குழுத்திட்டம்		
CO 5	வார்த்தை	5 அක	மக்கு	நம் தி	ிறன் பெறச்செய்	தல்.	விரிவுரை / குழுத்திட்டம்	குழுத்திட்டம்		
Offered	by தமீ	ிழ்த்து	ത്ന							
Course	Content :	Basic	Tam	nil – I	I (அடிப்படைத்த	(II ழ்ப்	Instructional Hours /	Week : 2 Hours		
Unit	Descr	iption]	Fext Book		Chapte	rs		
Ι	நீதி ந	ரல்கள்		1.பார ஆத்த 2.கெ	தியார் நிச்சூடி ான்றைவேந்தன்	1.1 1 (U 2.1 1 (U	ρதல் 12 வரிகள் ρதல் 7 வரிகள்			
			In	nstruo	ctional Hours			6 Hours		
Suggest	ed Learni	ng Me	thod	ls : நீ	திநூல்களின் சிற	ദ്ഥിഞ്ഞ	அறியும் பயன் பெற்றன	വ		
						2.1.கடவ அதி 1 2.2. வா	ுள் வாழ்த்து -அகர முத குறள் -1 ன் சிறப்பு- நீரின்றி அனை கி-2 கான் - 10	லை எனத் தொடங்கும் மயாது உலகு.		
п	பதுல கீழ்க்கண (திருக்	‱ணை க்கு ந குறள்)	ரல்		திருக்குறள்	2.3. அச அச 2.4. கல் 2.5 வெ	த் உஞ்தன் பல ர்புடைமை - அன்பின் வ 1 - 8.குறள் - 10 வி - கண்ணுடையார் எ ரியவை கால் - இனிய	ழியது உயிர்நிலை. ன்பர் . அதி-40 குறள்-393 உளவாக இன்னாக		
						தி10.	குறள் -10	Zenozna Senomp		
a			In	nstruc	ctional Hours		•	6 Hours		
Suggest	ested Learning Methods : திருக்குறளின்			ருக்குறளின் சிறு ை ்	ப்பினை _പ	அறிந்தமை				
III	கிராமிய	பக் க	தைக	ள்	கிராமியக் கதைகள்		3.1.பரமார்த்தக்குரு கன 3.2.நாட்டுப்புறக் கதைக	தகள் ள் அறிமுகம்		
	Instru	ictiona	l Ho	ours				6 Hours		
Suggest	ed Learni	ng Me	thod	ls : கி	ராமியக் கதைக	ளின் கன	த அமைப்பினை அறியு	ம் வாய்ப்பு பெற்றமை		

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IV	மொ	ாழிப்பயிற்	நசி		மொழிப்	பயிற்சி				4.1. பிறமொழிச் சொற்களுக்கு தமிழ்ச்சொல் எழுதுதல்					
	Ir	nstructi	onal H	lours								6 H	lours		
Suggest	ed Lea	rning M	lethods	s :	தமிழ்ச்ெ)சால் எ	எழுதும்	திறன்	பெற்றஎ	സ					
V	எழு	த்துப்பயி	ிற்சி		எழுத்து	ப்பயிற்க	fl			5.1தன்எ 5.2 பெ எழுதச்(விவரம் எ பர், கல் செய்தல்	ரழுதுதல் லூரி வி	ழுதுதல் லூரி விவரம்		
	Ir	nstructi	onal H	lours								6 H	lours		
Suggest	ed Lea	rning M	lethods	: பிறபெ	மாழி க	லப்பு இ	இன்றி த	மிழ்ச்செ	ால் எழ	ழதும் தி	றன் பெ	ந்றமை			
				Т	otal Ho	ours						30	Hours		
Text Bo	oks		1. @ 2. (இளங்கன தொகுப்ட கோயம்பு	லை தமி பு: தமிழ் த்தூர்.	ழ் மால த்துறை	னவர்கஞ ந, நேரு	நக்குரிய கலை	பாடந மற்றும்	ரால்"அரி அறிவி	ச்சுவடி" பல் கல்	லூரி,			
Referen	ce Boo	ks	1. e	ஔவை திருக்குற	பார் ஆ நள் - ப	த்திச்சூ ரிமேலு	டி மணி ழகர் உ	வாசகர் ரை, ம	பதிப்ப ணிவாச	கம், கே கர் பதிப்	ாயம்புத்த யகம், ெ	தூர் இரா சன்னை	ജഖ്്ച,01. - 600018.		
Web. U	RLs		https	s://youtu	ı.be/d5t	be921u	xhE, htt	ps://yo	utu.be/	Wtg-GJI	PfXTM.				
				•	Tool	ls for A	Assessm	ent (5	0 Marl	(S)					
CLA	A I	CIA	II	CIA	A III	Sei	minar	Ass	ignmer	nt Group]	Total		
										Project					
8		8	6	1	0		8		8		8	50			
						M	anning	r							
CO/ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5		
CO1	Μ	L	Н	L	Н	Μ	Н	Н	L	L	L	L	L		
CO2	L	L	Н	L	Μ	Μ	L	Η	L	L	L	L	L		
CO3	Η	L	Η	L	L	Μ	Μ	Η	L	L	L	L	L		
CO4	Н	L	Μ	L	L	Μ	Н	Μ	L	L	L	L	L		
CO5	Н	L	Н	L	Μ	M H H L L L						L			
H-High;	M-Mee	dium; L	-Low												
Course designed by										Ver	ified by	<u>Chairn</u>	an		
	ar				Dr. A	. Sridev	i								

Course	e Code					Title				
22U4N	M4AT2		Par	t IV : Adva	nced T	'amil – II	(சிறப்புத்தமிழ் -II)			
Semes	ter: IV		Credits: 2				ESE: 50 Marks			
Course	Objective	;	நூல்களின் வழி செம்மைப்படுத்து	அறச் சிந்த தல்.	ഞ്ഞെങ്ക	ள உருவ	ாக்குதல் செம்மொழியி	னைச்		
Course	Category		Skill Developme	ent (மாணவர்	களின்	மொழித்தி	றனை ஊக்குவித்தல்)			
Develop	ment Nee	eds	Regional (தமிழ்	மொழியின்	அவசிய	பத்தை உ	ணர்த்துதல்)			
Course	Description	on	மாணவர்களின் (மொழித்திறனை	ത ഉണം	க்குவித்தல்				
Course	Outcome	5			ching Methods	Assessment Methods				
CO 1	அறச்சிந் வழக்கு	தனை முறை	கள் பெறுதல் மற்ற களைப் பெறுதல்.	றும் இலக்கவ	ळ्ळा	ഖിரിഖും	ரை/காணொளிப்பட விளக்கம்	கருத்தரங்கு		
CO 2	கடிதம் பெறுதல்	எழுதுத)	5ல் மற்றும் மொழி	പന്റിഖെப்		விரிவு	ரை/ குழு விவாதம்	ஒப்படைவு		
CO 3	படைப்ப	ாக்கத்த	திறன் அறிவுபெறச்	செய்தல் ·	<u> </u>		விரிவுரை	கருத்தரங்கு		
CO 4	தகவல பெறச்செ	தொட ஈய்தல்	ாபியலுக்கானகடிதி	ம,அமைவுதத	நிறன	விரிவு	ரை/ குழு விவாதம்	குழுத்திட்டம்		
CO 5	மொழி ைபெறச்செ	யப் பி ஈய்தல்	ழையின்றிப் பேச,எ	ாழுதும் திறவ	ळंा	விரிவு	ரை/காணொளிப்பட விளக்கம்	ஒப்படைவு		
Offered by தமிழ்த்துறை										
Course Content : Advanced Tamil – II (சிறப்புத்தமிழ் -II) Instructional Hours / Week : 2										
Unit		Desci	ription	Te	ext Boo	k	Chapt	ers		
I	பதினெண் நூல்கள்	ர கீழ்ச்	கணக்கு	1.திருக்குறள் 2.நாலடியார்			1.1. கூடாநட்பு 1.2. செய்நன்றியறித 1.3. கல்வி (131,132	ல் - நாலடியார் செய்யுள்கள்)		
				Insti	ruction	al Hours		6		
Suggest	ed Learni	ng M	ethods : திருக்குற	ണിன் சுவை	அறியு	ம் வாய்ப்பு	பெற்றமை			
II	சிறுகதை	5		1.வெ.இரை பூனாத்தி சி	றயன்பு ிறுகதை	- 5கள்	2.1 சேவியர் வாத்தி 2.2 தூரிகை	шп'n		
				Instr	ruction	al Hours		6		
Sugges	ted Learr	ning N	lethods : சிறுகதை	நகளின் சுை	வ அற்	ியும் வாய்ப்	பு பெற்றமை			
III	இலக்கன	яњ		இலக்கண	വ് വന്ദ്	ற்சி ஏடு	 3.1 எழுத்தும சொல 3.2 சுட்டெழுத்துகள் 3.3 சொற்களைச் சப பயன்படுத்தும் முறை 3.4 வினைச்சொற்கள் 3.5 வினா எழுத்துக 	னும ரியாகப் ந ர், ள்		
				Instr	ruction	al Hours		6		
Suggest	ed Learni	ng M	ethods : இலக்கண	ப் பிழை இ	தன்றி எ	ழுதும் ப	<u> </u> ிற்சி பெற்றமை			
IV	வழக்கறி	தல்		இலக்கண	ம்		மரபு வழக்கு - இயல்பு வழக்கு, தகுதி வழக்கு - அறிதல்			
				Instr	ruction	al Hours		6		
Suggest	ed Learni	ng M	ethods : வழக்குக	ள் பற்றி மு	ധ്രഞ്ഞ	பாக அறிய	ம் பயிற்சி பெற்றமை)		

v	படைப்பாற்றஎ	ல் பயிற்சி	இலக்கிய வரலாறு		கவிதை–சிறுகதை–நூல் மதிப்பீடு எழுதுதல்			
Instruct	tional Hours				6			
Suggest	ted Learning Mo	e thods : மதிப்ட	ீடு செய்யும் பயிற்சி	ி பெற்றமை				
			,	Total Hours	30 Hrs			
Text Bo	ooks	1. இளங்கன தொகுப்பு கோயம்பு	லத்தமிழ் மாணவர்ச தமிழ்த்துறை, நேர த்தூர்.	5ளுக்குரிய பாட ந கலை மற்று	_நூல்''திரட்டு'' ம் அறிவியல் கல்லூரி,			
Referen	nce Books	 திருக்குறள் –பரிமேலழகர் உரை, மணிவாசகர் பதிப்பகம், சென்னை - 018 வெ.இறையன்பு - பூனாத்தி சிறுகதைகள், விஜயா பதிப்பகம், கோவை. 						
Web. U	RLs	https://youtu	.be/_vB59q6At8s, l	nttps://youtu.be	e/aSvxO_rV9eQ.			
	Cours	e designed by			Verified by Chairman			
	Dr. S. S	atheesh Kum	ar		Dr. A. Sridevi			

Course Code	Title							
22U4NM4GEN	Non Major Elective : Ger	neral Awareness						
Semester : IV	Credits : 2	ESE : 50 Marks						

(Common to all UG Programmes)

Course Objective:

Enable the students to learn General knowledge and prepare for different competitive exams.

Course Outcomes:

CO1	Determine Verbal Aptitude, Numerical Aptitude and Logical Reasoning
CO2	Recall basic Science, history, Tamil, Computer, Commerce concepts which would help to crack competitive Examinations
CO3	Acquire time Management skills to attempt competitive Examinations
CO4	Develop Aptitude and problem solving skills
CO5	Gain Knowledge about Current Affairs

Course Content

Instructional Hours / Week : 2

S. No.	Topics
1.	Verbal Aptitude
2.	Numerical Aptitudeand Logical Reasoning
3.	Abstract Reasoning
4.	Tamil and Other Literature
5.	General Science and Technology
6.	Computer
7.	Economics and Commerce
8.	History and Freedom Struggle
9.	Sports
10.	Current Affairs
	Total Hours : 30

Text Book: "General Awareness", compiled by Nehru Arts and Science College, Coimbatore

Mapping

PQ CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	Н	L	-	-	Н	-	-	L	L	-	-	L	L
CO2	Н	L	-	-	Н	-	-	L	L	-	-	L	L
CO3	Н	L	-	-	Н	-	-	L	L	-	-	L	L
CO4	Н	L	-	-	Н	-	-	L	L	-	-	L	L
CO5	Н	L	-	-	Н	-	-	L	L	-	-	L	L

H-High; M-Medium; L-Low

Course Designed by	Verified by Chairman		
P Sheeba Maybell	Dr. T Chandrapushpam		

Course Code	Title					
23U3CSV406	Internship					
Semester: IV	Credits: 2	ESE:50 Marks				

Objective:

To give optimum exposure on the practical side of industrial society

Guidelines:

- Duration of the internship training is 20 days during the summer vacation which falls at the end of the 3rdsemester.
- 2. The departments concerned will prepare on exhaustive panel of institutions, industries and practitioners.
- 3. The individual student has to identify the institution / industry / practitioners of their choice and inform the same to the HOD / staff-in-charge.
- 4. The students hereafter will be called as trainees should maintain a work diary in which the daily work done should be entered and the same should be attested by the section in-charge.
- 5. The departments should prepare an outline of the job to be done, sections in which they have to be attached both in the office as well as in the field.
- 6. The trainees should strictly adhere to the rules and regulations and office timings of the institutions to which they are attached.
- 7. The trainees have to obtain a certificate on successful completion of the internship from the chief executive of the organization.
- 8. Monitoring and inspection by staff on a regular basis.
- 9. Report writing manual and format should be prepared by the respective departments.
- 10. All model forms are to be attached wherever it is necessary.
- 11. Report evaluation: Internal viva-voce examination will be conducted and the maximum mark awarded is 50.
- 12. In-Plant Training has to be carried out only in the approved industries by the department/College
- 13. Report should be submitted in the 4th semester at end of the September

Cou	arse Code	Title						
22U4VBOE01		Value Based Open Elective Course : Design Ecosystem						
Semester: IV		Credits: 2	ESE: 50 Marks					
		I I						
Course	Objective	ve To gain the knowledge on ecosystem and environmental sustainability						
Course	Crosscutting Issue : Environment And Sustainability							
Develop	opment Needs Global							
Course	Description	Design ecosystem describes about the components, types, structural and functional unit of ecology where the living organisms interact with each other and the surrounding environment.						
Course Outcomes				Teaching Methods				
CO 1	1 Understand about the basic concepts of ecosystem and			Lecture / Video Lessons				
	Gain knowle	environmental planning Gain knowledge of challenges and design process of						
CO 2	ecosystem				Lectures / Video Lessons			
CO 3	Understand a ecosystem	Understand about functions and flow of energy in ecosystem				ase study / Model		
CO 4	Analyse abou	nalyse about process and mechanism of ecosystem Tutor			al / Group Discussion			
CO 5	Demonstrate framework	ate about green infrastructure and regulatory k Lecture / Tutorial				orial		
Course	se Content Instructional Hours / Week : 2							
Unit		Description			Text Book	Chapters		
I	Sustainable Environmenta environmenta Axioms of Ecc Global popula	Sustainable Human Dominated-Ecosystem and Environmental planning: Introduction to Ecology & environmental sciences; Principles and Scope of Ecology. Axioms of Ecological Engineering, Sustainable design principles, Global population dymanics, Human dominated earth.			1	1		
~	Instructional Hours 6							
Suggest	ed Learning N	Iethods : Video Lectures B:	nage Dest 1	allara				
п	Designing Ecosystem services & Biomes: Design challenges and needs, the design process, biomes, ecoregions, other land classification systems.			1	3 & 4			
Instruction					al Hours	6		
Suggest	ed Learning N	Iethods : Video Tutorials						
III	Energy and mass flow through ecosystem: Structure and Functions of Ecosystems - Abiotic and Biotic components, Flow of energy and cycling of materials; water, carbon, nitrogen and phosphorus			3	2			
Instructional Hours 6								
Suggested Learning Methods : Group Discussion								
6

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IV	Ecosystem control: Population control process, community control process. Stream restoration design - hydrology, sedimentology, geomorphology, habitat, riparian corridor and construction.	2	
	Instructiona	al Hours	
Suggest	ted Learning Methods : Group Discussion		
V	Green infrastructure design: Green infrastructure network, sustainable cities initiatives, agricultural sustainability indicators, surrounding environmental, ecological and social justice; environmental ethics, issues and possible solutions	3	
	Instructiona	al Hours	
Suggest	ted Learning Methods : Online Tutorial		

Total Hours 30 1. Matlock, M. D. and M. Robert. Ecological Engineering Design: Restoring and Conserving Ecosystem Services. JohnWiley & Sons, Inc. 2011. 2. Meffe, G.K., L. Nielson, R. L. Knight and D. Schenborn. Ecosystem **Text Books** Management: Adaptive, Community-Based Conservation. Island Press. 2012. 3. Elliot, D. 2003. Energy, Society and Environment, Technology for a Sustainable Future. Routledge Press. 1. Sim Van Der Ryn and S. Cowan. Ecological Design. Island Press, 1996. 2. Neeraja, N. Environment and Ecology: A Dymanic Approach, 3rd Edition. **Reference Books** GKP Books Catalogue. 2018. 1. https://www.nationalgeographic.org/encyclopedia/ecosystem/ Web. URLs 2. https://www.environmentandecology.com/ Course designed by Verified by Chairman Dr. S Esath Natheer Dr. M Thangavel

Cours	se Code	Title				
22U4	VBOE02		Value Based Open Elective Course: D	esign Think	king	
Semes	ster: IV		Credits : 2	ES	SE : 50 Mark	s
Course Objective			Inculcate the fundamental concepts of students as a good designer by impartiability	design thin ng creativity	king and de and proble	welop the m solving
Course Category Crosscutting Issue : Professional Ethics						
Develop	pment Need	ds	Local, National and Global			
Course	Descriptio	n	The course aims to provide introduction techniques of design thinking and method in the real world.	to the basic o ds of implen	concepts and nenting design	n thinking
Course	Outcomes			Tea	aching Meth	ods
CO 1	Learn th	e ba	sic concepts of design thinking	Di	rect Instruction	on
CO 2	Develop	the	skill of applying the design thinking	Di	rect Instructi	on
CO 3	Learn th	e bu	siness uses of design thinking	I	/ideo Lesson	S
CO 4	Understa design th	and t hink	the variety of approaches within the ing discipline	Di	rect Instruction	on
CO 5	Impart k	now	vledge in design thinking mindset	Di	rect Instruction	on
Course Content Instructional Hours / Weel			Veek: 2			
Course						
Unit			Description		Text Book	Chapter s
Unit I	Design T Definition Thinking	T hin n of Dis	Description king Background Design Thinking, Variety within the Desi cipline, Design Thinking Mindset	gn	Text Book	Chapter s
Unit I	Design T Definition Thinking	' hin n of Dis	Description king Background Design Thinking, Variety within the Desi cipline, Design Thinking Mindset	ign Instructi	Text Book 1 onal Hours	Chapter s 1 06
Unit I Suggest	Definition Thinking	'hin n of Dis g Me	Description king Background Design Thinking, Variety within the Desi cipline, Design Thinking Mindset thods: Brain Storming	ign Instructi	Text Book 1 onal Hours	Chapter s 1 06
Unit I Suggeste	Design T Definition Thinking ed Learning Design Th Fundamen Thinking, Testing, P	Thin n of Dis g Me nink atal Con rotot	Description king Background Design Thinking, Variety within the Desi cipline, Design Thinking Mindset thods: Brain Storming ing Approach Concepts – Empathy, Ethnography, Di vergent Thinking, Visual Thinking, Assu cyping, Time for Learning and Validation	ign Instructi vergent imption	Text Book 1 onal Hours	Chapter S 1 06 5,1,3 5,1,3
Unit I Suggeste II	Design T Definition Thinking ed Learning Design Th Fundamen Thinking, Testing, Pr	Thin n of Dis <u>3 Me</u> hink ttal Com rotot	Description king Background Design Thinking, Variety within the Desi cipline, Design Thinking Mindset thods: Brain Storming ing Approach Concepts – Empathy, Ethnography, Di vergent Thinking, Visual Thinking, Assu- typing, Time for Learning and Validation	ign Instructi vergent imption Instructi	Text Book 1 onal Hours 1 onal Hours	Chapter 1 06 5,1,3 06
Unit I Suggest II Suggest	Design T Definition Thinking ed Learning Design Th Fundamen Thinking, Testing, Pr	Thin n of Dis g Me nink ttal Com rotot	Description king Background Design Thinking, Variety within the Desi cipline, Design Thinking Mindset thods: Brain Storming ing Approach Concepts – Empathy, Ethnography, Di vergent Thinking, Visual Thinking, Assu typing, Time for Learning and Validation fethods : Learning by Teaching	ign Instructi vergent imption Instructi	Text Book 1 onal Hours 1 onal Hours	Chapter s 1 06 5,1,3 06
Unit I Suggeste II Suggest	Design T Definition Thinking ed Learning Design Th Fundamen Thinking, Testing, Ph ted Learnin Design Th organizatio Design Th Diamond I Growth Pr	Thinl n of Dis g Me nink tal Com rotol Thin conal nink Procession	Description king Background Design Thinking, Variety within the Desi cipline, Design Thinking Mindset thods: Brain Storming ing Approach Concepts – Empathy, Ethnography, Di vergent Thinking, Visual Thinking, Assu typing, Time for Learning and Validation fit the for Learning by Teaching king Resources – People, place, m fit fit fing Processes - Numerous Approaches, D ess, 5-Stage, School Process, Designing for the second secon	ign Instructi vergent imption Instructi material, Double or	Text Book	Chapter Chapter <t< th=""></t<>
Unit I Suggest II Suggest	Design T Definition Thinking ed Learning Design Th Fundamen Thinking, Testing, Pr ted Learnin Design Th organizatio Design Th Diamond I Growth Pr	Thin n of Dis j Me nink tal Com rotot Com rotot Chin onal nink Proc	Description king Background Design Thinking, Variety within the Desi cipline, Design Thinking Mindset thods: Brain Storming ing Approach Concepts – Empathy, Ethnography, Di vergent Thinking, Visual Thinking, Assu typing, Time for Learning and Validation Iethods : Learning by Teaching king Resources – People, place, m fit ing Processes - Numerous Approaches, D ess, 5-Stage, School Process, Designing f as, Role of Project Management	ign Instructi vergent imption Instructi material, Double or Instructi	Text Book	Chapter s 1 06 5,1,3 06 5,6 06

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	Design Think	ing in Practice I:			
	Process Stage	s of Designing for Growth -			
IV	Design Think	ng Tools and Methods – I- Purpos	1	6	
	Tools and Ali	gnment with Process, Visualization	n, Journey		
	Mapping				
			Instructio	onal Hours	06
Sugges	ted Learning N	Aethods: Case Method			
	Design Think	ing in Practice II:			
Design Thin		king Tools and Methods – II-	- Value Chain		
V	Analysis, 1	Mind Mapping, Brainstorm	ing, Concept	2	8
	Development,	Assumption Testing, Rapid Proto	otyping,		
	Customer Co-	Creation, Learning Launch			
			Instructio	onal Hours	06
Sugges	ted Learning N	Aethods : Project Based Learnin	g		• •
				otal Hours	30
Text B	ooks	 Designing for growth: A by Jeanne Liedtka and 7 15838-1 "The design thinking pla of teams, products, serv Michael Lewrick, Patrick 	Tim Ogilvie., 2011, nybook: Mindful dig rices, businesses and Link, Larry Leifer.,	ISBN 978- ital transform cosystem 2018, ISBN	ngers", 0-231- nation s", by V 978-
Refere	1-119-46747-21. "Presumptive design: Design provocations for innovation", by Leo Frishberg and Charles Lambdin., 2016, ISBN: 978-0-12- 803086-8Reference Books2. "Systems thinking: Managing chaos and complexity: A platform for designing business architecture.", "Chapter Seven: Design Thinking", by JamshidGharajedaghi, 2011, ISBN 978-0-12- 385915-0				n", by -0-12- atform ign 2-
Web. U	Veb. URLs 1. https://www.designcouncil.org.uk/news-opinion/design-process- what-double-diamond			cess-	
	Course	e designed by	Verifie	ed by Chair	man
M Nar	ndhini	Dr	r. S Jayapriya		

Course	e Code	Title				
22U4V	BOE03		Value Based Open E	Clective Course : Disaster	Manageme	nt
Semes	ter: IV		Credits: 2	ESE: 50	Marks	
Course	Objectiv	/e	To learn knowledge about of any disaster.	t disaster and risk and apply	y the same i	n the time
Course	ourse Category Cross cutting Issue : Environment And Sustainabilit					
Develop	Development Needs National					
Course Description This course is designed to provide students understanding of the concepts, theories, and practimanagement. Students will learn how to identify a emergency plans, and mitigate the impact of disaster organizations.			with a cor ces of disas nd assess ris s on commu	nprehensive ter and risk sks, develop inities and		
			Course Outcomes		Teaching M	lethods
CO 1	Unders individ	tand d uals a	lifferent types of disasters a nd communities.	and their impact on	Leo Demor	cture/ nstration
CO 2	Analyz framew disaster	e the o ork, a risk a	disaster management scenar and the role of different stak and building resilience.	rio in India, the policy ceholders in reducing	Leo Case	cture/ Studies
CO 3	Understand the concepts of risk and vulnerability in disaster management and analyze the different approaches to disaster risk reduction.				Lectures / Video Lessons	
CO 4	Analyz differen	e the ont com	concept and nature of disast ponents of a disaster prepa	ter preparedness, redness plan.	Tutorial / Case Studies	
CO 5	Narrate disaster disaster	the e mana mana	mergency responses to be tagement force and the practagement.	aken by the national tical training process on	Lec Class	ture / Projects
Course	Content				Instruction Week:2	nal Hours /
Unit			Description		Text Book	Chapters
I	Introdu Definitio Basic c Natural epidemi Disaster (Buildin each).	ction ons a concep Disa c or : Fire s, Ac g and	on Disaster nd Terminologies used i ots in Disaster Managem aster: Flood, Cyclone, I Pandemic etc. (Case stud , Industrial Pollution, Nuc cidents (Air, Sea, Rail & Bridge), War & Terrorism	n Disaster Management, nent, Types of Disaster: Earthquakes, Landslides, lies of each), Man-made clear Disaster, Biological Road), Structural failures etc. (Case studies of	1	1
	,			Instructio	nal Hours	6
Suggest	ted Lear	nin <u>g</u> N	Methods : Power Point Pro	esentation		
п	Disaster Hazard Indian Manage Disaster	r man and scen ment Mana	agement in India Vulnerability Profile Indi ario, India's vulnerab Act 2005 and Policy guidel agement, National Disaster	a, Disaster Management ility profile, Disaster lines, National Institute of Response Force (NDRF).	1	2

