NEHRU ARTS AND SCIENCE COLLEGE
(AUTONOMOUS)
(Affiliated to Bharathiar University Reaccredited 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)
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REGULATIONS, CURRICULUM & SYLLABUS

B. Sc. FORENSIC SCIENCE

Semester I to VI

Effective from 2023 – 2024

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

1. 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 6^{th} 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 Non-major 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.

Table 1 : Grades for Extension Activity

Range of Marks	Grade Point	Letter Grade	Description
90 – 100	9.0 – 10.0	O	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	A	GOOD
50 – 59	5.0 – 5.9	B	AVERAGE
40-49	4.0-4.9	C	SATISFACTORY
00-39	0.0	U	RE-APPEAR
ABSENT	0.0	AAA	ABSENT

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.

Table 2: Regulations for Additional 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**

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
2. 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.
5. 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 Programmme 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.

Regulations for Awarding credits to NCC Cadets

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

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	2300
Allied subjects	4 – 6	2/ 3 / 4	14 -16	50 / 75 / 100	
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 6th 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

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 credits	

- 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 between End Semester Exam (Theory) and Internal Assessment is 75 : 25

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

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

S. No.	For Theory - UG courses	Distribution of Marks		
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**

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) and Internal Assessment is 60:40.

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

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

S. No.	For - UG practical Courses	Distribution of 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**

*** 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

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

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

S. No.	For - UG Project courses / Industrial Training	Distribution 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 11 : Distribution of marks for the External Examination in UG Project / Industrial Training courses

S. No.	For - UG Project / Industrial Training courses	Distribution of Marks	
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.

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

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**

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	O	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	A	Good
50-59	5.0-5.9	B	Average
40-49	4.0-4.9	C	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:

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

$$\textbf{GPA} = \frac{\sum_i (C_i * G_i)}{\sum_i C_i}$$

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:

$$\textbf{CGPA} = \frac{\sum_n \sum_i C_{ni} * G_{ni}}{\sum_n \sum_i C_{ni}}$$

$$\text{CGPA} = \frac{\text{Sum of the multiplication of grade points by the credits of the entire programme under each part}}{\text{Sum of the Credits of the Courses of the entire programme under each part}}$$

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.

Table 15 : Classification of performance of 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	O	
8.5 and above but below 9.0	D++	First Class with Distinction
8.0 and above but below 8.5	D+	
7.5 and above but below 8.0	D	
7.0 and above but below 7.5	A++	First Class
6.5and above but below 7.0	A+	
6.0and above but below 6.5	A	
5.5 and above but below 6.0	B+	Second Class
5.0 and above but below 5.5	B	
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

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.

ii. Has completed all the components prescribed under Parts I to Part V in the CBCS pattern to earn 144 credits.

iii. 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

Time : 3hrs **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 5 = 25	Short Answers
K3, K4	16 – 21	C (Answer 3 out of 6)	3 x 10 = 30	Descriptive/ Detailed
K3, K4	22	D (Compulsory Question)	1 x 10 = 10	Application Based/ HOTS

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

Time : 3hrs **Marks : 55**

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 **Max Marks: 50**

Knowledge Level		Section	Marks	Description
K2, K3	1 – 10	A (Answer all the questions)	10 x 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 x 0.5 = 50 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 2nd and 3rd 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

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

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

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

S. No.	For Theory - PG courses	Distribution of 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 PG Courses

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

Table 20 : Distribution of Internal marks for PG practical papers

S. No.	For PG Practical Courses	Distribution of 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 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 Continuous Internal Assessments and passing minimum marks for the Project / Industrial Training courses of PG programmes

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

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

S. No.	For - PG Project courses	Distribution of Marks			
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**

**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	Distribution of Marks			
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:

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

Range of Marks	Grade Point	Letter Grade	Description
90 – 100	9.0 – 10.0	O	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	A	GOOD
50 – 59	5.0 – 5.9	B	AVERAGE
00 – 49	0.0	C	RE-APPEAR
ABSENT	0.0	AA	ABSENT

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:

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

$$\textbf{GPA} = \frac{\sum_i (C_i * G_i)}{\sum_i C_i}$$

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.

$$\textbf{CGPA} = \frac{\sum_n \sum_i C_{ni} * G_{ni}}{\sum_n \sum_i C_{ni}}$$

$$\text{CGPA} = \frac{\text{Sum of the multiplication of grade points by the credits of the entire programme under each part}}{\text{Sum of the Credits of the Courses of the entire programme under each part}}$$

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	O	
8.5 and above but below 9.0	D++	First Class with Distinction*
8.0 and above but below 8.5	D+	
7.5 and above but below 8.0	D	
7.0 and above but below 7.5	A++	First Class
6.5 and above but below 7.0	A+	
6.0 and above but below 6.5	A	
5.5 and above but below 6.0	B+	Second Class
5.0 and above but below 5.5	B	

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

B. Question Paper Pattern

Time: 3 Hours **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 × 4 = 20	Short Answers
K3 , K4	6 – 10	B (Either or pattern)	5 × 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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B.Sc. FORENSIC SCIENCE

Programme Outcomes:

At the end of the course, the learners will be able:

PO1: To demonstrate academic proficiency in the core area of forensic science.

PO2: To use the scientific techniques of forensic science in investigations.

PO3: To systematically and scientifically collect evidences from crime scene

PO4: To analyse evidences using scientific techniques and form opinion based on it.

PO5: To aid and advice the criminal justice system in investigation, trial, correctional administration and victim support.

PO6: To develop skillset required for contributing towards the research and development in forensic Science.

PO7: Utilizing the existing techniques of forensic science in private investigations.

PO8: Understanding the emerging trends in Forensic Science and its applications in industrial context.

Programme Specific Outcomes:

PSO1: Understand the concept of criminal justice system, principles of crime & investigation.

PSO2: Understand the various techniques used in the analysis of evidences obtained as a byproduct of crime

PSO3: Develop skill to design and conduct experiments for the analysis of evidences based on the protocols provided by authorized agencies.

PSO4: Architect skill sets in assisting investigations, trials and correctional administration.

PSO5: Utilize the laboratory skills in industrial applications

SCHEME OF EXAMINATION

B. Sc Forensic Science

(Programme code: UFR)

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

Semester	Part	Course code	Name of the course	Instructional Hours/week	Duration of Examination	Examination Marks			Credits
						CIA	ESE	Total	
I	I	23U1TAM101/ 23U1HIN101/ 23U1MAL101/ 23U1FRN101	Elanthamizh Rachnathmak Hindi Kadhayum Samskaraavum Le Francais Fondamental - I	4	3	20	55	75	3
	II	23U2ENG101	Professional English - I	4	3	20	55	75	3
	III	23U3FRC101	Core Paper I - General Forensic Science	5	3	25	75	100	4
		23U3FRC102	Core Paper II- Law for Forensic Science	5	3	20	55	75	3
		23U3FRP103	Core Paper III - Crime Scene Management Practical	4	3	30	45	75	3
		23U3FRA101	Allied Paper I - Forensic Chemistry	5	3	20	55	75	3
	IV	21U4ENV101	@Ability Enhancement Compulsory Course : Environmental Studies	2	3	50		50	2
		22U4HVY201	Value Education : Human Values and Yoga Practice	1	-	-	-	-	-
				30				**525**	**21**
II	I	23U1TAM202/ 23U1HIN202/ 23U1MAL202/ 23U1FRN202	Pynthamizh Sanchar Hindi Novalum Bhashaapadanavum Le Francais Fondamentale - II	4	3	20	55	75	3
	II	23U2ENG202	Professional English - II	4	3	20	55	75	3
	III	23U3FRC204	Core Paper IV - Forensic Ballistics	4	3	25	75	100	4
		23U3FRC205	Core Paper V - Instrumental Analysis	4	3	20	55	75	3
		23U3FRP206	Core Paper VI - Forensic Ballistics Practical	4	3	30	45	75	3
		23U3FRA202	Allied Paper II - Forensic Physics	3	3	20	55	75	3
		23U3FRR203	Allied Paper III - Forensic Chemistry Practical	4	3	40	60	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				**675**	**27**
III	I	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	23U3FRC307	Core Paper VII - Impression Analysis	4	3	25	75	100	4
		23U3FRC308	Core Paper VIII - Forensic Statistics	4	3	20	55	75	3
		23U3FRP309	Core Paper IX - Impression Analysis Practical	4	3	30	45	75	3
		23U3FRA304	Allied Paper IV - Forensic Biology	3	3	20	55	75	3
	IV	23U4FRS301	Skill Based Paper I - Good Laboratory Practices	3	2	20	55	75	3
		22U4NM3BT1/ 22U4NM3AT1/ 22U4NM3CAF/ 22U4NM3GST/ 22U4NM3WRT	# @ Basic Tamil - I ## Advanced Tamil - I * NME: Consumer Affairs / Gender Sensitization Thoughts / Women's Rights	2	3	50		50	2
		SBOEC	Skill Based Open Elective Course - Extra Departmental Course	2	3	-	50	50	2
		23U4FRVALC	**Skill Enhancement Add on course - Institute Industry Linkage	-	-	-	-	-	-
				30				**650**	**26**
IV	I	23U1TAM404/ 23U1HIN404/ 23U1MAL404/ 23U1FRN404	Muthamizh Prayogik Hindi Drisyakalaa Saahithyam Le Francias General - IV	4	3	20	55	75	3
	II	23U2ENG404	Communicative English - II	4	3	20	55	75	3
	III	23U3FRC410	Core Paper X - Questioned Document Examination	4	3	25	75	100	4
		23U3FRP411	Core Paper XI - Questioned Document Examination Practical	4	3	30	45	75	3
		23U3FRA405	Allied Paper V - DNA Fingerprinting	3	3	20	55	75	3
		23U3FRP412	Core Paper XII-Forensic Biology Practical	4	3	40	60	100	4
	IV	23U4FRS402	Skill Based Paper II - Research methodology and Statistics	3	3	20	55	75	3
		22U4NM4BT2/ 22U4NM4AT2/ 22U4NM4GEN	# @Basic Tamil - II ##Advanced Tamil - II General Awareness	2	3	50		50	2
		VBOEC	Value Based Open Elective Course - Intra School Course	2	3	-	50	50	2
		23U4FRVALC	**Skill Enhancement Add on course- Institute Industry Linkage	-	-	-	-	-	Grade
				30				**675**	**27**
V	III	23U3FRC513	Core Paper XIII - Serology and DNA Typing	5	3	25	75	100	4
		23U3FRC514	Core Paper XIV - Forensic Medicine and Anthropology	5	3	20	55	75	3
		23U3FRC515	Core Paper XV - Introduction to Digital Forensic Science	5	3	20	55	75	3

		23U3FRP516	Core Paper XVI - Forensic Serology Practical	4	3	30	45	75	3
		23U3FRE501/ 23U3FRE502/ 23U3FRE503	Discipline Specific Elective Paper - I	5	3	25	75	100	4
		23U3FRV619	Core Paper XIX - Project Viva Voce	3	-	-	-	-	-
	IV	23U4FRT503	Skill Based Paper III - Internship	3	3	30	45	75	3
				30				**500**	**20**
VI	III	23U3FRC617	Core Paper XVII - Forensic Toxicology	5	3	25	75	100	4
		23U3FRP618	Core Paper XVIII- Toxicology Practical	4	3	30	45	75	3
		23U3FRV619	Core Paper XIX - Project Viva Voce	6	3	30	45	75	3
		23U3FRE604/ 23U3FRE605/ 23U3FRE606	Discipline Specific Elective Paper - II	6	3	25	75	100	4
		23U3FRE607/ 23U3FRE608/ 23U3FRE609	Discipline Specific Elective Paper - III	6	3	25	75	100	4
	IV	23U4FRZ604	Skill Based Paper IV - Outdoor Training	3	3	30	45	75	3
	V	22U5EXT601	Extension Activities	-	-	-	50	50	2
				30				**575**	**23**
							Total	**3600**	**144**
Additional Credit (Optional)			Semester II - VI						**10 $**

 # 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 programme but would like to advance their Tamil language skills.
*** NME** – Students shall choose any one course out of three courses.
@ No End Semester Examinations. Only Continuous Internal Assessment (CIA)
$ - Not included in Total marks & CGPA Calculation
****** Examination and Evaluation for Value Added Courses shall be conducted by the Industry and the Institute and marks shall be submitted to the COE for the award of Grade.

List of Discipline Specific Elective papers (Choose any one of the papers)

Elective-I	Subject Code		Name of the Subject
Discipline Specific Elective – I	23U3FRE501	A	Due Diligence and Loss Prevention
	23U3FRE502	B	Advanced Digital Forensics
	23U3FRE503	C	Forensic Psychology
Discipline Specific Elective – II	23U3FRE604	A	Anti Money Laundering and KYC
	23U3FRE605	B	Audio and Video Analysis
	23U3FRE606	C	Criminology and jurisprudence
Discipline Specific Elective – III	23U3FRE607	A	Forensic Finance
	23U3FRE608	B	Mobile and Wireless Device Forensics
	23U3FRE609	C	Interrogation Techniques

Departmental Courses Offered by Forensic Science Department to other Department Students

Sl.No.	Semester	Course Code	Name of the Course
1	III	22U4FR3ED1	Fundamental Due Diligence
2		22U4FR3ED2	Introduction to Jurisprudence

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	

- 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 Forensic Science Department

Sl. No.	Semester	Course code	Course Title
1	Semester II to V	23UFRSS01	Martial Arts
2		23UFRSS02	Occupational Safety and Health

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Nehru Arts and Science College, Coimbatore

Course Code	Title		
23U1TAM101	Part - I : Elanthamizh (இளந்தமிழ்)		
Semester: I	Credits: 3	CIA: 20 Marks	ESE: 55 Marks
Course Objective	மொழி இலக்கியத்தின் வாயிலாக அறம் சார் பண்பு மற்றும் ஆளுமைமிக்க மாணவர்களை உருவாக்குதல்.		
Course Category	Skill Development (மாணவர்களின் மொழித்திறனை ஊக்குவித்தல்)		
Development Needs	Regional (உலக அளவில் தமிழ் மொழியின் அவசியத்தை உணர்த்துதல்)		
Course Description	மாணவர்களின் மொழித்திறனை ஊக்குவித்தல் மற்றும் உலக அளவில் தமிழ் மொழியின் அவசியத்தை உணர்த்துதல்		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	சங்க இலக்கியங்கள் வாயிலாக சமூகச் சீர்திருத்தச் சிந்தனைகள் பெறப்படும்.	விரிவுரை/ காணொளிப்பட விளக்கம்	ஒப்படைவு
CO 2	அற இலக்கியங்களின் வழி தமிழர்களின் வாழ்வியல் பண்புகளைக் கற்று அறிதல்.	விரிவுரை	குழுத்திட்டம்
CO 3	பெண்ணியக் கவிஞர்களின் படைப்புத்திறனை மாணவர்களுக்கு உணர்த்துதல்	விரிவுரை/ காணொளிப்பட விளக்கம்	கருத்தரங்கு
CO 4	சிறுகதைகளின் வழி சமூக கருத்துகளை மாணவர்களுக்கு அறிவுறுத்தல்	விரிவுரை / குழு விவாதம்	ஒப்படைவு
CO 5	தமிழ் இலக்கிய வரலாற்றுத் திறனை வளர்த்தல்	விரிவுரை/ குழு விவாதம்	கருத்தரங்கு

Offered by தமிழ்த்துறை

Course Content : Elanthamizh (இளந்தமிழ்) — **Instructional Hours / Week : 4**

Unit	Description	Text Book	Chapters
I	சங்க இலக்கியம்	1. ஐங்குறுநூறு 2. பதிற்றுப்பத்து 3. பத்துப்பாட்டு - முல்லைப்பாட்டு 4. சிறுபாணாற்றுப்படை	கிள்ளைப்பத்து (281-290) பாடல்கள் இரண்டாம் பத்து (11-15 ஐந்து பாடல்கள்) முல்லைப்பாட்டு முழுவதும் (1-103 வரிகள்) சேரநாட்டின் வளமை
		Instructional Hours	**12 Hours**
Suggested Learning Methods: நாடக முறையில் கலந்துரையாடல்			
II	அற இலக்கியம் நீதிநூல்கள்	1. அறன் வலியுறுத்தல் 2. புகழ் 3. வாய்மை 4. நாலடியார்-பொருட்பால் 5. நான்மணிக்கடிகை	31 - 40 குறட்பாக்கள் 231 - 240 குறட்பாக்கள் 291 - 300 குறட்பாக்கள் 11 ஆவது அதிகாரம் (கூடா நட்பு 1-10) முதல் ஐந்து பாடல்கள்
		Instructional Hours	**12 Hours**
Suggested Learning Methods : கலந்துரையாடல்			
III	பெண்ணியக் கவிதைகள்	1. ஆண்டாள் பிரியதர்ஷினி 2. கவிஞர் இளம்பிறை 3. சுகிர்தராணி 4. அ. வெண்ணிலா	பூச்சி வாழ்க்கை- சுயம் பேசும் கிளி தொட்டிச்செடி அம்மா நீரில் அலையும் முகம்
		Instructional Hours	**12 Hours**
Suggested Learning Methods : புதுக்கவிதை எழுதும் திறன் பெற்றமை			

IV	சிறுகதைகள்	1. குட்டி ரேவதி 2. ஜெயமோகன் 3. ச.தமிழ்ச்செல்வன் 4. வண்ணநிலவன் 5. உமாமகேஸ்வரி	நிறைய அறைகள் உள்ள வீடு யானை டாக்டர் வெயிலோடு போய் எஸ்தர் மரப்பாச்சி
		Instructional Hours	**12 Hours**
Suggested Learning Methods : சிறுகதை படைக்கும் திறன் பெற்றமை			
V	தமிழ் இலக்கிய வரலாறு	1. புதுக்கவிதையின் தோற்றமும் வளர்ச்சியும் 2. சிறுகதையின் தோற்றமும் வளர்ச்சியும் 3. படிமம், குறியீடு பற்றிய – விளக்கம்	தமிழ் இலக்கிய வரலாறு
		Instructional Hours	**12 Hours**
Suggested Learning Methods : குழு விவாதம்			
		Total Hours	**60 Hours**

Text Books	இளங்கலை முதலாம் ஆண்டுத்தமிழ் மாணவர்களுக்குரிய பாடநூல்"**இளந்தமிழ்"** தொகுப்பு: தமிழ்த்துறை ,நேரு கலை மற்றும் அறிவியல் கல்லூரி, கோயம்புத்தூர்.
Reference Books	சங்க இலக்கியம் - உரையாசிரியர் ஒளவை. துரைசாமிப்பிள்ளை, பதிப்பாசிரியர்கள் இரா.இளங்குமரனார், முனைவர்.பி.தமிழ்மகன், தமிழ்மண் அறக்கட்டளை, சென்னை.17. நிறைய அறைகள் உள்ள வீடு - குட்டிரேவதி எழுத்து பிரசுரம், 11மாடல் நகர், 10-ஆவது வீதி, சென்னை.
Web. URLs	https://youtu.be/2SMM5LvZYo0

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Seminar	Assignment	Group Project	Total
4	4	5	2	2	3	20

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by
Dr. S. Satheesh kumar	Dr. A. Sridevi

Course Code			
23U1HIN101	Part - 1 - Rachnathmak Hindi (रचनात्मक हिंदी)		
Semester: I	Credits: 3	CIA: 20 Marks	ESE: 55 Marks

(Common to all UG Programmes)

Course Objective	हिंदी भाषा का अच्छा ज्ञान प्राप्त करने के लिए।
Course Category	**Skill Development**
Development Needs	**Regional**
Course Description	**Improves Accuracy & Quality, Improves Communication Skillls**

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	नाटक से रचनात्मकता का विकास होता है। यह हमारे आसपास की दुनिया को समझने में भी मदद करता है।	Lecture / Video Methods	Assignment
CO 2	कहानियां छात्रों की कल्पना और जिज्ञासा को जगाने में मदद करती हैं।	Case Studies	Group Project
CO 3	व्याकरण हिंदी भाषा को सही ढंग से बोलने, लिखने और समझने में मदद करता है। विज्ञापन लेखन और कहानी लेखन छात्रों को उनके रचनात्मक लेखन और कल्पना शक्ति को विकसित करने में मदद करेगा।	Lectures / Video Lessons	Seminar
CO 4	अनुवाद सभी लोगों के बीच प्रभावी संचार को सक्षम बनाता है।	Lecture / Video Methods	Assignment
CO 5	गद्यांश लेखन लिखित पाठ के सार को समझने और संदर्भ के आधार पर आपके निष्कर्षों का अनुमान लगाने में आपकी बुद्धिमत्ता का आकलन करता है।	Lecture / Dumb Charades	Seminar