	National Di	saster Management Author	rity, States Disaster		
	Management	Authority, District Disaster M	Ianagement Authority		
	and Cases Stu	idies.			
			Instruction	al Hours	6
Sugges	ted Learning N	Methods : PPT and Video Lee	cture	1	
	Risk and Vu	Inerability			
	Analysis Risk	: Assessing Disaster Risk, Dis	saster Risk Reduction,		
III	Vulnerability:	Its concept and analysis, Stra	tegic Development for	1	3
	Vulnerability	Reduction, Climate Variabil	ity & Disaster Risk,		
	Industrial haz	ard and Risk Management			
			Instruction	al Hours	6
Sugges	ted Learning N	Methods : Video Lecture		T	
	Disaster Prep	paredness			
	Concept and	Nature, Disaster Preparedness	Plan, Prediction, Early		
IV	Warnings and	l Safety Measures of Disaster	r, Role of Information,	1	4
	Education, C	ommunication, and Training,	Role of Government,		
	International a	and NGO Bodies.			
~			Instruction	al Hours	6
Sugges	ted Learning I	Methods : PPT and Group Ac	ctivity	_	
	Response and	d 3Rs			
	Emergency R	esponse: Introduction, Crisis	Response Plan (CRP),		
	Communicati	on, Participation, and Activ	vation of Emergency		
	Preparedness Plan, Search, Rescue, Evacuation and Logistic				
	Management, Role of Government, International and NGO				
V	Bodies, Psychological relief and recovery, Relief operation and			1	5
	Recovery, P	ost Disaster Public Health	Management, 3R -		
	Rehabilitation	n, Reconstruction and Recover	y, Reconstruction and		
	Rehabilitation	as a Means of Development,	Damage Assessment,		
	Post Disaster	effects and Remedial Measures	s, Role of Educational		
	Institutions in	Disaster management.			
			Instruction	al Hours	6
Sugges	ted Learning N	Methods : Laboratory Practic	ce		
			Tot	tal Hours	30
Text B	ooks	1. Disaster and Risk Managem	ent (2023), Notes Compile	ed by the De	partment of
ICAL D	UUKS	Criminology, Nehru Arts an	nd Science College, Coimb	oatore	
		1. J. P. Singhal, "Disaster Man	nagement", Laxmi Publica	tions, 2003.	
		2. M C Gupta, "Manual on Na	atural Disaster Managemer	nt in India",	NIDM, New
		Delhi, 2013			
Refere	nce Books	3. R K Bhandani, "An Overvi	ew on Natural & Man-mad	e Disasters	and their
		Reduction", CSIR, New De	elhi, 2000	т 1° р / 1	41 2014
		4. Dr. Mrinalini Pandey, Dis	aster Management, whey	licetions C	Lld, 2014.
		5. National Disaster Mana Templates for Disaster Mar	igement Authority Pub	oncations-Gu	indefines α
	Course	a designed by	Varifi	od by Cha	irman
	Course	e uesigneu by	verm		11 111411
D. D.	anaach V Daian				
Dr. Reneesh K Rajan		Dr. Reneesh K Rajan			

Cours	e Code	Title					
22U4V	BOE04		Value Ba Environmental	sed Open Electi Pollution and W	ve Course Vaste Mana	: agement	
Semes	ter: IV		Credits: 2		ESE: 50 I	Marks	
				I			
Course	rse Objective To acquire deeper knowledge about Environmental Management Systems					t Systems	
Course	Categor	y	Crosscutting Issue : Envir	onment And Sus	tainability		
Develop	pment No	eeds	Global				
Course	Descript	tion	Environmental Pollution a management of any unnec the water, land or air that	and waste Manag cessary resource could harm huma	ement invo use or relea an health or	olves study use of subst r the enviro	ing the ances into onment
Course	Outcom	es				Teaching	Methods
CO 1	Unders	tand t	he types of environmental p	pollutants		Le Group	cture / Learning
CO 2	Describ	be, dev	velop and interpret methods	s of the Environm	nental	Le	cture/
	Manage Critical	ement	Systems.	l possibilities	within	Onlin Le	e Tutorial
CO 3	Enviror	nment	al Management Systems fro	om a systems per	spective.	Online	e Tutorial
CO 4	Understandthe effective management of environmentalLecture/pollutantsOnline Tutorial					cture/ e Tutorial	
CO 5	Learn H	Enviro	onmental Auditing for vario	us Industries/Pro	jects.	Le Online	cture/ e Tutorial
0	urse Content Instructional Hours / Week :						
Course	Content				Instruction	onal Hours	s / Week : 2
Unit	Content		Description		Instructio	onal Hours Text Book	s / Week : 2 Chapters
Unit I	Introduc Biodegr pollution	ction adable n, Wa	Description to Environmental polluta e pollutants, Non-biodeg ter Pollution, Soil Pollution	nts,Types of po radable pollutar	Instructional Instruction	onal Hours Text Book	s / Week : 2 Chapters 1,2
Unit	Introduc Biodegr pollution	ction adable n, Wa	Description to Environmental polluta e pollutants, Non-biodeg ter Pollution, Soil Pollution	nts,Types of po radable pollutar 1 I	Instruction	onal Hours Text Book 1 al Hours	s / Week : 2 Chapters 1,2 6
Unit I Sugges	Introduc Biodegr pollution	tion adable n, Wa ning N	Description to Environmental pollutate e pollutants, Non-biodeg ter Pollution, Soil Pollution Methods: Industrial Visit	nts,Types of po radable pollutar I I	Instruction	onal Hours Text Book 1 al Hours	s / Week : 2 Chapters 1,2 6
Unit I Sugges II	Introduce Biodegr pollution ted Learn Introduce definition Systems System.	etion adable n, Wa ning I etion ons an ons an	Description to Environmental pollutate pollutants, Non-biodeg ter Pollution, Soil Pollution Methods: Industrial Visit to Environmental Man d terms, Framework for En roach for developing an En	nts,Types of po radable pollutar I Inagement Syste vironmental Mar Invironmental Mar	Instruction Illutants, hts; Air Instruction m basic nagement nagement	Text Book	s / Week : 2 Chapters 1,2 6 2, 4
Unit I Sugges II	Introduce Biodegr pollution ted Learn Introduce definition Systems System.	etion adable n, Wa ning I etion ons an a, App	Description to Environmental pollutate pollutants, Non-biodeg ter Pollution, Soil Pollution Methods: Industrial Visit to Environmental Man d terms, Framework for En roach for developing an En	nts,Types of po radable pollutar I nagement Syste vironmental Mar wironmental Mar I	Instruction	al Hours	s / Week : 2 Chapters 1,2 6 2, 4 6
Unit I Sugges II Sugges	Introduce Biodegr pollution ted Learn Introduce definition Systems System. ted Learn The	etion adable n, Wa ning N etion ons an a, App ning N	Description to Environmental pollutate e pollutants, Non-biodeg ter Pollution, Soil Pollution Methods: Industrial Visit to Environmental Man d terms, Framework for En roach for developing an En Methods :Web search	nts,Types of po radable pollutar I nagement Syste vironmental Mar vironmental Mar I tion of ISO	Instruction	al Hours	s / Week : 2 Chapters 1,2 6 2, 4 6
Unit I Sugges II Sugges	Introduce Biodegr pollution ted Learn Introduce definition Systems System. ted Learn The in environn checking Process treatmen paper, e	etion adable n, Wa ning I etion ons an ons an ons an ons a	Description to Environmental pollutate pollutants, Non-biodeg ter Pollution, Soil Pollution Methods: Industrial Visit to Environmental Man d terms, Framework for En- roach for developing an En- voach for developing an En- tetion and implementate policy, planning, implementate unagement review. Applicate w chart, effluent Gener- effluents from following inte plating, dairy, oil refineries	nts,Types of por radable pollutar I agement Syste vironmental Mar vironmental Mar I tion of ISO mentation and co ations EMS in ation, composit dustries – sugar, , etc.	Instruction ollutants, nts; Air nstruction m basic nagement nagement nagement 14001: peration, terms of ion and pulp and	Interview Text Book 1 al Hours 2 al Hours 2	s / Week : 2 Chapters 1,2 6 2,4 6 5
Unit I Sugges II Sugges	Introduce Biodegr pollution ted Learn Introduce definition Systems System. ted Learn The in environ checking Process treatmen paper, e	etion adable n, Wa ning N etion ons an ons an ons an ons an ons an ons an ons an ons an ons an ons an ons an ons a	Description to Environmental pollutate e pollutants, Non-biodeg ter Pollution, Soil Pollution Methods: Industrial Visit to Environmental Man d terms, Framework for En- roach for developing an En- voach for developing an En- troin and implementate l policy, planning, impletent agement review. Applicate v chart, effluent Gener effluents from following integrations.	nts,Types of por radable pollutar International Mar vironmental Mar vironmental Mar vironmental Mar Internation Mar Internation I Internation I Internatio I Internation I Internation I Internation I Internation I	Instruction	al Hours 2 2 2 2 2 2 2 2 2 2 3 1 4 2 2 3 1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	s / Week : 2 Chapters 1,2 6 2, 4 5 5 6
Unit I Sugges II Sugges III	Introduce Biodegr pollution ted Learn Introduce definition Systems System. ted Learn The in environn checking Process treatmen paper, en ted Learn	etion adable n, Wa ning N etion ons a	Description to Environmental pollutate e pollutants, Non-biodeg ter Pollution, Soil Pollution Methods: Industrial Visit to Environmental Man d terms, Framework for En- troach for developing an En- voach for developing an En- troach for developing an En- voach for developing an En- troach for developing an	nts,Types of por radable pollutar I agement Syster vironmental Mar vironmental Mar I tion of ISO mentation and co ations EMS in ation, composit dustries – sugar, , etc. I	Instruction Instruction Instruction Instruction Instruction I4001: Instruction I4001: Instruction I4001: Instruction I4001: Instruction I4001: Instruction I4001: Instruction I4001: Instruction	al Hours 2 al Hours 2 al Hours 2 al Hours 4 al Hours 4 browned 5 b	s / Week : 2 Chapters 1,2 6 2, 4 5 6 6

	Plastic Polluti issue of plastic	on: Causes, impacts, and reduc c pollution and innovative solu	ction strategies -Global tions		
			Instruction	al Hours	6
Sugges	ted Learning N	Aethods : Online tutorial			
V	Municipal Solid Waste Management: Collection, transportation, and disposal of solid waste - Examination of waste treatment technologies and waste-to-energy processes.1E-waste Management: Challenges and recycling techniques for electronic waste - Discussion on the environmental and health hazards associated with improper e-waste disposal.1			8	
~			Instruction	al Hours	6
Sugges	ted Learning N	Aethods : Online tutorial			20
			Tot	al Hours	30
Text B	ooks	 ISO 14001 Certification Practical Guide for Print Systems Textbook End Kuhre (Author) M. N Rao, "Waste W Co. Pvt Ltd, 2007 Peavy, H.S, D.R. Row New York: McGraw I 	Ton - Environmental Ma reparing Effective Enviro Binding – Import, 10 A Vater Treatment" Oxfor we &T.George, "Environ Hill, 1987	nagement onmental M Aug 1995 d and IBH nmental Er	Systems: A Ianagement by W. Lee publishing ngineering",
Refere	Reference Books1. Christopher Sheldon and Mark Yoxon, "Installing Environmental management Systems – a step by step guide" Earthscan Publicatio Ltd, London, 1999.			nmental Publications	
Web. U	JRLs	1. https://www.anits.edu.	in/online_tutorials/es/Ur	nit%203.pd	f
	Course	e designed by	Verifi	ed by Cha	irman
Dr. O S	Nimmi		Dr. N Saranya		

Course	e Code	Title				
22U4V	B0E05		Value Based Open Elective Course : History of	Ancient In	dia	
Semest	ter: IV		Credits: 02	ESE : 5	0 Marks	
					•.	
Course	Objectiv	ve	To explore the rich and diverse history of ancient Ind civilizations, political systems and cultural achieveme	ia, examini ents.	ng its	
Course	ourse Category Employability					
Develop	evelopment Needs Global					
Course	Descript	tion	This course gives an in depth analysis of the Ancient marking the beginning of urban civilization in the Inc	Indian Hist lian subcon	tory tinent.	
Course	Outcom	es		Teachin	ng Methods	
CO 1	Unders	tand t	he salient features of Indus valley civilization	Le	ecture	
CO 2	Evaluat	te the	features Civilizations	Tu	ıtorial	
CO 3	Evaluat	te the	rise of new movements	Le	ecture	
CO 4	4Visualize the administration of Mauryas and the art and architecture of MauryasTutorial				ıtorial	
CO 5	Identify Univers	y the a sity	dministration of Guptas and their contribution to	Le	ecture	
Course	Content		Instructional Ho	urs / Week	x:2	
Unit			Description	Text Book	Chapters	
I	Definition Relation of India Mesolith	ons - iship a Sou nic, N	Nature and Scope of History - History and Its with other Social Sciences - Geographical Features arces of Indian History: Pre- History Paleolithic, eolithic, Chalcolithic and Megalithic Cultures.	1 &4	1-5	
G			Instruction	al Hours	6	
Suggest	Induc M	ning I	Vietnoas: Lecture/Intorial Civilization Its Footures & Dooling: Forly Vadia			
п	and Late Polity R	er Vec eligio	lic Civilizations Vedic Literature Society Economy -	2	2-4	
	1 only IX	engio	Instruction	al Hours	6	
Suggest	ed Lear	ning I	Methods : Lecture/Tutorial			
III	Rise o Jainism Impact.	f Nev and	w Religious Movements Charvakas, Lokayathas, Buddhism; Mahajanapadas - Rise of Magadha;	3	3	
G			Instruction	al Hours	6	
Suggest	ed Lear	ning I	Viethods : Lecture/Tutorial			

IV	Foundation of the Mauryan Dynasty; Ashoka and His Dharma Polity Administration - Society Economy Religion Literature - Art and Architecture; Disintegration of the Mauryan Empire; Post- Mauryan Kingdoms - Indo-Greeks - Kushanas and Kanishka - Society Economy Literature Art and Architecture; The Satavahanas; Sangam Age Literary Development.				
		In	structiona	l Hours	6
Sugges	ted Learning M	ethods : Lecture/Tutorial			
V	Gupta Empire: Social and Ecor Feudalism, Cas Science and Te His Achieveme	A Brief Political Survey - Polity and Admir nomic Conditions, Agriculture and Land Gr te System, Position of Women, Education, I chnology, Art and Architecture - Harshavar nts.	istration, ants - Literature, lana and	4	5
		In	structiona	l Hours	6
Sugges	ted Learning M	ethods : Lecture/Tutorial			
			Tota	l Hours	30
Text B	ooks	 E.H. Carr, What is History? Penguin I Majumdar, R.C., History and Culture I, II & & III. Romila Thapar, Asoka and the Declin New Delhi, 1995. Romila Thapar, Early India (From the 	Books, Eng of the Indi e of the M earliest to	gland, 199 an People auryas, O AD 1300	0. , Vols. UP,)).
Refere	Reference Books 1. Poonam Dalal : Ancient and Medival India for UPSC & State Level Exam				
	Course	designed by	Verifie	ed by Cha	irman
S Kavith	a	Dr. R Malathi			

Cou	irse Code	Title			
22U4	4VBOE06	Value Based Open Electiv	e Course : Indian Kno	wledge Sys	tem
Sen	nester: IV	Credits: 2	ESE:	50 Marks	
Course	Objective	To make the students underst it to their day to day life	and the knowledge system	em in India	and apply
Course	Category	Value Education			
Develop	ment Needs	National			
Course DescriptionThis course will actively engage for spreading the rich heritage country and traditional knowledge in the field of Arts and lite Agriculture, Basic Sciences, Engineering & Technology, Architectur Management, Economics, etc			age of our l literature, ecture,		
Course	Outcomes		Teaching	g Methods	
CO 1	Understand overview of I	the History and an Indian knowledge System.	Flipped Classroom		
CO 2	Interpret the Corpus and P	e Importance of Vedic Philosophical System	Student Centric		
CO 3	Analyse the F Linguistics an	Foundational Concepts like nd and Number Systems.	Blende	led Mode	
CO 4	Interpret the and Town Pla	concepts of Astronomy anning Architecture.	Flipped	Classroom	
CO 5	Describe the Wellness, Psy Administrativ	Importance of Health, ychology and ve Governance	Case	e-Base	
Course	Content		Instructional Hours /	Week: 2	
Unit		Description		Text Book	Chapters
Ι	Indian Know Ancient Kno Indian Know Framework-H	wledge System : An Introduct wledge-Defining Indian Know ledge System Corpus-A Class History of Indian Knowledge S	ction: Importance of vledge System –The ification System.	1	1
			Instruction	nal Hours	06
Suggest	ed Learning M	Iethods : Cooperative Learn	ing		
п	The Vedic Co Philosophical Development Philosophy.	orpus: Introduction to Vedas-T I System: Indian Philoso and Unique Features-V	The four Vedas. Ophical System – Vedic schools of	1	2 & 3
			Instruction	nal Hours	06
Suggest	ed Learning M	Iethods : Peer Learning			

III	Linguistics: C Natural Langu Mathematics Mathematician	Linguistics: Component of a Language-Role of Sanskrit in Natural Language Processing. Mathematics: Unique Aspects of Indian Mathematics-Great Mathematicians and their Contributions-Arithmetic Calculations.				
	Instructional Hours 06					
Suggest	ted Learning M	lethods : Group Learning				
IV	Astronomy: Development Calendar Town Plannin Perspective –7 Architecture	Unique aspects of Indian of Astronomy in India-Ele ng Architecture: Indian Arch Fown Planning-Unitary Buildi	Astronomy-Historical ments of the Indian hitecture- A Historical ng –Temple	1	9 & 12	
			Instructiona	al Hours	06	
Suggest	ted Learning M	lethods : Mind Mapping				
V	VHealth, Wellness and Psychology: Ayurveda -Definition of Health-Tridosas-Relationships to Health-Disease-Disease Management-Yoga way of Life-Indian Approach to Psychology.113 &I13 &Governance and Public Administration:Arthasastra			13 & 14		
			Instructiona	al Hours	06	
Suggest	ted Learning M	Iethods : Case Studies				
			Tota	al Hours	30	
Text Bo	ooks	1. B.Mahadevan,Vinayak Introduction to Indian Applications, PHI Lear	Rajat Bhat,Nagendra Pav Knowledge System: Con ning Private Limited,Dell	vana R.N , cepts and hi, 2022.		
Referer	nce Books	 Traditional Knowledge publishers, 2002. Traditional Knowledge 	System in India by Amit System in India, by Ami	Jha Atlan t Jha, 2009	tic).	
Web. U	RLs	 https://www.youtube.co http://nptel.ac.in/course 	om/watch?v=LZP1StpYE s/121106003/	ГРМ		
	Course	designed by	Verifie	d by Chai	irman	
Dr. N S	aranya		Dr. K Rajarajeswari			

Cou	Course Code Title						
22U4VBOE07 Value Based Open Elective Course : Principles of Intellectual Property Rights					se : Rights		
Sem	ester: IV	Credits: 2		ESE: 50 1	Marks		
Course	Objective	To make the students to re- pupils on basic concepts of To learn the procedure of o Industrial Design	cognize the impo f Intellectual Pro obtaining Patents	perty Rights. , Copyrights	and to educ , Trade Mar	cate the	
Course	Course Category Entrepreneurship						
Develop	Development Needs Global						
Course DescriptionThe course is designed to provide comprehensive knowledge to st regarding the general principles of IPR, Concepts and Theories, C Intellectual Property Rights, the registration process, and the Inter Regime Relating to IPR.			ledge to stu heories, Cr d the Intern	dents iticisms of ational			
		Course Outcomes			Teachin	g Methods	
CO 1	Understand I promoting ir IPRs.	Intellectual Property Rights novation and creativity, a	(IPR), its signi nd the different	ficance in types of	Leo	cture	
CO 2	Equip with the ffectively.	he knowledge to navigate the	e patent filing pro	ocess	Tut	orial	
CO 3	Comprehend registration p	the fundamentals of rocedures, terms and remedi	copyrights, the ies	eir types,	Leo	cture	
CO 4	Narrate the tr process, and	ademarks, their rights, types the trademark landscape in I	s, purpose, regist ndia	ration	Tut	Tutorial	
CO 5	Analyze the s need for their	significance of geographical protection, the relevant law	indications (GI) s and regulation	and the s in India	Lecture		
		Course Content		Instructi	onal Hour	s / Week : 2	
Unit		Description			Text Book	Chapters	
Ι	Introduction IPR, Importa Rights, Pate Layout Desig Traditional F	to Intellectual Property unce of IPR, Kinds of Intellent, Trade Mark, Trade Secury, Geographical Indication, Knowledge, IPR in India and	Rights (IPR): I ectual property net and trade dro Plant Varieties a the world, IPR a	Definition of rights: Copy ess, Design, and and WTO.	1	1,2	
				Instructi	on Hours	6	
Suggeste	ed Learning N	Iethods : Lecture/Tutorial					
II	Patent: Int amendments requirements The role of F system: National Contents	roduction to Patent, Pa , Patentable and non-Pat for obtaining Patent, Regist Patentees and Different layer onal and International Patent	tent Act 1970 tentable inventi tration Procedure s of the internati t filing procedure) and its ons, legal e of Patent, onal patent es.	1	4	
~				Instruction	nal Hours	6	
Suggeste	ed Learning N	1ethods : Lecture/Tutorial	0.1.1.1.5	01 1.1 2	1		
III	Copyright: Types of C license, Ter Copyrights v	Introduction to Copyrights, Copyrights, Registration p ms of Copyright, Piracy, with special reference to soft	Origin, and De procedure, Assig Infringement, ware, Copyrights	etinition & gnment & Remedies, s in India.	1		
a 4	d Looming N	lathade + Lasture/Tutarial		Instruction	hai Hours	0	
N110000tr							

			1. 6. 1 1				
	I rademarks	: Introduction to trademarks, R	ights of trademark,	1	0		
IV	Types of trac	lemark, purpose, and function o	f a trademark, trademark	1	9		
	protection, a	nd trademark registration proces	ss, trademarks in India.				
			Instruction	nal Hours	6		
Suggest	Suggested Learning Methods : Lecture/Tutorial						
	Design: Intro	oduction to Design, Registration	of Design, Cancellation				
V	of Registrati	on, International Convention	on Design, functions of	1	7.10		
	Design, Geo	Design, Geo Graphical Indication: Introduction to Geo Graphical					
	Indication, V	ndication. Why and how GI needs protection and GI laws. Indian					
	GI act.						
			Instruction	nal Hours	6		
Suggested Learning Methods : Lecture/Tutorial							
Suggest	ed Learning N	Iethods : Lecture/Tutorial					
Suggest	ed Learning N	Iethods : Lecture/Tutorial	Το	tal Hours	30		
Suggest	ed Learning M	Iethods : Lecture/Tutorial 1. Intellectual Property Right	To ts, Asha Vijay DurafeDhana	tal Hours	30		
Suggest	ed Learning M ext Book	Iethods : Lecture/Tutorial 1. Intellectual Property Right Toradmalle, Wiley Publi	To ts, Asha Vijay DurafeDhana sher, 2022	tal Hours shree K.	30		
Suggest	ed Learning N ext Book	Iethods : Lecture/Tutorial 1. Intellectual Property Right Toradmalle, Wiley Publi 1. B.L. Wadera, Pater	To ts, Asha Vijay DurafeDhana sher, 2022 nts. trademarks. copyri	tal Hours shree K.	30		
Suggest Te Refer	ed Learning N ext Book rence Book	Iethods : Lecture/Tutorial 1. Intellectual Property Right Toradmalle, Wiley Publi 1. B.L. Wadera, Pater Geographical Judication	To ts, Asha Vijay DurafeDhana sher, 2022 nts, trademarks, copyrigons.	tal Hours shree K. ght, Desig	30 gns and		
Suggest Te Refer	ed Learning N ext Book rence Book eb. URLs	 Iethods : Lecture/Tutorial 1. Intellectual Property Right Toradmalle, Wiley Publi 1. B.L. Wadera, Pater Geographical Judicatio 1. https://dst.gov.in/sites/defa 	To ts, Asha Vijay DurafeDhana sher, 2022 nts, trademarks, copyrigons. ault/files/E-BOOK%20IPR.p	tal Hours shree K. ght, Desig	30 gns and		
Suggest Te Refei We	ed Learning N ext Book rence Book eb. URLs Course	Iethods : Lecture/Tutorial 1. Intellectual Property Right Toradmalle, Wiley Publi 1. B.L. Wadera, Pater Geographical Judicatio 1. https://dst.gov.in/sites/defa e designed by	To ts, Asha Vijay DurafeDhana sher, 2022 nts, trademarks, copyrigons. ault/files/E-BOOK%20IPR.p Verific	tal Hours shree K. ght, Desig odf ed by Chai	30 gns and rman		
Suggest Te Refei We	ed Learning N ext Book rence Book eb. URLs Course	Iethods : Lecture/Tutorial 1. Intellectual Property Right Toradmalle, Wiley Publi 1. B.L. Wadera, Pater Geographical Judicatio 1. https://dst.gov.in/sites/defa e designed by	To ts, Asha Vijay DurafeDhana sher, 2022 nts, trademarks, copyrigons. ault/files/E-BOOK%20IPR.p Verific	tal Hours shree K. ght, Design odf ed by Chai	30 gns and rman		
Suggest Te Refei We Dr. K Pr	ed Learning N ext Book rence Book eb. URLs Course rathap Chandran	Iethods : Lecture/Tutorial 1. Intellectual Property Right Toradmalle, Wiley Publi 1. B.L. Wadera, Pater Geographical Judicatio 1. https://dst.gov.in/sites/defa e designed by	To ts, Asha Vijay DurafeDhana sher, 2022 nts, trademarks, copyrigons. nult/files/E-BOOK%20IPR. Verifie Dr. S Saraswathi	tal Hours shree K. ght, Desig odf ed by Chai	30 gns and rman		