Offered by | **Hindi**

Course Content | **Instructional Hours / Week : 4**

Unit	Description	Text Book	Chapters
I	नाटक लड़ाई - 1979 - सर्वेश्वर दयाल सक्सेना	**1**	**All**
		Instructional Hours	**12**
Suggested Learning Methods : Visual Learning			
II	कहानी - 1. मजबूरी' - मन्नू भंडारी 2. ठाकुर का कुआँ - मुंशी प्रेमचंद 3. चीफ की दावत - भीष्म साहनी 4. भोलाराम का जीव -हरिशंकर परसाई	1	1 to 4
		Instructional Hours	**12**
Suggested Learning Methods : Auditory			
III	1. अनुप्रयुक्त व्याकरण - संज्ञा, सर्वनाम, क्रिया और विशेषण की पहचान करना। 2. विज्ञापन लेखन 3. दिए गए संकेतों से कहानी लेखन।	1	1,2,3

		Instructional Hours	**12**
Suggested Learning Methods : Comprehensive writing			
IV	**अनुवाद : अंग्रेज़ी से हिंदी** (**अनुवाद अभ्यास** - 3) 1 - 10 **अनुच्छेद**	3	1,2
		Instructional Hours	12
Suggested Learning Methods : Auditory, Visual			
V	पारिभाषिक शब्दावली , गद्यांश लेखन	5	1,2
		Instructional Hours	**12**
Suggested Learning Methods : Comprehensive writing			
		Total Hours	**60**

Text Books	1. नाटक लड़ाई - 1979 - सर्वेश्वर दयाल सक्सेना 2. 2. कहानी संग्रह 3. अनुवाद अभ्यास - 3 दक्षिण भारत हिंदी प्रचार सभा , चेन्नई -17 4. Bharatdarshan.co.nz 5. भाषाशास्त्र का पारिभाषिक शब्द कोश - राजेंद्र द्विवेदी 6. श्री रामदेव , व्याकरण प्रदीप, लोक भारती प्रकाशन, इलाहाबाद
Reference Books	संदर्भ ग्रंथ 1. हिंदी नाटक और रंगमंच - डॉ राम कुमार वर्मा 2. हिन्दी अलोचना की परीभाषिक शब्दावली - पेपरबैंक 3. आधुनिक हिंदी व्याकरण और रचना - डॉ. वासुदेव नंदन प्रसाद
Web. URLs	

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Group project	Total
4	4	5	2	2	3	20

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by
Dr.S.Swarnalatha	Dr.S.Swarnalatha

Course Code			
23U1MAL101	**Part - I : Kadhayum Samskaaravum (കഥയും സംസ്കാരവും)**		
Semester: I	**Credits: 3**	**CIA: 20 Marks**	**ESE: 55 Marks**

(Common to all UG Programmes)

Course Objective	ആധുനികകാലത്തെ മലയാളകഥകളെ കുറിച്ചും സംസ്കാരത്തെ കുറിച്ചും അവബോധം ഉണ്ടാക്കുന്നു
Course Category	Skill Development
Development Needs	Regional
Course Description	Improve accuracy & quality, improve communication

Course Outcomes		**Teaching Methods**	**Assessment Methods**
CO 1	കഥയുടെ സംവേദനം ആസ്വാദകന്റെ അഭിരുചിയെ പൂർത്തിയാക്കുന്നു	Lecture / Video Methods	Assignment
CO 2	പ്രകൃതിയുമായി ബന്ധപ്പെടുന്ന കഥാപരിസരം	Case studies	Group Project
CO 3	ഭക്ഷണവും അതിന്റെ സംസ്കാരവും കൂട്ടായ്മ ഉണ്ടാക്കുന്നു	Lectures / Video Lessons	Seminar
CO 4	ഭക്ഷണത്തിന്റെ മൂല്യം അർത്ഥവത്താക്കുന്നു	Lecture / Video Methods	Assignment
CO 5	ആശയ വിപുലനം	Lecture / Dumb Charades	Seminar

Offered by | **Malayalam**

Course Content | **Instructional Hours / Week : 4**

Unit	**Description**	**Text Book**	**Chapters**
I	ചെറുകഥകൾ - സമകാലിക കഥകൾ 1. പരുന്ത് - ഇ.സന്തോഷ്കുമാർ 2. പാലാഴിമഥനം - കെ.രേഖ 3. കുളവാഴ - വി .എം .ദേവദാസ് 4. മരണമുണ്ടാക്കിക്കളിക്കാം - പി .വി ഷാജികുമാർ 5. കക്കുകളി - ഫ്രാൻസിസ് നൊറോണ	1	1 to 5
		Instructional Hours	**12**
Suggested Learning Methods : Visual Learning			
II	നവോത്ഥാനകഥകൾ 1. വെള്ളപ്പൊക്കത്തിൽ - തകഴി 2. ബസു യാത്ര - കേശവദേവ് 3. മരപ്പാവകൾ - കാരൂർ 4. മാണിക്കൻ - ലളിതാംബിക അന്തർജനം 5. ജന്മദിനം - ബഷീർ	1	6 to 10
		Instructional Hours	**12**
Suggested Learning Methods : Auditory			
III	സംസ്കാര പഠനം - കേരളത്തിലെ രുചിഭേദങ്ങൾ 1. കാസർകോടും കന്നയാളവും ദൈവവിപ്ലവത്തിന്റെ കണ്ണൂരും	1	1,2,3

	2. സാമൂതിരി ,മുട്ടമാല ,എരന്ത് ,ബ്രാഹ്മണാൾ -(കോഴിക്കോട്) 3. മലപ്പുറം കേരളത്തിൻറെ അറേബ്യ		
		Instructional Hours	**12**
Suggested Learning Methods : Comprehensive writing			
IV	സംസ്കാര പഠനം - കേരളത്തിലെ രുചിഭേദങ്ങൾ 1. ചേട്ടായിയെ ഇത് ശൂരാട്ടാ - തൃശ്ശൂർ 2. കരിമ്പനകളുടെ നാട്ടിൽ - പാലക്കാട്	1	4,5
		Instructional Hours	**12**
Suggested Learning Methods : Auditory, Visual			
V	നവമാധ്യമങ്ങൾ - വിവർത്തനം	1	1,2,3
		Instructional Hours	**12**
Suggested Learning Methods : Comprehensive writing			
		Total Hours	**60**

Text Books	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
Reference Books	1. എം. അച്യുതൻ - ചെറുകഥ ഇന്നലെ ഇന്ന് - ഡി.സി.ബുക്സ് 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 ബുക്ക്സ് കോട്ടയം 5. ന്യൂസ് റൂമിന്റെ അകവും പുറവും - ബി.ആർ .പി.ഭാസ്കർ ഗ്രീൻ ബുക്ക്സ് തൃശ്ശൂർ
Web. URLs	**http://www.keralaculture.org>literature**

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Group project	Total
4	4	5	2	2	3	20

Mapping

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO 5
CO1	H	H	H	M	H	H	H	H					
CO2	H	H	H	L	H	M	H	H					
CO3	H	M	H	M	M	H	H	M					
CO4	H	H	L	M	L	H	H	H					
CO5	H	L	L	L	H	H	H	L					

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Ms. N. RAJANI	Dr. SMITHA C. R.

Course Code	Title		
23U1FRN101	Part - I : Le Français Fondamental - I		
Semester : I	Credits : 3	CIA : 20 Marks	ESE : 55 Marks
(Common to all UG Programmes)			
Course Objective	Acquisition of standard French through fundamental French grammar.		
Course Category	Skill Development		
Development Needs	Global		
Course Description	This course has basic knowledge of the French grammar and aims to build a solid foundation in the acquisition of standard French through fundamental French grammar		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Learn basic French grammar along with French civilisation	Lecture	Assignment
CO 2	Knows the gender of nouns	Word game/ Lecture	Seminar
CO 3	Learn Negation, articles, and understand the usage of prepositions.	Lectures / Video Lessons	Quiz
CO 4	Learn Futur proche, Pronominal verb,	Tutorial / Case Studies	Assignment
CO 5	Know to self-introduce and translate simple sentences	Lecture /	Group project

Offered by	French

Course Content	Instructional Hours / Week : 4

Unit	Description	Text Book	Chapters
I	Mes cinq sens en action	1	0
		Instructional Hours	12
Suggested Learning Methods: Worksheets , Reading practice			
II	S'ouvrir aux autres	1	1
		Instructional Hours	12
Suggested Learning Methods: Kahoot App, Worksheets			
III	Partager son lieu de vie	1	2
		Instructional Hours	12
Suggested Learning Methods : Audio & Visual, Speaking practice			
IV	Vivre au quotidien	1	3
		Instructional Hours	12
Suggested Learning Methods : Comprehensive Writing			

V	S'ouvrir à la culture	1	4
		Instructional Hours	**12**
Suggested Learning Methods: Translating simple sentences, comprehending the passage.			
		Total Hours	**60**
Text Books	Saison 1 Méthode de Français – Marie-Noëlle Cocton, Anouchka De Oliveira, Dorothée Dupleix (Unit 0 to 4)		
Reference books	A1 Echo Méthode de Français		
Web. URLs	Lingua.com, TV 5 app,		

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
4	4	5	2	2	3	20

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Dr. R. Malathi	Dr. R. Malathi

Course Code	Title		
23U2ENG101	Part – II : Professional English – I		
Semester : I	Credits : 3	CIA : 20 Marks	ESE : 55 Marks
(Common to all UG Programmes)			
Course Objective	To help students to imbibe, develop, practice and use the LSRW skills and fine tune their productive skills.		
Course Category	Skill Development		
Development Needs	Global		
Course Description	SD: Helps to develop LSRW skill		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Recognize listening, and reading proficiency through the prose discourses.	Lecture/Tutorial	Assignment
CO 2	Use and interpret imaginative, and creative skills through the poetic genre.	Lecture/Tutorial	Assignment
CO 3	Enhance the students to use English effectively through short story.	Lecture/Tutorial	Speaking
CO 4	Execute and exercise grammatical skills in academics and career.	Lecture/Tutorial	Reading
CO 5	Evaluate the LSRW skills through literature.	Lecture/Tutorial	Writing

Offered by | **Department of English**

Course Content | **Instructional Hours / Week : 4**

Unit	Description	Text Book	Chapters
I	**Prose** Leigh Hunt – Getting Up On Cold Morning Rajagopalachari – Tree Speaks A.G. Gardiner – On the Rule of the Road **Listening Activity** – Comprehension practice from Prose.	1	1-3
		Instructional Hours	**12**
Suggested Learning Methods : Flipped Learning			
II	**Poetry** John Milton – On His Blindness Maya Angelou -Phenomenal Women A. K. Ramanujan – A River **Speaking Activity** – Group Discussion Forum	1	4-6
		Instructional Hours	**12**
Suggested Learning Methods : Flipped Learning			

III	**Short Stories** O. Henry – The Last Leaf R. K. Narayan – The Missing Mail Oscar Wilde - The Happy Prince **Reading Activity** – Pronunciation practice and enhancement from Short-stories	1	7-9
		Instructional Hours	**12**
Suggested Learning Methods : Tutorial			
IV	**Grammar** Parts of Speech Tenses Kinds of Sentences **Writing Activity** – Paragraph Writing using grammar Components	1	10-13
		Instructional Hours	**12**
Suggested Learning Methods : Tutorial			
V	**Writing Skills** Letter Writing (Formal & Informal) Notice, Writing Circular Memo, Advertisement Minutes of the Meeting	1	14-17
		Instructional Hours	**12**
Suggested Learning Methods : ABL			
		Total Hours	**60**

Text Books	Compiled by the Department of English, NASC.
Reference Books	CLIL (Content & Language Integrated Learning) – Module by TANSCHE NOTE: (Text: Prescribed chapters or pages will be given to the students by the department and the college)
Web. URLs	https://www.youtube.com/watch?v=QrUPneyZNf0

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Assignment	Speaking	Reading	Total
4	4	5	2	2	3	20

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Mr. D. Pradeek	Dr. R. Malathi

Course Code	Title		
23U3FRC101	Core Paper I - General Forensic Science		
Semester : I	Credits : 4	CIA : 25 Marks	ESE : 75 Marks
Course Objective	To learn the fundamental principles of forensic science and processing crime scene in a systematic manner.		
Course Category	Skill Development		
Development Needs	Global		
Course Description	General forensic science deals with the history, development and governing principles of Forensic Science. This course also provide insight about the systematic processing of different crime scenes.		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Understand the basics of Forensic Science.	Lecture / Flipped Classroom	Assignment
CO 2	Understand the legal framework in which forensic science operates.	Lecture / Flipped Classroom	Quiz
CO 3	Processing crime scenes systematically.	Lectures / Hands-on training	Assignment
CO 4	Collection and packing of evidences in the most appropriate way.	Tutorial / Lecture	Seminar
CO 5	Documenting the crime scene and maintain chain of custody	Lecture / Training	Case assessment

Offered by | **Forensic Science**

Course Content | **Instructional Hours / Week : 5**

Unit	Description	Text Book	Chapters
I	**Introduction** Forensic Science: Definition, history and development - Scope and need of forensic science in criminal justice system- Development of forensic science in India- Principles of forensic science - Tools and techniques used in forensic science and various disciplines in forensic science- Organization setup of Forensic Science Laboratory: Structure and function of State, Regional and Central Forensic Science Laboratories. Role of Mobile Forensic Science Laboratory in crime scene investigation.	1	1
		Instructional Hours	**15**
Suggested Learning Methods: **Video lectures**			
II	**Education in Forensic Science** Education in Forensic Science, Ethics in Forensic Science and Role of Media- Duties & Qualification of Forensic Scientist- Forensic Scientist at the Crime Scene- Presentation of Expert Evidence, Evidence in The Court of Law, Report writing & Evidence presentation, Components of reports and report format (according to ISO/IEC 17025:2005).	1	2
		Instructional Hours	**15**
Suggested Learning Methods: Moot court Practice			

III	**Crime Scene Investigation** Definition of crime and crime scene- Types of crime scenes: Primary, Secondary, Indoor and Outdoor- Concept of evidence- evidence classification: direct, circumstantial, physical, biological, corroborative, conclusive, trace and testimonial- Locard's principle of exchange- Elements of crime scene: Information from victim, witness, crime scene, suspects, databases and records- Agencies involved in crime scene management: Police, Medico legal experts, Judicial officers- Actions of first responding officer: Objectives, documentation, officer safety, emergency care, secure and control, release scene to appropriate authorities. Steps of crime scene investigation.	1	3
		Instructional Hours	**15**
Suggested Learning Methods: Video lectures			
IV	**Search and Documentation of Crime Scene** Documenting crime scene: Crime scene photography: Location and scene, long-range mid-range and short range photographs- Importance of scale- Use of L scale - Search: definition, objectives and search patterns - Strip method, grid method, zone/quadrant method, spiral method (inward and outward), Point to point method, wheel method- Crime scene sketching: Indoor and outdoor, triangulation method, baseline method, polar coordinate method.	1	4
		Instructional Hours	**15**
Suggested Learning Methods: Practice using set-up crime scenes			
V	**Collection, packing and forwarding of evidences** Collection, packaging and preservation of physical evidence and general considerations- Stages of investigation: data collection, analysis, hypothesis formulation, testing, theory formation. Forwarding of evidences: Packing and sealing of evidences, preparation of questionnaire- Chain of custody: Importance and maintenance- Documents to be submitted to FSL along with evidences.	1	5
		Instructional Hours	**15**
Suggested Learning Methods: Laboratory practice			
		Total Hours	**75 Hrs**

Text Books	1. General Forensic Science: Compiled by Dept. of Forensic Science, Nehru Arts and Science College Coimbatore.
Reference Books	1. An Introduction To Forensic Scientific and Investigative Techniques", Stuart.H.James and Jon. J. Nordby, Third Edition, CRC Press, 2007. 2. Criminalistics- An Introduction To Forensic Science, Saferstein.R , Printice Hall Inc. USA , 2003.

Tools for Assessment (25 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
5	5	6	3	3	3	25

Mapping													
CO \ PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	H	M	L	L	H	L	H	L	H	M	L	M	L
CO2	H	M	M	L	H	L	H	L	H	M	L	M	L
CO3	H	H	M	L	H	L	H	L	H	M	L	M	L
CO4	H	H	M	L	H	L	H	L	M	M	L	M	L
CO5	H	H	M	L	H	L	h	L	H	M	L	M	L
H-High; M-Medium; L-Low													

Course designed by	Verified by Chairman
Mr. Akhil Benny	Mr. Akhil Benny

Course Code	Title		
23U3FRC102	Core Paper II - Law for Forensic Science		
Semester : I	Credits : 3	CIA: 20 Marks	ESE: 55 Marks
Course Objective	This course is designed to provide awareness to the students regarding the legal framework in which Forensic Science operates.		
Course Category	Skill Development		
Development Needs	Global		
Course Description	Being the application of science for law, Forensic Science depends heavily on the law of the land. Hence this course provides a deep insight about various laws.		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Understand the Indian Legal System	Lecture/Demonstration	Assignment
CO 2	Learn the concept of evidence in legal system.	Lectures/ Tutorials	Seminar
CO 3	Understand the role of witnesses in the criminal justice system.	Tutorial / Case Studies	Quiz
CO 4	To gain an understanding about the legal communications.	Tutorial / Case Studies	Activity
CO 5	Acquire basic idea about presumptions and burden of proof.	Lecture	Assignment

Offered by Forensic Science

Course Content **Instructional Hours / Week : 5**

Unit	Description	Text Book	Chapters
I	**Indian Legal System** Introduction to the Indian legal system: Sources of law, types of laws, courts and their jurisdictions, legal procedures, and legal maxims. Basic concepts of criminal law, criminal liability, and criminal defences. Indian Penal Code : The structure of the Indian Penal Code (IPC), the offenses and their definitions, general structure of IPC, and the procedure for filing a criminal complaint.	1	all
		Instructional Hours	**15**
Suggested Learning Methods: **Library extra reading**			
II	**Evidence in Legal System** Introduction to Evidence Law: Basic concepts of evidence, its relevance and importance in the legal system, and the distinction between admissible and inadmissible evidence. Types of Evidence : Different types of evidence, including direct evidence, circumstantial evidence, real evidence, documentary evidence, and oral evidence. Relevancy of Evidence : Rules of relevancy and admissibility, the distinction between relevant and irrelevant evidence, and the criteria for determining the relevance of evidence.	1	7,8
		Instructional Hours	**15**
Suggested Learning Methods: PowerPoint Presentation			

III	**Witness** Witnesses: The types of witnesses, including eyewitnesses, expert witnesses, and hostile witnesses, and the examination of witnesses in court. Examination of Witnesses : Different modes of examination of witnesses, including examination-in-chief, cross-examination, and re-examination, and the rules and techniques for conducting effective examination of witnesses. Hearsay Evidence and legal significance.	1	all
		Instructional Hours	**15**
Suggested Learning Methods: Case Studies			
IV	**Legal Communications** Opinion Evidence : The admissibility of opinion evidence, including expert opinion evidence, and the rules governing the admissibility of such evidence. Confessions and Admissions : The admissibility of confessions and admissions in criminal trials, the distinction between voluntary and involuntary confessions, and the rules governing the admissibility of such evidence. Privileged Communications : The concept of privileged communications, including lawyer-client privilege, doctor-patient privilege, and spousal privilege, and the rules governing the admissibility of such evidence.	1	11,12
		Instructional Hours	**15**
Suggested Learning Methods: Case Studies			
V	**Burden of proof and Presumptions** Presumptions : Different types of presumptions, including legal and evidential presumptions, and the rules governing the use of presumptions in trials. Burden of Proof in Special Cases : The burden of proof in criminal cases, civil cases, and cases involving breach of trust or fraud.	1	15
		Instructional Hours	**15**
Suggested Learning Methods: Video lecture			
		Total Hours	**75**

Text Books	1. Ratanlal, R., & Dhirajlal, K. (2016). The Law of Evidence. Lucknow, India: Eastern Book Company.
Reference Books	1. Lal, B. (2020). Law of evidence. Central Law Agency. 2. Rai, A. K. (2016). Evidence law: Principles, practice, and problems. Eastern Book Company. 3. Universal. (2020). Indian Evidence Act: Bare Act with short notes. Universal Law Publishing. 4. Gupta, S. P. (2016). Textbook on the law of evidence. Universal Law Publishing.

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
4	4	5	2	2	3	20

Mapping													
CO \ PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	M	-	-	L	H	-	H	-	H	M	L	H	-
CO2	M	L	L	H	H	-	L	-	H	M	L	H	-
CO3	H	M	H	H	H	-	L	-	H	H	H	H	-
CO4	M	L	L	M	H	-	H	-	H	H	L	H	-
CO5	M	-	H	M	H	-	L	-	H	M	-	H	-
H-High; M-Medium; L-Low													

Course designed by	Verified by Chairman
Ms. Archana Sunil	Mr. Akhil Benny

Course Code	Title		
23U3FRP103	Core Paper III - Crime Scene Management Practical		
Semester : I	Credits : 3	CIA : 30 Marks	ESE : 45 Marks

Course Objective	Provide students with an understanding of the systematic methods of crime scene analysis.
Course Category	Employability
Development Needs	Global
Course Description	Scientific study of crime scene for the systematic collection and packaging of evidences.