C 2022

Cours	e Code	Title					
22U4V	BOE08		Value Based Open Elective Cou	urse : Science, S	Socie	ety and Cu	lture
Semes	ter: IV		Credits: 2	ESE:	50 N	Aarks	
Course	Objectiv	ve	To create awareness on Science, In Country	ndian Society ar	nd cu	ultural herit	age of our
Course	Categor	y	Skill Development				
Develop	oment Ne	eds	Global				
Course Description Facilitate the awareness on Science in everyday life, Social empowerment, Democracy and Freedom of Civilization, cultural heritage and perceptions of Ind			fe, In of our ndia	ndian Socie r Country. n Culture	ety and Ancient		
			Course Outcomes		r	Teaching 1	Methods
CO 1	Know	the ness	concepts of Science in our dail	ly life and	Lect	ture / Vide Mode	o Lessons / el
CO 2	Gain l	know	ledge on Indian society and develop	oment of	Lec	cture / Vide	eo Lessons
CO 3	Learn	abou laws	t Indian social issues and awareness	s on our		Lectur Case st	res / udv
CO 4	Under	stanc	the Indian culture, diversity of cult	ture and		Tutor Group Dis	ial /
CO 5	Comp	ariso	rison of ancient heritage and civilization of our Lecture / Tutoria			Futorial	
Course	ourse Content Instructional Hours / Week : 2						
Unit			Description			Text Book	Chapters
I	Commo in day to Technol Robotics Scientist India, So Science, Technol	n Sc. to da ogy. s, Nat ts of cienti Polic ogy V	ience - Developments and their ap y Life - Achievements of Indian Awareness in the fields of IT, S notechnology and Biotechnology. Ancient India, Science and Scien sts of Modern India. India's Policy cies and Reports related to Science- vision.	plications- effects in Science and pace, Computer ntists of Mediev in the Field of the Innovative	cts nd rs, val he	1	1
				Instruct	tion	al Hours	6
Suggest	ted Learr	ning l	Methods : Video Lectures	(C	•		
п	of India empower women's	enav a-Imp rmen s orga	act of globalization on Indian , Democracy and Freedom-Role	ty-Social diversion society. Society. Society of women and thy society.	ity ial nd	2	1
~				Instruct	tion	al Hours	6
Suggest	ted Learr	ning l	Methods : Video Tutorials	D : !!	1	I	
III	National Secularis Social S Resource Performa	I In sm – ector es. W ance	tegration – Communalism - Problems relating to development a -Services relating to Health, Educ Velfare schemes for vulnerable section of Centre and States schemes-J	Regionalism a and management cation and Hun ons of the peop Mechanisms-La	and t of nan ole- ws,	2	1 & 2

	Institutions a development of	nd Bodies constituted for the protection and f vulnerable sections.			
		Instruction	al Hours	6	
Sugges	ted Learning N	Iethods : Group Discussion			
IV	South Asian Cultures-Indian culture-combination of several cultures-Indian philosophy-Religious culture-Family structure and marriage-Wedding rituals-Indian greetings-Indian foods- Festivals-Traditional clothing. Epics of India-Indian Arts and Music-Indian architecture and Sculptures-Indian Languages and Literature-Perceptions of Indian culture.				
		Instruction	al Hours	6	
Sugges	ted Learning N	Aethods : Video Tutorials			
V	Ancient Civ Mohenjo-Darc Architecture-A Gupta's perio period of civili	4	2		
	Instructional Hours				
Suggested Learning Methods : Online Tutorial					
	lea Dearning 1				
		Tota	al Hours	30	
Te	ext Books	Tota Tota 1. Science, Culture and Society: Understanding S Century by Mark Erickson, Paperback – Illust 2. Khanna, Indian Social order and Laws, Univers 3. Choudhary, Social Protection Law Provisions 4. Indian Heritage systems-Universal Law Publis 5. Ancient Civilization of Indian sub-continent-	al Hours Science in rated, 2013 rsities Pres and Procee shing Com Ancient Bo	30 the 21 st 5. ss. dure. pany. poks.	
Te	ext Books rence Books	Tota Tota 1. Science, Culture and Society: Understanding S Century by Mark Erickson, Paperback – Illust 2. Khanna, Indian Social order and Laws, Universal 3. Choudhary, Social Protection Law Provisions 4. Indian Heritage systems-Universal Law Publics 5. Ancient Civilization of Indian sub-continent- 1. National integration and Secularism: Issues and Publications. 2. Ancient Culture of India: Issues and Concerns.	al Hours Science in rated, 2013 rsities Pres and Procee shing Com Ancient Bo d Challeng	30 the 21 st 5. dure. pany. poks. es, Regal	
Refe	ext Books rence Books Teb. URLs	Tota Tota 1. Science, Culture and Society: Understanding S Century by Mark Erickson, Paperback – Illust 2. Khanna, Indian Social order and Laws, Universal 3. Choudhary, Social Protection Law Provisions 4. Indian Heritage systems-Universal Law Publics 5. Ancient Civilization of Indian sub-continent- 1. National integration and Secularism: Issues and Publications. 2. Ancient Culture of India: Issues and Concerns. 1. https://www.amazon.in/Science-Culture-Society-Undp-0745662250/dp/0745662250/ref=dp_ob_title_b 2. https://iasscore.in/upsc-syllabus/indian-society 3. https://www.worldhistory.org/india/	al Hours Science in rated, 2013 rsities Pres and Procees shing Com Ancient Bo d Challeng nderstanding k. /indian-soo	30 the 21 st 5. ss. dure. pany. poks. es, Regal g-Century- ciety-mains.	
Refe	ext Books rence Books Teb. URLs Course	Tota Tota 1. Science, Culture and Society: Understanding S Century by Mark Erickson, Paperback – Illust 2. Khanna, Indian Social order and Laws, Universal 3. Choudhary, Social Protection Law Provisions 4. Indian Heritage systems-Universal Law Publics 5. Ancient Civilization of Indian sub-continent- 1. National integration and Secularism: Issues and Publications. 2. Ancient Culture of India: Issues and Concerns. 1. https://www.amazon.in/Science-Culture-Society-Undp-0745662250/dp/0745662250/ref=dp_ob_title_b 2. https://iasscore.in/upsc-syllabus/indian-society. 3. https://www.worldhistory.org/india/ Verifie	al Hours Science in rated, 2013 rsities Pres and Procees shing Com Ancient Bo d Challeng nderstanding k. /indian-soo	30 the 21 st 5. ss. dure. pany. poks. es, Regal g-Century- ciety-mains.	

Cou	irse Code		Title		
22U 4	VBOE09	Value Based Open Electi	ive Course : Community	Engagemen	t
Sem	ester: IV	Credits: 2	ESE: 50	Marks	
		I I			
Course	Objective	This course serves as an learners to explore methor process, and professionalis	introduction to communit ods of community involv sm within the community.	y engageme ement, chan	nt, helping ge making
Course	Category	Skill Development			
Develop	Development Needs National				
Course	Description	Apply the principles of co decision makers, and stake	mmunication for outreach eholder groups.	to the divers	e public,
Course	Outcomes			Teaching M	lethods
CO 1	Apply profe organizatio	essional behavior when worl	king with community	Lecture/ C	Case Study
CO 2	Investigate needs	the complexity of problems	related to community	Lecture/	Role Play
CO 3	Design and process, usi planning pr	conduct the phases of a coning consensus building and rocedures.	nmunity engagement relating to formal	Lecture/ (Case Study
CO 4	Recognize and facilitat	community interests, power te empowerment of excluded	dynamics, and conflict, d groups and negotiation	Lecture/ / Role Play	
CO 5	Direct cross multi-stake	s-jurisdictional, inter-agency holder collaboration.	, inter-disciplinary, and	Lecture/ Case Study	
Course	Content		Instructional Hours	s / Week : 2	
Unit		Description		Text Book	Chapters
I	Concept, Eth Local commu engagement	nics and Spectrum of Co unity, Rural culture and H	ommunity engagement, Practice of community	3	2
			Instructio	onal Hours	6
Suggest	ted Learning N	Methods : Seminar		1	1
II	Rural Devel Administrat	opment Programs and Rural ion and Community Involve	l institutions, Local ment	2	3
			Instructio	onal Hours	6
Suggest	ted Learning I	Methods : Role Play			
ш	Stages, Comp Utility of pub	oonents and Principles of con lic resources. Social contribution Various government schemes	mmunity development, ution of community s	1	3
	need orking,		Instructio	nal Hours	6
Sugge	sted Learning	Methods : Role Play			

	_				
	Community H	Engaged Research and Eth	nics in Community		
IV	Engaged Resea	arch. PRA, Programmes of con	mmunity engagement	1	2
	and their evalu	ation.			
			Instruction	nal Hours	6
Sugges	ted Learning M	lethods : Creative Art Assign	nments		
T 7	Rural Distress,	Rural Poverty, Impact of Disa	asters on Migrant	2	1
V	Laborers, Mitig	gation of Disaster.			
			Instruction	al Hours	6
Sugges	ted Learning M	lethods : Community Partici	pation Program		
			Tot	tal Hours	30
Text Be Referen	ooks nce Books	 Participatory Rural App Planning, R Ramesh Introduction to Commun Service-Learning, Gary SAGE Publications Community-based pa approach for policy disparities. Am J Publ Achieving successful review. BMC Health S 	raisal, PRA Application in nity Development, Theory, Paul Green, Jerry W. Rob articipatory research: a advocacy aimed at ic Health. 2010 community engagement Services Research.	Rural Deve , Practice, an pinson, Jr, 20 a capacity- eliminating : A rapid re	lopment d)11, building g health ealist
Web. URLs1. https://unnatbharatabhiy2. https://www.wellaware			an.gov.in > presentations vorld.org/		
	Course	designed by	Verifi	ed by Chai	rman
Narmadha Veroniha T			Dr. P Nathiya		

Course	rse Code Title							
22U4V	BOE10		Value Based Open Elec	ctive Cou	rse : Emotio	nal I	Intelligen	ce
Semest	ter: IV		Credits: 2		ESE: 5	50 M	arks	
Course ObjectiveTo enable the Students to understand the concepts of Emotional Intelligence, its models and components					1			
Course	Categor	y	Employability & Skill Dev	velopment				
Develop	oment No	eeds	National & Global					
Course	Descript	tion	Understanding the importa effective relationships	ance of En	notional Intel	lliger	nce and bu	uild
Course	Outcom	es					Teaching	Methods
CO 1	Unders Aware	stand (ness a	the Self-Awareness, Self-Mar and Relationship Management	nagement, it	Social		Lect Video L	ure/ Lectures
CO 2	Discov emotio	ver per onal in	sonal competence and technic telligence.	iques of bu	uilding]	Lecture/ I	Role Play
CO 3	Narrat	e the i	nsights into establishing posit	tive relation	onships	Le	cture/ Pee	er Teaching
CO 4	Unders	stand t	the emotional intelligence and	d its impo	rtance]	Lecture/ I	Role Play
CO 5	Summ	narize the Self-Management Techniques Lecture/ Group Discussion				/ Group ssion		
Course	Content				Instruction	nal H	lours / W	eek:2
Unit			Description				Text Book	Chapters
Ι	Funda Definit Model Buildin Self-M Manag	tion N s of E ng blo lanage gemen	als of Emotional Int fature and Significance motional Intelligence-: Abilit cks of emotional intelligence ement, Social Awareness, t	telligence: ty, Trait ar :: Self-awa , and I	Meaning nd Mixed ureness, Relationship		1	1&2
I					Instruct	ional	Hours	6
Suggest	ed Learı	ning N	Aethods : Video lectures					
Π	Person Observ strengt Self-M	al Coring at hs and anage	ompetence: Meaning Defin nd recognizing one's own fe l areas of development. ment: Managing emotions, ar	nition Self eelings, Kr nxiety, fea	Awareness nowing one's ar, and anger.	: s	1	5&6
					Instruct	ional	Hours	6
Suggest	ed Lear	ning N	Aethods : Role Play		.•	<u> </u>		
III	Social Competence: Social Awareness: Others' Perspectives,IIEmpathy and CompassionIIRelationshipRelationshipManagement:Effectivecommunication,Collaboration, Teamwork and Conflict Management		,	2	1&2			
	1 -				Instruct	ional	Hours	6
Suggest	ed Lear	ning N	Alethods : Peer Teaching	d Develor	oment			
IV	Meanin	ng De	finition, Importance		jinent -		2	4&5

	Measures of	emotional intelligence Strategies to develop and	1			
	enhance Emo	otional Intelligence				
		Instr	uctional	l Hours	6	
Sugges	ted Learning N	Aethods : Role Play				
V response a		ement Techniques: Meaning Definition Techn notions such as Mindfulness, Conditioned relax Boundary setting of Relationship Management: Display of emp	iques ation athy.	2	6&7	
	Effective Co	mmunication. Teamwork. Conflict resolution	····,			
		Instr	uctional	l Hours	6	
Sugges	ted Learning N	Aethods : Group Discussion				
			Tota	Hours	30	
Text B	ooks	 Bar-On, R., & Parker, J.D.A.(Eds.) (2000 emotional intelligence. San Francisco, C. Goleman, D. (2005). Emotional Intellige Book. Sternberg, R. J. (Ed.). (2000). Handbook University Press. 	J.D.A.(Eds.) (2000). The handbook of San Francisco, California: Jossey Bros. motional Intelligence. New York: Bantam 2000). Handbook of intelligence. Cambridge			
Reference Books1.HBR's 10 Must Reads2.HBR's 10 Must Reads3.Self-Discipline: Life		 HBR's 10 Must Reads on Emotional Inte HBR's 10 Must Reads on Managing You Self-Discipline: Life Management, Kind 	elligence urself (20 le Editio	(2015) 011) on, Daniel	Johnson.	
	Course	e designed by	Verifie	d by Cha	irman	
Dr. R A	A Ayyapparayaı	n Dr. R A Ayyap	parayan			

Cou	rse Code	e Title				
22U	4VBOE11	Value Based Open Elective Cou	rse : Fundan	nenta	ls of Tou	rism
Sem	ester: IV	Credits: 2			ESE:	50 Marks
		· · · · · · · · · · · · · · · · · · ·				
Cours	e Objective	To impart Knowledge on Tourism an growth and also to identify the touris	d its develop t needs.	oment	in the eco	onomic
Cours	e Category	Employability				
Develop	oment Needs	Global				
Course Description To enhance the students to get part in the tourism industry and to know about concepts of tourism.				how		
Course	Outcomes		Te	achin	g Metho	ds
CO 1	Understand t	ourism and its development		D	irect Instr	ruction
CO 2	Analyse the I	Factors influencing the Travel Motivat	ions.	D	irect Instr	ruction
CO 3	Comprehend	the Tourist Transport			Video Les	ssons
CO 4	Understand t	he Tourist Accommodations		D	virect Instr	ruction
CO 5	Apply the Tr	avel Agency Operations			Video Les	ssons
Course	Content		Instruct	ional	Hours /	Week: 2
Unit		Description			Text Book	Chapters
Ι	The Tourist Tourist; Visit Outbound; Do of Tourism & Grand Circula	m Phenomenon: Definition – To cor; Excursionist; Domestic; Internation estination. Growth of Tourism / Evolu Present status of tourism in India. The ar Tour.	ourism; Tou onal; Inboum ntion / Histor omas Cook -	ır; d; ry	1	9, Key Terms
			Instruc	tiona	l Hours	6
Suggest	ed Learning N	Methods : Lecture Based Learning		-		
п	Travel Mot Motivators, C and prestige I Rest and recru Culture, Ethn or Business.	Evations: Categories of Motivation Cultural Motivators, Interpersonal Mot Motivators. Types of Tourism: Pleasu eation, Health, Participation in Sports, ic and Family, Spiritual and Religious	ons: Physic ivators, Statu re, relaxatio Curiosity ar s, Profession	al us n, nd al	1	3
			Instruc	tiona	l Hours	6
Suggest	ed Learning N	Methods : Group Learning Method	3.6.1			
III	Tourist Tran Transport, Re Transport.	nsport: Role of Transport in Touris oad Transport, Air Transport, Rail T	om, Modes o Transport, Se	of ea	2	15
	A		Instruc	tiona	l Hours	6
Suggest	ed Learning N	Methods : Group Learning Method				
IV	Tourist Ac International Residential Accommoda Bed and Brea and Resort Co	 commodation: Definition, Types Hotels, Resort Hotels, Comme Hotels, Floating Hotels. Su tion: Motel, Youth Hostel, Camping S kfast Establishment, Tourist Holiday V ondominiums. 	of Hotel rcial Hotel ipplementar Sites, Pension Villages, Tim	s, s, y n, ne	1	8
			Instruc	tiona	l Hours	6
Suggest	ed Learning I	Methods: Group Learning Method				

V	Travel Agen Travel Agenc Travel Requir	el Agency: Products of Travel Agency, Classification of el Agency, Functions, Travel Related Business, International3el Requirements, Travel Agency Operations.3					
	Instructional Hours 6						
Sugges	ted Learning N	Methods: Lecture Based Lear	ning				
			Tot	tal Hours	30		
Text B	ooks	 A.K. Bhatia, Tourism Dev Publishers Pvt 2007. A.K. Bhatia, International Pvt 2012. Jagmohan Negi, Travel A Kanishka Publishers and D 	velopment: Principles & l Tourism Management gency Operations Conc Distributors, 2003.	z Practices, , Sterling Pr cepts and Pr	Sterling ıblishers inciples,		
Reference Books1. Biswanth Gosh, Tourism & travel management, Vikas Publishing House, Second Edition, 2008. 2. Christopher Holloway, Business of tourism, Elsevier Publisher, Sec Edition, 2006.				shing 1er, Second			
Course designed by			Verified by Chairman				
B Tai	mil Selvan		B Tamil Selvan				

(Course Code Title					
22	2U4VBOE12	Value Based Open I	Elective : Heal	th E	ducation	
S	Semester: IV	Credits: 2		ES	E: 50 Ma	rks
Course	Objective	1. Acquire knowledge on diff	ferent dimension	ons o	f health.	
		2. Inbuilt healthy life style pr	actices			
Course	e Category	Value education				
Develo	pment Needs	Local				
Course	Course DescriptionIt provides knowledge on values and practices for healthy living					ving
	С	ourse Outcomes			Teaching	Methods
CO 1	Recall the import	rtance of health education			Interactiv	ve session
CO 2	Enlist the right of	choice of foods and dietary patte	ern		Interactiv	ve session
CO 3	Identify method	s to manage mental health issues	s		Activity	based
005		is to manage mental neutrinissues	5		teac	hing
CO 4	Practice effectiv	ve personal health habits			Interactiv	ve session
CO 5	Summarize the mankind	importance of environmental hea	alth for		Interactiv	ve session
Course	Content		Instruc	tiona	al Hours /	Week: 2
Unit		Description			Text Book	Chapters
	Health Educati	ion:				
Ι	Concept of hea	alth, Components of wellness	, spectrum a	nd		
	determinants of	health - Definition of health-h	health education	on-		
	Aim, objective	and principles of health edu	ication - Hea	lth	1	1
	services, Polotod Activity	Massuring the health attitudes	of students			
	Related Activity	-Weasuring the health attitudes	Instruc	tion	al Hours	6
Sugge	sted Learning M	ethods: Group Activity	mstruc			0
Jugger	Food and Healt	th		1		
	Basic 4, 5and7	7 food groups; functional food	d groups-ener	gy		
II	yielding, body l	building and protective foods (o	only sources a	nd		
	functions), food	l pyramid, meal planning pattern	n, healthy eati	ng	3,4	1 & 1, 2
	pattern.Related	Activity -Assessing dietary adeq	uacy of studer	nts		
			Instruc	ction	al Hours	6
Sugges	sted Learning M	ethods: Peer learning		r		
	Mental Health					-
	Meaning of m	ental health – importance of	mental healt	th-	1	6
111	characteristics of	of emotionally healthy-Self est	eem-Values a	nd		
	adolescences	depression & stress causes	und manageme	ont		
	Related activity	-Stress level assessment in stude	nts	JIII		
	related activity	2 1 2 5 10 · er ubbebbillent in blude	Instruc	tion	al Hours	6
Shode	sted Learning M	ethods: Role play	U			v
Jugger	see Learning MI	chious. Role play				

IV	Personal Health1Definition of personal health- under nutrition and over nutrition -prevalence of life style disease-healthy lifestyle practices- personal hygiene-Importance of physical activities & exercise1Related Activity -Analyzing the physical activity pattern of students1					
	students		Instructional	Hours	6	
Suggeste	ed Learnin	g Methods: Assignment				
V	V Environment and Health Definition of environmental health, Biodiversity, climate change and biodiversity, environmental pollution-causes and consequences of air, water and soil pollution-Food contamination and consequences Related Activity-Group discussion on case studies 2			5,8		
Instructional Hours						
Suggeste	ed Learnin	g Methods: Group Discussion	n			
			Tota	l hours	30	
Text	Books	 Anspaugh (2001), Teac Cataloging, 6th Edition, Tyler Miller (2006), En private ltd Srilakshmi (2010), Diet New Delhi Srilakshmi (2010), Foo limited, New Delhi 	thing Today's Health, Libr US wironmental Science, Cen tetics, New age Internation d Science, New age Intern	ary of Cor gage learn al private ational pri	ngress ing India limited, vate	
Imited, New Definition 1. Howley & Don Fra Handbook. Human Kine 2. Ramachandran. L. Dhar Vikas publishing House			nus(B) (2003) Health etics publication. malingam. T (1993) Healt Private Limited	Fitness 1	Instructor's	
Jou	rnals	1. Health education				
	Cour	se designed by	Verifie	d by Chai	rman	
Dr A S	Swarnalatha	1	Dr A Swarnalatha			

Cours	e Code	Title					
22U4V	BOE13		Value Based Open	Elective Course	: Media a	and Politics	5
Semes	ter: IV		Credits: 2		ESE: 50	Marks	
G				1 . 1 .1	1.	1 1	
Course Objective To Impart knowledge of understanding the media and po					a politics		
Course	Categor	y	Skill Development				
Develop	oment Ne	eeds	Global				
Course	Descript	tion	This course examines how public thinking and debate	v media and polities around social p	cal institu roblems.	tions intera	ct to shape
				Course Outcom	es Teac	hing Metho	ds
CO 1	Unders	stand	the basic idea of media and	Politics	Lect	ure and De	monstration
CO 2	Summ	arize	the political stance of media	1.		Lectu	re
CO 3	Apply	the Sl	kills on writing political new	WS.	Lect	ure and De	monstration
CO 4	Evalua Organi	ite izatioi	the various characteri 1.	stics of med	ia	Video Le	ctures
CO 5	Apply and so	the m ciety i	ass media influences as ind n political contexts	ividuals, groups,		Discuss	sion
Course	Content			Ι	nstructio	nal Hours	/ Week : 2
Unit			Description	·		Text Book	Chapters
Ι	Media - Political Cinema	Iedia – Meaning and importance. Role of media in Society olitical Communication – Mass Media politics and Society- inema and political manifestation. Social media and Political			1	1	
	narratio	n		In	struction	al Uauma	07
Suggest	ted Learı	ning N	Aethods : Learning by Te	aching	siluction		00
~	Characte	eristic	s of Modern Mass Media: H	Print and Electron	ic		
II	Media –	Polit	ical economy and Ownersh	ip		2	2
				In	struction	al Hours	06
Suggest	ted Leari	ning N	Aethods : Active Learning	5			
III	Political mass m ownersh content	Ecor edia ip pa and it	omy - State ownership ver – Consequences of priv ttern Government Regulat s Censorship.	rsus private owne vate and public- ion – Monopoly-	rship of Media - Media	1	2
~				In	struction	al Hours	06
Suggest	ted Learn	ning N	Aethods : Group Learning		a a d		
IV	public s of mass	phere- media	Political manipulation of r on global political process	n the mass media nedia content- the ses.	impact	3	3
				In	struction	al Hours	06
Suggest	ted Lear	ning N	Methods : Visual Learning	5			
v	Political Public-	effec maki	ts of Mass Media: Individ ng public opinion- Settin	ual-group-and S of Political a	Society genda-	2	4

Political Socia	alization- Political mobilization								
	Instructional Hours	06							
Suggested Learning N	Methods : Case study based Learning								
	Total Hours	30							
	1. Lowe, L. (2016). The Definitive Guide to Creative Writing and Med	dia							
 Text Books Text Books Productions. United States: Xiloris UK. Marshall, C. (2018). Writing for Social Media. United Kingd- Learning & Development Limited. 									
	3. Cain, S., Batty, C. (2016). Media Writing: A Practical Introduction. United Kingdom: Palgrave Macmillan.								
	 Mencher, Melvin."Basic News Writing" Universal Bookstall, New Delhi.1993. 								
	2. Sreenivas Rao. Academic Book Centre, Ahmedabad. 1981.								
Reference Books	3. Barnard, J. (2019). The Multimodal Writer: Creative Writing Across Genres and Media. United Kingdom: Bloomsbury Academic.								
	 Kuehn, S. A., Lingwall, J. A. (2016). The Basics of Media Writing Strategic Approach. United States: SAGE Publications. 	g: A							
Web. URLs	1. https://www.bing.com/videos/								
Course	e designed by Verified by Chairma	n							
R Baiju Paul	R Baiju Paul								

Cou	rse Code		Title			
22U4	VBOE14	Value Based Open El	lective : Positive Psycholo	gy and Wo	ork Life	
Sem	ester: IV	Credits: 2	ESE: 50	Marks		
Course	Objective	To bring an experience ma and informing them about	arked by predominance of p emerging paradigm of Pos	ositive em itive Psych	otions ology	
Course	Category	Skill Development				
Develop	oment Needs	National				
Course	Description	Build relevant competenci lived experience and its in	ies for experiencing and sha nplications	aring happi	ness as	
Course	Outcomes			Teaching	g Methods	
CO 1	Understand	the realities of Psychology	and Work life	Lecture/	Case Study	
CO 2	Insight on o	origin and development of P	ositive Psychology	Lecture	/ Role Play	
CO 3	Reveal the	knowledge about phases of	Positive Psychology	Lecture/	Case Study	
CO 4	Perceptiven	ness about Happiness in Psyc	chology and its Traits	Lecture	/ Role Play	
CO 5 Furnish the specific skills and techniques for working with Trust and Companionship						
Course	Content	Instructi / Week :	onal Hours 2			
Unit		Description		Text Book	Chapters	
	Introduction	to Positive Psychology : Po	ositive Psychology:			
Ι	Concept, His	story, Nature, Dimension an	nd scope of Positive	3	1	
	Psychology	Seligman's PERMA				
Suggest	ad Looming N	Mathada . Saminan	Instruction	al Hours	6	
Suggest	Positive Em	otional States and Processes	Positive Emotions		[
	and well bei	ng: Hope & Optimism, Love	e, The Positive	2	2	
11	Psychology	of Emotional Intelligence, I	nfluence of Positive	Z	3	
	Emotions		.	1 77		
Suggest	ad Looming N	Asthada - Dala Dlay	Instruction	al Hours	6	
Bugges	Strengths an	d Virtues : Character Streng	oths and Virtues			
III	Resilience ir	the phase of challenge & L	Loss, Empathy and	1	3	
	Altruism	1 0				
			Instruction	al Hours	6	
Suggest	ted Learning N	Methods : Role Play			[
	Happiness :	Introduction to Psycholog	gy of happiness, well			
IV	History of	Happiness, Theories, Me	easures and Positive	3	2	
	correlates of	happiness, Traits associ	ated with Happiness,	-		
	Setting Goals	for Life and Happiness	_		-	
			Instruction	al Hours	6	
Suggest	ed Learning N	Methods : Creative Art As	signments			