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Identify possible evidences from a crime scene.	Demonstration / Video Lessons	Practical
CO 2	Document a crime scene.	Demonstration	Practical
CO 3	Collect and pack evidences scientifically.	Demonstration / Video Lessons	Practical
CO 4	Maintain chain of custody	Demonstration / Video Lessons	Practical
CO 5	Study the legal aspects of crime scene management	Demonstration / Video Lessons	Practical

Offered by	**Forensic Science**
Course Content	**Instructional Hours / Week : 4**

S. No.	Experiment
1	To prepare a report on evaluation of crime scene.
2	Seizure of the premises of the crime scene, clothing, accessibility and chronology of investigation.
3	Photography of crime scene.
4	Searching and Listing of evidences at indoor crime scene.
5	Searching and Listing of evidences at outdoor crime scene.
6	Sketching of Crime scene by triangulation method
7	Sketching of Crime scene by baseline method.
8	Evidence collection, packaging, sealing and labelling.
9	Analysis of blood stains pattern using photograph.
10	Study of legal aspects of crime scene analysis
	TOTAL 60 Hours

Tools for Assessment (30 Marks)						
Analytical Skill	Lab Performance	Inference	Test I	Test II	Observation	Total
4	4	4	7	7	4	30

Mapping													
CO \ PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	H	H	-	-	-	-	M	L	H	H	H	H	L
CO2	H	H	-	-	-	-	M	L	M	L	H	H	L
CO3	H	H	-	L	-	-	M	L	H	M	H	M	L
CO4	H	H	-	L	-	-	M	L	H	L	H	H	L
CO5	H	H	-	M	-	-	M	L	H	H	H	M	L
H-High; M-Medium; L-Low													

Course designed by	**Verified by Chairman**
Mr. Akhil Benny	Mr. Akhil Benny

Course Code	Title		
23U3FRA101	Allied Paper I - Forensic Chemistry		
Semester : I	Credits : 3	CIA : 20 Marks	ESE : 55 Marks
Course Objective	To develop knowledge about various chemical evidences and skills to analyse them.		
Course Category	Employability		
Development Needs	Global/National		
Course Description	Forensic Chemistry deals with Forensic analysis of various chemical evidences. The course includes features, collection methods, analysing techniques of chemical samples.		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Understand the fundamentals of forensic chemistry and forensic analysis including chromatographic and spectroscopic method.	Lecture / Flipped Classroom	Assignment
CO 2	Understand the chemistry of fire, investigate arson cases, collect and analyze fire evidence	Video lectures / Tutorials	Seminar
CO 3	Acquire skills identify explosives, analyze post-blast residues using chemical techniques	Lectures/ Tutorials	Quiz
CO 4	Develop detailed awareness about the effects of drugs in individual and social levels.	Tutorial / Case Studies	Activity
CO 5	Introduce the concept of quality control.	Lecture / Tutorials	Assignment

Offered by	Forensic Science

Course Content	Instructional Hours / Week : 5

Unit	Description	Text Book	Chapters
I	**Forensic Chemistry** Forensic chemistry: Introduction, Theory of forensic analysis, Chromatographic methods of chemical analysis, Spectroscopic methods of chemical analysis. Trap cases and their examination.	1	all
		Instructional Hours	**15**
Suggested Learning Methods: **Reference to DFS Manuals**			
II	**Arson** Chemistry of fire, pyrolysis, combustion, fire triangle and tetrahedron, flash point and ignition temperature. Fire categories, burn patterns. Investigation of arson cases, functions of a fire investigator, collection preservation and packing of fire evidence. Lab analysis of the evidence, instrumental techniques used. Petroleum products: types, by products, Standard methods of analysis of petroleum products for adulteration.	1	all
		Instructional Hours	**15**
Suggested Learning Methods: Reference to DFS Manuals			

III	**Explosives** Introduction, classification, composition and characteristics. Synthesis and actions of explosives (TNT, PETN and RDX, IED). Explosion process and effects, types of explosions, post blast residue collection. Systematic examination of explosives and explosion residues in the laboratory using chemical techniques, Analysis of inorganic Anions and Cations of Post Blast Residues, Legal Provisions of Explosives,	2	all
		Instructional Hours	**15**
Suggested Learning Methods: Reference to DFS Manuals			
IV	**Drugs of abuse** Drugs: definition, classification and scope and forensic importance. Commonly consumed drugs, their mode of actions, symptoms, street names, methods of consumption. Analysis of drugs: chemical and instrumental - Spot tests and qualitative analysis-	3	all
		Instructional Hours	**15**
Suggested Learning Methods: Reference to DFS Manuals			
V	**Alcohol and Intoxication** Beverages-Introduction and Classification, Fate of Alcohol in Body, Alcohol Intoxication, Breath Alcohol Estimation, Blood Alcohol Estimation, Legal Provisions Regarding Intoxication, Common Alcoholic Beverages, Country Made Liquor and Illicit Liquor, Chemical and instrumental analysis of ethanol and methanol.	4	5
		Instructional Hours	**15**
Suggested Learning Methods: Reference to DFS Manuals			
		Total Hours	**75 Hrs**

Text Books	1. DFS Manual- Petroleum: Published by Directorate of Forensic Science, Govt. of India 2. DFS Manual- Explosives: Published by Directorate of Forensic Science, Govt. of India 3. DFS Manual- Narcotics: Published by Directorate of Forensic Science, Govt. of India 4. Forensic Chemistry: Compiled by Dept. of Forensic Science, Nehru Arts and Science College Coimbatore.
Reference Books	1. Standard methods of chemical analysis; Welcher Frank; Van Nostrand Reinhold; 6th edition. 2. Fire scene evidence; Almirall J R & Furton K G; CRC Press (2004)

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
4	4	5	2	2	3	20

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Ms. Archana Sunil	Mr. Akhil Benny

Course Code	Title		
23U1TAM202	Part - I : Pynthamizh (பைந்தமிழ்)		
Semester: II	Credits: 3	CIA: 20 Marks	ESE: 55 Marks
Course Objective	மொழி இலக்கியத்தின் வாயிலாக அறம் சார் பண்பு மற்றும் ஆளுமை மிக்க மாணவர்களை உருவாக்குதல்.		
Course Category	Skill Development (மாணவர்களின் மொழித்திறனை ஊக்குவித்தல்)		
Development Needs	Global /Regional(உலக அளவில் தமிழ் மொழியின் அவசியத்தை உணர்த்துதல்)		
Course Description	மாணவர்களின் மொழித்திறனை ஊக்குவித்தல் மற்றும் உலக அளவில் தமிழ் மொழியின் அவசியத்தை உணர்த்துதல்		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	பக்தி இலக்கியங்கள் வழி வாழ்வியல் நெறிகளை மாணவர்களுக்கு எடுத்துரைத்தல்	விரிவுரை/காணொளிப்பட விளக்கம்	ஒப்படைவு
CO 2	சிற்றிலக்கியங்களின் மூலம் தமிழர்களின் வாழ்க்கை கூறுகளை எடுத்துரைத்தல்	விரிவுரை	குழுத்திட்டம்
CO 3	தமிழ் நாவல்களின் வழி சமுதாயச் சிந்தனைகளைக் கூறுதல்	விரிவுரை/காணொளிப்பட விளக்கம்	கருத்தரங்கு
CO 4	இலக்கண அறிவை வளர்த்தல்	விரிவுரை	ஒப்படைவு
CO 5	தமிழ் இலக்கிய வரலாற்றுத்திறனை மேம்பாடு அடையச் செய்தல்	விரிவுரை/ குழு விவாதம்	கருத்தரங்கு

Offered by தமிழ்த்துறை

Course Content: Pynthamizh (பைந்தமிழ்) — **Instructional Hours / Week : 4**

Unit	Description		Text Book & Chapters
I	பக்தி இலக்கியங்கள்	1. திருமந்திரம் - மூன்றாம் தந்திரம் (அதிகாரம் 2) 2. நாலாயிரத் திவ்வியப்பிரபந்தம்- பெரியாழ்வார் 3. மாணிக்கவாசகர்-எட்டாம் திருமுறை 4. திருநாவுக்கரசர்- திருவரங்கமாலை	அட்டமாசித்திகள் திருப்பல்லாண்டு அச்சோப்பதிகம் நான்காம் திருமுறை - தேவாரம்
		Instructional Hours	**12 Hours**
Suggested Learning Methods: ஆன்மிக சிந்தனைத்திறன் பெற்றமை			
II	சிற்றிலக்கியங்கள்	1. கலம்பகம் - நந்திக்கலம்பகம் 2. பள்ளு – முக்கூடற்பள்ளு 3. குறவஞ்சி – திருக்குற்றாலக்குறவஞ்சி 4. பிள்ளைத்தமிழ் - மீனாட்சியம்மை பிள்ளைத்தமிழ் 5. பட்டினத்தார் பாடல்கள்	91 -100 பாடல்கள் 350 - 360 செய்யுள்கள் 1-10 செய்யுள்கள் 1 -10 செய்யுள்கள் 358 - 367 பாடல்கள்
		Instructional Hours	**12 Hours**
Suggested Learning Methods : கலந்துரையாடல்			
III	நாவல்	1. இமையம் (வெ.அண்ணாமலை)	செல்லாத பணம்
		Instructional Hours	**12 Hours**
Suggested Learning Methods : நாவல் எழுதும் திறன் பெற்றமை			

IV	இலக்கணம்	1. வல்லினம் மிகும் இடங்கள் 2. வல்லினம் மிகா இடங்கள் 3. யாப்பின் உறுப்புகள் (எழுத்து முதல் தொடை வரை) 4. பாவின் வகைகள்	தமிழ் இலக்கணம்
		Instructional Hours	**12 Hours**
Suggested Learning Methods : பிழையின்றி தமிழ் எழுதுதல்			
V	தமிழ் இலக்கிய வரலாறு	1. சிற்றிலக்கியத்தின் தோற்றமும் வளர்ச்சியும் 2. புதினத்தின் தோற்றமும் வளர்ச்சியும் 3. பக்தி இலக்கியத்தின் தோற்றமும் வளர்ச்சியும் 4. விண்ணப்பங்கள், மடல்கள் எழுதச்செய்தல்	தமிழ் இலக்கிய வரலாறு
		Instructional Hours	**12 Hours**
Suggested Learning Methods : குழு விவாதம்			
		Total Hours	**60 Hours**

Text Books	1. இளங்கலை முதலாம் ஆண்டுத்தமிழ் மாணவர்களுக்குரிய பாடநூல் "பைந்தமிழ்" தொகுப்பு: தமிழ்த்துறை, நேரு கலை மற்றும் அறிவியல் கல்லூரி, கோயம்புத்தூர்.
Reference Books	1. திருமந்திரம் - மாணிக்கவாசகர் அருளிய திருவாசகம் - சித்தாந்த பண்டிதர் திரு.ப.இராமநாத பிள்ளை விளக்க உரையுடன் கழக வெளியீடு, திருநெல்வேலி, 2. தமிழண்ணல - புதிய நோக்கில் தமிழ் இலக்கிய வரலாறு, மீனாட்சிப் புத்தக நிலையம் மதுரை.
Web. URLs	https://youtu.be/cL89sSZq_FI

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Seminar	Assignment	Group Project	Total
4	4	5	2	2	3	20

Mapping

PO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	**L**	H	L	H	H	M	H					
CO2	H	**L**	M	L	H	L	H	H					
CO3	H	**L**	L	L	M	M	H	H					
CO4	H	**L**	H	L	H	M	M	L					
CO5	H	**L**	H	L	H	L	H	H					

H-High; M-Medium; L-Low

Course designed by	Verified by
Dr. S. Satheesh kumar	Dr. A.Sridevi

Course Code	Title		
23U1HIN202	Part - 1 Sanchar Hindi (संचार हिन्दी)		
Semester: II	Credits: 3	CIA: 20 Marks	ESE: 55 Marks
(Common to all UG Programmes)			
Course Objective	पाठ्यक्रम संवादी हिंदी में पारंगत होने में मदद करता हैI		
Course Category	Skill Development		
Development Needs	National		
Course Description	Improves Reading and Translation Skills.		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	कविता की मूल शब्दावली और व्यावहारिक तत्वों को समझें। मुक्त छंद और कविता के पारंपरिक रूपों में अंतर्निहित सामान्य तकनीकों को समझें।	Lecture / Video Methods	Assignment
CO 2	छात्र विभिन्न प्रकार की संवादात्मक स्थितियों में हिंदी में प्रदर्शित करने, चित्रित करने, नाटक करने और व्याख्या करने के लिए अर्जित कौशल को लागू करने में सक्षम होंगे	Case Studies	Group Project
CO 3	छात्र औपचारिक और अनौपचारिक पत्र लिखने में सक्षम होंगे।	Lectures / Video Lessons	Seminar
CO 4	अनुवाद सभी लोगों के बीच प्रभावी संचार को सक्षम बनाता है।	Lecture / Video Methods	Assignment
CO 5	छात्र हिंदी भाषा के वक्ता के साथ किसी भी सामान्य विषय पर विभिन्न स्तरों पर बातचीत करने में सक्षम होंगे I	Lecture / Dumb Charades	Seminar

Offered by	Hindi

Course Content	Instructional Hours / Week : 4

Unit	Description	Text Book	Chapters
I	आधुनिक हिंदी काव्य : रश्मिरथी , रामधारी सिंह 'दिनकर'	1	All
		Instructional Hours	**12**
Suggested Learning Methods : Visual Learning			**02 Hrs**
II	**एकांकी संग्रह** : 1. **शिवाजी का सच्चा स्वरूप** - सेठ गोविंददास 2. औरंगजेब की आखिरी रात - रामकुमार वर्मा 3. रीढ़ की हड्डी - जगदीशचंद्र माथुर 4. सिपाही की माँ - मोहन राकेश	1	1 to 4
		Instructional Hours	**12**
Suggested Learning Methods : Auditory			**02 Hrs**
III	पत्र लेखन : (छुटटी पत्र , संपादक को पत्र , पुस्तकों के लिए आदेश पत्र , नौकरी के लिए आवेदन पत्र , निजी पत्र)	1	1,2,3
		Instructional Hours	**12**

Suggested Learning Methods : Comprehensive writing			**02 Hrs**
IV	**अनुवाद : हिंदी से अंग्रेजी (अनुवाद अभ्यास** - 3) 1 - 10 passages	3	1,2
		Instructional Hours	**12**
Suggested Learning Methods : Auditory, Visual			**02 Hrs**
V	बोलचाल की हिन्दी : 1. शिक्षक - विद्यार्थी 2. ग्राहक-दुकानदार 3. डॉक्टर - रोगी, 4. साक्षात्कार 5. दो यात्री 6. माँ - बेटा	5	1,2
		Instructional Hours	**12**
Suggested Learning Methods : Comprehensive writing			**02 Hrs**
		Total Hours	**60**

Reference Books	1. रश्मिरथी / रामधारी सिंह "दिनकर" - कविता कोश 2. सरस एकांकी नाटक : डॉ. रामकुमार वर्मा 3. अनुवाद अभ्यास - 3 दक्षिण भारत हिंदी प्रचार सभा , चेन्नई -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. URLs	**www.webdunia.com**

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Assign ment	Seminar	Group project	Total
4	4	5	2	2	3	20

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by
Dr. S.Swarnalatha	**Dr.S.Swarnalatha**

Course Code			
23U1MAL202	**Part – I: Novalum Bhashaapadanavum** (നോവലും ഭാഷാപഠനവും)		
Semester: II	**Credits: 3**	**CIA: 20 Marks**	**ESE: 55 Marks**

(Common to all UG Programmes)

Course Objective	വിദ്യാർത്ഥികളിൽ മലയാള ഭാഷയുടെ വികാസവും മലയാള സാഹിത്യത്തിൽ നോവലുകൾക്കുള്ള സ്ഥാനവും വായനാശീലവും വർദ്ധിപ്പിക്കുന്നു
Course Category	Skill Development
Development Needs	Regional
Course Description	Proper guidance, opportunities and encouragement that help them to achieve their ambitions

Course Outcomes		**Teaching Methods**	**Assessment Methods**
CO 1	സമൂഹത്തിലെ ഒരു വിഭാഗത്തിന്റെ ജീവിതം	Lecture / Video Methods	Assignment
CO 2	പ്രകൃതിയുടെയും മറ്റു ജീവജാലങ്ങളുടെയും മാറ്റങ്ങൾ	Case studies	Group Project
CO 3	പ്രകൃതി നാശത്തിനെതിരായി ഒന്നിച്ചു പ്രവർത്തിക്കുന്നു	Lectures / Video Lessons	Seminar
CO 4	സമൂഹത്തിലെ ഭാഷാസങ്കല്പം തിരിച്ചറിയുന്നു	Lecture / Video Methods	Assignment
CO 5	നല്ല ഭാഷ എങ്ങനെ സൃഷ്ടിക്കാമെന്ന് മനസ്സിലാക്കുന്നു	Lecture / Dumb Charades	Seminar

Offered by	**Malayalam**

Course Content	**Instructional Hours / Week : 4**

Unit	**Description**	**Text Book**	**Chapters**
I	നോവൽ - എൻമകജെ	1	1 to 16
		Instructional Hours	**12**
Suggested Learning Methods : Visual Learning			**02 Hrs**
II	നോവൽ - എൻമകജെ	1	17 to 34
		Instructional Hours	**12**
Suggested Learning Methods : Auditory Method			**02 Hrs**
III	നോവൽ - എൻമകജെ	1	35 to 51
		Instructional Hours	**12**
Suggested Learning Methods : Comprehensive Writing			**02 Hrs**
IV	ഭാഷാപഠനം - തെളിമലയാളം	1	1,2,3
		Instructional Hours	**12**
Suggested Learning Methods : Auditory &Visual Method			**02 Hrs**

V	ഭാഷാപഠനം - തെളിമലയാളം	1	4,5
		Instructional Hours	**12**
Suggested Learning Methods : Comprehensive Writing			**02 Hrs**
		Total Hours	**60 Hrs**

Text Books	1. അംബികാസുതൻ മാങ്ങാട്, എൻമകജെ - ഡി.സി.ബുക്സ് കോട്ടയം 2. എം.എൻ.കാരശ്ശേരി, തെളിമലയാളം - ഡി.സി.ബുക്സ് കോട്ടയം
Reference Books	1. പ്രൊഫ.എൻ.കൃഷ്ണപ്പിള്ള, കൈരളിയുടെ കഥ - ഡി.സി.ബുക്സ് കോട്ടയം 2. ഡോ. പന്മന രാമചന്ദ്രൻ നായർ, സമ്പൂർണ്ണമലയാള സാഹിത്യ ചരിത്രം - ഡി.സി.ബുക്സ് കോട്ടയം 3. ഡോ.കെ.എം. ജോർജ്ജ്, ആധുനിക മലയാള സാഹിത്യ ചരിത്രം പ്രസ്ഥാനങ്ങളിലൂടെ - ഡി.സി.ബുക്സ് കോട്ടയം 4. എരുമേലി, മലയാള സാഹിത്യം കാലഘട്ടത്തിലൂടെ - ഡി.സി.ബുക്സ് കോട്ടയം
Web. URLs	**http://www.keralaculture.org>literature** **http://www.manoramaonline.com**

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Group project	Total
4	4	5	2	2	3	20

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Ms. N. RAJANI	Dr. SMITHA C. R.