	Forgiveness	and G	ratitude : Forgivenes	ss and Gratitude .							
V	Personal tran	sformat	ion and Role of suff	fering, Trust and	1	3					
	Compassion										
	Instructional Hours 6										
Sugges	ted Learning N	Aethods	s : Community Partici	ipation Program							
				Tot	tal Hours	30					
		1.	Argyle, M. 1987.	The psychology of I	happiness.	London:					
			Methuen.								
		2.	Carr, Alan (2007). P	Positive Psychology: Th	e science o	of human					
	happiness and human strengths. Routledge, Taylor and Francis Group-										
Те	Text Books London.										
	Csikzentmihalyi, Mihaly (1990) Flow: The Psychology of Optimal										
			Experience, Harper Pere	ennial.							
		3.	Garcia, Hector., & Mirra	ales. Francesc.(2017) IKI	GAI-The Jap	panese					
			Secret to a Long and Ha	appy Life, Hutchinson Loi	ndon.						
		1.	Frankl, Viktor E. (1988). The Will to Meaning: F	oundations a	ınd					
			Applications of Logothe	erapy. Meridian/Plume							
		2.	Frankl, Viktor E. (2000) Man's Search for Ultima	ate Meaning,	Basic					
Refer	rence Books		Books.								
		3.	Snyder, C. R., & Lopez	, S. J., & Pedrotti, J. T (20	011) Positive	;					
			Psychology: The Scient	ific and Practical Explora	tions of Hur	nan					
			Strengths, Sage Publica	tions India Pvt Ltd.							
	Course	e design	ed by	Verif	ïed by Cha	irman					
Lidya				Dr. P Nathiya							

Course	Code		Title								
22U4VI	BOE15		Value Based Open Elective Course : Professional Ethics								
Semest	er: IV		Credits: 2 E	SE: 50 N	/Iarks						
G	011 /			1	1.0.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1	.1 .					
Course	Objectiv	ve	Students will understand the importance of Values and Ethics in their								
			personal lives and Professional careers								
Course	Categor	У	Employability & Skill Development								
Develop	ment Ne	eeds	National & Global								
Course	Descript	tion	Understanding the importance of maintaining	Profess	ional Ethic	es and					
			build effective career.								
Course	Outcom	es		Teac	hing Meth	ods					
CO 1	Unders	stand t	he basic purpose of Profession		Lectu	re					
CO 2	Summa	arize t	he Professional Rights And Responsibilities	Le	cture/ Peer	Teaching					
CO 3	Apply	Apply the various Roles in Applying Ethical Principles at									
0.05	S Various Professional Levels Lecture/ Case Study										
CO 4	Image: Protessional Ethical Values and Contemporary Issues Lecture/ Role Play										
CO 5	CO 5 Excelling in Competitive and Challenging Environment to Contribute to Industrial Growth.										
Course	Content			Inst Wee	Instructional Hours / Week : 2						
Unit			Description		Text Book	Chapters					
	Introd	luctior	n to Professional Ethics: Meaning Definition								
	Basic (Conce	pts thing Demonal & Drofaggional Ethics, Life Shi	11.							
т	Emotic	nnig E Snal In	telligence	118,	1	1&2					
I	Profess	sion ar	nd professionalism. Professional Associations.		1	182					
	Profess	sional	Risks, Professional Accountabilities, Profession	nal							
	Succes	ss, Ethi	ics and Profession.								
			Inst	ructiona	al Hours	6					
Suggest	ed Learr	ning M	Iethods : Video lectures								
	Basic 7	Fheori	es: Basic Ethical Principles, Moral Developme	ents,							
	Deonto	blogy	my Dights Theory Cospict Theory	foral							
II	Absolu	tion N	Moral Rationalism Moral Pluralism	viorai	1	5&6					
	Ethical	Egois	m Feminist Consequentialism Moral Issues								
	Moral	Dilem	mas, Moral Autonomy								
L			Inst	ructiona	al Hours	6					
Suggest	ed Learr	ning M	Iethods : Mini Case Analysis								
III	Profess	sional	Practices: Professions and Norms of Profession	onal	2	1&2					

	Conduct, No	rms of Professional Conduct v	s. Profession				
	Responsibilit	ties, Obligations and Moral Va	lues in Professional				
	Etnics, Proie						
	The Centralit						
	Irom 1979 A						
	Hyatt Regen		6				
Sugges	ted Learning N	Methods : Group Discussion	Instruction	al nours	0		
Dugges	Ethics in ch	anging domains of Research:	The US government				
	wide definit	ion of research misconduct	research misconduct				
	distinguished	from mistakes and error	s recent history of				
IV	attention to r	s, recent history of	2	18-5			
1 V	The emergin	2	40.5				
		g emphasis on understanding a	and tostering				
	aditing	conduct, responsible autilo	α and α α				
	euting.		Instruction	al Hours	6		
Sugges	ted Learning N	Aethods : Role Play			-		
88.00	Global issue	es in Professional Ethics: In	troduction – Current				
	Scenario, Technology Globalization of MNCs International						
	Trade World	init (CS), international					
	Business F	thics and Corporate Gov	ernance Sustainable				
V	Development	t Ecosystem Energy Concern	as Ozone Deflection	2	6&7		
	Pollution Et	hics in Manufacturing and Mar	keting				
	Media Ethic	es: War Ethics: Bio Ethics	Intellectual Property				
	Rights	s, wai Lines, Dio Lines,	Intellectual Troperty				
	Rights		Instruction	al Hours	6		
Sugges	ted Learning N	Aethods : Group Discussion		ar Hours			
			Tota	al Hours	30		
		1. Professional Ethics: R.	Subramanian, Oxford Univ	versity Press	. 2015.		
Text B	ooks	2 Ethics in Engineering P	ractice & Research Caroli	ne Whitbec	k 2e		
Cambridge University Press 2015							
	1 Business Ethics concepts & Cases: Manuel G Velasquez, 6e, PHI						
Reference Books 1. Dustiess Eulies concepts & Cases. Manuel G Velasquez, 6C, 1111, 2008							
Course designed by				ed by Cha	irman		
Dr. R	A Ayyapparaya	Dr. R A Ayyapparayan	ı				

2014 V EVOValue Based Open Electric Cours: The Science of Hypiness Semestric VCouries IContrict ITo credits: 2Value Based Open Electric Science of Course Value Productivity in the workplace, calibing between happiness and various work-life batters, such as efficiency, creativity: innovatio: work-life batters, such as efficiency. Construction to the propersion as a Scient IF Construction to the propersion and Models of Well-being.Instruction: Well-beingCenture Well-beingCO 1Understand Happiness as a Scient IF Construction to Analyze the Social and Environmental HappinessInstructore: Well-beingFlippe I = cachingCO 3Description:Instructore: Social and Environmental HappinessInstructore: Well-beingInstructore: Well-beingInstructore: Models of Well-beingInstructore: Well-beingInstructore: Models of Well-beingInstructore: Well-beingInstructore: Models of Well-beingInstructore: Models of Well-beingInstructore: Models of Well-beingInstructore: Models of Well-beingInstructore: Instructore:	Course	Code		Title									
Semester: IVCredits: 2ESE: 50 MarksCourse Vertical Construction of the explore the key elements of harpiness at work and it methods is organized or others.Course CategorySkill DevelopmentSkill DevelopmentDevelopment Vertical a difference for others.Course CategorySkill DevelopmentTo create a positive work environment and promets and sorders.Course VerticeConstruction of themselves and others.Course VerticeConstruction of themselves and Steller Construction of themselves and Models of Well-beingFilipped TeachingCO 1Understand the Happiness as a Scientific Construction of Analyze the Social and Environmental Factors and HappinessLecture MethodCO 3Analyze the Social and Environmental Factors in HappinessTeachingIntroduction to Happiness as a Scientific ConstructionTeatingCourse Vertex Welt Being and Nodels of Well-beingText BookChaptersIntroduction to Happiness as a Scientific ConstructionText BookChaptersIntroduction to Happiness as a Scientific ConstructionText BookChaptersIntroduction to Happiness as a Scientific ConstructionText BookChapter ScienceIntroduction to Happiness as a Coup Discussion<	22U4VI	BOE16		Value Based Open Electi	ve Course : '	The Science of	Happine	SS					
Course Objective To explore the key elements of hapiness at work and strategies to cultivate joy, well-being, and productivity in the workplace, relationship between happiness and various work-related factors, such as efficiency, creativity, innovation, work-life balance, and making a difference for others. Course Category Skill Development Development Needs Global Course Outcomes Teaching Methods Course Coutcomes Teaching Methods Course Content Instructional Hours / Week : 2 Unit Description Instructional Hours / Week : 2 Unit Description Instructional Hours 6 Suggested Learning Methods : Group Discusion 1 <th colspa<="" th=""><th>Semest</th><th>er: IV</th><th></th><th>Credits: 2</th><th></th><th>ESE: 50 N</th><th>Iarks</th><th></th></th>	<th>Semest</th> <th>er: IV</th> <th></th> <th>Credits: 2</th> <th></th> <th>ESE: 50 N</th> <th>Iarks</th> <th></th>	Semest	er: IV		Credits: 2		ESE: 50 N	Iarks					
Course CategorySkill DevelopmentGlobalCourse User pitionTo create a positive work environment and promote happiness for themselves and others.Course User onesTeaching MethodsCO 1Understand the Happiness as a Scientific ConstructLecture MethodCO 2Apply the Theories and Models of Well-beingFlipped TeachingCO 3Demonstrate the Individual Factors and HappinessLecture MethodCO 4Analyze the Social and Environmental Factors in HappinessLecture MethodCO 4Analyze the Social and Environmental Factors in HappinessLecture MethodCO 5Apply Happiness and Work EfficiencyText Text MethodCourse ContentIntroduction to Happiness as a Scientific ConstructText BookChaptersIntroduction to Happiness as a Scientific ConstructIntroduction to Happiness as a Scientific ConstructText BookChapter Scientific Construct <th co<="" th=""><th>Course</th><th>Objectiv</th><th>7e</th><th>To explore the key ele cultivate joy, well-b relationship between ha as efficiency, creativity difference for others.</th><th>ements of ha eing, and appiness and y, innovation</th><th>appiness at wo productivity various work- , work-life bal</th><th>rk and str in the v related fac ance, and</th><th>categies to workplace, ctors, such making a</th></th>	<th>Course</th> <th>Objectiv</th> <th>7e</th> <th>To explore the key ele cultivate joy, well-b relationship between ha as efficiency, creativity difference for others.</th> <th>ements of ha eing, and appiness and y, innovation</th> <th>appiness at wo productivity various work- , work-life bal</th> <th>rk and str in the v related fac ance, and</th> <th>categies to workplace, ctors, such making a</th>	Course	Objectiv	7e	To explore the key ele cultivate joy, well-b relationship between ha as efficiency, creativity difference for others.	ements of ha eing, and appiness and y, innovation	appiness at wo productivity various work- , work-life bal	rk and str in the v related fac ance, and	categies to workplace, ctors, such making a				
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$ \begin{array}{ c c c } \hline CO 1 & Understand the Happiness as a Scientific Construct I cecture Method \\ \hline CO 2 & Apply the Theories and Models of Well-being Flipped Teaching \\ \hline CO 3 & Demonstrate the Individual Factors and Happiness Lecture Method \\ \hline CO 4 & Analyze the Social and Environmental Factors in H=piness Lecture Method \\ \hline CO 5 & Apply Happiness and Work Efficiency Flipped Teaching \\ \hline Course Content Instructional Hours / Week : 2 \\ \hline Instructional Hours / Week : 2 \\ \hline Instruction to Happiness as a Scientific Construct Befining happiness and its importance in individual and societal well-being, Overview of subjective well-being and its components - life satisfaction, positive emotions, and negative emotions, Exploration of cultural variations in happiness and its components - life satisfaction, positive emotions, and negative emotions, Exploration of cultural variations in happiness and its components - life satisfaction, positive emotions, and negative emotions, Exploration of cultural variations in happiness and its components - life satisfaction, positive emotions, and negative emotions, Exploration of cultural variations in happiness and its components - life satisfaction, positive emotions, and negative emotions, Exploration of cultural variations in happiness and its autonomy, meaning, and engagement in happiness. Strengths and limitations of different well-being models I nstructional Hours 6 \\ Suggested Learning Methods : Group Discussion Instructional Hours 6 \\ Suggested Learning Methods : Group Discussion Instructional Hours 6 \\ Suggested Learning Methods : Group Discussion I determining happiness. Role of genetics and biological factors in determining happiness. Role of genetics and biological factors in determining happiness. Role of genetics and biological factors in determining happiness. Role of genetics and biological factors in determining happiness. Role of genetics and biological factors in determining happiness. Role of social relationships and social support in 1 \\ Social and Environmental F$	Course	Outcom	es				Teaching	g Methods					
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Suggested Learning Methods : Group Discussion Individual Factors and Happiness Individual Factors and Happiness Personality traits - optimism, resilience and their influence on 1 happiness. Role of genetics and biological factors in determining 1 happiness levels. Examination of personal values, goals, and 3 self-esteem and their impact on subjective well-being 6 Suggested Learning Methods : Group Discussion Instructional Hours K 6 Suggested Learning Methods : Group Discussion INStructional Hours G 6 Social and Environmental Factors in Happiness Importance of social relationships and social support in 1 4	G t					Instructiona	al Hours	6					
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Instructional Hours 6 Suggested Learning Methods : Group Discussion IV Social and Environmental Factors in Happiness 1 4 Importance of social relationships and social support in 1 4	III	Persona happine happine self-est	ality 1 ess. R ess le	traits - optimism, resilience ole of genetics and biologic evels. Examination of pers and their impact on subjectiv	e and their i cal factors in sonal values, ve well-being	nfluence on determining goals, and	1	3					
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IVSocial and Environmental Factors in Happiness14Importance of social relationships and social support in14	Suggest	ed Learr	ung N	Methods : Group Discussion	0n Honriger								
	IV	Social Import	and H ance	of social relationships	and social	support in	1	4					

	promoting h norms, and environment conditions of	happiness. Influence of social cultural factors on we al factors - access to nature, qu n happiness.	al comparison, social ll-being. Impact of ality of living				
			Instructiona	al Hours	6		
Sugges	ted Learning N	Methods : Group Discussion		1			
V	Happiness and Work EfficiencyImpact of happiness on work efficiency and productivity, strategies forVmanaging daily hassles and reducing stress in the workplace, link15between happiness and creativity in the workplace, Strategies forfostering a creative and innovative work environment						
			Instructiona	al Hours	6		
Suggest	ted Learning N	Methods : Group Discussion					
Total Hours 30							
Text Books1. Susan A. David, IlonaBOni well, and Amanda Conley Ayers; The Oxford Hand book of Happiness.							
 Achor, S. (2010). The happiness advantage: The seven princip of positive psychology that fuel success and performance at we Random House. Lyubomirsky, S. (2008). The how of happiness: A scientific approach to getting the life you want. Penguin. Diener, E., & Seligman, M. E. P. (2002). Very happy people Psychological Science, 13(1), 81-84 					principles e at work. scientific people.		
Web. URLs1. https://onlinecourses.nptel.ac.in/noc23_hs06/preview							
	Course	e designed by	Verifi	ed by Cha	irman		
Dr. S Balaji			Dr. K Rajarajeswari				

Cour	se Code	Title									
23U3	CSC507	Core Paper XIII	I : Data Co	mmunicatio	n and Networ	:ks					
Seme	ester: V	Credits: 4	CIA: 25	Marks	ESE:7	5 Marks					
Course (Objective	To enable the students implementation of compu	to learn a iter network	and analyze is and transm	the principle ission of data	es, design and through it.					
Course	Category	Skill Development									
Develop	ment Needs	Global									
Course l	Description	To understand the concept	pts of Comr	nunication N	etworks.						
Course (Outcomes			Teaching Methods	Assessment	Methods					
CO 1	Understand communica	the fundamentals tion and computer networks	of data	Lecture		Quiz					
CO 2	Analyze the used in data	e importance of data link layer communications	r protocols	Tutorial		Quiz					
CO 3	Describe th	S	Seminar								
CO 4	Identify the	S	Seminar								
CO 5	CO 5Understand the various client-server protocols used in application layerVideo LessonsA										
Offered by Computer Science											
Course	Content		Instruc	tional Hours	s / Week : 5						
Unit		Description			Text Book	Chapters					
I	Introductio Networks – Administrati Model. Ph Unguided m	n and Physical Layer Da Network Types –INTERNET on. Protocol Layering –TCP ysical Layer: Transmissio edia.	ata Commu History - St P/IP Protoco on media-C	inications - andards and suite –OSI Guided and	1	1, 2 &7					
	8			Instruct	ional Hours	15					
Suggeste	ed Learning N	Aethods:Quiz									
II	Data – Link Layer & Media AccessError Detection And Correction: Introduction Block Coding- Cyclic Codes: Cyclic Redundancy Check, Polynomials, Cyclic Code Encoder, Using Polynomials, Cyclic Code Analysis, Advantages of Cyclic Codes–Checksum Media Access Control:1										
				Instruct	onal Hours	15					
Suggeste	ed Learning N	Aethods: Quiz	' D 1	•. • •							
ш	Network L Performance Network ICMPv4:mes Algorithms – IPv6 address Format exter	ayer: Network Layer Serv IPV4 Addresses: Address space Layer Protocals: IPV4: sages – MOBILE IP Unic Protocals - Multicasting Basics ing, Representation, Address s	- Class full Datagram ast Routin - Next Ger space – IPV	Addressing. Format, g: Routing heration IP: /6 Protocal:	1	18,19, 20, 21&22					
<u> </u>	1 011100, 07101			Instruct	onal Hours	15					

Suggeste	ed Le	arning M	Iethod	ls :Sen	ninar								
IV	TransportLayer:IntroductiontoTransportLayer:Introduction– TransportLayerProtocols.TransportLayerProtocols:Introduction– Services– PortNumbers– User1DatagramProtocol– TransmissionControlProtocol:TCPServices,TCPFeatures,Segment– StreamControlTransmissionProtocol:SCTPServices,Features,Segment.											23	5,24
							<u> </u>		Inst	ructio	onal Hours	1	5
Suggeste	ed Le	arning M	lethod	ls :Se	minar								
VApplication Layer - Introduction: Providing Services, Application-Layer Paradigms - Standard Client-Server Protocols: WWW and HTTP -FTP - Electronic mail - Telnet -SECURE SHELL(SSH) - Domain Name System1											25, 26	5	
Instructional Hours 15												5	
Suggested Learning Methods : Assignment													
			1 D	ahrour		*****	. Dot	o Comm	unicati	<u>'</u> 2	otal Hours	75	Hrs
Text Bo	oks		I. D	ifth Ed	ition T	MH 2	1, Da i 013		umcau	uns a	iu metworki	ng,	
Reference Books 1. AndrewS. Tanenbaum, Computer Networks, Fourth Edition, PHI. 2. Madhulika Jain, Prof. Satish Jain, "Data Communication and Networking", BPBPublications,2003 1. https://www.tutorialspoint.com/data_communication_computer_net Web. URLs 2. https://www.javatpoint.com/computer-network-tutorial											e <u>r_net</u>		
]	Fools f	or Ass	sessm	ent (25 N	(larks)				
CIA I		CIA	II	CLA	A III	Class Parti	s icipat	ation Assignme Seminar			Total		
5		5			6		3		3		3	2	5
						N	Aappi	ing			1		
CO \ PO	PO	l PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO	2 PSO3	PSO4	PSO5
C01	Η	М	Н	М	Μ	Н	Μ	Н	М	Н	М	М	Н
CO2	Μ	М	Н	Н	Н	Н	М	Н	М	Н	Н	Н	Н
CO3	Μ	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н
CO4	Μ	Н	Н	Н	Н	S	Н	Н	Н	Н	Н	Н	S
CO5	Η	Н	Н	М	Н	S	Н	Н	Н	Н	М	Н	S
H-High;	M-M	edium; L	-Low				L	I	1		I	1	1
	Course designed by Verified by Chairman												
Dr.D.Vi	mal I	Kumar		•]	Dr.N.Kav	vitha				

NASC 2023

Course C	Code	e Title											
23U3CJ0	C506		Core Pap	oer XI	V: Artificial Inte	ellige	nce						
Semester	r: V		Credits: 3	CL	A: 20 Marks ESE: 55 Marks								
			Common to) B. Sc	e., CS / IT								
Course O	bjectiv	e	To understand how A technique in real wor	Artifici ·ld.	al Intelligence use	ed as	a Problem	Solving					
Course Ca	ategory	Ŷ	Employability										
Developm	ent Ne	eds	Global										
Course De	escript	ion	The Artificial Intelli about networks, algo capable of human-lik	gence orithm te solu	course syllabus s, and programm tions.	is ain ing s	med to im skills to cr	part knowledge reate algorithms					
Course O	utcome	es		Teaching Methods		Assessme	ent Methods						
CO 1	Reme	mber the st	ructure of Intelligent a	agent	Flipped Classroom		Class Participation						
CO 2	Under with e	rstand the p examples	roblem solving method	ds	Tutorial		As	ssignment					
CO 3	Apply proble	/ Knowledg em	e and reasoning to the		Video Lectur	re		Seminar					
CO 4	Analy constr	vze how to u ructing plan	use reasoning methods	by	Tutorial		As	ssignment					
CO 5	Evalu using	ate method	s of Knowledge Gener gent	ation	Group Discussion			Seminar					
Offered by	y	Informat	tion Technology										
Course Co	ontent				Instructional	Hou	rs / Week	: 5					
Unit			Description			Chapters							
Ι	Intro Proble act-St	duction: In ems. Intellig tructure of I	troduction to AI - The gent Agent: Introduction Intelligent Agent	founda on-Ho	ation of AI – AI w Agent should		1,2	1,2					
					Instruc	tion	al Hours	15					
Suggested	Learn	ing Metho	ds : Flipped Classroom	m									
п	Probl Form Strate	em Solvin ulating Pro gies- Game	g by searching: Pro blems-Examples: 8 qu Playing: Minim ax-A	blem ueens lpha-E	Solving Agents- problem. Search Beta Pruning.		1	3,5					
					Instruc	tion	al Hours	15					
Suggested	Learn	ing Metho	ds : Tutorial										
III	Kno Rep simp	wledge an resentation, ple Logic- I	nd Reasoning: A H , Reasoning and Logic. ntroduction to First Or	Knowl Propo der Lo	edge based age ositional Logic-Ve ogic.	nt- ery	1	6,7					

]	Instruc	tional H	ours	15	5
Suggested	l Learn	ing Me	ethods	: Video	o Lectu	re							
IV	Pla Pla Pla	nning: nning - nning <i>A</i>	A sin - Basi Algorit	ple pla c Repre hm- Ex	nning a esentati ample.	agent – on of P	From I lanning	Problem g– A pa	solving rtial Or	g to der	1	11	
]	Instruc	tional H	ours	15	5
Suggested	l Learn	ing Me	ethods	: Tuto	rial								
V	Learn Learn	ing: A ing – L	A Gen earnin	eral m g from	odel o Decisio	f Leari on Trees	ning A s.	agent –	Induct	ive	1	18	
Instructional Hour													5
Suggested Learning Methods : Group Discussion													
Total Hours 75 Hrs												lrs	
Text Books 1. Stuart J.Russell, Peter Norvig, Artificial Intelligence – A M Approach, Prentice Hall Incorporation. 2.Elaine Rich, Kevin Knight, Shivasankar B. Nair, Artificial Intelligence McGraw, 2009. 1. Deepak Khemani, A First course in Artificial Intelligence McGraw											– A M al Intelli	fodern gence,	
Reference Books 1. Deepak Knemani, A First course in Artificial Intelligence Education Pyt Ltd 2013										ngence	, MCGIa	м пш	
Web. UR	Ls		h	ttps://w	ww.jav	vatpoint	.com/a	rtificial-	intellig	ence-ai			
				T	ools fo	r Asses	sment	(20 Ma	rks)				
	T					Class				. .		T (•
CIA	1	CIA	11		Pa:	rticipat	ion	on Assignment Semmar				Total	
4		4		5		2		2		3		20	
						Map	ping						
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	Н	М	Н	М	Н	М	L	L	Н	Н	Н	М	Н
CO2	Н	М	Н	М	Н	М	М	М	Н	М	Н	Н	Н
CO3	Н	М	Μ	Н	М	М	Н	Н	Н	Н	М	Н	Н
CO4	Н	М	Η	М	Н	М	L	L	Η	Н	Μ	Н	Н
CO5	Н	Μ	Η	Μ	Н	М	Н	М	Н	Н	Н	М	Н
H-High; M	/I-Mediu	ım; L-I	Low										
	C	ourse	design	ed by					Verifi	ed by C	hairma	n	
Dr. B. Kar	rthikeya	n					Dr.	J. Maria	Shyla				

Cour	se Code		Title										
23U30	CSC508	Core Paper XV	: Android Program	ming									
Semes	ter: V	Credits: 3 C	IA:20 Marks	ESE:	55 Marks								
Course	Objective	The course understands the arcl android programming and deve	nitecture, platform and lop real time mobile a	d tools requartions	ired for								
Course	Category	Employability											
Develop	ment Needs	Global											
Course	Description	Develop Problem Solving Ski Global needs.	lls to solve the comp	outer based	problems at								
Course	Outcomes		Teaching Methods	Assessme	ent Methods								
CO 1	Understand relate the interface c and in desi	d the basics of android, need of different user omponent in an application gning	Lecture	Ass	ignment								
CO 2	Design an interface c	application with the given use	er Constructivist Approach	Se	eminar								
CO 3	Develop an	n application using menus	Lecture	(Quiz								
CO 4	Understand Android pro	Program	n Execution										
CO 5	Create real platform	Program	n Execution										
Offered	by Compu	ıter Science											
Course	Content		Instructional Hour	s / Week : 5	5								
Unit		Description		Text Book	Chapters								
Ι	Introducti Android Application Debugging Creating at Lifecycle - Icon - Usi Activity re	1	1-2										
	Instructional Hours												
Suggest	ed Learning	Methods: Video lectures	11.11.11.11.1										
п	UI Components-Overview-Using the Android studio UI Tool - Using Basic Components – Toast - Alter Dialog - Notifications. Layouts – overview - Linear Layout - Relative Layout – FrameLayout-TableLayout-GridLayout- CreatingaLayoutProgrammatically.Listeners-Overview-Using the onclick Attribute-Implementing a Listener.												
			Instruction	nal Hours	15								
Suggest	ed Learning	Methods: Practice using Flow (Charts										
ш	The Navig The O View Exte	Action gation Option : Over nding	n Bar - Going Menu view-C List Ac	: Add g Back – The Creating ctivity a	ing A tup. Mo Contex g a Lis and Wi	ction enus: C at Menu tAdapt riting A	Items-)vervi u-The er – U A Cust	-Adding ew - Th Popup Jsing A om Ada	Dropd e Menu Menu. L ListView pter-Sty	own File ist v- vling	1	6-8	3
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	The S	Selecte	d Item.										
~									Instr	uctiona -	I Hours	S	15
Suggeste	ed Lear	ming N	Aethoo	ls : De	evelop	small j	progra	ammes	using N	lenus			
IV	Grid Grap Acce Shap Usin	l View phics a eleratio pes – E g Paths	w – S and Cu n - Cu Drawing s - The	Styles ustom reating g Text- Canva	and View a Cu –Trans	Theme s - C istom parenc io Appl	s –B over V View y – S licatio	itmap View - – Drav hades – n - Frag	Processi Hardw wing Ba Clippin gments.	ng. vare usic ug -	1	9-1	3
	Instructional Hours 15												
Suggeste	ed Lear	ning N	Aethod	ls : Aj	pply tł	ie prog	grams	in the	Androi	l Softw	are		
v	Mult Anin with the P	ti Pan nation Files– Public S	ne La - An A Overvi Storage	youts Animat ew-Cr -Work	– A tion pr eating ting wi	nimati oject - a Note th Data	on: - Prefe es App abase.	Overvie erences olication	w-Prope - Work -Access	erty ing ing	1	14-	18
					-0				Instr	uctiona	l Hours	s 1	15
Suggeste	ed Lear	ning N	Aethod	ls : La	borate	ory pra	octice						
		0								Tota	l Hours	s 75	Hrs
Text Bo	oks	1. D	Budi K evelop	Kurniav ment ,l	van , A Brainy	Begin Softwa	ner's re,201	Tutoria	al, Andr	oid Ap	plicatio	n	
Referen	ce Bool	xs 2. 3.	Charl Pract Anub Appl Jeff M ,Wro	tice,Ma bhavPra y using Mcwher xPublis	ns, Mich nning, 2 dhan, A g Andro ter, Sco her, 20	naelGal 2011 Anil V. Did, Wi Ditt Gow 12	pin,Ma Deshpa ley,Pu rell, P r	attniasKa ande, Co blication ofession	omposing s, 2014. al Mobi	narolali g Mobile le Appli	n e pps: Le cation d	earn, Ex levelopn	plore, nent
Web. Ul	RLs	<u>ht</u>	tps://w	ww.jav	vatpoir	nt.com/	andro	id-tutor	<u>ial</u>				
				То	ols for	Assess	sment	(20 Ma	arks)				
CIA	Ι	CI	A II	C	IA III	As	signn	nent	Semina	ır	Quiz	То	tal
4			4		5		2		2		3	2	0
						Maj	pping						
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO 5
CO1	Н	Н	Н	L	М	М	L	М	М	Н	Н	М	М
CO2	М	М	М	М	Н	М	Μ	Μ	Н	Н	Н	М	Н
CO3	Н	L	Μ	Н	М	Μ	L	Н	М	Η	Н	М	Μ
CO4	М	Н	L	М	L	L	Н	M	Н	М	Н	Н	M
CO5	M	M	H	Η	М	Н	Μ	Н	Н	Н	M	Н	Η
H-High;	M-Med	lıum; L	L-Low										
		Course	e desia	ned hy	v				Veri	ied by	Chairm	an	
		V.Kavitha Dr.N.Kavitha											