Course Code	Title		
23U1FRN202	Part – I : Le Français Fondamental – II		
Semester : II	Credits : 3	CIA : 20 Marks	ESE : 55 Marks
(Common to all UG Programmes)			
Course Objective	This course is comprised of deep study of grammar categories and aims to apply the grammatical structures correctly.		
Course Category	Skill Development		
Development 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 Methods
CO 1	Acquire an understanding of French culture, use the basic foundation of verbs.	Lecture	Assignment
CO 2	Describe a place, learn pronom en, y and adjectives.	Tutorial / Case Studies	Seminar
CO 3	Recall the tenses and learn Imparfait tense	Lectures / Video Lessons	Quiz
CO 4	Write about the weather and learn pronom COD,	Word game / Lecture	Assignment
CO 5	Write short passages and translate, Comprehend the passage and learn pronom COI	Lecture	Group project

Offered by	Department of French

Course Content	Instructional Hours / Week : 4

Unit	Description	Text Book	Chapters
I	Goûter à la campagne	1	5
	Instructional Hours		**12**
Suggested Learning Methods: Worksheets, TV5 App			
II	Voyager dans sa ville	1	6
	Instructional Hours		**12**
Suggested Learning Methods: Kahoot App, Duolingo			
III	Faire du neuf avec du vieux	1	7
	Instructional Hours		**12**
Suggested Learning Methods : Comprehensive Writing			

IV	Changer d'air	1	8
		Instructional Hours	**12**
Suggested Learning Methods : Comprehensive Writing			
V	Devenir éco-citoyen	1	9
		Instructional Hours	**12**
Suggested Learning Methods : Translating simple sentences and short passages			
		Total Hours	**60**

Text Books	Saison 1 Méthode de Français – Marie-Noëlle Cocton, Anouchka De Oliveira, Dorothée Dupleix (Unit 5 to 9)
Reference Books	A1 Echo Méthode de Français
Web. URLs	Lingua.com, TV 5 app, Learn French by podcast (spotify)

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
4	4	5	2	2	3	20

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Dr. R. Malathi	Dr. R. Malathi

Course Code	Title		
23U2ENG202	Part – II : Professional English – II		
Semester : II	Credits : 3	CIA : 20 Marks	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		
Development Needs	Global		
Course Description	SD: Helps to develop LSRW skill		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Mastering life skills through prose discourse.	Lecture/Tutorial	Assignment
CO 2	Acquire ethics and values through poetic genre.	Lecture/Tutorial	Assignment
CO 3	Recognise the nuances of English language through short stories.	Lecture/Tutorial	Speaking
CO 4	Enhance fluency over language with self-confidence.	Lecture/Tutorial	Reading
CO 5	Examine how the language is used in literature and develop LSRW Skills	Lecture/Tutorial	Writing

Offered by Department of English

Course Content — **Instructional Hours / Week : 4**

Unit	Description	Text Book	Chapters
I	**Prose** E.M. Forster - Tolerance Mahatma Gandhi - Women Not the Weaker Sex Issac Asimov - The Fun They had **Listening Activity** – Comprehension practice from Prose.	1	1-3
		Instructional Hours	**12**
Suggested Learning Methods : Cooperative Learning			
II	**Poetry** Robert Frost - Stopping by Woods on a Snowy Evening William Blake - A Poison Tree Alexander Pope – Ode on Solitude **Speaking Activity** – Group Discussion Forum	1	4-6
		Instructional Hours	**12**
Suggested Learning Methods : Inquiry Based Learning			
III	**Short Stories** Mark Twain - The Cat and the Painkiller Japanese Folk Tale - The Envious Neighbour Hector Hugh Munro (Saki) – The Open Window **Reading Activity** – Pronunciation practice and enhancement from Short-stories	1	7-9
		Instructional Hours	**12**
Suggested Learning Methods : Classroom Activity			

IV	**Grammar** Articles Concord Active and Passive Voices Direct and Indirect Speech **Writing Activity** – Paragraph Writing using grammar Components	1	10-13
		Instructional Hours	**12**
Suggested Learning Methods : Direct Method			
V	**Writing Skills** Resume Writing Email Writing Dialogue Writing Testimonial Writing Creative Writing	1	14-17
		Instructional Hours	**12**
Suggested Learning Methods : Activity Based Learning			
		Total Hours	**60**

Text Books	Compiled by the Department of English NASC.
Reference Books	CLIL (Content & Language Integrated Learning) – Module by TANSCHE NOTE: (Text: Prescribed chapters or pages will be given to the students by the department and the college)
Web. URLs	

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Assignment	Speaking	Reading	Total
4	4	5	2	2	3	20

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Mr. D. Pradeek	Dr. R. Malathi

Course Code	Title		
23U3FRC204	Core Paper IV – Forensic Ballistics		
Semester : II	Credits : 4	CIA : 25 Marks	ESE : 75 Marks

Course Objective	To learn to solve the various crimes in which firearms and tools are involved.
Course Category	Employability
Development Needs	Global/National
Course Description	Forensic Ballistics deals with Forensic Analysis of evidences related to firearms and tool marks. The course includes features, collection methods and analysis of ballistics evidences and tool marks.

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	To know the basic working of firearms and ammunition	Lecture/Demonstration	Assignment
CO 2	Develop skills to handle firearms and ammunition.	Video lectures/Tutorials	Seminar
CO 3	To develop skills to investigate the various crimes in which firearms are involved	Lectures/ Tutorials	Quiz
CO 4	Learn the science of comparison of bullets and cartridge cases.	Tutorial / Case Studies	Activity
CO 5	Acquire skills to develop tool marks from crime scene and analyse it.	Lectures/ Tutorials	Assignment

Offered by | **Forensic Science**

Course Content — **Instructional Hours / Week: 4**

Unit	Description	Text Book	Chapters
I	**Introduction to Ballistics** Scope of forensic ballistics- History of firearms: lock mechanism of various firearms- Firearms: Classification: Based on riffling, action mechanism and loading- Parts of firearms: Butt, chamber, magazine, firing mechanism and barrel. Concept of bore and calibre. Improvised, country made & imitative firearms. Features of the following firearms: 12 bore, INSAS, 0.315, revolver, pistol, carbine, AK 47, SLR.	1	1,2,3
		Instructional Hours	**12**
Suggested Learning Methods: **Library extra reading**			
II	**Internal and Intermediate Ballistics** Ammunition, Cartridge case, Primer, Propellant, Bullets, Pellets and Wads. Use of lead as bullet material. Internal Ballistics: Definition, Chemical composition of primer and propellant (black powder, single base, double base, cordite). Ignition and burning of propellants. Degressive and progressive burning. Pressure developed inside the barrel. Theory of recoil. Intermediate Ballistics: Definition, effects on the motion of projectile by firearm, gas flow field near the muzzle, muzzle flash, muzzle blast and silencers.	1	3.4
		Instructional Hours	**12**
Suggested Learning Methods: Video lectures			

III	**External Ballistics and Terminal Ballistics :** External Ballistics: Definition, vacuum trajectory, Equations of motion of projectile, gyroscopic equilibrium of bullets, vacuum trajectory- calculation, effect of air resistance on trajectory and nature of air-resistance phenomena. Terminal Ballistics: Definition. Physics of shock waves, shock waves within the body; Cavitations, temporary and permanent cavities. Behaviour of various types of bullets on hitting the target, Ricochet and its forensic aspects.	1	4
		Instructional Hours	**12**
Suggested Learning Methods: Hands on training			
IV	**Evidentiary Clues :** Calculation of trigger pull Determination of range of firing for shotguns: Burning, scorching, blackening and Tattooing. Characteristics of contact shots, Walker's test. Evidentiary clues: Types, occurrence, collection and packing. Matching of crime & test Bullets and cartridge cases. Comparison microscope, Identification of bullets and their comparison. Factors affecting the formation of striations. Gun Shot Residues (GSR): formation, composition and positioning of GSR. Collection, chemical methods of analysis and instrumental methods of analysis.	1	5,6
		Instructional Hours	**12**
Suggested Learning Methods : Laboratory practice			
V	**Tool Marks :** Types of tool marks : compression marks, striated marks, combination of compression and striated marks, repeated marks. Class characteristics and individual characteristics; Tracing and Lifting of tool marks. Photographic examination of tool marks and cut marks; Forensic examination and comparison of tool marks. Expert testimony in tool marks. Comparison microscope and its applications in tool mark analysis.	1	6
		Instructional Hours	**12**
Suggested Learning Methods: Online training			
		Total Hours	**60**

Text Books	1. Sharma, B.R. (2017) *Firearms in criminal investigation and trials: An integrative approach*. Gurgaon, Haryana, India: Lexis Nexis.
Reference Books	1. J. Howard Mathews, Charles C. Thomas; Firearms Identification, Vol.-I, II & III, Springfield Illinois, 1973. 2. Hatcher, Jury and Weller; Firearms Investigation, Identification and Evidence, Stackpole Books, Harrisburg, PA, 1977. 3. Vincent Di Maio; Gunshot Wounds, CRC Press, Washington, DC, 1999. 4. Brain J. Heard; Hand book of Firearms and Ballistics, John Willey England, 1997. 5. TA. Warlow; Firearms- The Law and Forensic Ballistics Taylor and Francis London, 1996.

Tools for Assessment (25 Marks)						
CIA I	**CIA II**	**CIA III**	**Assignment**	**Seminar**	**Quiz**	**Total**
5	**5**	**6**	**3**	**3**	**3**	**25**

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Mr. Akhil Benny	Mr. Akhil Benny

Course Code	Title		
23U3FRC205	Core Paper V - Instrumental Analysis		
Semester : II	Credits : 3	CIA : 20 Marks	ESE : 55 Marks
Course Objective	To learn the fundamental principles of various instruments used in Forensic Science lab		
Course Category	Employability		
Development Needs	Global		
Course Description	Instrumental techniques are fundamental to any laboratory analysis. This course is designed to provide an overview of the various analytical tools used in Forensic Labs, especially in chemistry division		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Learn the physics and working of various analytical tools and instruments.	Lecture/Demonstration	Assignment
CO 2	Ability to select suitable instrument for the analysis of a given forensic sample.	Lecture/ Case studies	Case studies
CO 3	Get familiar with molecular analytical methods	Lecture/Demonstration	Seminar
CO 4	Learn the techniques used in elemental profiling.	Lecture/Video lecture	Quiz
CO 5	Interpret results of various instruments for qualitative and quantitative estimation.	Lecture/Demonstration	Assignment

Offered by Forensic Science

Course Content **Instructional Hours / Week : 4**

Unit	Description	Text Book	Chapters
I	**Introduction to Instrumental Techniques** Measurements Signals and Data,Chromatography General Concepts. UV Vis Spectroscopy Introduction, Woodward-Fieser Rules, Beer-Lambert's Law and its Deviation, Principle, Instrumentation and applications.	1	all
		Instructional Hours	**12**
Suggested Learning Methods: **Library extra reading**			
II	**Chromatography :** Basic Concept, Paper Chromatography, Thin Layer Chromatography and HPTLC, Liquid Chromatography and HPLC, Ion Exchange Chromatography, Gas Chromatography	1	11,12,13
		Instructional Hours	**12**
Suggested Learning Methods: Video lectures			
III	Microscopy Lens systems, Principle of microscopy, Abbe equation, ray diagrams, working, sample preparation and applications of following in Forensic Science: Simple and Compound microscope, Stereo microscope,Comparison microscope, Phase contrast and Polarized light microscope, Fluorescent microscope, and Scanning electron microscope.	1	7,8,9
		Instructional Hours	**12**
Suggested Learning Methods: Hands on training			

IV	Infrared Spectroscopy, Raman Spectroscopy, Atomic Absorption Spectroscopy, Atomic Emission Spectroscopy, Crystallography, Centrifugation, Electrophoresis, Significance of Instrumental Methods of Analysis	1	7,8,9
		Instructional Hours	**12**
Suggested Learning Methods: Laboratory practice			
V	**Mass Spectrometry** : Principle, Components- Sample inlets- Batch Inlet, probe inlet, direct inlet, chromatographic inlets, Ionization- ionization types and ionization sources- EI, ESI, CI, FAB; vacuum system. Magnetism- mass analyzers- Quadrupole, Time of Flight, Ion trap. Detectors- faraday cup, electron multiplier, Scintillation counter. Interpretation of Mass spectrograph. Applications of mass spectrometry in forensic science.	1	16
		Instructional Hours	**12**
Suggested Learning Methods: Online training			
		Total Hours	**60**

Text Books	1. MLA. Skoog, Douglas A. Principles of Instrumental Analysis. Fort Worth: Saunders College Pub., 1992.
Reference Books	1. Lundquist and Curry, Methods in Forensic Science, 1983. 2. Yinon, Forensic Application of Mass Spectrometry, 1994. 3. Borrow, Molecular Spectroscopy, 1980. 4. Moonesens A.A. et al., Scientific Evidence in Criminal Cases, 1973. 5. Gilbert, GC-MS guide to Ignitable Liquids, 1997.

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
4	4	5	2	2	3	20

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Mr. Akhil Benny	Mr. Akhil Benny

Course Code	Title		
23U3FRP206	Core Paper VI – Forensic Ballistics Practical		
Semester : II	Credits : 4	CIA : 30 Marks	ESE : 45 Marks

Course Objective	To learn the techniques of analysing ballistics and tool marks evidences
Course Category	Employability
Development Needs	Global/National
Course Description	Forensic Ballistics deals with Forensic Analysis of evidences related to firearms and tool marks. The course includes features, collection methods and analysis of ballistics evidences and tool marks

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Identify various cartridges, bullets and cartridge cases.	Demonstration / Video Lessons	Practical
CO 2	Identify different firearms	Demonstration/ Video Lessons	Practical
CO 3	Acquire skills to conduct various spot tests related to ballistics	Demonstration / Video Lessons	Practical
CO 4	Systematic lifting of tool marks from various surface.	Demonstration / Video Lessons	Practical
CO 5	Develop skill to compare tool marks	Demonstration / Video Lessons	Practical

Offered by	**Forensic Science**
Course Content	**Instructional Hours / Week : 4**

S. No.	Experiment
1	Identification of parts of firearms
2	Preliminary examination of various characteristics of fired bullets and shots.
3	Preliminary examination of various characteristics of fired cartridge cases.
4	Chemical tests for powder residues and barrel wash.
5	Examination and comparison of fired and test bullets and shots.
6	Examination and comparison of fired and test cartridge cases.
7	Collection and packing of Gun Shot Residues.
8	Identification of bullet using holes physical and chemical examination.
9	Lifting of tool marks from different surfaces
	TOTAL 60 Hours

Tools for Assessment (30 Marks)						
Analytical Skill	Lab Performance	Inference	Test I	Test II	Observation	Total
4	4	4	7	7	4	30

Mapping													
CO \ PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	M	M	H	H	M	-	L	L	L	H	H	H	L
CO2	M	M	H	H	H	-	H	H	L	H	H	H	H
CO3	M	M	H	H	-	-	L	L	-	H	H	M	L
CO4	M	M	H	H	M	-	L	L	-	H	M	L	L
CO5	M	M	H	H	-	-	L	L	-	M	H	L	L
H-High; M-Medium; L-Low													

Course designed by	Verified by Chairman
Mr. Akhil Benny	Mr. Akhil Benny

Course Code	Title		
23U3FRA202	Allied Paper II - Forensic Physics		
Semester : II	Credits : 3	CIA : 20 Marks	ESE : 55 Marks

Course Objective	To develop the skill to identify and analyse physical evidences.
Course Category	Employability
Development Needs	Global
Course Description	Forensic Physics is the collection of methods that is deployed for the individualisation of physical evidences. The major evidences that analysed in forensic physics are glass, paint, fibre, soil, building materials etc.

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Analysis of glass and deduce glass evidences	Lecture/Demonstration	Assignment
CO 2	Ability to individualise soil samples	Lecture/ Case studies	Case studies
CO 3	Compare various paint samples to find put the source.	Lecture/Demonstration	Seminar
CO 4	Restore erased identification marks	Lecture/Video lecture	Quiz
CO 5	Perform quality test for building materials	Lecture/Demonstration	Assignment

Offered by : **Forensic Science**

Course Content — **Instructional Hours / Week : 3**

Unit	Description	Text Book	Chapters
I	**Glass** Types of glass and their composition. Forensic examination of glass fractures, Determination of direction of impact: concentric fracture, cone fracture, radial fracture, rib marks, hackle marks, backward fragmentation, Examination of glass: colour, fluorescence, physical matching, density comparison, refractive index, elemental analysis, Interpretation of glass evidence, Case studies related to glass	1	Sec 7
	Instructional Hours		**9**
Suggested Learning Methods: **Video lectures**			
II	**Soil** Formation and types of soil ; Composition and colour of soil, Forensic examination of soil : particle size distribution, turbidity test, microscopic examination, density gradient analysis, ignition loss, differential thermal analysis, elemental analysis. Interpretation of soil evidence. Case studies.	1	Sec 9
	Instructional Hours		**9**
Suggested Learning Methods: Library extra reading			
III	**Paints** Types of paint and their composition, Forensic examination of paints: microscopic and macroscopic studies, Pigment distribution. Micro-chemical analysis, physical matching, solubility test, elemental analysis. Pyrolysis, Cyclic voltammetry, AAS. Chromatographic technique - TLC, Colorimetry. IR spectroscopy, X-ray diffraction; Interpretation of paint evidence. Case studies.	1	Sec 5
	Instructional Hours		**9**
Suggested Learning Methods: Online training			

IV	**Restoration of Erased or Obliterated marks** Method of marking - Cast, Punch and Engrave, Methods of Obliteration, Method of restoration - Etching, Magnetic, Electrolytic. Recording of restored marks on different surfaces. Tyre Marks and Speed determination in accident cases.	1	Sec 6
		Instructional Hours	**9**
Suggested Learning Methods: Laboratory practice			
V	**Building Materials** Types of cement and their composition. Determination of adulterants by physical, chemical and instrumental methods. Examination of brick; Analysis of Bitumen and road material. Analysis of cement mortar, cement concrete and stones.	1	Sec 11,12,13
		Instructional Hours	**9**
Suggested Learning Methods: Hands on training			
		Total Hours	**45**

Text Books	1. Forensic physics Manual by Directorate of Forensic Science, Govt. of India
Reference Books	6. Working Procedure Manual: Physics BPR&D Publication, 2000. 7. R. Saferstein; Forensic Science Handbook, Vol.-I, II, 2004. 8. B. Caddy; Forensic Examination of Glass and Paints Analysis and Interpretation ISBN 0784 05749, 2001. 9. James Michael Curran, Tachia Natilie Hicks and John S. Buckleton; Forensic Interpretation of Glass Evidence, CRC Press, 2000. 10. David A. Crown; the Forensic Examination of Paints and Pigments, Taylor & Francis, NY, 2001
Web. URLs	1. https://epgp.inflibnet.ac.in/epgpdata/uploads/epgp_content/S000016FS/P000694/M014098/ET/1516190217FSC_P7_M6_e-text.pdf 2. https://epgp.inflibnet.ac.in/epgpdata/uploads/epgp_content/S000016FS/P000694/M014079/ET/1456988181FSC_P7_M24_e-text.pdf

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
4	4	5	2	2	3	20

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Mr. Akhil Benny	Mr. Akhil Benny

Course Code	Title		
23U3FRR203	Allied Paper XII – Forensic Chemistry Practical		
Semester : II	Credits : 4	CIA : 40 Marks	ESE : 60 Marks
Course Objective	Develop the skillset to perform basic wet lab experiments.		
Course Category	Employability		
Development Needs	Global		
Course Description	To dive into the principles of chemistry and physics as applied to solving crimes, analyzing evidence, and unraveling mysteries. Gain hands-on experience in crime scene investigation, evidence analysis, and expert witness preparation		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Examination of physical features of evidences	Demonstration / Video Lessons	Practical
CO 2	Identification of class characteristics	Demonstration	Practical
CO 3	Get familiarised with DFS manual	Demonstration / Video Lessons	Practical
CO 4	Chemical tests for anions and cations	Demonstration / Video Lessons	Practical
CO 5	Identification of forensic relevance of material evidences	Demonstration / Video Lessons	Practical

Offered by	Forensic Science
Course Content	Instructional Hours / Week : 4

S. No.	Experiment
1	Determination of the density using specific gravity bottle and viscosity of a liquid using Ostwald's viscometer.
2	Preparation of buffers and determination of their pH values using pH meter.
3	Analysis of organic compounds using tests prescribed by DFS.
4	Preparation of standard solution of different compounds in ppm and ppb levels.
5	Analysis of anions and cations by methods/tests prescribed by DFS.
6	Density gradient analysis of soil samples.
7	Determination of refractive index of glass and liquids.
8	Physical matching of broken pieces of different objects.
9	Comparison of paint chips under microscope.
10	Restoration of erased identification marks.
	TOTAL 60 Hours

Tools for Assessment (40 Marks)

Analytical Skill	Lab Performance	Inference	Test I	Test II	Observation	Total
5	5	5	10	10	5	40

Mapping													
CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	H	H	M	H	M	-	M	L	-	H	H	L	-
CO2	H	H	M	H	M	-	M	L	-	H	H	L	-
CO3	H	M	H	H	M	-	M	L	-	H	H	L	-
CO4	H	L	M	H	M	-	M	L	-	H	H	L	-
CO5	H	H	M	H	M	-	M	L	-	H	H	L	-
H-High; M-Medium; L-Low													

Course designed by	Verified by Chairman
Ms. Archana Sunil	Mr. Akhil Benny

Course Code	Title	
22U4HRC202	Ability Enhancement Compulsory Course - Human Rights and Constitution 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:

CO1	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, Justice, Unity in Diversity - Human Rights – Meaning and features; Significance of the study - Classification of Human Rights - Rights and Duties – Correlation	
	Instructional Hours	**6**
II	Human Rights and Fundamental Rights - Fundamental Rights and Fundamental Duties- Directive Principles - Role of Judiciary in the protection of Human Rights- National Human Rights Commission *Activity : Case Study related to Human Rights*	
	Instructional Hours	**6**
III	Human Rights of Women and Children- Social Practice and Constitutional Safeguards – Female foeticide and infanticide-Physical assault and Harassment- Domestic violence- Conditions of Working Women *Activity : Conduct a Group Discussion on the above topics*	
	Instructional Hours	**6**
IV	**Constitution – Structure and Principles -** Meaning and importance of Constitution - Making of Indian Constitution –Sources - Salient features of Indian Constitution- Government of Union- Government of State-Features of judicial system in India	
	Instructional Hours	**6**
V	Federalism in India – Features - Local Government -Panchayat –Powers and functions -Election Commission –Organisation and functions-Citizen oriented measures – RTI – Provisions and significance *Activity : Seminar/ Role play related to Indian Constitution*	
	Instructional Hours	**6**
	Total Hours	**30**