Course (Code		Title					
23U3CSP	509	Core Paper XVI : P	ractica	l in Android Progra	mming			
Semester:	V	Credits : 3	С	IA: 30 Marks	ESE:45 Marks			
Course Obje	ective	To acquire fundamental knowled Android	ge for	Mobile APP develop	ment using			
Course Cate	egory	Employability						
Developmen Needs	t	Global						
Course Desc	ription	To development skill set in Mo to develop applications in order Course Outcomes.	bile AF to meet	P development and the Local and Globa	apply the concepts l needs			
Course Out	comes			Teaching Methods	Assessment Methods			
CO 1Design the application using basics of and programmingDevelop on application using Graphics or				Program Demonstration	Program Creativity			
CO 2	Develo Anima	op an application using Graphics a tion	nd	Program Demonstration	Debugging			
CO 3	Develo Dialog	op an application to perform differ Boxes	ent	Program Demonstration	Application of Logic			
CO 4	Develo of SQI	op an application with different fu	nction	Program Demonstration	Program Development			
CO 5	Develo databa	op an application to connect the se		Program Demonstration	Program Development			
Offered by	Com	puter Science						
Course Con	tent		Ins	structional Hours / V	Veek:5			
	te "Hello	Program L World" application Display it in the	ist middle	of the screen in red co	lor with white			
2. Back	ground	world application. Display it in the	maare	of the screen in red co	ior with white			
3. Deve	elop an ap	plication that uses GUI components,	Font an	d Colors				
4. Deve	elop an ap	plication that uses Layout Managers	and eve	nt listeners.				
5. Writ	e an and	roid program to change the image	display	ved on the screen				
6. Desi	gn an ap	plication representing a simple cal	culator					
7. Create a simple application with login								
8. Dev	elop an a	pplication for working with Menu	s and S	creen Navigation				
9. Dev	elop an A	application for working with Notif	ication	s				

10. Write an android program to demonstrate Alert Dialog Box													
11	11. Develop an application for working with graphics and animation												
12	12. Develop an simple application using SQLite												
13	13. Develop an application for working with location based services												
Suggested Learning Methods: Mini Project													
Total Hours 75 Hrs													
				T	ools for .	Asses	sment	(30 Mar l	ks)				
Laboratory	aboratory cerformance- Application of ogic Laboratory cerformance- Program Creativity Creativity Laboratory Performance- Program Program Debugging Debugging Debugging Test 1 Test 2 Total Total												Total
	4		4		4			1		7	4		30
						Ma	pping						
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	6 PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	Н	Н	L	Μ	Н	L	М	Н	Н	Н	Н	М	М
CO2	Н	Н	L	М	Н	L	М	Н	Н	Н	Н	М	М
CO3	Н	Н	L	М	Н	L	М	Н	Н	Н	Н	Н	Н
CO4	Н	Н	L	М	Н	L	М	Н	Н	Н	Н	Н	Н
CO5	Н	Н	L	М	Н	L	M	Н	Н	Н	Н	Н	Н
H-High	; M-Me	edium	; L-Low				·		•				
		Co	urse desi	gned l	by				Verif	ied by (Chairm	an	
Dr.N.K	avitha							Dr.N.Ka	vitha	•			

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Cou	rse Code	Title							
23 U	3CKE501	Disci Elective Paper I :	oline Specific Blockchain Tech	nology					
Sem	ester: V	Credits: 4 CIA: 25	5 Marks	ESE:75 N	Aarks				
		(Common to B. Sc. CS /]	IT / BCA)						
Course	Objective	Understanding of blockchain technolog consensus mechanisms, cryptocurrency, s permissioned models and distributed cons	y, encompassin mart contracts, a ensus algorithms	g fundamenta nd practical ap	I principles, oplications in				
Course	Category	Skill Development							
Develop Needs	oment	Global							
Course Descrip	Course Explore the foundational aspects of blockchain technology, encompassin Description ledgers, cryptocurrency, consensus mechanisms, smart contracts, and perm models, with a focus on practical applications and implementation. Torophing								
Course	urse OutcomesTeaching MethodsAssessment Methods								
CO 1	Understand public led contracts, d	I the basics of blockchain, including gers, Bitcoin, Blockchain 2.0, smart listributed consensus.	Lecture	Group I	Discussion				
CO 2	Analyze B examining and consen	itcoin and cryptocurrency fundamentals, coin creation, payments, block mining, sus in open environments.	Lecture/ Tutorial	Group I	Discussion				
CO 3	Assess Bit Proof of permission	coin consensus mechanisms, examining Work, Proof of Stake, mining, ed models, and design challenges.	Lecture/ Flipped Classroom	Assignr	nent				
CO 4	Explore d Consensus Agreement Byzantine	istributed consensus, covering RAFT Byzantine fault-tolerant systems, Protocol, Lamport - and Practical Fault Tolerance in asynchronous systems.	Lecture/ Tutorial	Seminar	ſ				
CO 5	Examine r IoT, Medi Security, a	eal-world applications of blockchain in cal Record Management, Government, nd practical implementations.	Lecture/ Tutorial	Seminar	c				
Offered	by Comp	outer Science							
Course	Content		Instruct	ional Hours /	Week: 6				
Unit		Description		Text Book	Chapters				
I	INTRODUCTION TO BLOCKCHAIN: Blockchain- Public Ledgers, Blockchain as Public Ledgers -Bitcoin, Blockchain 2.0, Smart Contracts, Block in a Blockchain, Transactions-Distributed Consensus, The Chain and the Longest Chain -Cryptocurrency to Blockchain 2.0 - Permissioned Model of Block chain, Cryptographic -Hash Function, Description of a head function Hash pointer and Markle tract								
	•	*	Instruct	ional Hours	18 Hrs				
Suggest	ed Learning	Methods: Video Lectures on Introduct	ion to blockchai	'n					
II	BITCOIN AND CRYPTO CURRENCY: Basic crypto currency, Creation of coins, Payments and double spending, FORTH - the precursor for Bitcoin scripting, Bitcoin Scripts , Bitcoin P2P Network, Transaction in Bitcoin Network, Block Mining, Block propagation and block relay, Consensus12								

	introduction, Distributed consensus in open environments-Consensus in a Bitcoin network.																	
										Instructio	nal Hours	18	8 Hrs					
Suggest	ed Lea	rning N	Method	s: Vide	eo Lect	tures o	n Intro	duction	to bitco	in scriptin	g							
BITCOIN CONSENSUS: Bitcoin Consensus, Proof of Work (PoW)- Hashcash PoW, Bitcoin PoW, Attacks on PoW, monopoly problem- Proof of Stake- Proof of Burn - Proof of Elapsed Time - Bitcoin Miner, Mining Difficulty, Mining Pool-Permissioned model and use cases, Design issues for Permissioned Blockchains, Execute contracts- Consensus models for permissioned block chain-Distributed consensus in closed environment Paxos.1Instructional Hours										3								
										Instructio	nal Hours	1	8 Hrs					
Suggest	ed Lea	rning N	Method	s: Gro	up Dise	cussion	1											
	DISTI	KIRAL L	ED CC	DNSEN	NSUS I	КАГТ:	Conse	ensus-B	yzantin	e general								
137	problem, Byzantine fault tolerant system - Agreement Protocol,							1		-								
1 V	systems. Practical Byzantine Fault Tolerance.							1		5								
	systems, Practical Byzantine Fault Tolerance. Instructional Hours								nal Hours	18	3 Hrs							
Suggest	ed Lea	rning N	Method	s: Gro	up Dise	cussion	ı											
	BLOC	CK CH	IAIN	APPL	ICATI	IONS:	Interr	net of	Things	-Medical								
V	Record Management System-Blockchain in Government and 1								1		7							
	Blockchain Security-Blockchain Use Cases – Finance.										10							
Instructional Hours											18	3 Hrs						
Suggest	ed Lea	rning N	letnoa	s:Ap	piy the	e tecnn	iiques v	vith re	ai time		tal Hours	00	Ung					
Total Hours										n inciahta	into docont	raliza	tion					
Text Bashir, Imran, Mastering Blockchain: Deeper insights into decentr											4114311							
Text Bo	oks	1	. Bash cryp	ur, Imr togra f	an , M ohy, Bi	asterii itcoin,	ng Bloc and po	kchair pular	Text BooksIn Busini, Initial, Mastering Dioekentalin Deeper Insights into decents cryptography, Bitcoin, and popular Blockchain frameworks,20171. Arvind Narayanan, Joseph Bonneau, Edward Felten, Andrew Miller, Goldfeder. Bitcoin and cryptocurrency technologies: A comprehensive i Princeton University Press, 2016.2. Joseph Bonneau et al, SoK: Research perspectives and challenges									
Text Bo Referen	ooks .ce Boo	1 ks 2	Bash cryp Arvin Gold Princ Josej and	tr, Imr tograp nd Nar feder. I eton Un oh Bor crypto	an , M bhy, Bi ayanan Bitcoin niversit nneau e curren	astern itcoin, Josep and cr y Press et al, S ncy, IE	ng Bloc and po oh Bon yptocun , 2016. oK: Re CEE Syr	ekchair pular neau, H rency esearch nposiu	Blockch Edward technolo perspe m on se	ain frame Felten, An gies: A con ectives and curity and	eworks,2017 drew Miller, nprehensive d challenges Privacy, 201	, and introd	Steven luction. Bitcoin					
Text Bo Referen Web. U	ooks ace Boo RLs	1 ks 2 <u>h</u>	 Bash cryp Arvin Gold Princ Josej and 	tr, Imr tograg nd Nar feder. I eton Un oh Bor crypto	an , M ohy, Bi rayanan Bitcoin niversit nneau e ocurren ourser	astern itcoin, , Josep and cr y Press et al, S ncy, IE a.org/	ng Bloc and po oh Bon yptocu , 2016. oK: Re EEE Syi learn/in	ekchair opular neau, H crency crency seearch nposiu ntrodu	Blockch Blockch Edward technolo perspe m on se ction-bl	ain frame Felten, An gies: A con ectives and curity and lockchain-	eworks,2017 drew Miller, nprehensive d challenges Privacy, 201	and introd 5.	Steven luction.					
Text Bo Referen Web. U	ooks .ce Boo <u>RLs</u>	1 ks 2 <u>h</u>	Bash cryp cryp Gold Princ Josej and	ir, Imr tograp nd Nar feder. I eton U oh Bor crypto	an , M phy, Bi rayanan Bitcoin niversit neau e ocurren ourser Fools f	astern itcoin, Josep and cr y Press et al, S ncy, IE a.org/J	ng Bloc and po oh Bon yptocun , 2016. oK: Re CEE Syn cEE Syn cessmen	ekchair opular neau, f rency f esearch mposiu ntrodu	Blockch Edward technolo m on se ction-bl Marks)	ain frame Felten, An gies: A con ectives and curity and ockchain-	a into decent eworks,2017 drew Miller, nprehensive d challenges Privacy, 201 technologie	7. , and introd 5 for 1 5. <u>8</u>	Steven luction. Bitcoin					
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Cour	rse Code	j	ſitle						
23U3	CKE502	Discip Elective Paper I: Nex	oline Specific xt Generation Netwo	orks					
Seme	ester: V	Credits: 4 CIA	.: 25 Marks E	CSE: 75 N	Aarks				
		(Common to B. Sc. CS / B. Sc	c. IT / BCA)						
Course	Objective	To learn the technical, economic and networks. Analyse the evolution of te the NGN framework catering services	d service advantages chnologies of 4G and of end user with QoS	of next l beyond provision	generation , to explore ning.				
Course	Category	Skill Development							
Develop Needs	oment	Global							
Course Descrip	tion	Description about Course category and	Development Needs						
		Course Outcomes	Teaching Methods	Assessm	ent Methods				
CO 1	Describe th domain in f	e issues and challenges of wireless future generation network design	Lecture	Ass	ignment				
CO 2	Understand and beyond	the evolution of technologies of 4G	Lecture/ Tutorial	Se	eminar				
CO 3	Explore the	ELTE concepts and technologies	Lecture/ Tutorial	Se	eminar				
CO 4	Analyse the	e process of integrating SDN with LTE	Tutorial	(Quiz				
CO 5	CO 5Evaluate the NGN architectures, management and standardizationsLecture / Flipped ClassroomAssignm								
Offered	by Comp	outer Applications							
Course	Content		Instructional Hour	s / Week	:6				
Unit		Description		Text Book	Chapters				
Ι	INTRODU for IP base data netwo Changes, Generation	JCTION: Evolution of public mobile s ad services, Wireless IP network archite ork architecture. Introduction to next ge Opportunities and Challenges, T Society, future Trends.	ervices -motivations ecture –3GPP packet eneration networks - 'echnologies, Next	3 2	1, 2 1				
			Instructiona	l Hours	18Hrs				
Suggest	ed Learning	g Methods:Report Presentation							
Π	LTE - In History of Architectu Logical, T Multiple downlink/u	troduction: Architectural Review of Mobile Telecommunication Systems, No are of LTE Air Interface: Air Interf Transport and Physical Channels, T Antenna Transmission, Resource uplink data transfer.	UMTS and GSM, eed for LTE. face Protocol Stack, he Resource Grid, Element Mapping,	5	1, 6				
	Instructional Hours 18H								
Suggest	ed Learning	g Methods: Video Lectures	1 11 1 2 2 2						
ш	4	3, 4, 5, 6							
Suggest	ad Lagreet	In Mathada:Video Leature - J.P.	structional Hours		18Hrs				
Suggest	ed Learning	g Methods: Video Lectures and Repor	t Presentation						

IV	NGN require stratum functio cable a	ARC ments, n, serv n. NG nd inte	CHITE NGN vice/ c N entit ernet ev	CTUR function ontent ies, Ne colutior	E:Evol onal arc layer twork towar	lution chitect and o and Se ds NG	towa ure- Tr custom rvice e N.	urds ranspo ner ter evoluti	NGN-Te rt stratum rminal ec on -fixed	chnolog n, servic quipmer , mobile	y e nt e,	1	1, 3, 4, 6 18Hrs	
Suggest	ad I aar	mina N	Acthod	aNid				11151	1 ucuona	1 110015	•		101115	
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1		Instructional Hours 18Hrs												
Suggest	ed Lear	ning N	Method	ls: Rer	ort &	Video	Prese	ntatio	n		-			
		8				1400	11050		 Tots	al Hour	S		90Hrs	
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				To	ols for	·Asses	sment	(25 M	larks)					
CIA	I	CI	A II	C	IA III	As	signm	ent	Semina	ır	Quiz	То	tal	
	5		5		6		3		3		3		25	
						Ma	pping							
CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	
C01	Н	H	M	M	M	L	M	H	Н	Н	Н	M	M	
CO2	Н	Н	М	М	М	L	М	Н	Н	Н	Н	М	М	
CO3	Η	Η	M	М	М	L	Μ	Н	Н	Н	Н	Н	Н	
CO4	Н	Η	М	М	М	L	М	Н	Н	Н	Н	Н	Н	
CO5	Η	Η	Μ	Μ	Μ	L	Μ	Н	Н	Н	Н	Η	Н	
H-High;	M-Mec	lium; I	L-Low											
	Course designed by Varified by Chairmon													
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Cou	Course Code Title									
23U3	CKE503	Elective Pap	Discipline Specific er - I : Internet of T	hings						
Sem	ester: V	Credits: 4	CIA: 25 Marks	ES	E:75 Marks					
		(Common to B. Sc. (CS / IT / BCA)							
Course	Objective	To understand the Data and Kno Technology, Understand State of Design.	wledge Management the Art – IoT Archit	and use of tecture and	Devices in IoT Real World IoT					
Course	Category	Employability								
Develop	ment Needs	Global								
Development Needs Otobal Course Description This Course focuses on hands-on IoT concepts such as sensing, actuation an communication. It covers the development of Internet of Things (IoT prototypes—including devices for sensing, actuation, processing, an communication—to help you develop skills and experiences.										
Course	Outcomes		Teaching Methods	Assessi	nent Methods					
CO 1	Rememberin	ng IoT from the global context.	Social Media	Assignmen	nt					
CO 2	Understand Architectura	the Market perspective and I Overview of IoT.	Brainstorming	Assignme	nt					
CO 3	Examine the	fundamentals of IoT technology	Video Lectures	Seminar						
CO 4	Implement Building Au Constraints.	IoT in Industrial and Commercial utomation and Real World Design	Demonstration	Seminar						
CO 5	Analyse stat	e of the art and architecture in IoT.	Discussion	Hands on	Activity					
Offered	by Inform	ation Technology								
Course	Content	In	structional Hours / V	Week:6						
Unit		Description		Text Book	Chapters					
I	M2M to Io towards IoT Characteristic	Γ -The Vision-Introduction, From N-the global context, A use case cs.	A2M to IoT, M2M example, Differing	1	2					
			Instruction	nal Hours	18Hrs					
Suggest	ed Learning N	Methods:Group Discussion								
Suggested Learning Methods: Group Discussion M2M to IoT – A Market Perspective– Introduction, Some Definitions, M2M Value Chains, IoT Value Chains, An emerging industrial structure for IoT, The international driven global value chain and global information monopolies. II chain and global information monopolies. M2M to IoT-An Architectural Overview– Building an architecture, Main design principles and needed capabilities, An										
		,	Instruction	nal Hours	18Hrs					
Suggest	ed Learning N	Methods : Quiz								
III	M2M a: gateways.	nd IoT Technology Fundame Local and wide area networking. Da	ntals- Devices and ta management.	1	5					
			Instruction	nal Hours	18Hrs					
Suggest	ed Learning N	Methods : Assignment								

B. Sc., / BCA

IV	Bus and	iness p IoT An	rocesse	es in Io , Knov	oT, Ev vledge	erythin Manag	ng as a gement.	Servic	e(XaaS), M2M		1	4	5
I			5	,	0				Instruction	nal H	ours	18Hr	S
Suggeste	d Lear	ning M	ethods	s : Ass	signme	nt							
V	IoT Arc and	Archit hitectu archite	tecture re Re cture, I	-State ferenc	of the Moderation	e Art – del- Int Mode	Introdu roducti l.	iction, on, Re	State of the art. ference Model		1	6-	-7
									Instruction	nal H	ours	18 H	rs
Suggeste	d Lear	ning M	ethods	s : Sen	ninar								
									То	tal H	ours	90 H 1	rs
Text Boo	oks		1.	Jan Stam Inter Intel	Hollen atisKan net ligence	rnouske of ' e'', Aca	asiosTsi os, Dav Things ademic I	atsis, vid Bo : In Press, 2	Catherine Mu oyle, "From Ma troduction to 2014.	illigar Ichino I	n, Stef e-to-Ma Nev	fan Ave achine to v Age	sand, o the of
Reference	ference Books1. Vijay Madisetti and ArshdeepBahga, "Internet of Things (A Hands-on-Approach)", VPT, 2014.2. Francis daCosta, "Rethinking the Internet of Things: A Scalable Approach to Connecting Everything", Apress Publications, 2013												
Web. UI	RLs		1.	<u>http</u>	<u>s://ww</u>	w.tutor	ialspoii	<u>nt.com/</u>	internet of thin	gs/inc	lex.htm	<u>l</u>	
				,	Tools f	for Ass	sessmer	nt (25 I	Marks)				
C	CIA I	(CIA II	CL	A III	Assig	nment	Ser	ninar	Han on Activ	ds vity	Total	
	5		5	6			3		3	3		25	
						Ν	Aappin	g					
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PS O2	PSO3	PSO 4	PSO 5
CO1	Μ	М	М	Μ	Μ	Μ	М	М	М	Μ	Μ	Μ	М
CO2	Μ	Μ	М	Μ	M	Μ	Μ	Μ	М	Μ	Μ	Μ	M
CO3	M	H	H	H	H	M	H	H	M	H	H	H	H
CO4	Μ	H	H	H	H	M	Н	Н	M	H	Н	H	H
CO5	Н	H	Н	Н	Н	Н	Н	Н	Н	Η	Н	H	H
H-High;	M-Med	ium; L-	Low										
		Course	design	ned by					Verified b	y Cha	airman		
Dr. Sathi	Dr. Sathish kumar Dr. J. Maria Shyla												

Cours	ourse Code Title								
23U30	CKE504	Elective P	Discipl Paper I :	line Specific : Big Data Anal	lytics				
Seme	ester: V	Credits: 4	CIA: 25	5 Marks	ESE:75	Marks			
		(Common to B. Sc. C	S / IT /]	BCA / AIML)					
Course	Objective	To provide an overview of an e big data like Hadoop, No Sql I principles in achieving big data a	exciting g Map-Red analytics.	growing field of luce and learn f	big data ana undamental to	lytics, analyse echniques and			
Course	Category	Employability							
Develop	ment	Global							
Needs Course		To understand the concepts of Big Data and analysis of these data entails along							
Descript	ion	To understand the concepts of Big Data and analysis of these data entails along tethical and conceptual challenges							
Course	Outcomes			Teaching Methods	Assessment	Methods			
CO 1	Remember	ring big data terminologies		Jigsaw	Group	Discussion			
CO 2	Understane application	ding Hadoop framework ai 1.	nd its	Inquiry Based		Quiz			
CO 3	Apply No.	SQL Data Model in real time	Demonstratio n	As	signment				
CO 4	Implement	t Map Reduce Programming		Video Lectures	Ass	signment			
CO 5	Develop H	ladoop streaming with R		Flipped Classrooms	S	eminar			
Offered	by Infor	mation Technology			•				
Course	Content		Instruc	ctional Hours / `	Week : 6				
Unit		Description			Text Book	Chapters			
NI	INTRO Big Dat Data bu Data So	DUCTION TO BIG DATA : Inta ta characteristics, types of Big Da isiness approach, Bigdata Challen lutions.	troductio ata, Trac ges, Cas	n to Big Data, litional vs. Big e Study of Big	1	1			
				Instructi	onal Hours	18 Hrs			
Suggeste	d Learning	Methods: Group Discussion	v Hadoo	n – Why not					
IIIIADOOL. Infoldening Hadoop – wily Hadoop – wily Hot RDBMS – RDBMS versus Hadoop – History of Hadoop – Hadoop Overview – Hadoop Distributed File System (HDFS) – Processing Data with Hadoop – Managing Resources and Applications with Hadoop YARN – Interacting with Hadoop Ecosystem22									
0	17 .			Instructi	onal Hours	18 Hrs			
Suggeste	ed Learning	g Methods: Quiz	to N-C						
III	Busines	s Drivers – NoSQL Data Ar	cal Patterns –	1	3				

B. Sc.,/BCA

I

	Var	iations	of No	SQL /	SQL to								
	Ma	nage B	ig data	– Case	study	of No.	SQL						
-									I	nstructi	onal Hours	18	Hrs
Suggest	ed Lear	$\frac{\text{ning } N}{D}$	1ethod	s :Assi	gnmen	it I	4 1	·· ·	MD	1			
	NIA M-	AP KE	DUCE	Prog		ng: Ir	itroduc	tion to	марке	cauce –			
IV	Maj	pper –	Reduce	r - Co	mbine	r – Par	titione	r – Sear	cning –	Sorting	2		4
	-0	ompres	ssion								1 11	10	
<i>a</i>									I	nstructi	onal Hours	18	Hrs
Suggest	ed Lear	ning N	lethod	s: Assi	gnmen	It							
	Ha	doop s	treami	ng wit	h R: (Jnders	tanding	g the ba	sics of l	Hadoop			
v	stre	aming	H –	OW to MonD	o run	Hade	oop s	treamin	g With	K –	2		4
·	cod	e and	ung a	марко Мар-Б	educe a	applica	nion –	bow	to evol	now to	5		4
	out	tput of Map Reduce application											
	Instructional Hours 18 Hrs												
Suggest	ggested Learning Methods: Seminar												
		n								Τ	otal Hours	90	Hrs
			1. F	Radha	S	hankar	mani,	M	V	ijayalaks	shmi, "I	Big	Data
				Analyt	ics",W	ileyPu	blicati	ons,first	Edition	2016 "Dig Da	to and Ana	lutios"	Wilow
Text Bo	oks		2. C	Publica	tion fi	ya, Su rst edit	tion R	enrint i	appan,	DIG Da	ita anu Ana	iyues ,	wney
	3. Vignesh Prajapati "Data analytics with R and Hadoon". Copyright ©											ight ©	
	2013, Packt Publishing.												
			1. N	Aichae	l Mine	elli, M	ichelle	Chaml	pers, and	d Ambig	ga Dhiraj, "E	Big Da	ta, Big
			A	Analyt	ics: E	mergi	ng Bu	isiness	Intellig	gence a	nd Analytic	Tren	ds for
Referen	ce Bool	KS	[] 2 I	l'oday'	s Busi	nesses	", Wile	ey, 2013 Bi a Da) 40 Tidal	Warra	Finding One		:4: T.
			2. f	5111 ГГС Анде Г	inks, 1 Data St	aming, treams	With	Big Da	ced Ang	l wave:	Finding Opj Wiley	portun	ities in
			1.	https://		guru99	$\frac{1}{2}$.com/v	what-is-	big-data	.html	whey		
Web. U	RLs		2.	https://	/techta	rget.co	m/sear	chbusin	essanal	ytics/defi	inition/big-da	ta-anal	ytics
						a 4							
					Tools	for Ass	sessme	ent (25]	Marks)		II		
CIA	I	Cl	AII	CL	A III	As	ssignm	ent	Sen	inar	Activity	T	otal
	5		5	6			3		3		3	25	
						Ι	Mappi	ng					
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO 4	PSO5
CO1	М	Μ	М	М	М	М	M	М	М	М	М	M	М
CO2	M	Μ	Н	Η	Η	Μ	M	Н	Н	H	Н	Η	Н
CO3	Н	Μ	Н	Н	Η	Н	Μ	Η	Н	Н	Н	Н	Н
CO4	H	H	H	H	H	H	H	H	H	H	Н	H	H
CO5		H	<u> H</u>	H	H	H	H	H	H	H	Н	H	Н
п-High;	IVI-IVIEC	num; L	-LOW										
		Cours	e design	ned by					V	erified b	y Chairman		
	1	- 1					-)ТЪ <i>Ф</i>		1			
Dr. 1. R	amaprat	ona						r. J. Ma	aria Shy	ia			

Course	Code	Title								
23U4CS2	Z503		Skill Based P	aper II	: Practical in Net	working				
Semester: V			Credits: 3	С	IA: 30 Marks	ESE:45 Marks				
Course Obje	ective		To acquire fundamental	knowled	lge on Networking	concepts				
Course Cate	egory		Employability							
Developmen	t Needs		Global							
Course Desc	ription		To development skill se	t to stud	ents in the field of I	Networking Program.				
Course Out	comes				Teaching Metho	ds Assessment Methods				
CO 1	Understa standards	nd v s, and	wireless networking technologies descurity considerations.	ologies,	Program Demonstration	Program Creativity				
CO 2	Acquire monitorin network	conc ng te perfe	onceptual knowledge to use network g tools and techniques to optimize erformance and troubleshoot issues.							
CO 3	Develop monitorin network	an ng to perfo	an application to use network Program Application of Logic erformance and troubleshoot issues.							
CO 4	Understa importan and vulne	nd c ce o erabi	ybersecurity best practices of securing networks from ilities	and the threats	Program Demonstration	Program Development				
CO 5	Develop networki topologie	a ng es, ar	solid understanding o concepts, including produced of the solution of the solu	f core otocols,	Program Demonstration	Program Development				
Offered by	Comp	ıter	Science		·					
Course Con	tent			Ins	tructional Hours	/ Week : 4				
		-	Program l	List						
1. Write time.	a program	that	t uses the ping command to	ping a i	remote host and dis	splay the response				
2. Creat using	e a prograr DNS reso	n tha lutio	at takes a domain name as i n.	nput and	l returns its corresp	onding IP address				
3. Devel addre	lop a simp ss.	le p	ort scanning tool that che	cks if sp	pecific ports are o	penon a target IP				
4. Write	a program	that	t can determine the MAC a	ddress o	f a device on the lo	ocal network				
5. Creat	e a prograr	m that sends an HTTP GET request to a web server and displays the response.								
6. Devel	lop a progr	am t	hat measures the upload an	d downle	oad speeds of an in	ternet connection.				
7. Build the ne	a subnet c etwork add	alcu ress,	lator that takes an IP addre , broadcast address, and ava	ss and su ailable II	ibnet mask as inpu P range.	t and calculates				
8. Creat subne	Create a tool that retrieves and displays network configuration information (IP address, subnet mask, gateway) for a computer.									