Text Book:

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

Tools for Assessment (50 Marks)

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

Mapping

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

H-High; M-Medium; L-Low

Course Designed by	Verified by Chairman
Dr. E. Vijaya Gowri	Dr. M. Saranya

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

(Common to all UG Programmes)

Course Objective:

- 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

Course Content **Instructional Hours / Week : 1 (For Semesters I and II)**

Unit	Description
I	**Human Values –** Introduction - Definition of Ethics and Values - Character and Conduct - Nature and Scope of Ethics. **Individual and Society** - Theories of Society - Social Relationships and Society - Empathy: Compassion towards other beings.
	Instructional Hours 4
II	**Self-realization and Human Values**-Self-realization and Harmony-Rules and Regulations-Rights and Duties-Good and Obligation-Integrity and Conscience. **Obligation to Family**-Trust and Respect-Codes of Conduct.
	Instructional Hours 5
III	**Character Formation Towards Positive Personality**: Truthfulness, Constructivity, Sacrifice, Sincerity, Self Control, Altruism, Tolerance, Scientific Vision. **Refinement of worries**: Neutralization of anger-Intelligent quotient(IQ),Emotional quotient(EQ),Spiritual Quotient (SQ)
	Instructional Hours 5
IV	**Power of Meditation**- Development of mind in stages - Mental Frequencies Methods for Concentration. Meditation Practices - Surya Namaskar. Physical Exercises -Kayakalpa Practices Training for Potentialising the Mind.
	Instructional Hours 6

V	**ASANAS** **Standing Posture:** Tadasana, Utkattasana, arthaKadi Chakrasana, Trikonasana, Artha Chandrarasana, Padahastasana, Virabhadrasana, Vrikshasana, Artha, Natarajasana. **Sitting posture:** Padmasana, Gomukasana, Ustrasana, ArdhaMatsyendrasana, 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

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

H-High; M-Medium; L-Low

Course Designed by	Verified by Chairman
Mr. Karthi M	Dr. N. Kavitha

Course Code	Title		
23U1TAM303	Part -I : Arunthamizh (அருந்தமிழ்)		
Semester: III	Credits: 3	CIA: 20 Marks	ESE: 55 Marks

Course Objective	தமிழ்க் காப்பியங்களின் வழி அறம் சார்ந்த சிந்தனைகளை உருவாக்குதல்
Course Category	**Skill Development (**மாணவர்களின் மொழித்திறனை ஊக்குவித்தல்)
Development Needs	**Global/Regional (**உலக அளவில் தமிழ் மொழியின் அவசியத்தை உணர்த்துதல்**)**
Course Description	மாணவர்களின் மொழித்திறனை ஊக்குவித்தல் மற்றும் உலக அளவில் தமிழ் மொழியின் அவசியத்தை உணர்த்துதல்

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	தமிழ் நூல்களில் அணிநலம் அறிதல், அறம் சார்ந்த சிந்தனைகளை வளர்த்தல்.	விரிவுரை/ காணொளிப்பட விளக்கம்	ஒப்படைவு
CO 2	தமிழ் இலக்கிய வகைகளைக் கூறுவதன் மூலம் தமிழின் இலக்கிய வளத்தை உணரச்செய்தல்.	விரிவுரை	குழுத்திட்டம்
CO 3	மாணவர்களிடையே காலத்திற்கேற்ப மொழிவளர்ச்சியை உருவாக்குதல்.	விரிவுரை/ காணொளிப்பட விளக்கம்	ஒப்படைவு
CO 4	நாட்டின் சிறந்த குடிமக்களாக மாணவர்களை உருவாக்குதல்.	விரிவுரை// குழு விவாதம்	கருத்தரங்கு
CO 5	மாணவர்களின் மனநலத்தை வளர்த்தல்.	விரிவுரை/ குழு விவாதம்	கருத்தரங்கு

Offered by தமிழ்த்துறை

Course Content : Arunthamizh (அருந்தமிழ்) — **Instructional Hours / Week : 4**

Unit	Description	Text Book	Chapters
I	காப்பியங்கள்	1.சிலப்பதிகாரம் 2.மணிமேகலை 3.சீவகசிந்தாமணி 4.கம்பராமாயணம்	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 1-10பாடல்கள்)
		Instructional Hours	**12 Hours**
Suggested Learning Methods: நாடக முறையில் கலந்துரையாடல்			
II	சைவ,வைணவ, சுவடியியல்	1. தேவாரம் 2..நாலாயிரத்திவ்வியப் பிரபந்தம் 3.சுவடியியல்	2.1.திருநல்லூர்ப் பெருமணம் (பாடல் எண்-4137-4146) 2.2.ஆண்டாள் திருப்பாவை - (பாடல் எண்- 474-483) 2.3.சுவடியியல் - அறிமுகம் 2.4 சைவம் தமிழுக்குச் செய்த தொண்டு 2.5 வைணவம் தமிழுக்குச் செய்த தொண்டு
		Instructional Hours	**12 Hours**
Suggested Learning Methods : பக்தி பாசுரங்கள் கலந்துரையாடல்			

III	மொழித்திறன் (இலக்கணம்)	1.நன்னூல் 2.தொல்காப்பியம்	3.1 நூல் வரலாறு (முதல் நூல், வழி நூல், சார்பு நூல்) 3.2 மாணாக்கர் வரலாறு 3.3 ஆசிரியர் வரலாறு 3.4 எண்வகை மெய்ப்பாடுகள்
Instructional Hours			**12 Hours**
Suggested Learning Methods :	மொழித்திறன் வாயிலாக பிழையின்றி எழுதும் திறன் பெற்றமை		
IV	நாட்டுப்புற வழக்காறுகள்	நாட்டுப்புறவியல்	4.1. பழமொழிகள் 4.2. விடுகதைகள் 4.3 தமிழர்க்கலைகள் 4.4 சிறுதெய்வ வழிபாடு மட்டும் 4.5 விளையாட்டுகள் (சிறுவர்,சிறுமியர் மட்டும்)
Instructional Hours			**12 Hours**
Suggested Learning Methods :	நாட்டுப்புறவியல் வழி நாட்டுப்புற மக்களின் வாழ்வியலை அறியச்செய்தல்		
V	இலக்கிய வரலாற்றுத் திறன்	தமிழ் இலக்கிய வரலாறு	1. காப்பியத்தின் தோற்றமும் வளர்ச்சியும் 2. பக்தி இலக்கியத்தின் தோற்றமும் வளர்ச்சியும் 3. தமிழக நாட்டுப்புறவியல் வரலாறு
Instructional Hours			**12 Hours**
Suggested Learning Methods:	பாடத்திட்டத்தில் கொடுக்கப்பட்டுள்ள இலக்கிய வரலாற்றினை உணர்த்துதல்		
Total Hours			**60 Hours**

Text Books	இளங்கலை இரண்டாம் ஆண்டு தமிழ் மாணவர்களுக்குரிய பாடநூல் **"அருந்தமிம்"** தொகுப்பு: தமிழ்த்துறை, நேரு கலை மற்றும் அறிவியல் கல்லூரி, கோயம்புத்தூர்.
Reference Books	நாட்டுப்புறவியல் ஓர் ஆய்வு: டாக்டர் சு. சக்திவேல் விஜயா பதிப்பகம் சென்னை. தமிழண்ணல் - புதிய நோக்கில் தமிழ் இலக்கிய வரலாறு, மீனாட்சிப் புத்தக நிலையம், மதுரை- 625 001.
Web. URLs	https://youtu.be/EJcYgyw7e94, https://youtu.be/MgtwmerI4yw

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Seminar	Assignment	Group Project	Total
4	4	5	2	2	3	20

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by
Dr. S. Satheesh Kumar	Dr. A. Sridevi

Course Code	Title		
23U1HIN303	Part I - Sahityak Hindi (साहित्यिक हिंदी)		
Semester: III	Credits: 3	CIA: 20 Marks	ESE: 55 Marks

(Common to all UG Programmes)

Course Objective	चुनिंदा कविताओं के माध्यम से हिंदी कविता की उत्पत्ति और विकास को समझना।. संकलन में उपलब्ध कराए गए सर्वोत्तम नमूनों का उपयोग करते हुए कविता की सराहना।
Course Category	Skill Development
Development Needs	National
Course Description	Improves Writing Skills.

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	छात्र हिंदी भाषा से अच्छी तरह वाकिफ हो सकेंगे।	Role play	Assignment
CO 2	व्यक्तिगत अनुभवों की पहचान करें जिनका उपयोग कविताएँ लिखते समय किया जा सकता है।	Group learning Acting	Seminar
CO 3	कविता की मूल शब्दावली और व्यावहारिक तत्वों को समझें।	Story Narration	Assignment
CO 4	छात्रों को रचनात्मक लेखन में अच्छा अभ्यास मिलेगा।	Group learning and Work sheets	Group Project
CO 5	पाठ्यक्रम संवादी हिंदी में पारंगत होने में मदद करता है।	Worksheets and Exercises	Seminar

Offered by | **Hindi**

Course Content | **Instructional Hours / Week : 4**

Unit	Description	Text Book	Chapters
I	नाटक – सत्यमेव जयते – (श्री सूर्यनारायण मूर्ति)	1	3
		Instructional Hours	**12**
Suggested Learning Methods : Visual Learning			**02 Hrs**
II	प्राचीन काव्य : कबीर के दोहे (10 दोहा), सूरदास के पद (4 पद) (काव्य तरंग)	1	2
		Instructional Hours	**12**
Suggested Learning Methods : Auditory			**02 Hrs**
III	1.आधुनिक काव्य : पुष्प की अभिलाषा– माखनलाल चतुर्वेदी, जलियांवाला बाग़ में बसंत – सुभद्राकुमारी चौहान, शक्ति और क्षमा – रामधारी सिंह दिनकर 2.संक्षिप्तीकरण	1	3
		Instructional Hours	**12**
Suggested Learning Methods : Comprehensive Writing			**02 Hrs**
IV	**अलंकार** : 1) **अर्थ अलंकार** और **शब्द अलंकार**, 2) **दिए गए चित्र पर कुछ वाक्य लिखना ।**	1	2
		Instructional Hours	**12**
Suggested Learning Methods : Auditory, Visual, Comprehensive			**02 Hrs**

V	गद्यांश लेखन, वाक्य शुद्धि, शब्द शुद्धि, अनेक शब्द के लिए एक शब्द	1	4
		Instructional Hours	**12**
Suggested Learning Methods : comprehensive writing			**02 Hrs**
		Total Hours	**60 Hrs**

Text Books	**1. नाटक – सत्यमेव जयते – (श्री सूर्यनारायण मूर्ति)** 2. काव्य सुमन - राजपाल एंड सन्स
Reference Books	1. हिंदी नाटक और रंगमंच - डॉ राम कुमार वर्मा 2. ओंकार नाथ वर्मा , सामान्य हिंदी अरिहंत प्रकाशन इंडिया लिमिटेड
Web. URLs	1. www.webdunia.com 2. https://www.hindikunj.com 3. www.bhashaindia 4. www.hindisamay.com

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Group Project	Total
4	4	5	2	2	3	20

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by
Dr.S.Swarnalatha	Dr.S.Swarnalatha

Course Code	Title		
23U1MAL303	**Part - I : Kavithayum Smaranayum** (കവിതയും സ്മരണയും)		
Semester: III	**Credits: 3**	**CIA: 20 Marks**	**ESE: 55 Marks**
(Common to all UG Programmes)			
Course Objective	കവിതാ സാഹിത്യ പരിചയത്തോടൊപ്പം പുതു കവിതകളെ കുറിച്ച് അവബോധവും ആസ്വാദനവും ഉയർത്തുക. വിദ്യാർത്ഥികൾക്ക് മാതൃകയാവുന്ന സമൂഹത്തിലെ ഉന്നത വ്യക്തിത്വങ്ങളെ പരിചയപ്പെടുത്തുക		
Course Category	Skill Development		
Development Needs	Regional		
Course Description	Developing Personality and Self confidence		

Course Outcomes		**Assessment Methods**	**Assessment Methods**
CO 1	കവിതയിലൂടെയുള്ള സംവേദനം	Smart boards/ Chalk and Talk	Assignment
CO 2	പ്രകൃതിയുടെ നിസ്വാർത്ഥമായ പ്രവർത്തനങ്ങൾ	Group learning	Seminar
CO 3	അധ്യാപക വിഭാഗത്തിനിടയിൽ അവകാശ ബോധം ഉണ്ടാക്കുന്നു	Peer Teaching	Assignment
CO 4	സമൂഹത്തിന് മൂല്യബോധമുണ്ടാക്കുന്ന പ്രവർത്തനങ്ങൾ	Group learning	Group Project
CO 5	സമൂഹത്തിൽ അധ്യാപനത്തിന്റെ പ്രാധാന്യം	Smart boards/ Chalk and Talk	Assignment

Offered by	**Malayalam**

Course Content	**Instructional Hours / Week : 4**

Unit	**Description**	**Text Book**	**Chapters**
I	നവീന കവിത - പുതു കവിതകൾ	1	4
		Instructional Hours	**12**
Suggested Learning Methods : Visual Learning			**02 Hrs**
II	നവീന കവിത - പുതു കവിതകൾ	1	3
		Instructional Hours	**12**
Suggested Learning Methods : Auditory Method			**02 Hrs**
III	കണ്ണീരും കിനാവും - വി.ടി.ഭട്ടതിരിപ്പാട്	1	3
		Instructional Hours	**12**
Suggested Learning Methods : : Comprehensive writing			**02 Hrs**
IV	കണ്ടൽക്കാടുകൾക്കിടയിൽ എന്റെ ജീവിതം - കല്ലേൻ പൊക്കുടൻ	1	2
		Instructional Hours	**12**
Suggested Learning Methods: Auditory &Visual Methods			**02 Hrs**
V	കണ്ടൽക്കാടുകൾക്കിടയിൽ എന്റെ ജീവിതം - കല്ലേൻ പൊക്കുടൻ	1	3
		Instructional Hours	**12**
Suggested Learning Methods : Comprehensive Writing			**02 Hrs**
		Total Hours	**60 Hrs**

Text Books	1. നവീന കവിത (പുതു കവിതകൾ) - നെഹ്റു കോളെജ് മലയാള വിഭാഗം എഡിറ്റു ചെയ്ത 10 കവിതകൾ . 2. കണ്ണീരും കിനാവും - വി.ടി.ഭട്ടതിരിപ്പാട് -ഡി.സി. ബുക്ക്സ്

	3. കണ്ടൽകാടുകൾക്കിടയിൽ എന്റെ ജീവിതം - കല്ലേൻ പൊക്കുടൻ - ഗ്രീൻ ബുക്ക്സ്
Reference Books	1. മലയാള കവിതാപഠനങ്ങൾ - സച്ചിദാനന്ദൻ ,മാതൃഭൂമി ബുക്സ്, കോഴിക്കോട് 2. കവിതാ സാഹിത്യ ചരിത്രം - ഡോ.എം.ലീലാവതി കേരള സാഹിത്യ അക്കാദമി, തൃശൂർ 3. ആധുനികത മലയാള കവിതയിൽ എൻ. അജയകുമാർ , പഠനസംഘം, ചങ്ങനാശ്ശേരി 4. സാഹിത്യം മലയാളത്തിൽ ആത്മകഥ - നടുവട്ടം ഗോപാലകൃഷ്ണൻ , ഭാഷാ ഇൻസ്റ്റിറ്റ്യൂട്ട് , തിരുവനന്തപുരം
Web. URLs :	**http://www.keralaculture.org>literature**

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
4	4	5	2	2	3	20

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Ms.RAJANI N.	Dr. SMITHA C.R.

Course Code	Title		
23U1FRN303	Part – I : Le Francais General – III		
Semester : III	Credits : 3	CIA : 20 Marks	ESE : 55 Marks
(Common to all UG Programmes)			
Course Objective	Acquisition of standard French by knowing more about the culture.		
Course Category	Skill Development		
Development Needs	Global		
Course Description	Improved understanding and communication		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Learn about the other French speaking nations, hobbies,	Lectures/ Tutorial	Assignment
CO 2	Le passé compose, l'imparfait	Group Learning	Assignment
CO 3	Social network, les indicateurs de temps	Peer Teaching	Seminar
CO 4	Le discours direct et indirect	Video Lecture / Lectures	Group Project
CO 5	To learn to answer questions orally in French	Group learning	Assignment

Offered by Department of French

Course Content — **Instructional Hours / Week : 4**

Unit	Description	Text Book	Chapters
I	La langue francaise en action	1	1
		Instructional Hours	12
Suggested Learning Methods : Visuals			
II	Aller a la rencontre des autres	1	2
		Instructional Hours	12
Suggested Learning Methods : Group discussions			
III	Enrichir son reseau	1	3
		Instructional Hours	12
Suggested Learning Methods : Group discussions			
IV	Vivre l'information	1	4
		Instructional Hours	12
Suggested Learning Methods : Visuals			
V	Interroger le passe	1	5
		Instructional Hours	12
Suggested Learning Methods : Comprehensive writing			
		Total Hours	60

Text Books	1. Saison 2 Méthode de Français – Marie-Noëlle Cocton, Anouchka De Oliveira, Dorothée Dupleix (Unit 0 to 4)
Reference Books	1. Connexions 2 Methode de Français Régine Mérieux , Yves Loiseau
Web. URLs	1. www.academia.edu

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
4	4	5	2	2	3	20

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Dr. R. Malathi	Dr. R. Malathi

Course Code	Title		
23U2ENG303	Part – II : Communicative English – I		
Semester : III	Credits : 3	CIA : 20 Marks	ESE : 55 Marks
(Common to All UG Programmes)			
Course Objective	To enable the students to learn the different genres of literature and gain a better understanding of the English language.		
Course Category	Skill Development		
Development Needs	Global		
Course Description	SD: Helps to develop LSRW skill		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Execute moral, ethical and literary merits and relate it to the society.	Lecture/Tutorial	Assignment
CO 2	Exhibit a comprehensive knowledge of poetry and execute life skills and human values through it.	Lecture/Tutorial	Assignment
CO 3	Develop reading strategies with enriched vocabulary, through short story.	Lecture/Tutorial	Speaking
CO 4	Identify the use of English language through the study of Grammar and use them in specific contexts.	Lecture/Tutorial	Reading
CO 5	Interpret their understanding of English works in LSRW mode	Lecture/Tutorial	Writing

Offered by | **Department of English**

Course Content | **Instructional Hours / Week : 4**

Unit	Description	Text Book	Chapters
I	**Prose** J.B. Priestley - Travel by Train R.K. Narayan - Headache E.M. Forster - Tolerance	1	1 - 3
		Instructional Hours	**12**
Suggested Learning Methods : Intensive Reading			
II	**Poetry** William Blake - The School Boy Rudyard Kipling - If Sarojini Naidu - The Queen's Rival	1	4 - 6
		Instructional Hours	**12**
Suggested Learning Methods : Scaffolding Method			
III	**Short Stories** O. Henry - After Twenty Years Edgar Allan Poe – Tell - Tale Heart Frank R.Stockton - The Lady or The Tiger?	1	7 - 9
		Instructional Hours	**12**
Suggested Learning Methods : Flipped Learning			

IV	Herman Melville-Moby Dick (Abridged Version)	1	10 - 13
		Instructional Hours	**12**
Suggested Learning Methods : Flipped Learning			
V	**Oral & Written Communication (UnitI–IV) Listening** – Comprehension practice from Poetry, Prose, Online Voice Practice, observing / viewing E-content (with subtitles), Guest / Invited Lectures, Conference/ Seminar Presentations & Tests, and DD National News Live, BBC, CNN, VOA etc **Speaking** – In Group Discussion Forum, participate in the Turn Taking, and Conversation Management, Debating, Defending / Mock Viva Voce, Seminar Presentations on Classroom-Assignments, and Peer-Team-interactions. **Reading**–Different Reading Strategies in Poetry, Prose, Novel, Newspaper etc **Writing** – Modals, Concord, E-Mail & Report Writing, Spotting the Errors and How to avoid them, Sentence Completion, Prepositions, Idioms and Phrases, Collocation.	1	14 - 17
		Instructional Hours	**12**
Suggested Learning Methods : Activity Based Learning			
		Total Hours	**60**

Text Books	Unit I–V: Compiled by the Department of English
Reference Books	CLIL (Content & Language Integrated Learning) – Module by TANSCHE NOTE:(Text: Prescribed chapters or pages will be given to the students by the department
Web. URLs	