9.	 Build a simple FTP client that can connect to an FTP server, list directory contents, and download/upload files. 												
10.	Create about c	a prog	gram that ted devi	t monit ces.	ors DHC	P lea	ises on	a local ne	twork a	nd displ	ays info	ormatio	n
11.	11. Write a program that shows the DNS cache entries on your computer, including resolved domain names and their corresponding IP addresses.												
12.	Develop comput	p a to er.	ol that c	hecks i	f specific	port	s are al	lowed or	blocked	by the	firewall	on you	r
	1		Solving	Netwo	ork Issue	s and	d Prog	ram deve	lopmen	t			
Total Hours												rs 60	Hrs
Tools for Assessment (30 Marks)													
Laboratory Performance- Application of Logic Program Creativity Program Debugging Test 1 Test 2 Test 2 Observation Note Book											DUUK	Total	
	4		4		4			7		7	4		30
						M	apping		•				
CO \ PO	PO1	PO	$2 \qquad \begin{array}{c} PO \\ 3 \end{array}$	PO4	PO5	РО	6 PO	7 PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	Η	Н	Н	М	М	L	H	H	Н	Н	М	М	L
CO2	М	Н	М	Н	М	M	Н	М	Н	М	Н	М	М
CO3	М	Н	М	Н	М	M	Н	М	Н	М	Н	М	М
CO4	М	Н	Н	Μ	М	Н	Н	Н	Н	Н	М	М	Н
CO5	Н	S	Μ	Μ	L	L	S	М	S	M	М	L	L
H-High; M-Medium; L-Low													
	Course designed by Verified by Chairman												
M.Sent	M.Senthil Kumar Dr.N.Kavitha												

Cou	rse Code	Title							
23U3	CSC610	Core Paper X	XVII : Full Stack De	velopment					
Seme	ster: VI	Credits: 4 C	IA: 25 Marks	ESE:75 M	arks				
Course	Objective	To understand developing Full St	ack Software Develo	per					
Course	Category	Employability							
Develop Needs	oment	Global							
Course		ting, testing, and de	eploying a	complete web					
Descrip	tion								
Course	Outcomes		Teaching Methods	Assessmen	Assessment Methods				
CO 1	To underst importance	and the basics of JavaScript and e of MERN stack	Lecture	Group	Discussion				
CO 2	To underst front-end c	and the role of React in designing components	Lecture	Quiz					
CO 3	To underst developme Node.jsand	and the design issues in the nt of backend components using l Express	Video Lessons	Semin	ar				
CO 4	To underst MongoDB	and the significance of using as a database system	Tutorial	Semin	ar				
CO 5	To underst stack devel	and the advanced features of full lopment	Video Lessons	Assig	nment				
Offered	by Comp	outer Science	I						
Course	Content		Instructional Hours	s / Week :6					
Unit		Description		Text Book	Chapters				
I	JavaScript iteration - E events - E Document loop: micro Node.js - E Hello World	Fundamentals - Objects - Gene Modules - DOM tree - Node pro vent delegation - UI Events -F and resource loading - Mutation tasks and macro tasks - MERN Co xpress - MongoDB - Need for ME d - Server Setup - nvm - Node.js – ng	erators, advanced operties - browser Forms, controls - observer - Event mponents- React - CRN - Server-Less om.	1	2,3				
		¥	Instruction	nal Hours	18				
Suggest	ed Learning	Methods: Tutorial							
п	React Introd Component Dynamic C Initialization Stateless Co <u>CSS -</u> Reac	TTML - React JSX - nents - Passing Data - State - Async State rom Child to Parent - React Forms - React	1	4,5					
			Instruction	nal Hours	18				
Suggest	ed Learning	Methods: Group Discussion	NT 1 5 1						
ш	Node.js ba Manager Inspector Express.js	2	2,3						

	Methods as Actions - JSON- Express - Routing - Handler												
	Func	tion -	Middlew	vare - 🛛	The Lis	st API	- Auto	omatic	Server R	estart			
	- Te	sting	- The C	reate A	API -	Using	the L	List AF	PI - Usin	g the			
	Crea	te AP	I- Error I	Handlii	ng - Te	emplate	e Engi	ine.					
									Instr	uction	nal Hours	5	18
Suggeste	ed Lea	rning	Method	ls :Gra	oup Di	scussio	on				-		
	Mongo	DB -	Mongo	OB Bas	sics -	Docum	ents -	- Colle	ctions -	Query			
	Langu	age -	Installatio	on - Th	ne mon	igo She	ell - S	Schema	Initializa	tion -			
IV	Mongo	DB N	Node.js D	river -	- Read	ing fro	om M	ongoDI	3 - Writi	ng to	2		• •
	Mongo	DB -	CRUD 0	peration	ns - pro	ojection	18 - In Domic	idexing	- Aggreg	aton -	3		2,3
	Kephc	ation -	Sharung	- Clea	ing bac	скир —	Depic	Jyment.	Instr	untion	ol Hours	,	10
Suggested Learning Methods :Video Presentation											10		
Modularization and Webpack - Routing with React Router - Forms -													
	More Filters in the List API - UIComponents - Update API - Delete												
		Deset	III UIE LI		- UICC	Inpole	tion	Novia	AFI - De	hle			
X 7	API - Keact-Bootstrap - Bootstrap Installation - Navigation - Table												
V	and Panel - Forms - Alerts - Modals -Server Rendering - Basic Server 3 3,4												
	Rendering - Handling State - MongoDB Aggregate - Pagination -												
	Higher Order Components - Search Bar - Google Sign- In - Session												
	Handling												
Instruction													18
1 Terry McNayago, Java Script for absolute Reginners, Apress, 2010													
1. Terry McNavage, Java Script for absolute Beginners, Apress, 2010													
Text Bo	oks		2.FIU M Node	EKIN SI Vasan	ack, ru Subran	iii Staci nanian	Δ Pre	App D ss Publ	isher 201	n wini Q	Moligo, Ex	ipiess, K	eact, and
			3.David	Hows.	Peter N	/Iembre	ev. MC	DNGOE	B basics.	Apress	5		
Defense	a Daa	lag	1. 1.The	Full St	ack De	velope	r: You	r Essen	tial Guide	to the	Everyday S	Skills	
Referen	ce Dou	OKS	2. Expec	ted of a	a Mode	rn Full	Stack	Web D	eveloper				
Web, UI	RLs		1.https:/	//reactj	s.org/								
			2.https:/	//nodej	s.org								
					ools fo	r Asse	ssmer	nt (25]	Marks)				
CIA	Ι	C	IA II	C	IA III	As	ssignn	nent	Semina	ar	Quiz	Т	otal
5	5		5		6		3	3	3		3		25
						M	appin	ng					
CO \ PO	PO1	PO 2	PO3	PO4	PO5	PO6	PO7	7 PO8	B PSO1	PSO	2 PSO3	PSO4	PSO5
CO1	М	M	Н	L	L	Н	Н	М	М	Н	Н	Н	М
CO2	Н	Н	Н	Μ	Н	Н	М	М	Н	Μ	Н	М	Μ
CO3	М	М	Н	Н	М	М	Н	М	Н	Н	М	Н	М
CO4	М	L	L	М	М	М	Η	М	Н	Н	М	Н	М
CO5	М	Н	М	Н	М	М	М	Н	Н	Н	М	М	Н
H-High;	M-Me	dium;	L-Low										
		Cour	se desig	ned by	7				Ver	ified	by Chairn	nan	
Dr.D.Vimal Kumar Dr.N.Kavitha													

23U3C Semes Course C	CSV611			Title										
Semes Course C			Proje	ect & Viva-Vo	ce									
Course C	ster: VI	Credits: 4	CI	A :40 Marks		ESE: 60 I	Marks							
	Dbjective	To give project based learning they learned.	ng whic	h makes the stu	dents to a	pply practic	cally what							
Course C	Category	Employability												
Developm	nent Needs	Global												
Course D	Description	Develop Problem Solving Global needs.	g Skill	s to solve the	e comput	er based problems at								
Course C	Outcomes			Teaching M	ethods	Assessment Methods								
CO 1	Remember the algorithm and	he fundamental concepts of d designs		Lectur	re	R	eview							
CO 2	Understand t Software En	the optimal methods and gineering concepts to be app	olied	Construc Approa	tivist Ich]	Review							
CO 3	Apply the kr	nowledge and what they learn	ned	Video Les	sons]	Review							
CO 4	Analyze the feasibility	Economical and Technical		Tutori	al	Program Execution								
CO 5	Develop soft Deployment	ware based applications and of software	-	Lectur	re	Program	n Execution							
Offered l	by Comput	ter Science												
Course C	Content			Instructional Hours / Week : 6										
Unit		Description				Text Book	Chapters							
Ι	Title of the I A proje	PROJECT W Project ect report submitted to the B partial fulfilli of the requirements for the av BACHELOR OF COMPU Submitted by Name of the St (Reg.No) Under the Guida Guide Name (Des <college emb<br="">NEHRU ARTS AND SCII (Autonomo</college>	harathi ment ward of UTER tudent ance of ignatic lem> ENCE us)	ar University in the degree of SCIENCE	n the									

14001 :	2004 Certified)
RECOGNIZED BY UGC & UN	AFFILIATED TO BHARATHIAR IVERSITY
"NEHRU GARDENS", T. M	PALAYAM, COIMBATORE – 641 105.
Мо	onth & year
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iii CERTIFICATE FROM TH	E COMPANY/ORGANIZATION
Iv BONAFIDE CERTIFICAT	TE
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1.2. Organization profile	
2. SYSTEM ANALYSIS	
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2.2. Proposed system	
2.2.1. System Study	
2.3. System specification	
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2.3.2. Software specification	
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3.1.2 System flow diagram	
3.1.3 ER Diagram	
3.2 Design Process	
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3.2.3 Output design	
4. SYSTEM TESTING AND	IMPLEMENTATION
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4.2 System implementation	
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A. Sample Screens													
	E	8. R	eports										
									Ι	nstructiona	l Hours	s 9	0
				Т	ools fo	or Asse	ssment	(40 M	arks)				
Review - I Review - II Review - III						Review - III			Document, Preparation and Implementation		Total		
1	0			10		1	0			10		40	
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CO\PO	PO1	PO	2 PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO 5
CO \ PO CO1	РО1 Н	PO H	2 PO3	PO4 L	РО5 М	PO6 M	PO7	РО8 М	PSO1 M	РЅО2 Н	РЅОЗ Н	PSO4 M	PSO 5 M
CO \ PO CO1 CO2	РО1 Н М	PO H M	2 PO3 H M	PO4 L M	РО5 М Н	PO6 M M	PO7 L M	PO8 M M	PSO1 M H	РSO2 Н Н	РSO3 Н Н	PSO4 M M	PSO 5 M H
CO\PO CO1 CO2 CO3	РО1 Н М Н	PO H M L	2 PO3 H M M	PO4 L M H	PO5 M H M	PO6 M M M	PO7 L M L	PO8 M M H	PSO1 M H M	РSO2 Н Н Н	PSO3 H H H H	PSO4 M M M	PSO 5 M H M
CO\PO CO1 CO2 CO3 CO4	РО1 Н М Н	PO H M L H	2 PO3 H M M L	PO4 L M H M	PO5 M H M L	PO6 M M L	PO7 L M L H	PO8 M H M	PSO1 M H M H	РSO2 Н Н Н М	PSO3 H H H H H	PSO4 M M H	PSO 5 M H M M
CO\PO CO1 CO2 CO3 CO4 CO5	PO1 H M H M M	PO H M L H M	2 PO3 H M M L L	PO4 L M H M H	PO5 M H M L M	PO6 M M L H	PO7 L L H M	PO8 M H H H	PSO1 M H M H H	PSO2 H H H H H H H H	PSO3 H H H H M	PSO4 M M H H	PSO 5 M H M H H H H
CO\PO CO1 CO2 CO3 CO4 CO5 H-High;	PO1 H H M M M	PO H L H M	2 PO3 H M M L L H L-Low	PO4 L M H M H	PO5 M H M L M	PO6 M M L H	PO7 L M L H M	PO8 M H H H	PSO1 M H M H H	PSO2 H H H M H	PSO3 H H H M	PSO4 M M H H	PSO 5 M H M H H H
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Course Code Title							
23U3	CKE605	Elective P	Discipline Sp aper II - Softward	ecific e Quali	ty Assura	ance	
Semes	ter: VI	Credits: 4	CIA:25 Marks		ES	SE: 75 Marks	
	·	(Common to B.	Sc. CS / IT / BCA)				
Course	Objective	To equip students with th	e knowledge and sl effective testing an	cills to d quali	ensure the	e delivery of high-	
Course	Category	Employability	encetive testing un	u quun			
Develop	oment Needs	Global					
Course	Description	Focuses on principles and of software systems throu management techniques.	d practices for ensu 1gh comprehensive	ring th testing	e reliabili methodo	ty and excellence logies and quality	
Course	ching hods	Assessment Methods					
CO 1	Understand principles, e the need fe operation, r	software errors, cause emphasizing the role of qual or comprehensive requirent evision, and transition.	es, and quality lity assurance and nents in product	Vi Lee	ideo cture	Assignment	
CO 2	CO 2 Analyze software testing strategies, covering white and black box testing, and explore the testing process, test-case design, automation, and alpha-beta site testing. Lecture Discu						
CO 3	Assess soft like white automate p programs.	ware testing strategies, cat and black box testing, de rocesses, and execute alpha	tegorize methods esign test cases, h-beta site testing	Le	cture	Seminar	
CO 4	Evaluate objectives, analyzing c Quality.	Software Quality metric applying process and proc costs using the Classical me	cs, categorizing luct metrics, and odel of Software	Tu	torial	Quiz	
CO 5	Examine Q 9000-3, ce model princ	uality Management standard ertification processes, Cap ciples, and the Bootstrap me	ds, including ISO pability Maturity ethodology.	Lee	cture	Quiz	
Offered	by Compu	iter Science					
Course	Content		Instructional	l Hours	s / Week	: 6	
Unit		Description			Text Book	Chapters	
Ι	Software Quality: Define Software-Software error, faults and failures-Classification of the causes of software errors- Software Quality Definition and objectives – software quality assurance and software engineering. Software Quality factors: Need for comprehensive software quality requirements – classification of software requirements into software quality factors – product operation software quality factors – product revision software quality factors – product transition software quality factors.2,3						
			Insti	uction	al Hours	18	
Suggest	ed Learning	Methods: Assignment					

	Cor	npone	nts of	SQA :	systen	ı:SQ	A syste	m and	archited	cture			
	– I	Pre-pro	ject c	compoi	nents	– sof	tware	project	t life c	cycle	1		
II	con	nponen	its – In	frastru	icture	compo	nents f	or erro	r prevei	ntion	1	4	
	and	impro	ovemei	nt - N	lanage	ment	SQA co	ompon	ents – S	SQA			
	star	idards,	syster	n certi	ficatio	n and	assessn	nent co	omponer	nts –			
	Org	anızın	g for S	QA -	the hu	man co	ompone	ents.	T 4			10	
C	J T		1 - 41	Jac Ca	D	• •			Instru	ictiona	Hours	18	
Suggeste	a Leal	ning I	vietno	us: Gr	oup D			~ ~ ~ ~	d abiaa				
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	1100	onnate	u testii	15 11	ipna	octa si	te testi		Instru	ctiona	Hours	18	
Suggested Learning Methods : Seminar													·
	<u>Sof</u>	tware	Oualit	v met	rics: () biecti	ves of c	mality	measure	ement			
	- C	lassific	etrics-										
IV	Pro	duct m	rics –	1	21	.22							
	Cos	st of So	oftware	e Ouali	ity me	trics-C	lassical	l mode	l of Sof	tware			,
	Qua	ality.											
				ctiona	Hours	18							
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	soft	ware	quality	mana	ageme	nt - Is	SO 900	00-3 -	- certific	cation	1&2	23,4	
V	acc	ording	to ISC	9000-	-3 stan	dard –	Capabi	ility M	aturity 1	nodel	1 & <i>L</i>		
	prir	ciples	, stru	icture	and	proce	esses	area	– Boo	otsrap			
	met	hodolo	ogy.										
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Suggeste	d Leai	rning I	Vletho	ds : Q	UIZ							00.1	r
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			1 1055	tenher	$1 - \frac{2010}{1}$	Kan	"Met	trics	and N	Indels	in Soft	ware O	nality
			Engi	neerin	σ"2n	d Editi	ion Pea	rson 2	2003	ioució	in Sol	ware y	uunty
Reference	e Bool	KS	2.Ksł	nirasag	arNail	c and	Privad	arshiTi	ripathy	(Eds).	"Softwar	e Testin	g and
			Oual	ity As	suran	ce: Th	eory ar	ıd Pra	ctice".	John W	iley, 2008		8
Web. UF	RLs		Softv	vare Q	uality	Assura	ince (SO	OA) - '	ΓAE (tu	torialar	dexample	.com)	
				Т	ools fa	or Ass	essmen	t (25 N	Marks)		*	<u>-</u>	
CIA	I	CI	AII	C	ΙΑΠΙ	Α	ssignm	ient	Semin	ar	Ouiz	To	tal
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-	Mapping									-		-	
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	Н	Н	Н	L	М	М	L	М	М	Н	Н	М	М
CO2	Μ	Μ	Μ	Μ	Η	Μ	Μ	Μ	Н	Н	Н	М	Н
CO3	Н	L	М	Н	М	М	L	Н	M	Н	Н	М	М
CO4	М	Н	L	M	L	L	Η	М	H	М	Н	Н	М
CO5	М	М	Н	Н	М	Н	М	Н	Н	Н	М	Н	Н
H-High;	M-Mec	lium; I	L-Low										
Course designed by Verified											y Chairm	an	

Dr. N. Kavitha

R. Anitha

B. Sc., / BCA

Cour	se Code		Title			•		
23U3	CKE606	Elective P	Discipline Specifi Paper II : Informat	ic tion Se	ecurity			
Sem	ester: VI	Credits: 4	CIA:25 Marks		ESE	75 Marks		
		(Common to B. Sc.	. CS / IT / BCA)					
Course	Objective	To enable the students to Security in the local and G	understand variou lobal scenarios.	s aspe	ects of In	nformation		
Course	Category	Skill Development						
Develop	ment Needs	Global						
Course	Description	Develop Problem Solving S Global needs.	Skills to solve the c	compu	ter based	problems at		
Course	Outcomes			Tea Me	ching thods	Assessment Methods		
CO 1	Remember describe ke measures in Developmer	the history and basics of inform y features, and evaluate securi- information systems, especially at Life Cycle.	nation security, ity models and in the System	Fl Clas	ipped ssroom	Assignment		
CO 2	Evaluate business security needs, identify threats, and explore legal, ethical, and professional aspects of information security, encompassing laws, ethics, and international regulations.							
CO 3	Apply risk identifying a strategies, measures.	management in information and assessing risks, proposing e and selecting appropriate r	security by ffective control isk mitigation	V Le	ideo ssons	Group Discussion		
CO 4	Develop sec blueprint, in business co documentati	curity plans by crafting policies, of mplementing education and traintinuity, with a focus on risk pre- tion	designing a security ining, and ensuring eferences and result	Tu	itorial	Quiz		
CO 5	Apply info considering	rmation security through pro technical and non-technical aspe	oject management, ects.	Le	ecture	Poster Presentation		
Offered	by Comp	uter Applications						
Course	Content		Instructional I	Hours	/ Week	: 6		
Unit		Description			Text Book	Chapters		
Ι	Introduction Information NSTISSC System, Se Access-The	In to Information security: Security-Critical Character Security Model-Components ecuring the Components-Ba SDLC-The Security SDLC.	History-Introductio istics of Informat s of an Informa lancing Security	n to tion, tion and	1	1		
C		M _4 h = h _1 A = 1	Instru	ction	al Hours	s 18		
II	Need for Attacks.Leg Laws and et Ethics and in	Security: Introduction- Bu al, Ethical and Professiona hics-types of law-internationa nformation security.	siness Needs-Threads I Issues: Introduct I laws and legal boo	eats- tion- lies-	1	2,3		
		<u>_</u>	Instru	ction	al Hours 18			

NASC 2023 B. Sc., / BCA Suggested Learning Methods: Seminar Introduction-overview-Identifying Risk Management: and 4 1 Assessing Risk- Assessing- Control strategies- selecting strategy. Ш **Instructional Hours** 18 **Suggested Learning Methods : Group Discussion** Planning for Security: Introduction-Information Security Policy-Blueprint for Security-Security education-training and awareness-5 1 IV Continuity strategies, Risk appetite, Management discussion points, documenting results. **Instructional Hours** 18 **Suggested Learning Methods : Quiz** Implementing Information Security: Introduction- Project 1 10,12 management for information security-Technical and non-technical aspects of implementation. V Information Security Maintenance: Introduction- Security management models-Maintenance model. **Instructional Hours** 18 Suggested Learning Methods : Poster Presentation **Total Hours 90 Hrs** 1. Michael E. Whitman and Herbert J. Mattord, "Principles of **Text Books** Information Security", Second Edition, Thomson Publishers. 1. Surva Prakash Tripathi and RitendraGoel. "Introduction to Information Security and Cyber Laws",2014, Dream Tech Press. 2. V.K. Pachghare, "Cryptography and Information Security", **Reference Books** 2nd Revised edition, Prentice-Hall of India Pvt.Ltd. 3. Mark S. Merkow, "Information Security: Principles and Practices", Second Edition, Pearson Education. https://www.exabeam.com/explainers/information-security/information-Web. URLs security-goals-types-and-applications/ **Tools for Assessment (25 Marks) CIAI** CIA II CIA III Assignment Seminar Total Ouiz 5 25 5 3 3 3 6 Mapping PSO CO \ PO PO1 **PO2 PO3 PO4 PO5** PO6 PO7 **PO8** PSO1 PSO₂ PSO3 PSO₄ 5 Η Η L **CO1** Н Μ М L Μ Μ Н Η Μ Μ **CO2** Μ Н Μ М М Μ Η М Μ Η Η Μ Η **CO3** Μ L Η Η L М Η Μ Η Μ Η Μ М **CO4** Η М L Μ L L Η Μ Η М Η Η М **CO5** Μ Μ Η Η Μ Η Μ Η Η Η Μ Η Η H-High; M-Medium; L-Low Course designed by Verified by Chairman

Cour	se Code		Title				
23U3	CKE607	Disc Elective Paper	pline Specific - II : Cloud Compu	ıting			
Seme	ster: VI	Credits: 4 Cl	A: 25 Marks	ESE:	75 Marks		
		(Common to B. Sc	. CS / IT / BCA)				
Course	Objective	This course aims to provide studer concepts of Cloud Computing and	ts with the fundament their varied services	ntals and es	sentials		
Course	Category	Skill Development					
Develop Needs	oment	Global					
Course Descrip	tion	This course gives students an insi- with virtualization, cloud computi- a while now. It will provide the s virtualization along with it how on	ght into the basics of ng is one of the faste tudents basic unders e can migrate over it	f cloud com st growing tanding abc	puting along domain from out cloud and		
Course	Outcomes	<u> </u>	Teaching Methods	As	sessment Iethods		
CO 1	Remember	the basic concepts of Clou	d Interactive		Poster		
	Computing	_	Lecture	Pr	esentation		
CO 2	Understand services	the cloud architecture and in	s Tutorial	A	ssignment		
CO 3	Explore Platform as		Seminar				
CO 4	Apply the c	oncept of various web services.	Tutorial	C	lase Study		
CO 5	Analyse the	e cloud services in real time	Lecture	C	Case Study		
Offered	by Infor	mation Technology					
Course	Content		Instructional	Hours / W	eek : 6		
Unit		Description		Text Book	Chapters		
I	Defining C Types - E Disadvanta Standards. Assessing t The laws Behavioral	Cloud Computing: Defining Cloud xamining the Characteristics of C ges of cloud computing - Assessin the Value Proposition: Measuring of cloudonomics - Cloud com factors relating to cloud adoption.	Computing - Cloud Cloud Computing - g the Role of Open the Cloud's Value: puting obstacles -	1	1,2		
			Instruction	nal Hours	18 Hrs		
Suggest Video le	ed Learning ectures abou	g Methods : It the basics of Cloud Computing					
	Understand	ding Cloud Architecture: Exp	loring the Cloud				
Π	Computing Stack - Connecting to the Cloud. Understanding Services and Applications by Type: Defining Infrastructure as a Service (IaaS) - Defining Platform as a Service (PaaS) - Defining Software as a Service (SaaS) - Defining Identity as a Service (IDaaS) - Defining Compliance as a Service (CaaS).						
			Instruction	nal Hours	18 Hrs		
Suggest	ed Learning	g Methods : Practice using Model	5				

ш	UnderstandingAbstractionandVirtualization:UsingVirtualizationTechnologies - Load Balancing and Virtualization -UnderstandingHypervisors - UnderstandingMachine Imaging -PortingApplications.ExploringPlatform as a Service:DefiningApplicationFrameworks											5	5,7
	Applica	ation Fra	amewor	ks.			C		e				
									Instruct	tional	Hours	18	Hrs
Suggest tools	ed Lear	rning M	ethods	: Devel	op sma	all pro	gramm	es us	ing visu	alizati	on		
IV	Surveying the Google Application Portfolio - Exploring Google Applications - Surveying the Google Application Portfolio - Exploring the Google Toolkit - Working with the Google App Engine. Using Amazon Web Services: Understanding Amazon Web Services - Amazon Web Service Components and Services - Working with the Elastic Compute Cloud (EC2) - Working with Amazon Storage Systems - Understanding Amazon Database Services.											8	3,9
									Instruct	tional	Hours	18	Hrs
Suggest	ed Lear	rning M	ethods	: Apply	y the co	oncept	t of web	serv	ices				
v	Using Microsoft: Cloud Services - Exploring Microsoft Cloud Services - Defining the Windows Azure Platform - UsingWindows Live. Understanding Cloud: Security - Securing the Cloud - Securing Data Establishing Identity and Presence										1		10,12
I									Instruct	tional	Hours	18	Hrs
Suggest	ed Lear	ning M	ethods	: Case	study								
										Total	Hours	90 I	Irs
Text	Books	1.]	Barrie S	Sosinsky	y, "Clo	oud C	omputi	ng Bi	ible", W	iley P	ublishir	ig, Inc.,	2011.
Referen	ce Bool	1. F ks 2. A Ap	Ray J Ra Arshdee p roach'	faels, " p, Bah , 2014.	Cloud ga and	Comj I Vijai	outing: i Madise	From etti, '	Beginn 'Cloud	ing to Comp	End",2 outing:	2015. A Han	ids- on
Web UF	RLs	htt	ps://ww	w.cour	sera.or	g/learr	n/introdu	iction	-to-cloue	b			
				Tools	s for A	ssessn	nent (25	Mar	ks)				
(C		CIA	A III	As	signment	;	Seminar		Quiz		<u>Fotal</u>
	5		5	(0	Марі	3 Ding		3		5		25
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	Н	Н	Н	L	М	M	L	М	M	Н	Н	М	М
CO2	М	М	М	М	Н	М	М	М	Н	Н	Н	М	Н
CO3	Н	L	М	Н	М	М	L	Н	М	Н	Н	М	М
CO4	Μ	Н	L	М	L	L	Н	Μ	Н	Μ	Η	Н	M
CO5	М	М	Н	Н	М	Н	М	Н	Н	Н	М	Н	Н
H-High; N	M-Medi	um; L-I	LOW										
Course designed by Verified by													
Dr. T. Ramaprabha Dr. J. MariaSh									nyla				

B. Sc., / BCA

Course Code Title								
230	J3CKE608	Dis Elective Pa	scipline Specific per II – Cyber Secu	ırity				
Ser	nester: VI	Credits: 4 CIA	: 25 Marks	ESE	: 75 Marks			
		(Common to B. Sc. C	CS / IT / BCA)					
Course	Objective	To make the students to unde significance in current scenario	erstand Cryptograph of IT and informatic	y, Cybercon security	crime and its			
Course	Category	Employability						
Develop	oment Needs	Global						
Course	Description	This course helps to identify the recognise digital exploitation and through threats.	he different cryptog d also to prevent dan	graphic techniques, to nage such as loss of data				
Course	Outcomes	Teaching Methods	Assessme	ent Methods				
CO 1	Remember representati	the information and its various on	Lecture	Just – Pre	A – Minute esentation			
CO 2	Understand and overvie	the concept of computer networks ew of internet	Tutorial	Poster	Presentation			
CO 3	Interpret communica techniques	the file organization, data tion and data modulation	Flipped Classroom	As	signment			
CO 4	Apply the time	Cryptographic techniques in real	Tutorial	S	eminar			
CO 5	Analyse in authenticat	ormation security framework and on technologies	Lecture		Quiz			
Offered	by Inform	nation Technology		·				
Course	Content	I	nstructional Hours	/ Week :	6			
Unit		Description		Text Book	Chapters			
I	DescriptionInformation BookCharInformation and its Representation:Introduction to information – Quality - of Information - Value of Information – Information Processing - Information Processing cycle in computers - information - Representation and codes - Number Representation - Binary - Representation of Positive integers - Signed Binary Integers - Positive Binary Fractions - signed Binary Fractions - Representing Fractions in Binary - Representation of Alphanumeric - Data - Current Trends in Information Technology – semiconductor - Technology - Information storage - Networking - Applications of - IT - ITChar							
	**		Instruction	al Hours	18 Hrs			
Suggest Security	ed Learning	Methods : Video lectures about	the basics of Cyber	•				
п	Computer Networks and Internet: An overview of computer Network – Basic networking components - what is Internet - Internet Protocols - Internet protocol types - OSI Reference versus TCP/IP Model - OSI model layers - TCP/IP12							
9	1.7		Instructiona	l Hours	18 Hrs			
Suggest	ed Learning	Methods : Practice using Flow C	harts					

B.	Sc., /	BC	N	JASC	20	23							
	Inform	ation	storag	e and	comm	unica	tion: I	nforma	ation sto	orage -			
ш	purpose Interna Data co signals Technie	e of sto l file s ommun - Ba ques.	tructur icatior sic -	Types e - Ex i - an c Data	of stor ternal overvie Comm	rage D file str w - wł unicat	evices ructure nat is da ion M	- File and fi ata con lodel	organiza le extern nmunica - Modu	ation - ision - ation - ilation	1		3
									Instru	ictional	l Hours	s 18	8 Hrs
Suggest structur	ed Leaı 'e	rning N	Metho	ds : Do	evelop	small	progra	amme	s on int	ernal fi	le		
IV	Cryptography Systems: Introduction - Cryptography SystemsTypes-Symmetric Cryptography - Asymmetric or Public Key, Cryptography-Hash Functions-Why three Encryption Techniques?- Public key Algorithms - RSA Public Key Algorithm - Digital Signature - Diffie - Hellman - ElGamal-EDCSA-XTR. CyberLaw and Ethics: Introduction to cybercrime - Prevention - preventive steps for Individuals - preventive steps for organizations and government - How to protect the computer against threats.												5 & 6
									Instru	ictiona	l Hours	s 18	8 Hrs
Suggest	ed Leai	rning N	Metho	ds : A	pply tl	he Cry	yptogra	aphic	techniq	ues in 1	nodels		
V	Information security Framework - Information security and privacy - security Framework - Information systems security Framework - Framework for Network security access. Access control Techniques- Computer Security and Access Control- 1 Access control Techniques-Biometric Authentication- Authentication Tokens-Token types and usage-Digital signature- Embediments and even deven Deleted A direction Tokens-Token types												8&9
									Instru	ictional	Hours	18 Hrs	
Suggest	ed Leai	rning I	Metho	ds : Ca	ase Stu	ıdy							
			1 Dor	leai A a	nomuol	"Infor	mation	Soone	ity 8- C	Tota when Lee	I Hours	5 90 Do Loom	J Hrs
Text Bo	oks		Privat	te Limi	ted, Fir	st Editi	ion,201	0		yber La	ws, Ach		mg
Referen	ce Bool	ζS	1. An Chapj 2. La	iy Rose ple, " Ii wrence	e, Debon nforma C. Mill	rah Ar tion Se ler, "C	rand, K ecurity yber So	ristin E Illumi e <mark>curity</mark>	2. Ohlim, nated", 3 for Dur	Malloy, Jones & nmies" ,	, Michael Barlett P John Wi	G. Solo Publishe ley & se	omon, Mi rs, 2005. ons, Inc
Web. U	RLs		https:	//www	v.techta	rget.co	om/sea	rchsec	urity/def	finition/	cybersec	curity	
				То	ols for	Asses	sment	(25 M	larks)				
CIA	I	CL	AII	CI	AIII	Ass	signme	nt	Semina	ar	Quiz	Т	otal
	5		5	6			3		3		3		25
CO\PO	PO1	PO2	PO3	PO4	PO5		PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	H	H	H	L	M	M	L	M	M	Н	Н	M	M
CO2	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$											М	Н
CO3	Н	L	М	Н	М	М	L	Н	М	Н	Н	М	М
CO4	CO4 M H L M L L H M H M H H M												М
CO5 M M H M H M H H M H												Н	
H-High;	M-Mec	lium; L	L-Low							X 7 • 0			
	Course designed by Verified by												
Dr. T. R	amapral	bha					D	r. J. M	lari Shyl	a			

Course Code Title								
23U	3CSE609	Elective II	Discipline Specific I : Data Mining & W	arehousing				
Sem	ester: VI	Credits:4	CIA: 25 Marks	ESE:	75 Marks			
Course	Objective	To focuses on the fundamental algorithms associated with the	als of data warehousine same.	ng and data m	ining and			
Course	Category	Employability						
Develop	oment Needs	Global						
Course	Description	Develop Problem Solving Sk needs.	puter based p	roblems at Global				
Course	Outcomes		Teaching Metho	ds Assessm	ent Methods			
CO 1	Identify the ba	asic concept of Data Mining	Flipped Classroom	Gro	oup Discussion			
CO 2	Understand va their techniqu	arious tools of Data Mining and es	l Tutorials	1	Assignment			
CO 3	Apply the dat pattern analys	ta mining techniques in freque	Simulation too	ls	Case Based			
CO 4	Explain the c mining	lustering techniques in data	Case Studies		Quiz			
CO 5	Understand al	bout data warehousing concept	S Lectures		Seminar			
Offered	l by Compu	iter Science	1					
Course	Content		Instructional Hou	ırs / Week : (6			
Unit		Description		Text Book	Chapters			
I	Introduction Functionality Integration Discretization	on to Data Mining: Data Mining: Data Mining: Data Preprocessing – I and Transformation – Data on and Concept Hierarchy Generation	lining: - Data Minin Data Cleaning – Dat a Reduction – Dat eration	g a 1 a	1,2,3			
			Instructi	onal Hours	18			
Suggest	ted Learning I	Methods: Video lectures abou	t the basics of Data	Mining				
п	Frequent F mining me Correlations Association	Pattern Analysis: Basic concept ethod. Constrain based frequest s – Mining Methods – Mining Rules – Correlation Analysis	pt – frequent item set ient data mining - ng various Kinds of s – Constraint Based	1	4,5,6			
	Association	Mining						
0	17		Instructi	onal Hours	18			
Suggest	Cleasification	Methods: Practice using Flow	Trage Industion De-					
III	Classification Evaluation Accuracy	and Selection- Techniques to	Classification- Mod Improve Classification	lel on 1	8			
			Instructi	onal Hours	18			
Suggest	ted Learning I	Methods : Develop small prog	grammes using Class	ification				

Cluster Analysis: Basic Concepts and Methods - Cluster Analysis-Partitioning Methods- Hierarchical Methods- Density-Based IV Methods-Density-Based Methods-Grid-Based Methods-1 10 Evaluation of Clustering **Instructional Hours** 18 Suggested Learning Methods : Apply the Cluster Analysis in Case Studies Data Warehousing and OLAP: Data Warehouse - Basic Concepts- Data Warehouse Modeling - Data Cube and OLAP-1 04 V Data Warehouse Design and Usage- Data Warehouse Implementation- Data Generalization by Attribute-Oriented Induction **Instructional Hours** 18 **Suggested Learning Methods : Case Studies Total Hours** 90 Hrs 1. Jiawei Han, MichelineKamber and JianPei"Data Mining Concepts and **Text Books** Techniques", Third Edition, Elsevier, 2011. 1. PaulrajPonniah,'Data Warehousing: Fundamentals 2nd Edition.John Willey,2012 **Reference Books** 2. M. H.Dunham, 2003, Data Mining: Introductory and Advanced Topics, Pearson Education, Delhi, 2003 Data Mining Tutorial - Javatpoint Web. URLs Tools for Assessment (25 Marks) **CIA I CIA II** CIA III Seminar Assignment Quiz Total 5 5 6 25 3 3 3 Mapping CO \ PO **PO1** PO3 PO4 **PO6 PO7 PO8** PSO1 PSO2 PSO3 PSO4 PSO5 **PO2** PO5 **CO1** Η Η Η L Μ Μ L М Μ Η Η Μ М CO2 Μ Μ Μ Η Μ Μ Μ Η Η Μ Η М Η L Μ Н Н CO3 Н М Μ L Μ Н Н Μ Μ **CO4** Μ Η L Μ L L Η Μ Η Μ Η Η Μ **CO5** Μ Μ Н Н Η Μ Н Н Н Н Н М Μ H-High; M-Medium; L-Low Course designed by Verified by Chairman R.Anitha Dr.N.Kavitha

Cou	rse Code	Title								
23U	3CSE610	Disci Elective Paper III - Mac	pline Specific	hniques						
Sem	ester: VI	Credits: 4 CIA	:25 Marks	ESE:	75 Marks					
Course	Objective	To introduce students to the conce	ept sand techniques of	of Machine	Learning.					
Course	Category	Employability								
Dovelor	mont Noods	Global								
Course	Description	Develop Problem Solving Skills	to solve the comp	iter based	nrohlems at					
Course	Description	Global needs.	to solve the compt	iter based problems at						
Course	Outcomes		Teaching Methods	Assessme	ent Methods					
CO 1	Understand techniques	the basic concepts and of Machine Learning.	Video Lecture	Ass	ignment					
CO 2	Explain the classification	e regression methods, on methods, clustering methods.	Tutorial	Se	eminar					
CO 3	Understand algorithms	I the inference and learning for the hidden Markov model.	Lecture		Quiz					
CO 4	Demonstrat Techniques	te Dimensionality reduction	Video Lecture	Group	Discussion					
CO 5	Appreciate relationship Learning a supervised	the underlying mathematical ps within and across Machine algorithms and the paradigms of and un-supervised learning.	Flipped Class Room	Quiz						
Offered	by Compu	iter Science								
Course	Content	I	nstructional Hours	/ Week : 6	j					
Unit		Description	Text Book	Chapters						
I	Introduction Learning – System – Concept Lea Maximally theCandidat Perceptron–	 Types of Machine Learnin The Brain and the Neuron –De Perspectives and Issues in Macharning Task –Concept Learning as S Specific Hypothesis – Version eEliminationAlgorithm–LinearDisc LinearSeparability–LinearRegression 	g – Supervised esign a Learning hine Learning – Search-Finding a on Spaces and criminants– on.	1	1,2					
			Instruction	al Hours	18					
Suggest	ed Learning I	Methods: Assignment								
п	Backwards: Practice–Ex Propagation Network–Cu Functions–S	Back Propagation Error–Multi-Lay Back Propagation Error–Multi-Lay amples of using the MLP–Overview –Radial Basis Functions and Spline urse of Dimensionality–Interpolatio Support Vector Machines.	1	2,3						
			al Hours	19						
Suggest	ed Learning I	Methods: Seminar								
III	TreeandProt Constructing – Ensemble	babilisticModels–LearningwithTree gDecisionTrees – Classification and Learning – Boosting – Bagging –	es–DecisionTrees– d Regression Trees - Different ways to	1	4,5					

	Combine Classifiers - Probability and Learning – Data into Probabilities – Basic Statistics – Gaussian Mixture Models –												
	Probal	oilities	– Ba	SIC Sta	atistics	– G8	ussian	1 MIXtu Loomin	ire Moo	iels –			
	Algori	st neig ithma	Vocto	Ouont	18 – U izotion	Isuper Solf	Organ	izing E	ig – K I	Ineans Ion			
	Aigon	unns –		Qualit	ization	- Sell	Organ	IZING IN	Instr	lap.		, 1	10
Suggeste	dIcor	ning N	A oth od						111511	uctiona	I Hours	, .	19
Suggeste	Dimor	ning N	ity Doc	ls : Qu	uz and E	volutio	moner	Madala					
	Dimer	isional	ity Rec	luction			mary r	vioueis-					
	Dimer		ity Ket			ar Disc		ini Ana	Iysis—	+:			
13.7	Local	y Line			g–ison	ap-Le	ast Sq	uares C	off	uon–	1		< 7
1V	Evolu	tionary	Learn	ing–Go	enetic	Algori	.nms–(Jenetic	Off spr	ing–	1		5,7
	Geneti	ic Ope	rators–	Using	Geneti	c Algo	rithms	S-Reinf	orcemer	its			
	Learni	ing-Ov	n										
	Proces	SS.											
C (1 7	uctiona	I Hours	3	[7								
Suggested Learning Methods : Group Discussion													
Graphical Models – Markov Chain Monte Carlo Methods–													
V	Sampling – Proposal Distribution – Markov Chain Monte Carlo – 1												
	Graphical Models – Bayesian Networks – Markov Random												
Fields –Hidden Markov Models– Tracking Methods.													
Instructional Hours													17
Suggested Learning Methods : Quiz													
Total Hours 90 Hrs													
Text Boo	oks		1. Eth Com	nem Al outatio	lpaydir n and l	n,-Intro Machir	ductione Lean	on to Ma rning Se	achine L eries),Tl	earning. hird Edit	3e Adaj tion,MI	ptive [Press,2	2014.
			1.Jaso	n Bell,	Mach	ine Le	arning	-Hands	on for	Develop	ers and	Technic	al
Defenon			profes	sionals	s, First	Editi	on,Wi	ley,201	4.	_			
Kelerend	e Door	15	2.Pete	r Flach	n,-Mac	hine L	earnin	g:The A	Art and S	Science	of Algoi	rithms tl	hat
			Make	Sense	of Da	ta, Firs	t Editi	ion, Cai	nbridge	Univers	sityPress	,2012.	
Web. UF	RLs		https:	://www	/.javat _l	point.co	om/ma	<u>ichine-l</u>	earning				
				То	ols for	Asses	sment	(25 Ma	arks)				
CIA	Ι	CI	A II	C	IA III	As	signm	lent	Semina	ar	Quiz	То	tal
5			5		6		3		3		3	2	5
						Ma	pping						
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	Н	Н	Н	L	М	М	L	М	М	Η	Η	М	М
CO2	М	Μ	М	М	Н	Μ	М	М	Н	Η	Η	М	Н
CO3	Н	L	М	Н	Μ	Μ	L	Н	М	Н	Η	М	М
CO4	М	Н	L	М	L	L	Н	Μ	Н	М	Н	Н	М
CO5	М	М	Н	Н	М	Н	М	Η	Н	Н	М	Н	Н
H-High;	M-Med	lium; L	-Low										
		Course	e desig	ned by	7				Veri	fied by	Chairm	an	
Dr. N. V.	Dr N Kavitha								Dr N Kavitha				
Dr.N.Kavitha									Dr.N.Kavitha				

Cour	se Code	Title									
23U3	CSE611	D Elective Paper –III	Discipline Specific : PC Hardware & T	roubleshoo	ting						
Semes	ter :VI	Credits: 4	CIA:25 Marks	ESE:	75 Marks						
Course	Objective	To understand working princip	ble of PC hardware &	Troubleshoo	oting						
Course	Category	Skill Development	Skill Development								
Develop	ment Needs	Global									
Course	Description	Develop Trouble Shooting Sk Global needs.	Develop Trouble Shooting Skills to solve the computer based p Global needs.								
Course	Outcomes		Teaching Methods	Assessme	ent Methods						
CO 1	Understand Technology	the fundamentals of PC	Video Lecture	Ass	ignment						
CO 2	Understand	the basic idea about networking	Lectures	Poster I	Presentation						
CO 3	Know abou	t MODEM and its operations	Demonstration	Cas	se study						
CO 4	Understand computer c	the usage and structure of omponents	Flipped Classroom	Se	eminar						
CO 5	Learn about Shooting T	it the different types of Troub types and Techniques	the different types of Trouble Video Lecture es and Techniques								
Offered	by Comp	uter Science									
Course	Content		Instructional Hour	s / Week : (6						
Unit		Description		Text Book	Chapters						
	Fundam	entals of PC technology: Fu	indamental Building								
Ŧ	Blocks o	f the PC – Principles of CPU Ope	erations.	1	1.0.4						
L		Croprocessor: CPU Operations-	I rouble shooting the	1	1,2,4						
	Resource	$r_{\rm es}$ – The I / O System Bus – Onbo	ard I / O Devices								
I	Resource		Instructio	nal Hours	18						
Suggest	ed Learning	Methods:Video lectures about	the basics of PC Tec	hnology							
	Power S	upply, cooling, and Protection:	The Power Supply –								
	Ventilati	on and Cooling Protection – Po	ower Production and								
	Backup.	Magnetic Storage Devices: Ma	gnetic Storage – Hard	1	5 9 0						
11	Ontical	Storago Media CD POM Do	al Storage Devices:	1	5,8,9						
	Drives I	Storage Media – CD -KOW De	orts – Parallel Ports –								
	Universa	I Serial Bus									
			Instructio	nal Hours	18						
Suggest	ed Learning	Methods: Practice using Hardy	vare Labs								
	Trouble	shooting Tools and Techniques	Tools of the Trade	-							
III	Basic P	C Handling Techniques. Basic	Data Recovery and	1	17,18						
	Disaster	Kecovery	T / /•		10						
L		Mathada a Davalan amall na ar	Instructio	nal Hours	18						
Sugar											