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Assignment	Speaking	Reading	Total
4	4	5	2	2	3	20

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Dr. Adappatu Ancy Antony	Dr. R. Malathi

Course Code	Title		
23U3FRC307	Core Paper VII - Impression Analysis		
Semester : III	Credits : 4	CIA : 25 Marks	ESE : 75 Marks
Course Objective	To impart knowledge and skill of developing and identifying individual based on biometrics and other impressions.		
Course Category	Employability		
Development Needs	Global		
Course Description	Biometric impressions are unique to every individual. By learning proper techniques to develop and compare them, students will be able to identify the potential culprit behind crimes.		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Locate, identify, develop, preserve and compare footwear impression.	Lecture/Demonstration	Assignment
CO 2	Locate, identify, develop, preserve and compare various biometric impression.	Lecture/ Case studies	Case studies
CO 3	Have a strong idea about the formation and science behind fingerprints.	Lecture/Demonstration	Seminar
CO 4	Locate, identify, develop, preserve and compare fingerprints	Lecture/Video lecture	Quiz
CO 5	To analyse bite marks for its forensic significance.	Lecture/Demonstration	Assignment

Offered by Forensic Science

Course Content **Instructional Hours / Week: 4**

Unit	Description	Text Book	Chapters
I	**Footwear Impressions** Introduction, Forms of footwear impressions, Information from footwear impressions, Location and recovery of footwear impressions, Enhancement Methods, Preparation of Exemplars, The examination process, Case histories. Lip Prints- Introduction, Classification, History, Scope, Application in crime detection	1	1
	Instructional Hours		**12**
Suggested Learning Methods: **Library extra reading**			
II	**Miscellaneous prints** Ear Prints- Introduction, History, Ear prints Morphology of ear, ear print location, Producing standards from suspects, Identification and comparison. Palm print; Introduction, History, Scope, Application in crime detection, preservation and lifting of various prints, Present of expert evidence in court, Judicial acceptance of miscellaneous prints. Tyre marks - Development, comparison and forensic significance.	1	2
	Instructional Hours		**12**
Suggested Learning Methods: Hands on training			

III	**Fingerprints** Introduction, History and development of fingerprints, Structure of skin, Elements of fingerprinting: ridge patterns, ridge characteristics, Poroscopy. Classification of fingerprint patterns: single fingerprint classification, Henry system of classification (Primary to tertiary and key classification), extension of Henry system of classification. AFIS: Introduction, History, Operations, Search technology, Administration and networking, Advantages. Basics of taking inked prints, taking inked prints of living and dead: Plain and rolled prints, other devices and material for recording prints.	1	3
		Instructional Hours	**12**
Suggested Learning Methods: Video lectures			
IV	**Fingerprint as evidence** Types of evidentiary fingerprints. Development of latent fingerprints: Physical and chemical methods. Development techniques on porous and non-porous surfaces, Development on adhesive surface, Development with blood and grease contamination. Development of latent fingerprints on dead body. Visualization methods of illumination. Photography, Preservation and lifting of fingerprints. Digital imaging of fingerprint: processing of fingerprints and their enhancement.	1	4
		Instructional Hours	**12**
Suggested Learning Methods: Laboratory practice			
V	**Bite Marks** Introduction, History, Scope, Application in crime detection. Preservation and lifting of various prints. Present of expert evidence in court. Judicial acceptance of miscellaneous prints. Forensic significance of retinal scan and gait pattern.	1	5
		Instructional Hours	**12**
Suggested Learning Methods: Online training			
		Total Hours	**60**

Text Books	1. Biometrics notes compiled by the Department of Forensic Science
Reference Books	1. Mehta, M.K; Identification of Thumb impression & cross examination of Fingerprints 2. Chatterjee, S.K; Speculation in Fingerprint Identification, Jantralekha printing Works, Kolkata, 1981. 3. Cowger James F; Friction Ridge Skin- Comparison &Identification of Fingerprints, CRC Press, NY, 1993
Web. URLs	1. https://www.ojp.gov/pdffiles1/nij/225320.pdf

Tools for Assessment (25 Marks)						
CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
5	5	6	3	3	3	25

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Ms. Archana Sunil	Mr. Akhil Benny

Course Code	Title		
23U3FRC308	Core Paper VIII - Forensic Statistics		
Semester : III	Credits : 3	CIA : 20 Marks	ESE : 55 Marks

Course Objective	Develop a solid understanding of statistical methods and their applications in forensic science, enabling students to analyze data, draw valid conclusions, and contribute effectively to criminal investigations and legal proceedings.
Course Category	Employability
Development Needs	Global
Course Description	Explore the essential role of statistics in forensic science, focusing on data analysis, evidence assessment, and its application within legal proceedings.

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	To understand the uncertainty in forensic science	Lecture/Demonstration	Assignment
CO 2	To know more about variations in natural samples.	Lecture/ Case studies	Case studies
CO 3	Understand the probability of transfer of evidence	Lecture/Demonstration	Seminar
CO 4	Learn to mathematically evaluate evidence	Lecture/Video lecture	Quiz
CO 5	Understand the value of evidences quantitatively.	Lecture/Demonstration	Assignment

Offered by | **Forensic Science**

Course Content | **Instructional Hours / Week: 4**

Unit	Description	Text Book	Chapters
I	Uncertainty in forensic science Probability: Introduction, standard for uncertainty, events, subjective probability, dependent events, law of total probabilities, updating of probabilities.	1	1
	Instructional Hours		**12**
Suggested Learning Methods: **Library extra reading**			
II	Variations Populations, samples and estimates, counts-binomial distribution, multinominal distribution, hypergeometric distribution, poison distribution, beta binomial distribution.	1	2
	Instructional Hours		**12**
Suggested Learning Methods: Hands on training			
III	Transfer of evidence Likelihood ratio: Probability of guilt, justification, combination of evidences, correspondence probabilities, Direction of transfer-from criminal to scene and from scene to criminal. Transfer probabilities, presence of non-matching evidences.	1	3
	Instructional Hours		**12**

Suggested Learning Methods: Video lectures			
IV	Evaluation of evidences Complimentary events and examples. Bayes' theorem and examples. Errors in interpretation-fallacy of transposed conditional, source probability error, false positive fallacy, empirical errors in interpretation.	1	4
		Instructional Hours	**12**
Suggested Learning Methods: Laboratory practice			
V	Value of evidence Odd form of Bayes' theorem -likelihood ratio, logarithm of likelihood ratio. Value of evidence: evaluation of forensic evidence, summary of competing propositions, qualitative scale for value of evidences, misinterpretations. Transposed conditional and defence fallacies- probability of guilt.	1	5
		Instructional Hours	**12**
Suggested Learning Methods: Online training			
		Total Hours	**60**

Text Books	1. Notes compiled by the Department of Forensic Science
Reference Books	1. Mehta, M.K; Identification of Thumb impression & cross examination of Fingerprints 2. Michael O. Finkelstein; Statistics for Lawyers, 2015. 3. Stuart H. James; Forensic Analysis: From Death to Justice, 2015
Web. URLs	

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
4	4	5	2	2	3	20

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Mr. Akhil Benny	Mr. Akhil Benny

Course Code	Title		
23U3FRP309	Core Paper IX - Impression Analysis Practical		
Semester : III	Credits : 3	CIA : 30 Marks	ESE : 45 Marks
Course Objective	The students will understand & perform experiments relating to Identifying fingerprints, their patterns, footprints, tyre marks, lip prints which can be used to establish the identity of a person.		
Course Category	Employability		
Development Needs	Global		
Course Description	Scientific biometric tools and its applications can be used to establish human identity. By learning proper techniques to develop and compare biometrics, students will be able to identify the potential culprit behind crimes.		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Learn to search and develop fingerprints from various surfaces using different methods	Demonstration / Video Lessons	Practical
CO 2	Learn to identify fingerprint patterns	Demonstration	Practical
CO 3	Understand the system of fingerprint classification	Demonstration / Video Lessons	Practical
CO 4	Develop footprints and tyre impressions	Demonstration / Video Lessons	Practical
CO 5	Unique identification of a person based on lip prints	Demonstration / Video Lessons	Practical

Offered by	Forensic Science
Course Content	Instructional Hours / Week : 4

S. No.	Experiment
1	To take plain and rolled inked fingerprints in FBI card and to identify patterns.
2	Search for fingerprints from a suspected scene/object
3	To perform ridge counting and whorl tracing from a given fingerprint sample.
4	Classification of fingerprints using Henry Ten Digit System.
5	Development of fingerprints from porous/ non-porous surface using powdering method.
6	Development of fingerprints from porous/ non-porous surface using chemical methods.
7	Development of footprints from mud.
8	Development of tyre impressions.
9	Development of lip prints.
10	Comparison of fingerprint using ridge characteristic or minutiae from a given fingerprint samples.
	TOTAL 60 Hours

Tools for Assessment (30 Marks)						
Analytical Skill	**Lab Performance**	**Inference**	**Test I**	**Test II**	**Observation**	**Total**
4	**4**	**4**	**7**	**7**	**4**	**30**

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Ms. Archana Sunil	Mr. Akhil Benny

Course Code	Title		
23U3FRA304	Allied Paper IV - Forensic Biology		
Semester : III	Credits : 3	CIA : 20 Marks	ESE : 55 Marks
Course Objective	To learn the various analytical tools involved in the forensic analysis of biological samples.		
Course Category	Employability		
Development Needs	Global		
Course Description	Forensic Biology deals with the analysis of evidences such as plants, insects, water animals and wild animals.		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Have a clear idea about the scope of forensic biology.	Lecture/Demonstration	Assignment
CO 2	Systematic collection and scientific analysis of hair and fibre.	Lecture/ Case studies	Case studies
CO 3	Understand the forensic significance of plants.	Lecture/Demonstration	Seminar
CO 4	Calculate the time of death from insect growth.	Lecture/Video lecture	Quiz
CO 5	Understand and analyse wild life related cases.	Lecture/Demonstration	Assignment

Offered by : **Forensic Science**

Course Content — **Instructional Hours / Week : 3**

Unit	Description	Text Book	Chapters
I	**Introduction to Forensic Biology** History and scope, divisions. Nature and importance of biological evidences. Fundamentals of Biology, Biochemistry and its importance in Forensic Biology. Importance of Forensic Anthropology & Odontology, Forensic Serology. Collection, preservation and packaging of biological evidences.	1	1
	Instructional Hours		**9**
Suggested Learning Methods : **Library extra reading**			
II	**Hair and Fibres** Hair - structure of human hair : Inner and Outer morphology, biochemistry of hair and growth stages. Comparison of human and animal hair : medulla, Medullary index calculation, Cuticle examination. Fibre - Classification : Natural, Semi-synthetic and synthetic fibres and their properties. Structure analysis for different types of fibres and their Forensic significance	1	2
	Instructional Hours		**9**
Suggested Learning Methods : Hands on Training			

III	**Botanical Evidences** Wood : Structure and Properties. Types, Identification with Forensic Importance. Leaves : Morphology, types based on arrangement and venation with structures and examples. Pollen : Structure, function, Reproduction and Forensic importance. Diatoms : Location, Structure, types, reproduction identification and Forensic Significance. Limnology : Scope, Forensic Analysis of diatoms.	1	3
		Instructional Hours	**9**
Suggested Learning Methods : Library extra reading			
IV	**Entomology** Introduction, areas and importance. General anatomy of arthropod. Insects of Forensic significance : Order- dipteral, Coleoptera, collembola etc. Estimation of time since death and insect succession. Collection, packing and preservation of entomological evidence.	1	4
		Instructional Hours	**9**
Suggested Learning Methods : Video lectures			
V	**Wild life Forensics** Introduction, History and Importance. Laws related to wildlife protection. Wild life protection Act : History, importance and supporting acts and laws. Red data book and wildlife crimes. Pug Marks : features and methods for collection. Methods of analysis to identify : species, gender, age, individual characters from pug marks. Wild life DNA data base. Ornithology and its application.	1	5
		Instructional Hours	**9**
Suggested Learning Methods : Library extra reading			
		Total Hours	**45**

Text Books	1. Forensic Biology notes compiled by the department of Forensic Science, Nehru Arts and Science College Coimbatore
Reference Books	1. Forensic Biology, S. Chowdhuri, BPRD, New Delhi (1971) 2. Forensic Science Handbook, R. Saferstein, Vol III, Prentice Hall, New Jersey (1993) 3. Criminalistics and Scientific Investigation, Peter B Piaza, Frederick Cunliffe. 4. Forensic Science in Wildlife Investigation, Taylor & Francis (2009)
Web. URLs	1. https://epgp.inflibnet.ac.in/Home/ViewSubject?catid=eCJfy23Kjy3c0vICLa6VYg==

Tools for Assessment (20 Marks)						
CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
4	4	5	2	2	3	20

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Ms. Archana Sunil	Mr. Akhil Benny

Course Code	Title		
23U4FRS301	Skill Based Paper I – Good Laboratory Practices		
Semester : III	Credits : 3	CIA : 20 Marks	ESE : 55 Marks
Course Objective	To equip participants with the knowledge and skills required to implement and maintain Good Laboratory Practices (GLP) in laboratory settings, ensuring data integrity, regulatory compliance, and a safe working environment.		
Course Category	Skill Development		
Development Needs	Global		
Course Description	This course introduces Good Laboratory Practices (GLP), covering principles, regulations, documentation, safety, and quality control for laboratory professionals.		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	To understand the basics of GLP	Lecture/Demonstration	Assignment
CO 2	Understand the components of GLP	Lecture/ Case studies	Case studies
CO 3	Acquire knowledge on laboratory protocols	Lecture/Demonstration	Seminar
CO 4	Understand the reporting of results	Lecture/Video lecture	Quiz
CO 5	Learn about NABL	Lecture/Demonstration	Assignment

Offered by Forensic Science

Course Content **Instructional Hours / Week: 3**

Unit	Description	Text Book	Chapters
I	Definition Definition of good laboratory practices (GLP), History and purpose of GLP, Compliance with GLP regulations, objectives of GLP and its principles.	1	1
		Instructional Hours	**9**
Suggested Learning Methods: **Library extra reading**			
II	Components of GLP Test facility management, quality assurance programs, meeting the requirements of the test facilities-equipments, personals. Handling, sampling and storage of analytes, standard operational protocols.	1	2
		Instructional Hours	**9**
Suggested Learning Methods: Hands on training			
III	Lab Protocols Performance of the study-Reagents and solutions, test and control articles, study implementation and method validation, data recording	1	3
		Instructional Hours	**9**
Suggested Learning Methods: Video lectures			

IV	Reporting Reporting of study results, archiving of records and materials, enforcement of GLP-audits, noncompliance and consequences, facility disqualification and reinstatement.	1	4
		Instructional Hours	**9**
Suggested Learning Methods: Laboratory practice			
V	NABL National accreditation board for testing and calibration laboratories (NABL): requirement for accreditation, benefits, scope and proficiency testing.	1	5
		Instructional Hours	**9**
Suggested Learning Methods: Online training			
		Total Hours	**45**

Text Books	1. Notes compiled by the department of Forensic Science, Nehru Arts and Science College Coimbatore
Reference Books	1. Smith, J. (2021). Good Laboratory Practices Assessment Test. 2. Jerry R. Mohrig; Laboratory Techniques in Organic Chemistry 2017 3. Lynne S. Garcia ; Clinical Laboratory Management 2019

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
4	4	5	2	2	3	20

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Mr. Akhil Benny	Mr. Akhil Benny

Course Code	Title	
22U3NM3BT1	Part IV : Basic Tamil – I (அடிப்படைத்தமிழ் - I)	
Semester: III	Credits: 2	CIA: 50 Marks

(Common to all UG Programmes)

Course Objective	தமிழ் மொழியைக் கற்பித்தல்–மொழித்திறனை வளர்த்தல்.
Course Category	Skill Development (மாணவர்களின் மொழித்திறனை ஊக்குவித்தல்)
Development Needs	Regional (தமிழ் மொழியின் அவசியத்தை உணர்த்துதல்)
Course Description	மாணவர்களின் மொழித்திறனை ஊக்குவித்தல்

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	தமிழ் எழுத்துக்கள் அறிமுகம் செய்தல் மற்றும் வாசித்தல் ஆகியவற்றின் பயன்பாடு.	குழு விவாதம்	ஒப்படைவு
CO 2	பிறமொழி கற்றல் ஆர்வம் தூண்டல்.	குழு விவாதம்	கருத்தரங்கு
CO 3	பிறமொழி அறிவுத் திறன் மேம்படச்செய்தல	விரிவுரை/ காணொளிப்பட விளக்கம்	குழுத்திட்டம்
CO 4	வார்த்தை அமைக்கும் திறன் பெறச்செய்தல்.	விரிவுரை/ குழு விவாதம்	குழுத்திட்டம்
CO 5	கையெழுத்துத்திறன் பெறச்செய்தல்.	குழு விவாதம்	குழுத்திட்டம்

Offered by தமிழ்த்துறை

Course Content : Basic Tamil – I அடிப்படைத்தமிழ் - I — **Instructional Hours / Week : 2 Hours**

Unit	Description	Text Book	Chapters
I	தமிழ் மொழியின் அடிப்படைக் கூறுகள்	இலக்கணம்	1.உயிர்எழுத்துக்கள் 2.மெய் எழுத்துக்கள் 3.உயிர்மெய் எழுத்துக்கள்
		Instructional Hours	**6 Hours**
Suggested Learning Methods : எழுத்துக்களை எழுதும் மற்றும் வாசிக்கும் திறன் பெற்றமை			
II	சொல் அமைத்தல்	இலக்கணம்	1.ஓர் எழுத்து ஒருமொழி 2.இரண்டுமுதல் ஐந்து எழுத்துச்சொற்கள் 3.தமிழ் மாதங்கள் பெயர்,கிழமைகளின் பெயர் 4.வண்ணங்கள் பெயர், 5.சொல் ஆக்கம்
		Instructional Hours	**6 Hours**
Suggested Learning Methods : எழுத்துக்களை கொண்டு சொற்களை உருவாக்கும் பயிற்சி பெற்றமை			
III	தொடரமைப்பு	தொடரமைப்பு	1.எழுவாய் 2.செயப்படுபொருள்
		Instructional Hours	**6 Hours**
Suggested Learning Methods : சொற்களைக் கொண்டு தொடர் உருவாக்கும் பயிற்சி பெற்றமை			
IV	குறிப்பு எழுதுதல்	இலக்கணம்	1.தொடரமைப்பு 2.பத்தி அமைப்பு
		Instructional Hours	**6 Hours**
Suggested Learning Methods : பத்தி அமைப்பு உருவாக்கும் திறன் பெற்றமை			

V	பிழைநீக்குதல்	இலக்கணம்	1.ஒற்றுப்பிழை 2.வாக்கியப் பிழை
		Instructional Hours	**6 Hours**
Suggested Learning Methods : இலக்கணப் பிழை இன்றி எழுதும் திறன் பெற்றமை			
		Total Hours	**30 Hours**

Text Books	1. இளங்கலை தமிழ் மாணவர்களுக்குரிய பாடநூல்"அரிச்சுவடி" தொகுப்பு: தமிழ்த்துறை,நேரு கலை மற்றும் அறிவியல் கல்லூரி,கோயம்புத்தூர்.
Reference Books	1. பவணந்தி முனிவர்,நன்னூல் பூலியூர்க்கேசிகன் உரை,சாரதா பதிப்பகம், சென்னை–40. 2. தொல்காப்பியம், கணேசையர் பதிப்பு,உலகத் தமிழாராய்ச்சி நிறுவனம், சென்னை -113.
Web. URLs	https://youtu.be/P7vvUnjI6vY, https://youtu.be/Zx4R3yZseuQ.

Tools for Assessment (50 Marks)

CIA I	CIA II	CIA III	Seminar	Assignment	Group Project	Total
8	8	10	8	8	8	50

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by
Dr. S. Satheesh kumar	Dr. A. Sridevi

Course Code	Title	
22U4NM3AT1	Part IV: Advanced Tamil – I (சிறப்புத்தமிழ் -I)	
Semester: III	Credits: 2	ESE: 50 Marks
Course Objective	புதுக்கவிதை உருவாக்கும் திறன் வளர்த்தல் - மொழித்திறனை மேம்படுத்துதல்	
Course Category	Skill Development (மாணவர்களின் மொழித்திறனை ஊக்குவித்தல்)	
Development Needs	Regional (தமிழ் மொழியின் அவசியத்தை உணர்த்துதல்)	
Course Description	மாணவர்களின் மொழித்திறனை ஊக்குவித்தல்	

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	புதுக்கவிதை படைக்கும் திறன்வளர்த்தல்	விரிவுரை	குழுத்திட்டம்
CO 2	படைப்பாக்கத்திறன் அறிவு பெறச்செய்தல்.	விரிவுரை / குழு விவாதம்	கருத்தரங்கு
CO 3	தகவல் தொடர்பியலுக்கான கடிதம்,அமைவுத்திறன் பெறச்செய்தல்	விரிவுரை / காணொளிப்பட விளக்கம்	கருத்தரங்கு
CO 4	மொழியைப் பிழையின்றிப் பேசும் ,எழுதும் திறன் பெறச் செய்தல்	விரிவுரை	ஒப்படைவு
CO 5	கடிதம் எழுதுதல் மற்றும் மொழியறிவைப் பெறுதல்.	விரிவுரை / காணொளிப்பட விளக்கம்	குழுத்திட்டம்

Offered by	தமிழ்த்துறை

Course Content: Advanced Tamil - I (சிறப்புத்தமிழ் -I)	Instructional Hours / Week : 2 Hours

Unit	Description	Text Book	Chapters
I	புதுக்கவிதை	1. பாரதியார் 2. பாரதிதாசன்	1.1.தேசபக்திபாடல் தாயின் மணிக்கொடி பாரீர் 1.2.பாரதிதாசன்(தமிழ்மொழிபற்று- கனியிடை,தமிழுக்கும் அமுதென்று)
		Instructional Hours	6 Hours
Suggested Learning Methods : கவிதை எழுதும் திறன் பெற்றமை			
II	பிழை நீக்குதல்	இலக்கணம்	2.1.சொற்பிழை நீக்கம் 2.2.தொடர் பிழை நீக்கம் 2.3.பத்தி எழுதச் செய்தல்
		Instructional Hours	6 Hours
Suggested Learning Methods :வாக்கியங்களைப் பிழை இன்றி எழுதும் திறன் பெற்றமை			
III	இலக்கணப் பயிற்சி அளித்தல்	இலக்கணம்	3.1.தொகை நிலைத்தொடர், 3.2.தொகா நிலைத்தொடர் 3.3.ஆகுபெயர் வகைகள்

		Instructional Hours	**6 Hours**
Suggested Learning Methods : இலக்கணப் பிழை இன்றி எழுதும் பயிற்சி பெற்றமை			
IV	கடிதம் எழுதுதல்	இலக்கணப் பயிற்சி ஏடு	4.1. பாராட்டுக்கடிதம் 4.2. நன்றிக்கடிதம் 4.3. அழைப்புக்கடிதம் 4.4. அலுவலகக் கடிதம் 4.5. நட்புக்கடிதம்
		Instructional Hours	**6 Hours**
Suggested Learning Methods : கடிதம் எழுதும் திறன் பெற்றமை			
V	இலக்கிய வரலாறு	தமிழ் இலக்கிய வரலாறு	1.வேலு நாச்சியார் 2.கப்பலோட்டிய தமிழன்
		Instructional Hours	**6 Hours**
Suggested Learning Methods : தமிழ் இலக்கிய வரலாற்றின் சிறப்பினை அறிய பெற்றமை			
		Total Hours	**30 Hours**

Text Books	1. இளங்கலை தமிழ் மாணவர்களுக்குரிய பாட நூல்"திரட்டு"தமிழ்த்துறை. தொகுப்பு: தமிழ்த்துறை,நேரு கலை மற்றும் அறிவியல் கல்லூரி, கோயம்புத்தூர்.
Reference Books	1. பாரதியார்- பாரதியார் கவிதைகள், அபிராமி பதிப்பகம், 7- பி, கொடிமரத் தெரு, சென்னை– 013. 2. பவணந்தி முனிவர் – நன்னூல் புலியூர்க்கேசிகன் உரை, சாரதா பதிப்பகம், சென்னை -040.
Web. URLs	https://youtu.be/xnsvFOHxDeo, https://youtu.be/kQoIj-29VIk.

Course designed by	**Verified by**
Dr. S. Satheesh kumar	Dr. A. Sridevi

Course Code	Title	
22U4NM3CAF	Non Major Elective : Consumer Affairs	
Semester : III	Credits : 2	ESE : 50 Marks
(Common to all UG Programmes)		
Course Objective	To enable the students to understand the concepts of Consumers and Markets	
Course Category	Employability	
Development Needs	National & Global	

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Know their rights and responsibilities as a consumer	Lecture/ Video Lectures	Assignment
CO 2	Gain knowledge about Consumer protection law in India	Lecture/ Peer Teaching	Seminar
CO 3	Understand the procedure about redressed of consumer complaints	Lecture/ Group Discussion	Seminar
CO 4	Learn about Consumer related regulatory agencies and Norms	Lecture/ Role Play	Assignment
CO 5	Comprehend Business Firms, Interface with Consumers.	Lecture/ Group Discussion	Quiz

Offered by : **Department of Business Administration**

Course Content — **Instructional Hours / Week : 2**

Unit	Description	Text Book	Chapters
I	**Conceptual Framework - Consumer and Markets:** Concept of Consumer, Nature of markets: Liberalization and Globalization of markets with special reference to Indian Consumer Markets, Concept of Price in Retail and Wholesale, Maximum Retail Price (MRP), Fair Price, GST, labelling and packaging along with relevant laws, Legal Metrology. Consumer Complaining Behaviour: Alternatives available to Dissatisfied Consumers; Complaint Handling Process.	1	1 & 2
	Instructional Hours		**6**
Suggested Learning Methods : Video lectures			
II	**The Consumer Protection Law in India** **Objectives and Basic Concepts:** Consumer rights and UN Guidelines on consumer protection, Consumer goods, defect in goods, spurious goods and services, service, deficiency in service, unfair trade practice.	1	5 & 6
	Instructional Hours		**6**
Suggested Learning Methods : Peer Teaching			

III	**Grievance Redressal Mechanism under the Indian Consumer Protection Law** Who can file a complaint? Grounds of filing a complaint; Limitation period; Procedure for filing and hearing of a complaint; Disposal f cases, Relief/Remedy available; Temporary Injunction, Offences and penalties.	2	1
		Instructional Hours	**6**
Suggested Learning Methods : Group Discussion			
IV	**Role of Industry Regulators in Consumer Protection -** Industry self-regulation (ISR) Protection Policies, Consumer Protection Agencies i. Telecommunication: TRAI ii. Food Products: FSSAI Insurance : IRDA and Insurance Ombudsman	2	4
		Instructional Hours	**6**
Suggested Learning Methods : Role Play			
V	**Contemporary Issues in Consumer Affairs** **Consumer Movement in India:** Formation of consumer organizations and their role in consumer protection, Misleading Advertisements and sustainable consumption, National Consumer Helpline, Comparative Product testing. **Quality and Standardization:** Voluntary and Mandatory standards; Role of BIS, Indian Standards Mark (ISI), Ag-mark, Hallmarking, Licensing and Surveillance.	2	6 & 7
		Instructional Hours	**6**
Suggested Learning Methods : Group Discussion			
		Total Hours	**30**

Reference Books	1. Khanna, Sri Ram, Savita Hanspal, Sheetal Kapoor, and H.K. Awasthi. (2007) Consumer Affairs, Universities Press. 2. Choudhary, Ram Naresh Prasad (2005). Consumer Protection Law Provisions and Procedure, Deep and Deep Publications Pvt Ltd.

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Dr. R A Ayyapparajan	Dr. R A Ayyapparajan

Course Code	Title	
22U4NM3GST	Non Major Elective : Gender Sensitization	
Semester : III	Credits : 2	ESE : 50 Marks

(Common to all UG Programmes)

Course Objective	To raise awareness of gender, promote gender equality, and equip learners with key concepts and principles of gender sensitization.
Course Category	Skill Development, Employability and Entrepreneurship
Development Needs	Local, National and Global
Course Description	The course aims an exploration of overview of gender, its social construction, gender issues and challenges in India, and equips learners with key concepts and principles of gender sensitization to promote inclusivity and equity.

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Learn gender roles, socialization, and stereotypes.	Direct Instruction	Assignment
CO 2	Recognize the gender discrimination causes, areas, and levels in institutions.	Direct Instruction	Seminar
CO 3	Identify the gender identity formation, types, families, and socialization in India.	Video Lessons	Assignment
CO 4	Understand the gender concerns in access, enrollment, retention, participation, and achievement.	Direct Instruction	Assignment
CO 5	Apply the Laws Related to Women	Direct Instruction	Exhibition

Offered by | **Department of Costume Design and Fashion**

Course Content | **Instructional Hours / Week : 2**

Unit	Description	Text Book	Chapters
I	**Gender Socialisation and Gender Roles:** Introduction- Meaning of Sex and Gender, Gender Socialisation– Definitions, Agents of Gender Socialisation, Gender Roles- Meaning, Definitions, Nature of Gender Roles, Factors Determining Gender Roles/Stereotypes	1	-
	Instructional Hours		**6**
Suggested Learning Methods : Group discussions			
II	**Gender Discrimination:** Gender Discrimination - Meaning and Causes of Gender Discrimination, Areas of Gender Discrimination, Gender Discrimination at Different Levels of Institutions	1	-
	Instructional Hours		**6**
Suggested Learning Methods : Video documentaries and films			
III	**Gender Identity:** Gender Identity - Meaning, Formation and Factors of Gender Identity, Types of Gender Identity, Types of Families in India, Gender Socialisation within Indian Families	1	-
	Instructional Hours		**6**
Suggested Learning Methods : Case Method			

IV	**Gender Concerns:** Gender Concerns Related to Access, Enrolment, Retention, Participation, and Achievement	1	-
		Instructional Hours	**6**
Suggested Learning Methods : Video documentaries and films			
V	**Laws Related to Women:** Laws Related to Rape, Laws Related to Dowry - Dowry Prohibition Act, 1961, Laws Related to Remarriage, Laws Related to Divorce, Laws Related to Property Inheritance, Laws Related to Trafficking, Constitutional and Legal Aspects related to Women - Women's Reservation Bill – History and Current Status	1	-
		Instructional Hours	**6**
Suggested Learning Methods : Case Method			
		Total Hours	**30**

Text Books	1. Gender School and Society : Self-learning Material, MANGALORE UNIVERSITY, Printed at Datacon Technologies, Bangalore, 2018
Reference Books	1. United Nations Development Programme. (2014). Gender Equality and Women's Empowerment: Training Manual. New York: UNDP.
Web. URLs	1. Coursera - https://www.coursera.org/courses?query=gender%20sensitization 2. edX - https://www.edx.org/learn/gender-sensitization 3. Udemy - https://www.udemy.com/topic/gender-sensitization/

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Ms. M. Nandhini	Dr. S. Jayapriya

Course Code	Title	
22U4NM3WRT /	Non Major Elective : Women's Rights	
Semester : III	Credits : 2	ESE : 50 Marks
(Common to all UG Programmes)		
Course Objective	To facilitate the awareness about the social, economical, political, intellectual or cultural contributions of Women in India.	
Course Category	Skill Development	
Development Needs	National	
Course Description	Apply the knowledge of Rights related to women for their betterment.	

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Aware of basic constitutional rights	Lecture/ Case Study/ Role Play	Seminar
CO 2	Gain awareness on Political rights	Lecture/ Case Study/ Role Play	Role Play
CO 3	Understand individual and familial rights	Lecture/ Case Study/ Role Play	Role Play
CO 4	Grasp the provisions for Women's Rights in India	Lecture/ Case Study/ Role Play	Role Play
CO 5	Develop an understanding of the Protection Mechanisms for women	Lecture/ Case Study/ Role Play	Assignment

Offered by	Department of Social Work

Course Content	Instructional Hours / Week : 2

Unit	Description	Text Book	Chapters
I	**Constitutional Rights of Women in India**: Indian constitution relating to women - Fundamental rights - Directive principles of state policy - right to equality – rights against exploitation cultural and educational rights - the right to constitutional remedy - University Declaration of Human Rights -Enforcement of Human Rights for Women and Children - Role of Cells and Counseling Centers - Legal AID cells, Help line, State and National level Commission	4	2
	Instructional Hours		**6**
Suggested Learning Methods : Seminar			
II	**Political Rights of Women in India:** Political Rights of Women in India - Electoral process – women as voters - candidates and leader - pressure group, 73rd and 74th amendment and representation of women in local self –government – women in Rural and urban local bodies - Reservation of women - party ideologies and women's issues.	5	1
	Instructional Hours		**6**
Suggested Learning Methods : Role Play			

III	**Women's Rights: Access to Justice:** Introduction – Criminal Law – Crime Against Women Domestic Violence – Dowry Related Harassment and Dowry Deaths - Molestation – Sexual Abuse and Rape Loopholes in Practice–Law Enforcement Agency	3	7
		Instructional Hours	**6**
Suggested Learning Methods : Role Play			
IV	**Women's Rights:** Violence Against Women – Domestic Violence The Protection of Women from Domestic Violence Act 2005, The Marriage Validation Act 1982 - The Hindu Widow Remarriage Act 1856 - The Dowry Prohibition Act 1961.	3	5
		Instructional Hours	**6**
Suggested Learning Methods : Creative Art Assignments			
V	**Special Women Welfare Laws:** Sexual Harassment at Work Places, Rape and Indecent Representation, The Indecent Representation (Prohibition) Act, 1986, Immoral Trafficking, The Immoral Traffic (Prevention) Act, 1956 - Acts Enacted for Women Development and Empowerment, Role of Rape Crisis Centers. Protection of Children from sexual Offences Act 2012.	3	9
		Instructional Hours	**6**
Suggested Learning Methods : Community Participation Program			
		Total Hours	**30**

Reference Books

1. P. D. Kaushik "Women Rights" Book well Publication 2007 UN Centre for Human Rights, Discrimination against Women (Geneva: World Campaign for Human Rights,1994).
2. Agnes, Flavia. (1992). "Give us "Give us This Day Our Daily Bread: Procedures and Case Law on Maintenance". Majlis, Bombay.
3. Agnes, Flavia. (1999). "Law and Gender Inequality: The Politics of Women"s Rights in India". OUP, New Delhi

Mapping

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	H	M	M	H	M	M	M					
CO2	H	M	M	H	M	M	H	H					
CO3	H	M	M	H	M	H	M	M					
CO4	M	H	M	H	M	M	M	H					
CO5	H	M	M	H	M	H	M	M					

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Dr. P. Nathiya	Dr. P. Nathiya

Course Code	Title	
22U4FR3ED1	Skill Based Open Elective Course Extra Departmental Course : I - Fundamental Due Diligence	
Semester : III	Credits : 2	ESE : 50 Marks

Course Objective	Due diligence is next level forensic science in which the course has an objective of training forensic scientists in preventing potential crimes.
Course Category	Employability
Development Needs	Global
Course Description	When it come to crimes, private sector focuses more on preventing it from happening. Due diligence looks forward to techniques to prevent crimes from happening.

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Examine the concept of legal due diligence	Lecture	Assignment
CO 2	Understand the concepts of Financial Due Diligence	Lectures/ Tutorials	Seminar
CO 3	To gain knowledge about the operational Due diligence	Lecture/Demonstration	Quiz
CO 4	Understand ESG Analysis and Risk Assessment	Power point presentation	Activity
CO 5	Acquire basic idea about Due Diligence Process and Best Practices	Video lectures/Tutorials	Assignment

Offered by | **Forensic Science**

Course Content | **Instructional Hours / Week : 2**

Unit	Description	Text Book	Chapters
I	**Legal Due Diligence** Definition and importance of Due Diligence, Types of Due Diligence. Corporate Structure and Governance, Compliance with Laws and Regulations, Contracts and Agreements, Intellectual Property, Litigation and Dispute.	1	1
		Instructional Hours	**6**
Suggested Learning Methods: **Library extra reading**			
II	**Financial Due Diligence** Financial Statements Analysis, Cash Flow Analysis, Projections and Forecasts, Valuation Methods, Key Performance Indicators.	1	2
		Instructional Hours	**6**
Suggested Learning Methods: PowerPoint presentation			
III	**Operational Due Diligence** Business Model and Strategy, Industry and Market Analysis, Customer Base and Revenue Streams, Operations and Supply Chain, Human Resources and Management.	1	3
		Instructional Hours	**6**
Suggested Learning Methods: Video lectures			

IV	**ESG Analysis and Risk Assessment** Environmental Impact Assessment, Social and Community Impact Assessment, Governance and Ethics Assessment, Due Diligence Report Structure and Content, Risk Assessment and Mitigation Strategies, Due Diligence Checklist and Templates.	1	4
		Instructional Hours	**6**
Suggested Learning Methods: Library extra reading			
V	**Due Diligence Process and Best Practices** Due Diligence Process Steps, Team Structure and Roles, Due Diligence Best Practices and Lessons Learned, Case Studies and Examples.	1	5
		Instructional Hours	**6**
Suggested Learning Methods: PowerPoint presentation			
		Total Hours	**30 Hrs**

Text Books	1. Notes compiled by the department of Forensic Science, Nehru Arts and Science College, Coimbatore
Reference Books	1. Due Diligence: An M&A Value Creation Approach by William J. Gole and Paul J. Hilger 2. The Art of Due Diligence by Barbara L. Koenig 3. Due Diligence Handbook: Corporate Governance, Risk Management and Business Planning by Leo F. Dalton

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Mr. Akhil Benny	Mr. Akhil Benny

Course Code	Title	
22U4FR3ED2	Skill Based Open Elective Course Extra Departmental Course : II - Introduction to Jurisprudence	
Semester : III	Credits : 2	ESE : 50 Marks

Course Objective	Jurisprudence gives an overview and a much more in depth knowledge of or skill in law and the role of law in society.
Course Category	Skill Development
Development Needs	National
Course Description	Jurisprudence explores the concept of law in a logical and philosophical manner. Jurisprudence deals with legal reasoning, legal institutions and legal systems.

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Understand the meaning of jurisprudence and sources of law.	Lecture	Assignment
CO 2	Understand the concepts of legals rights and obligations	Lectures/ Tutorials	Seminar
CO 3	Acquire knowledge about the legal persons and properties	Lecture/Demonstration	Quiz
CO 4	Understand the Constitutional laws and Human Rights	Tutorial / Case Studies	Activity
CO 5	Learn the Contemporary Issues in Jurisprudence	Video lectures / Tutorials	Assignment

Offered by Forensic Science

Course Content **Instructional Hours / Week : 2**

Unit	Description	Text Book	Chapters
I	**Introduction to Jurisprudence and Sources of Law** Definition and scope of jurisprudence, Historical development of jurisprudence in India, Schools of jurisprudence: Natural Law, Legal Positivism, Historical School and Realism. Classification of sources of law: primary and secondary sources. Statutory interpretation and the role of the judiciary. Customary law and its recognition in Indian legal system	1	2
	Instructional Hours		**6**
Suggested Learning Methods: **Library extra reading**			
II	**Legal Rights, Obligations, and Concepts** Concept of legal rights and obligations, Types of legal rights: fundamental rights, legal rights, and human rights, Relationship between rights and duties. Legal concepts: justice, equality, liberty, and rights. Theories of punishment: retribution, deterrence, and rehabilitation Theories of law: analytical, sociological, and natural law.	1	3
	Instructional Hours		**6**
Suggested Learning Methods: PowerPoint presentation			
III	**Legal Persons and Property** Definition and types of legal persons: natural, artificial, and juristic persons. Types of property: movable, immovable,	1	4,5

	tangible, and intangible. Acquisition, transfer, and devolution of property in Indian law		
		Instructional Hours	**6**
Suggested Learning Methods: PowerPoint presentation			
IV	**Constitutional Law and Human Rights** Historical development of the Indian Constitution, Fundamental rights and duties of citizens, Powers and functions of the judiciary and other organs of the government, Principles of international law and its recognition in Indian legal system, International treaties and their impact on Indian law, Human rights and their recognition in Indian law.	1	7,9
		Instructional Hours	**6**
Suggested Learning Methods: Case Studies			
V	**Contemporary Issues in Jurisprudence** Recent developments in Indian jurisprudence, Intersection of law and technology, Environmental law and sustainability, Corporate social responsibility and business ethics, Law and social justice.	1	8
		Instructional Hours	**6**
Suggested Learning Methods: Video lectures			
		Total Hours	**30 Hrs**

Text Books	1. Paranjape, N. V. (2014). Jurisprudence. LexisNexis.
Reference Books	1. Mahajan, V. D. (2016). Jurisprudence and Legal Theory. Eastern Book Company. 2. Paranjape, N. V. (2015). An Introduction to Jurisprudence and Legal Theory. LexisNexis. 3. Verma, S. K. (2019). Jurisprudence and Legal Philosophy. Universal Law Publishing. 4. Singh, A. (2019). Introduction to Jurisprudence and Legal Theory. Eastern Book Company.