	Tro	ublesł	nooting	g Tool	of the T	rade –							
IV	Bas	ic PC	Hand	ling 7	Technic	ques.	Basic	Data I	Recover	y and	1		17,18
	Dis	aster R	ecover	·у									
									Instr	uctiona	l Hours	5	18
Suggeste	ed Lear	ning N	Aethod	ls : Aj	pply P	C Har	ndling [Fechni	ques in	the Sof	tware		
	Me	mory	Trout	olesho	oting:	Logi	cal Me	emory	organiz	ation-			
	Me	mory	Consi	deratio	on, N	Iother	rboard	Tro	ublesho	oting:			71 78
V	Upg	grading	g a mot	herboa	rd-Tro	ublesh	nooting	a Moth	nerboard	l	2		24,20,
	USI	B	Troub	leshoo	ting:	Uı	nderstar	nding	USE	B-USB			39
	Tro												
	l Hours	S	18										
Suggeste													
Total Hours													Hrs
1. Craig Zacker, John Rourke, The Complete Reference PC													lware,
Text Bo	Tata McGraw Hill Publication, 2001.												-
2. Bigelow's, Troubleshooting , Maintaining											nd Rej	pairing,	Tata
McGraw Hill Publication, 5 th Edition, 2001													auhla
1. Govindarajulu. B, IBM PC and clones : Hardware ,													ouble
													111
Referen	ce Bool	KS		SHOU	Jung a		amtena	ince, 1	ata-MCC	Jiaw III			511
Referen	ce Bool	KS	2.	Rose	ch. W	inn L,	, Hard	ware	bible,	Que/ T	echmedi	a publi	ishers,
Referen	ce Bool	KS	2.	Rose Sixt	ch. W h editio	inn L, 200,200	, Hard	ware	bible,	Que/ T	echmedi	a publ	ishers,
Reference Web. UI	ce Book RLs	45	2. <u>https:</u>	Sixt	ch. W h edition v.plura	inn L, on,200 <u>lsight.</u>	, Hard 3 <u>com/blc</u>	ware	bible,	Que/ T	echmedi	a publication of the second se	ishers,
Reference Web. UI	ce Booł RLs	KS	2. <u>https:</u>	Sixt Sixt Too	ch. W h edition <u>v.plura</u> ols for	inn L ₃ on,200 <u>lsight.</u> Asses	, Hard 3 <u>com/blc</u> sment (ware	bible, rials/trom	Que/ T	echmedi	a publ	ishers,
Reference Web. UI	ce Book RLs		2. <u>https:</u> A II	Rose Sixt //www Too	ch. W h edition v.pluration ols for IA III	inn L, on,200 lsight. Asses	, Hard 3 <u>com/blc</u> sment (ssignma	ware b <u>g/tutor</u> (25 Ma ent	bible, <u>rials/trou</u> urks) Semina	Que/ T ubleshoo	echmedi <u>oting-ha</u> Quiz	a publi rdware To	tal
Reference Web. UI CIA 5	ce Book		2. <u>https:</u> A II 5	Rose Sixt //www Toe	ch. W h editio <u>v.plura</u> ols for IA III 6	inn L, on,200 lsight. Asses	, Hard 3 <u>com/blc</u> sment (ssignmo 3	ware b <u>g/tutor</u> (25 Ma ent	bible, rials/trou urks) Semina 3	Que/ T ubleshoo	echmedi <u>oting-ha</u> Quiz 3	a publi rdware To 2	tal
Reference Web. UI CIA 5	ce Book		2. <u>https:</u> A II 5	Rose Sixti	ch. W h edition <u>v.plura</u> ols for IA III 6	inn L, on,200 lsight. Asses Asses Ma	, Hard 3 <u>com/blc</u> sment (ssignmo 3 pping	ware b <u>g/tutor</u> (25 Ma ent	bible, rials/trou nrks) Semina 3	Que/ T ubleshoo	echmedi oting-ha Quiz 3	a public rdware To 2	tal
Reference Web. UI CIA 5	CE Book	CI	2. https: A II 5	Shot	ch. W h editio <u>v.plura</u> ols for IA III 6	inn L, on,200 lsight.d Assess As Ma	Hard 3 <u>com/blc</u> sment (<u>ssignma</u> 3 pping	bog/tutor (25 Ma ent	bible, rials/trou urks) Semina 3	Que/ T ubleshoo	Quiz 3	a public current a public rdware To 2	tal 5 PSO
Reference Web. UI CIA 5 CO\PO	ce Book	CI PO2	2. https: A II 5 PO3	Shot Rose Sixt //www Too C	ch. W h editio v.plura ols for IA III 6	inn L, on,200 lsight. Asses As Ma PO6	Hard Hard <u>3</u> <u>com/blc</u> sment (<u>ssignmo</u> <u>3</u> pping PO7	PO8	bible, rials/trou nrks) Semina 3 PSO1	Que/ T ubleshoo ar PSO2	Quiz 3 PSO3	a public rdware To 2 PSO4	tal 5 PSO 5
Reference Web. UI CIA 5 CO\PO CO1	Exe Book	ся СІ РО2 Н	2. https: A II 5 PO3 H	Shot Sixt: //www Too C PO4 L	ch. W h editio v.plura ols for IA III 6 PO5 M	inn L, on,200 lsight. Assess As Ma PO6 M	Hard Hard 3 <u>com/blc</u> <u>sment (</u> <u>ssignma</u> <u>pping</u> <u>PO7</u> L	PO8	bible, rials/trou urks) Semina 3 PSO1 M	Que/ T ubleshow	Quiz 3 PSO3	a public rdware To 2 PSO4 M	tal 5 PSO 5 M
Reference Web. UI CIA CIA CO\PO CO1 CO2	Exe Book	CI PO2 H M	2. https: A II 5 PO3 H M	Shot Sixt //www Too C. PO4 L M	ch. W h editio v.plura ols for IA III 6 PO5 M H	inn L, on,200 lsight.a Asses As Ma PO6 M	Hard 3 sment (ssignme 3 pping PO7 L M	PO8	iala-MCC bible, rials/trom urks) Semina 3 PSO1 M H	PSO2	Quiz 3 PSO3 H H	a public rdware To 2 PSO4 M M	tal 5 PSO 5 M H
Reference Web. UI CIA 5 CO\PO CO1 CO2 CO3	Exe Book	CI PO2 H M L	2. https: A II 5 PO3 H M M	Shot Rose Sixt //www Too C PO4 L M H	ch. W h editio v.plura ols for IA III 6 PO5 M H M	inn L, on,200 lsight. Assess As PO6 M M M	Hard Hard Com/blc sment (ssignment) pping PO7 L M L	PO8 M M H	itals/trou rials/trou mrks) Semina 3 PSO1 M H M	PSO2 H H H	PSO3 H H H	a publicities of the current of the	tal 5 PSO 5 M H M
Reference Web. UI CIA 5 CO\PO CO1 CO2 CO3 CO4	E Book	CI PO2 H M L H	2. https: A II 5 PO3 H M L	Shot Rose Sixt: //www Too C: PO4 L M H M	ch. W h editio v.plura ols for IA III 6 PO5 M H M L	inn L, on,200 lsight.d Assess As PO6 M M M L	Hard Hard 3 sment (ssignme 3 pping PO7 L M L H	PO8 M H M H M	itals/trou rials/trou urks) Semina 3 PSO1 M H M H	PSO2 H H H M	PSO3 H H H H	a public rdware To 2 PSO4 M M H	tal 5 PSO 5 M H M M
Reference Web. UI CIA 5 CO\PO CO1 CO2 CO3 CO4 CO5	E Book	CI PO2 H M L H M	2. <u>https:</u> A II 5 PO3 H M M L H	Shot Sixt //www Too C. PO4 L M H M H	ch. W h editio v.plura ols for IA III 6 PO5 M H H M L M	inn L, on,200 lsight.a Asses Ma PO6 M M M L H	Hard 3 sment (ssignme 3 pping PO7 L M L H M	PO8 M M H M H	iala-MCC bible, rials/troo urks) Semina 3 PSO1 M H H H	PSO2 H H H H H H	PSO3 H H H H M	a public rdware To 2 PSO4 M M H H	tal 5 PSO 5 M H M H M H
Reference Web. UI CIA 5 CO\PO CO1 CO2 CO3 CO4 CO5 H-High;	Exe Book RLs I PO1 H M H M M M M	CI PO2 H M L H M lium; L	2. https: A II 5 PO3 H M L H L H -Low	Shot Rose Sixt: //www Too C: PO4 L M H M H	ch. W h editio v.plura ols for IA III 6 PO5 M H M L L M	inn L, on,200 lsight. Assess As PO6 M M M L H	Hard Hard A A A A A A A A A A A A A	PO8 M H H H	itals/trou rials/trou urks) Semina 3 PSO1 M H H H	PSO2 H H H H H	PSO3 H H H H M	rdware To 2 PSO4 M M H H	tal 5 PSO 5 M H M H H
Reference Web. UI CIA 5 5 CO\PO CO1 CO2 CO3 CO4 CO5 H-High;	E Book	CI PO2 H M L H H lium; L Course	2. https: A II 5 PO3 H M L H -Low e desig	Bioto Rose Sixt //www Too C. PO4 L M H H H H	ch. W h editio v.plura ols for IA III 6 PO5 M H M L L M	inn L, on,200 lsight.a Asses: Ma PO6 M M M L H	Hard 3 sment (ssignmo 3 pping PO7 L M L H M	PO8 M H H H	itals/trou rials/trou mrks) Semina 3 PSO1 M H H H H	PSO2 H H H H H H H H	PSO3 H H H H M Chairm	a publication of the current of the	tal 5 PSO 5 M H M H H

Cour	se Code		Tit	le				
23U	3CJE612	Elective	Discipli Paper III	ne Specific [: Digital Ma	rketing			
Sem	ester: VI	Credits: 4	CIA: 25 N	Marks	ES	E:75 Marks		
		Common to I	3. Sc IT / CS					
Course	Objective	Acquire a strong understand channels, and develop prac- aligned with organizational	ding of d tical skill goals	ligital market s for executi	ing strat ng succe	egies, tools, and essful campaigns		
Course	Category	Entrepreneurship						
Develop	ment Needs	Global						
Course	Description	Understand digital marketi practical skills to execute organizational goals.	ng strate e succes	gies, tools, s sful campaig	and char gns in	nnels, acquiring alignment with		
Course	Outcomes		Teachin Method	g A s N	Assessment Aethods			
CO 1	Remember marketing marketing p strategy for	the fundamental concepts of strategy, including key principles, and the building blo mulation.	Lecture	e	Quiz			
CO 2	Understand articulate advantages	the importance of market rekey concepts, and analyzand challenges.	esearch, ze the	Demonstra	Group Discussior			
CO 3	Apply key c terms, conce distribution,	ontent marketing elements, inc epts, building blocks, creation, tools, and challenges.	luding	Video Lessons		Seminar		
CO 4	Implement context, util tools, and a	UX design principles in a p izing key terms, concepts, mob case study	ractical ile UX,	Video Lessons		Assignment		
CO 5	Build a wet concepts, w developmen proficiency.	osite step by step, applying key yeb design, web development, at, and using a case study to sh	v terms, mobile owcase	Tutorial		Seminar		
Offered	by Compu	iter Science						
Course	Content		Instru	ctional Hour	s / Weel	k : 6		
Unit		Description			Text Book	Chapters		
Ι	Introduction – Key terms Marketing - Blocks of M Strategy – C	to think – Digital Marketing St and Concepts – What is Market Understanding Marketing Stra Iarketing Strategy – Crafting ase Study	rategy –In ing – Wh tegy – Th a Digital	ntroduction hat is Digital he Building Marketing	1	2		
				Instruction	nal Hou	rs <u>18</u>		
Suggest	ed Learning	Methods: Write simple Digita	al Marke	ting Strategy	7			

п	Market Import Resear Costof Challer	Resear ance o ch – C Resea nges.	rch – Iı f Marl Online rch –	ntroduc ket Re Reseau tools	ction – esearch rch Me for t	Key to – Ke ethodo he tra	erms ey Co ologie ide –	and Concep oncep s – J - Ad	Con ots Just van	cepts – in Mar tifying tages a	the ket the and		1	3	
										Instru	ictior	al H	ours		18
Suggest	ed Lean	rning N	Iethod	ls : W	rite sa	mple I	Key (Conce	epts	s in Ma	rket]	Resea	rch		
III	Conten – Defin Creatio Tools	t Marke ning Co on – Co s for the	eting S ontent M ntent C e Trade	trategy Market Channe – Ady	v – Intr ing – S 1 Distr vantage	oduction Strateg ibutior es and	on – I ic Bu 1 – Chall	Key T tilding lenges	'err g B s.	ns and C locks –	Conce Cont	pts ent	1	5	
										Instru	ictior	al H	ours		18
Suggest	ed Lea	rning N	Iethod	ls : Gr	oup D	iscuss	ion						1		
IVUser Experience Design – Introduction – Key Terms and Concepts – Understanding UX design – Core principles of UX design – Mobile UX – Step –by-step guide to UX design –Toolsof the trade – Case Study.1													7		
	Instructional Hours														18
Suggest	ted Learning Methods : Seminar														
V	Web development and Design – Introduction – Key terms and concepts – Web design – Web Development – Mobile Development18- Step-by-step guide to building a website – Case Study.18														
Instructional Hours 18															
Suggested Learning Methods : Video Presentation															
Total Hours 90Hrs															
Text Bo	oks		1.Ro work	b Stok 1, 5 th Eo	es, E- dition,	Marke 2017.	eting	the E	sse	ntial gu	ide to	o mar	ketin	g in a d	digital
Referen	ce Boo	ks	1.Dat 2.Rya	nny Sta an Dei	ar, Dig ss and	ital Ma Russ H	arketi Henne	ing 20 eberry)20 y, E	, June 2 Digital N	019 Iarke	ting d	umm	ies, De	c 2016
Web. U	RLs		<u>https</u>	://ondi	gitalma	arketin	g.cor	n/lea	rn/c	<u>odm/</u>					
				То	ols for	Asses	smen	t (25	M	arks)					
CLA	I	CL	A II	CL	A III	Ass	ignm	ent		Semina	ır	Qu	iz	Τα	otal
5			5		6		3			3			3	2	5
						Ma	ppin	g							
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	7 PC) 8	PSO1	PSO	2 PS	503	PSO4	PSO5
C01	Н	М	Н	М	М	Н	M		L	Н	М		Н	Н	Н
CO2	Н	М	Н	Н	М	М	Н		Μ	М	Н		Н	S	Н
CO3	Н	М	Н	М	М	Н	Н		М	Н	Н		М	Н	Н
CO4	Н	Н	М	М	М	М	Н]	М	Н	S		Н	М	Н
CO5	Н	М	Н	М	Н	Н	М		М	S	Н		Н	Н	М
H-High:	M-Med	lium; L	-Low												
		Course	desig	ned by	7					Veri	fied k	oy Ch	airn	nan	
Kavitha	Kavitha ElangoDr.N.Kavitha														

Course	Code		Title									
23U4CS2	Z604	Ski	ill Based Paper IV-Practi	cal in Fu	Ill Stack Develop	ment	and BioPerl					
Semester	: VI		Credits: 3	C	IA: 30 Marks		ESE:45 Marks					
Course Obje	ective		To acquire fundamental	knowled	lge in Full Stack I	Deve	lopment					
Course Cate	egory		Skill Development									
Developmen	t Needs		Global									
Course Desc	ription		To develop skill set in	HTML,	CSS, JavaScript a	nd Jo	uery and design					
Course Out			a webpage applications	In order	Tracking Mathe	and	Assessment					
Course Outo	comes				I eaching Metho	as	Methods					
CO 1	Understa	nd v	arious front and back end	Tools	Demonstration	l	Program Creativity					
CO 2	Demonstration of the carried of	rate ut.	and Designing of Websites	can be	Program Demonstration	L	Debugging					
CO 3	Develop client sid	web e and	based application using su d server side code.	itable	Program Demonstration	L	Application of Logic					
CO 4	Understa own.	nd a	nd create applications on th	neir	Program Demonstration		Program Development					
CO 5	Implement effective	nt w data	eb based application using base access.		Program Demonstration		Program Development					
Offered by	Comp	uter	Science									
Course Con	tent			Ins	tructional Hours	/ We	eek : 6					
			Program	List								
1. Write	a program	n to ł	build a Chat module using	HTML C	CSS and JavaScript	t.						
2. Write	a program	to c	create a simple calculator A	Applicatio	on using React JS.							
3. Write	a program	n to c	create a voting application	using Re	act JS.							
4. Write	a program	n to c	create and build a star ratin	g system	using Jquery.							
5. Write	a program	n to c	create and build a password	l strength	n check using Jque	ery.						
6. Creat	6. Create a Project on Grocery Delivery application.											
7. Creat	e a project	e-co	ommerce portal for used fur	rniture sa	ales.							
8. Write	a script to	imp	oort data from Gen bank us	ing Bio I	Perl							
9. Write	a script to	Cor	mpare sequences and find 1	nutation	using Bio Perl							

10.	10. Write a script to Simulate DNA Mutation													
11.	Write a	scrip	ot fo	or Prote	ein Sec	quence C	Genera	ation						
12.	Write a	scrip	ot fo	or Con	catenat	ting DNA	A Fra	gments	Transcri	ption: D	NA to 1	RNA		
		ļ	Sug	gestee	l Lear	ning Mo	ethod	ls: Desi	gning W	eb Page	es			
Total Hours 90Hrs													lrs	
Tools for Assessment (30 Marks)														
Laboratory Performance- Application of Logic Laboratory Performance- Program Debugging Test 1 Test 2 Test 2 Test 2 Total Total													Total	
	4			4		4		,	7		7	4		30
							Ma	pping						
CO \ PO	PO1	PO	2	PO 3	PO4	PO5	PO6	5 PO2	PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	Н	S		Н	Н	М	Н	S	Н	Н	S	Н	Н	М
CO2	Н	S		Н	Н	М	Н	S	Н	Н	S	Н	Н	М
CO3	Н	S		Н	Н	Н	Η	S	Н	Н	S	Н	Н	Н
CO4	Н	S		Н	Н	Н	Η	S	Н	Н	S	Н	Н	Н
CO5	Н	S		Н	Н	Н	Н	S	Н	Н	S	Н	Н	Н
H-High	n; M-Me	edium	n; L	-Low										
Course designed by Verified by Chairman														
Dr.D.V	'imal Kı	ımar				<u> </u>			Dr.N.Ka	vitha				
EXTRA DEPARTMENTAL COURSE

B. Sc. CS/ B. Sc. CS (DS)

Course Code	Title						
22U4CS3ED1	Extra Departmental Cou	Extra Departmental Course : Multimedia Technologies					
Semester : III	Credits:2	ESE: 50 Marks					

Common to B. Sc. CS/ B. Sc. CS (DS)

Course Objective:

To develop the skill & knowledge of Graphic Designing in Multimedia. Students will understand the knowhow and can function either as an entrepreneur or can take up jobs in the multimedia industry, photography & video studios, edit set-up, graphic arts industry and other audio visual sectors.

Course Outcomes:

CO1	List the basic concept and use of composition using principles, characteristics and forms of Visual Design in Multimedia Development
CO2	Infer the knowledge to acquire Visual Reading Elements
CO3	Construct the concept of color and its application in the preparation of advertising Material
CO4	Analyze the basics of art & aesthetic skill to create interactive design
CO5	To build a website with planning and visual design

Offered by: Computer Science

Course Content

Instructional Hours / Week: 2

Unit	Description	Text Book	Chapter
I	Introduction to Multimedia: What is Multimedia?- Types of Multimedia productions- The development of multimedia-Connecting to the internet-Multimedia and Education.	1	1,2,3
	Instructional Hour	S	6
П	Multimedia Components: Text: The role of text in multimedia-Working with text- Formatting Text: Fontchoice, Alignment, lists, Text spacing, Special formatting and Effects, Text wraps -Using fonts-Font selection Guidelines.	1	7
	Instructional Hour	S	6
III	Graphics and Animation: The role of graphics in multimedia- Computer graphics Technology- Editing Graphics-Animation: Frame based animations-Vector Animations-Morphing-3-D Graphics and Virtual Reality.	1	8
	Instructional Hour	s	6
IV	Multimedia Audio and Video: Audio : Audio on PC's, Sound quality, Audio file size, Streaming Audio, Audio File Formats- Software and Hardware for Audio. Video: Video quality, Streaming video-Video file formats- Software and Hardware for Video.	1	11
	Instructional Hour	S	6
V	Multimedia Website Design: Web Site Organization-Web site Goals-Design considerations – Planning and building a WebSite: Defining the Web site's goals, Defining the target	1	4 13
	Audience, Tools for planning, Content, Interaction, Visual Design, Web Page Design Guidelines.		
	Instructional H	Iours	6
	Total Hour	S	30

Text Book(s):

 Ana Weston Solomon, "Introduction to multimedia" Tata McGraw-Hill, 2005. Unit I: 1.1 to 1.3, 2.2, 3.4 (Chapter 1, 2, 3) Unit II: 7.1 to 7.5 (Chapter 7) Unit III: 8.1 to 8.4 (Chapter 8)

Unit IV: 9.1 to 9.2, 10.1 to 10.2(Chapter 9, 10)

Reference Book(s):

1. Nigel Chapman and Jenny Chapman "Digital Multimedia", WILEY.

Mapping

NASC

2022

PO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5
C01	Н	Н	L	М	Н	L	М	Н	Н	Н	Н	М	М
CO2	Н	Н	L	М	Н	L	М	Н	Н	Н	Н	М	М
CO3	Н	Н	L	М	Н	L	М	Н	Н	Н	Н	Н	Н
CO4	Н	Н	L	М	Н	L	М	Н	Н	Н	Н	Н	Н
CO5	Н	Н	L	М	Н	L	М	Н	Н	Н	Н	Н	Н

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
R. ANITHA	Dr. N. KAVITHA

Course Code		Title			
22U4CS3ED2	Extra Departmenta	Extra Departmental Course : Web Designing			
Semester : III	Credits: 2	ESE: 50 Marks			

Common to B. Sc. CS/ B. Sc. CS (DS)

Course Objective:

To develop the skill & knowledge of Web page designing. Students will understand the function either as an entrepreneur or can take up jobs in the Web site development studio and other information technology sectors.

Course Outcomes:

CO1	Define the principle of Web page design to understand the structure of HTML
CO2	Classify the knowledge about well-structured, easily maintained, accessible HTML code
CO3	Apply the basic concept of HTML and Recognize the elements to Visualize HTML.
CO4	To Construct a website using table elements and frames elements.
CO5	Examine the HTML concepts to develop the web page using the concept of HTML and CSS.

Offered by: Computer Science

Course Content

Instructional Hours / Week: 2

Unit	Description	Text Book	Chapter
I	Introduction to HTML: Origins of Hyper Text MarkupLanguage (HTML)-The HTML Specification-The structure and functions of HTML-The Role of HTTP-Coding HTML Documents.	1	1
	Instructional Hours		6
п	Basic Page Structure: Create an HTML file-naming conventions- preview an HTML file in browser. HTML Page formatting Basics- The HTML document type Definition (DTD) and elements- Attributes- Character entity references (Special Characters) - the basic structure of HTML documents.	2,1	2
	Instructional Hours		6
ш	HTML Elements: Types of HTML Elements- Advanced Web page Formatting: The FONT and BASEFONT Elements- Lists and UL,OL and LI elements-Definition lists and DL Element- HTML Hypertext Links- The A and LINK elements.	1	3
	Instructional Hours		6
IV	Tables and Frames: Introduction to Tables- The TABLE Element- Table formatting and CAPTION Element- THEAD,TFOOT and TBODY Elements- COL, Rows, TR, TH, TD Element-FRAMESET Elements- Retrieving frame content with FRAME Elements.	1	6
	Instructional Hours		6
V	Cascading Style Sheets: CSS selectors and Syntax- Setting the Style sheet language for HTML documents-Style sheet files and	1	8

External Style Sheets- Cascading Style Sheets- Dynamic HTML-Using Dynamic HTML with Internet Explorer.

Instructional Hours	6
Total Hours	30

Text Book(s):

- 1. David Mercer, **HTML Introduction to Web Page Design and Development**, Tata McGraw-Hill 2004.
- 2. Wendy Willard, HTML A Beginners Guide, Third Edition, Tata McGraw-Hill-2007.

Unit I: Section 1.1 to 1.3, 1.5, 1.7 (Chapter 1) Unit II: Section 2.1 to 2.2 (Chapter 2 in Book2), 2.1,2.3,2.5 to 2.6(Chapter 2 in Book1) Unit III: Section 2.7 to 2.11, 2.13 to 2.16, 3.1 to 3.3, 3.5 to 3.6 (Chapter 2 and 3) Unit IV: Section 6.1 to 6.4, 6.6 to 6.8, 6.10 to 6.11(Chapter 6) Unit V: Section 8.2 to 8.3, 8.7 to 8.8, 8.12, 8.14 (Chapter 8)

Reference Book(s):

1. Murray, Tom/Lynchburg, Creating a Web Page and Web Site,2002

Mapping

PO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	Н	Н	L	М	Н	L	М	Н	Н	Н	Н	М	М
CO2	Н	Н	L	М	Н	L	М	Н	Н	Н	Н	М	М
CO3	Н	Н	L	М	Н	L	М	Н	Н	Н	Н	Н	Н
CO4	Н	Н	L	М	Н	L	Μ	Н	Н	Н	Н	Н	Н
CO5	Н	Н	L	М	Н	L	М	Н	Н	Н	Н	Н	Н

H-High; M-Medium; L-Low.

Course designed by	Verified by Chairman
D. J. ANITHA MERLIN	DR. N. KAVITHA

SELF STUDY PAPERS

Course Code	Title	
22UCSSS01	Self Study Paper : Libre Office	
Semester: II - V	Credits: 1	ESE : 50 Marks

(Common to B.Sc. CS / CS (DS)

Course Objective:

Introduces the basic features of Libre Office, Writer, Calc, Impress.

Course Outcome:

- Recognize when to use each of the Microsoft Office programs to create professional business documents.
- Use Microsoft Office programs to create personal and/or business documents following current professional and/or industry standards.
- Pursue future courses specializing in one or more of the programs.

Offered by: Computer Science

Course Content

Unit	Description	Text Book	Chapter
I	Introducing Libre Office – What is Libre Office – Advantages – Minimum Requirement – How to get and Install the Software – Extensions and Add-Ons – How to get Help – Starting Libre Office – Parts of Main Window – Starting a New Document – Opening – Saving – Renaming and Deleting – Navigator – Undoing and Redoing – Closing a Document and Libre Office -	1	1
II	Getting Started with Writer – Introducing – Setting Up – Working – Formatting – Introduction to Styles – Working with Graphics – Working with Tables – Working with Templates in Writer – Using Mail Merge – Creating Tables – Working with Master Documents – Working with Fields – Using Forms in Writer – Customizing Writer	1	4
ш	Getting Started with Calc – Introducing – Entering, Editing, Formatting – Using Charts and Graphs – Using Styles and Templates – Using Graphics in Calc – Printing, Exporting and E- mailing – Formulas and Functions – Using the Datapilot – Data Analysis – Linking Calc Data – Sharing and Reviewing – Calc Marcos – Calc as a simple DataBase	1	5
IV	Getting Started with Impress – Introducing – Using Slide Masters – Adding and Formatting text – Pictures – Managing and Formatting Graphic Objects – Including Spread Sheets, Charts and Other Objects – Adding and Formatting Slides, Notes, and Handouts – Slideshows – Printing, E-mailing, Exporting and Saving Slide Shows	1	6

V	Getting Started with Draw – Introducing Draw – Drawing Basic Shapes – Working with Objects and Object Points – Changing Object Attributes – Combining Multiple Objects – Editing Pictures – Working with 3D Objects – Tips and Tricks – Organization Charts – Flow Diagrams – Advanced Draw Technique	1	7
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Text Book :

1. Libre Office – Getting Started Guide, 2017

Reference Books:

1. <u>http://www.open-of-course.org/courses/course/view.php?id=86</u>.

Course designed by	Verified by Chairman
DR. N. KAVITHA	DR. N. KAVITHA

B. Sc. CS/ CS(DS)

Course Code	Title		
22UCSSS02	Self Study Paper : Manageme	Self Study Paper : Management Information System	
Semester : II - V	Credits: 1	ESE: 50 Marks	

(Common to B.Sc. CS / CS (DS)

Course Objective:

To enable the students to know the Integration of Business Information, Learn the core activities in the systems development process.

Course Outcomes:

CO1	Understand the usage of Information Systems in management		
CO2	Understand the activities that are undertaken in acquiring an Information System in		
	an organization		
CO3	Analyze and synthesize business information needs to facilitate evaluation of		
	strategic alternatives		
CO4	Learn to aware of utilization on business information for decision making		

Offered by: Computer Science

Course Content:

Unit	Description	Text Book	Chapter
I	Management Information System : Meaning – Features – Requisites of an effective MIS –MIS Model – Components – Subsystems of an MIS – Role and Importance – CorporatePlanning for MIS – Growth of MIS in an Organization - Centralization Vs. Decentralization of MIS – Limitations of MIS.	1	1
п	System Concepts : – Elements of a System- Characteristics of a system - Types of System–Categories of Information System – System Development Life Cycle – System Enhancement.	1	3
ш	Information Systems Requirements : Developing Long Range Information System Plan – Strategies for the Determination of Information Requirements- Database requirements-User Interface Requirements.	2	5
IV	Conceptual Foundations : The Decision Making Process- Concepts of Information-Humans as Information Processors- System Concepts-Concepts of Planning and Control- Organizational Structure and Management concepts.	2	3

B. Sc. CS/ CS(DS)

NASC	2022
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	Development, Implementation, and Management of
	Information System Resources: Developing and
	Implementing Application Systems-Quality Assurance and
v	Evaluation of Information Systems-Organization and 2
•	Management of the Information Resources Function- Future
0	Developments and Their Organizational and SocialImplications.

Text Book(s):

1. Aman Jindal, Management Information System, Kalyani Publishers, New Delhi, First Edition, 2003.

Unit 1 : Section 2.2 to 2.5, 2.14 to 2.24 (Chapter 2)

Unit II : Section 1.1 to 1.5, 2.2, 3.6,3.7 (Chapter 1,2 and 3)

2. Gordon B. Davis, Margrethe H. Olson, Management Information Systems, Tata McGraw Hill, Second Edition, 2008.

Unit III : Chapter 14, 15, 16, 17

Unit IV : Chapter 6,7,8,9,10 and 11

Unit V : Section 18, 19, 20, 21 (Chapter 18, 19, 20 and 21)

Reference Book(s):

1. P.Mohan, Management Information System, Himalaya Publishing house, New Delhi, First Edition, 2007.

Course designed by	Verified by Chairman
DR. N. KAVITHA	DR. N. KAVITHA

NUMMU DE N KAVINN

BoS - Chairman Department of Computer Science Nehru Arts and Science College (Autonomous) Coimbatore - 641 105

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