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Ms. Archana Sunil	Mr. Akhil Benny

23U1TAM404	Part - I : Muthamizh (முத்தமிழ்)		
Semester: IV	**Credits: 3**	**CIA: 20 Marks**	**ESE: 55 Marks**
Course Objective	சங்ககால மக்களின் வாழ்வியல் வாயிலாக பண்பாட்டுக் கூறுகளை உணர்த்துதல		
Course Category	Skill Development (மாணவர்களின் மொழித்திறனை ஊக்குவித்தல்)		
Development Needs	Global/Regional (உலக அளவில் தமிழ் மொழியின் அவசியத்தை உணர்த்துதல்)		
Course Description	மாணவர்களின் மொழித்திறனை ஊக்குவித்தல் மற்றும் உலக அளவில் தமிழ் மொழியின் அவசியத்தை உணர்த்துதல்		

Course Outcomes		**Teaching Methods**	**Assessment Methods**
CO 1	தமிழர்களின் வாழ்வியல் பண்புகளைக் கற்று அறிதல்.	விரிவுரை/காணொளிப் பட விளக்கம்	ஒப்படைவு
CO 2	தமிழ் இலக்கிய வகைகளைக் கூறுவதன் மூலம் தமிழின் இலக்கிய வளத்தை உணரச்செய்தல்.	விரிவுரை	குழுத்திட்டம்
CO 3	மாணவர்களிடையே காலத்திற்கேற்ப மனவளர்ச்சியை உருவாக்குதல்.	விரிவுரை/காணொளிப் பட விளக்கம்	கருத்தரங்கு
CO 4	நாட்டின் சிறந்த குடிமக்களாக மாணவர்களை உருவாக்குதல்.	விரிவுரை	ஒப்படைவு
CO 5	மாணவர்களின் மனநலத்தை வளர்த்தல்.	விரிவுரை/குழு விவாதம்	கருத்தரங்கு

Offered by தமிழ்த்துறை

Course Content: Muthamizh (முத்தமிழ்)			**Instructional Hours / Week : 4**
Unit	**Description**	**Text Book**	**Chapters**
I	எட்டுத்தொகை	1. நற்றிணை 2. குறுந்தொகை 3. பதிற்றுப்பத்து 4. புறநானூறு	1.1 குறிஞ்சி: நின்ற சொல்லார் .., 1.2 முல்லை : இளமை பாரார் ..., குறிஞ்சி : நிலத்தினும்..., பாலை :ஆடு அமை ...விளையாட்டு ஆயமொடு 1.3 ஐந்தாம் பத்து : ஊன் தூவை அடிசில் 1.4. யாதும் ஊரே .. பல் சான்றீரே .., அற்றைத்திங்கள்
			Instructional Hours **12 Hours**
Suggested Learning Methods: சங்க இலக்கிய வழி நற்பண்புகளை அறியச்செய்தல்			
II	பத்துப்பாட்டு	1.சிறுபாணாற்றுப்படை 2.குறிஞ்சிப்பாட்டு 3.பொருநர்ஆற்றுப்படை 4.மதுரைக்காஞ்சி	2.1 கடையெழு வள்ளல்கள் சிறப்பு 2.2 அறத்தொடு நிற்றல் 2.3 மன்னனின் விருந்தோம்பல் 2.4 பாண்டிய நெடுஞ்செழியன் குடிச்சிறப்பு
			Instructional Hours **12 Hours**
Suggested Learning Methods : புலவர்களின் மாண்புகளை வெளிப்படுத்துதல்			
III	அற இலக்கியங்கள்	1. நான்மணிக்கடிகை 2. இனியவை நாற்பது 3. களவழி நாற்பது- 4. ஆசாரக்கோவை	விளம்பிநாகனார் - (1-5 பாடல்கள்) பூதஞ்சேந்தனார் - (1-5 பாடல்கள்) பொய்கையார் - (11-15பாடல்கள்) பெருவாயின் முள்ளியார் (1-5 பாடல்கள்)
			Instructional Hours **12 Hours**
Suggested Learning Methods : அற இலக்கியங்களின் மாண்புகளை அறிய பெற்றமை			
IV	தமிழ்ச் செயலிகள்	தனித்தமிழ்	4.1 செயலிகள் அறிமுகம் 4.2 வகைகள்

			4.3 மொழிபெயர்ப்புச் செயலிகள் 4.4 தமிழ்ச் செயலிகள்
		Instructional Hours	**12 Hours**
Suggested Learning Methods : தமிழ்ச் செயலிகள் பற்றி அறியும் வாய்ப்பு பெற்றமை			
V	இலக்கணம்	1.நன்னூல் 2.தொல்காப்பியம்	5.1 முதற்பொருள், கருப்பொருள், உரிப்பொருள் 5.2 பத்து அழகு 5.3 பத்து குற்றம் 5.4 ஆங்கிலத்திலிருந்து தமிழில் மொழிபெயர்த்தல்
		Instructional Hours	**12 Hours**
Suggested Learning Methods : இலக்கண மாண்புகளை அறியும் திறன் பெற்றமை			
		Total Hours	**60 Hours**

Text Books	1. இளங்கலை முதலாம் ஆண்டு தமிழ் மாணவர்களுக்குரிய பாடநூல் தொகுப்பு: "முத்தமிழ்" தமிழ்த்துறை, நேரு கலை மற்றும் அறிவியல் கல்லூரி, கோயம்புத்தூர்.
Reference Books	1. சங்க இலக்கியங்கள் - எட்டுத்தொகை, பத்துப்பாட்டு கழக வெளியீடு, திருநெல்வேலி. 2. தனித்தமிழ்- இளசுந்தரம், விகடன் பிரசுரம். சென்னை.
Web. URLs	https://youtu.be/GrNnb68Fd6w , https://youtu.be/14-sEAUzXP8 .

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Seminar	Assignment	Group Project	Total
4	4	5	2	2	3	20

Mapping

PO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	**L**	H	L	H	H	M	H					
CO2	M	**L**	H	L	M	L	M	H					
CO3	H	**L**	H	L	H	H	M	H					
CO4	M	**L**	M	L	H	H	H	M					
CO5	H	**L**	L	L	M	H	L	M					

H-High; M-Medium; L-Low

Course designed by	Verified by
Dr. S. Satheesh kuma	Dr. A. Sridevi

Course Code	Title		
23U1HIN404	Part I - Prayogik Hindi (प्रायोगिक हिंदी)		
Semester: IV	Credits: 3	CIA: 20 Marks	ESE: 55 Marks
(Common to all UG Programmes)			

Course Objective	साक्षरता प्रशंसा और विश्लेषण के सौंदर्य, सांस्कृतिक और सामाजिक पहलुओं के प्रति छात्रों को संवेदनशील बनाना | उन्हें विभिन्न कालों के प्रख्यात लेखकों के हिंदी कथा साहित्य के बेहतरीन नमूने उपलब्ध कराना |
Course Category	Skill Development
Development Needs	National
Course Description	Improves Creative Writing.

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	छात्र हिंदी भाषा से अच्छी तरह वाकिफ हो सकेंगे।	Role play	Assignment
CO 2	पाठ्यक्रम संवादी हिंदी में पारंगत होने में मदद करता है।	Group learning Acting	Seminar
CO 3	छात्र आधुनिक हिंदी साहित्य का ज्ञान प्राप्त कर सकेंगे।	Story Narration	Assignment
CO 4	छात्रों को निबंध लेखन में अच्छा अभ्यास मिलेगा।	Group learning and Work sheets	Group Project
CO 5	छात्रों को फिल्म की समीक्षा करने का अभ्यास मिलेगा।	Worksheets and Exercises	Seminar

Offered by	**Hindi**

Course Content — **Instructional Hours / Week : 4**

Unit	Description	Text Book	Chapters
I	विरुद्ध उपन्यास: (मृणाल पाण्डे)	1	4
		Instructional Hours	**12**
Suggested Learning Methods : Visual Learning			**02 Hrs**
II	कथा माला , (मृदुला गर्ग) लौटना और लौटना : ममता जयशंकर) ,प्रसाद आदमी का बच्चा (यशपाल)	1	3
		Instructional Hours	**12**
Suggested Learning Methods : Auditory			**02 Hrs**
III	1.दिए गए अनुच्छेद पर समीक्षा लिखना 2.आधुनिक काल: प्रवृतियां और कवि	1	3
		Instructional Hours	**12**
Suggested Learning Methods : Comprehensive Writing			**02 Hrs**

IV	1.सामान्य निबंध: आधुनिक शिक्षा प्रणाली, मोबाइल का दुष्परिणाम, आधुनिक युवा पीढ़ी 2. हिंदी में दी गई कहानी के लिए सारांश लिखना।	1	2
		Instructional Hours	**12**
Suggested Learning Methods : Auditory, Visual, Comprehensive			**02 Hrs**
V	सिनेमा समीक्षा : पद्मावत	1	4
		Instructional Hours	**12**
Suggested Learning Methods : Comprehensive writing			**02 Hrs**
		Total Hours	**60 Hrs**

Text Books	1. विरुद्ध उपन्यास: (मृणाल पाण्डे) 2. कहानी कुंज , गोविंद प्रकाशन , मथुरा 3. हर हाल बेगाने - मृदुला गर्ग , राजपाल एंड संस , दिल्ली 4. मेरा परिवार , लोकभारत प्रकाशन , इलाहाबाद
Reference Books	1. संजय चौहान , समकालीन हिंदी साहित्य विचार और विवाद , आशा किताबें 2. श्री रामदेव, व्याकरण प्रदीप, लोकभारती प्रकाशन, अलाहाबाद 3. डॉ वासुदेव नंदन प्रसाद, आधुनिक हिंदी व्याकरण और रचना, भारती भवन प्रकाशक 4. ओंकार नाथ वर्मा , सामान्य हिंदी , अरिहंत प्रकाशन भारत लिमिटेड
Web. URLs	1. www.webdunia.com 2. www.hindikunj.com 3. hindi-natak-vikas.html 4. www.bhashaindia. 5. www.hindisamay.com 6. https://ebook.pustak.org/

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Group Project	Total
4	4	5	2	2	3	20

Mapping

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO 5
CO1	L	M	H	M	M	L	H	L					
CO2	L	M	H	H	L	H	L	M					
CO3	M	L	L	L	L	H	M	M					
CO4	M	M	M	M	H	L	M	H					
CO5	H	H	L	L	H	L	H	H					

H-High; M-Medium; L-Low

Course designed by	Verified by
Dr.S.Swarnalatha	Dr.S.Swarnalatha

Course Code	Title		
23U1MAL404	**Part - I : Drisyakalaa Saahithyam (ദൃശ്യകലാസാഹിത്യം)**		
Semester: IV	**Credits: 3**	**CIA: 20 Marks**	**ESE: 55 Marks**

(Common to all UG Programmes)

Course Objective	സിനിമ എന്ന മാധ്യമത്തിന്റെ വിവിധ തലങ്ങളെ ആഴത്തിൽ മനസ്സിലാക്കാൻ കഴിയുന്നു.ദൃശ്യാവിഷ്ക്കരണത്തെ കുറിച്ചുള്ള അറിവ് ലഭിക്കുന്നു.
Course Category	Skill Development
Development Needs	Regional
Course Description	Guide and encourage them to achieve their ambitions

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	തിരക്കഥയിലെ സംഭാഷണത്തിന്റെ പ്രസക്തി	Smart boards/ chalk and Talk	Assignment
CO 2	മനക്കരുത്തിലൂടെ വീട്ടിലെ എല്ലാ അംഗങ്ങളെയും ദുഃഖം അറിയിക്കാതെ മംഗളകർമ്മം നടത്തുന്നു.	Group learning	Seminar
CO 3	കുടുംബത്തിന്റെ തകരുന്ന മൂല്യത്തെ ഉയർത്തുന്നു	Peer Teaching	Assignment
CO 4	ദൃ ശ്യാവിഷ്ക്കരണം മലയാളത്തിൽ	Group learning	Group Project
CO 5	രംഗവേദിയുടെ അവതരണം	Smart boards/ chalk and Talk	Assignment

Offered by **Malayalam**

Course Content **Instructional Hours / Week : 4**

Unit	Description	Text Book	Chapters
I	തിരക്കഥ - ഞാൻ പ്രകാശൻ	1	5
		Instructional Hours	**12**
Suggested Learning Methods : Visual Learning			**02 Hrs**
II	തിരക്കഥ - ഞാൻ പ്രകാശൻ	1	5
		Instructional Hours	**12**
Suggested Learning Methods : Auditory, Visual			**02 Hrs**
III	തിരക്കഥ - ഞാൻ പ്രകാശൻ	1	3
		Instructional Hours	**12**
Suggested Learning Methods : Visual Learning			**02 Hrs**
IV	നാടകം - ഭരതവാക്യം	1	2
		Instructional Hours	**12**
Suggested Learning Methods: Auditory, Visual			**02 Hrs**
V	നാടകം - ഭരതവാക്യം	1	3
		Instructional Hours	**12**
Suggested Learning Methods : Visual Learning			**02 Hrs**
		Total Hours	**60 Hrs**

Text Books	1. തിരക്കഥ - ഞാൻ പ്രകാശൻ - ശ്രീനിവാസൻ, ഡി.സി.ബുക്സ് 2. നാടകം - ഭരതവാക്യം , ജി. ശങ്കരപ്പിള്ള
Reference Books	1. കഥയും തിരക്കഥയും ഡോ.ആർ.വി.എം.ദിവാകരൻ - എൻ. ബി. എസ് കോട്ടയം 2. മലയാള സിനിമയും സാഹിത്യവും - മധു ഇറവങ്കര - ഡി.സി.ബുക്സ് 3. ഒരു സിനിമ എങ്ങനെ ഉണ്ടാകുന്നു. - കെ.കെ. ചന്ദ്രൻ

	4. നാടക സാഹിത്യ ചരിത്രം - ജി. ശങ്കരപ്പിള്ള - ഡി.സി.ബുക്സ് 5. നാടകം കലയും കാഴ്ചയും - പി.ജി.സദാനന്ദൻ - ഡി.സി.ബുക്സ്
Web. URLs	**http://www.keralaculture.org>literature** **http://www.manoramaonline.com**

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Group Project	Total
4	4	5	2	2	3	20

Mapping

CO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO 5
CO1	H	L	H	H	H	H	H	H					
CO2	M	L	H	M	H	M	M	M					
CO3	H	L	M	M	M	H	M	H					
CO4	H	L	L	H	L	H	M	M					
CO5	M	L	L	H	L	H	M	M					

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Ms.RAJANI N.	Dr.SMITHA C. R.

Course Code	Title		
23U1FRN404	Part – I : Le Francais General – IV		
Semester : IV	Credits : 3	CIA : 20 Marks	ESE : 55 Marks
(Common to all UG Programmes)			
Course Objective	Acquisition of standard French through French grammar and oral communication		
Course Category	Skill Development		
Development Needs	Global		
Course Description	Improved understanding and communication		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	learn pronouns, gérondif along with culture adaptation in foreign countries	Lectures /Tutorial	Assignment
CO 2	French food culture, manners, futur simple & futur proche.	Group Learning	Assignment
CO 3	Business and economic culture, la cause et la consequence.	Peer Teaching	Seminar
CO 4	Letter writing official and to a patron, le passif, les doubles pronoms	Group Learning	Group Project
CO 5	The city and country, urbanisation, l'opposition et la concession, le subjonctif et l'infinitif	Group Learning	Assignment

Offered by	Department of French

Course Content	Instructional Hours / Week : 4

Unit	Description	Text Book	Chapters
I	Explorer l'inconnu	1	1
		Instructional Hours	12
Suggested Learning Methods : Visuals			
II	Goûter l'insolite	1	2
		Instructional Hours	12
Suggested Learning Methods : Comprehensive writing			
III	Consommer autrement	1	3
		Instructional Hours	12
Suggested Learning Methods : Group discussions			
IV	S'engager pour une cause	1	4
		Instructional Hours	12
Suggested Learning Methods : Visuals			

V	Repenser le quotidien	1	5
		Instructional Hours	**12**
Suggested Learning Methods : Group Discussion			
		Total Hours	**60**
Text Books	1. Saison 2 Méthode de Français – Marie-Noëlle Cocton, Anouchka De Oliveira, Dorothée Dupleix (Unit 0 to 4)		
Reference Books	1. Connexions 2 Methode de Français Régine Mérieux , Yves Loiseau		
Web. URLs	1. www.academia.edu		

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
4	4	5	2	2	3	20

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Dr. R. Malathi	Dr. R. Malathi

Course Code	Title		
23U2ENG404	Part – II : Communicative English – II		
Semester : IV	Credits : 3	CIA : 20 Marks	ESE : 55 Marks
(Common to All UG Programmes)			
Course Objective	To equip the students with Language Skills and develop interest in and appreciation of literature.		
Course Category	Skill Development		
Development Needs	Global		
Course Description	SD: Helps to develop LSRW skill		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Understand the values of life reflected in the prescribed prose	Lecture/Tutorial	Assignment
CO 2	Learn to interpret poem based on contextual evidence.	Lecture/Tutorial	Assignment
CO 3	Enhance imaginative and communication skills through short stories.	Lecture/Tutorial	Speaking
CO 4	Understand the performing art through drama.	Lecture/Tutorial	Reading
CO 5	Acquire proficiency in English for global competency.	Lecture/Tutorial	Writing

Offered by	Department of English

Course Content	Instructional Hours / Week : 4

Unit	Description	Text Book	Chapters
I	**Prose** Francis Bacon – Of Adversity Dr. Radhakrishnan - Character is Destiny Sudha Murty - How I taught my grandmother to read	1	1
		Instructional Hours	**12**
Suggested Learning Methods : Intensive Reading			
II	**Poetry** Sarojini Naidu - The Soul's Prayer Emily Dickinson - Death in the Opposite House William Blake – London	1	2
		Instructional Hours	**12**
Suggested Learning Methods : Scaffolding Method			
III	**Short Stories** W. Somerset Maugham - Mr. Know-All Edgar Allan Poe-The Purloined Letter Ruskin Bond-The Thief Story	1	3
		Instructional Hours	**12**
Suggested Learning Methods : Flipped Learning			

IV	**Drama** William Shakespeare – As You Like It	1	4
		Instructional Hours	**12**
Suggested Learning Methods : Flipped Learning			
V	**GRAMMAR AND COMPOSITION** **Oral & Written Communication (Unit I–IV) Listening** – Comprehension practice from Poetry, Prose, Online Voice Practice, observing/viewing E-content (with subtitles), Guest/Invited Lectures, Conference/Seminar Presentations & Tests, and DD National News Live, BBC, CNN, VOA etc **Speaking** – In Group Discussion Forum, participate in the Turn Taking, and Conversation Management, Debating, Defending/Mock Viva- Voce, Seminar Presentations on Classroom-Assignments, and Peer-Team-interactions. **Reading**–Different Reading Strategies in Poetry, Prose, Novel, Newspaper etc **Writing** – Clauses – Conditional, Relative, Restrictive, Non-Restrictive, Denotation and Connotations Précis Writing, One word substitution.	1	5
		Instructional Hours	**12**
Suggested Learning Methods : Activity Based Learning			
		Total Hours	**60**

Text Books	Unit I – V: Compiled by the Department of English
Reference Books	CLIL (Content & Language Integrated Learning) – Module by TANSCHE NOTE: (Text: Prescribed chapters or pages will be given to the students by the department)
Web. URLs	

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Presentation	Total
4	4	5	2	2	3	20

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Dr. Adappatu Ancy Antony	Dr. R. Malathi

Course Code	Title		
23U3FRC410	Core Paper X - Questioned Document Examination		
Semester : IV	Credits : 4	CIA : 25 Marks	ESE : 75 Marks
Course Objective	To impart knowledge and skill of handling questioned documents and investigating crimes associated with documents.		
Course Category	Employability		
Development Needs	Global		
Course Description	Documents are simply recorded information. This course is designed to provide in depth knowledge in analysis of documents for all sorts of possible fraud practices.		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Have a clear idea about document examination.	Lecture/Demonstration	Assignment
CO 2	Differentiate two handwriting.	Lecture/ Case studies	Case studies
CO 3	Identify the author of a handwriting.	Lecture/Demonstration	Seminar
CO 4	Differentiate natural variation from forgery.	Lecture/Video lecture	Quiz
CO 5	Examine security documents such as currency note, passport etc.	Lecture/Demonstration	Assignment

Offered by	Forensic Science

Course Content	Instructional Hours / Week : 4

Unit	Description	Text Book	Chapters
I	**Introduction to questioned documents** Introduction to questioned documents, History of questioned documents, Classification of questioned documents and various classes of questioned documents, Scope and application of questioned documents, Preservation and handling of questioned documents : Do's and Don'ts, Tools and techniques used for the examination of questioned documents, Ethics for Questioned Document experts. Various document examination associations.	1	all
		Instructional Hours	**12**
Suggested Learning Methods: **Video lectures**			
II	**Handwriting and Signature examination** Introduction to handwriting and signature examination, Class characteristics and individual characteristics of handwriting, Forgery and types of forgeries, Forensic examination and identification of forgeries, Examination of additions, alterations and obliteration in the documents, Examination of mechanical and chemical erasures on the documents.	1	10
		Instructional Hours	**12**
Suggested Learning Methods: Laboratory practice			

III	**Examination of documents** Examination of security documents (Currencies, passports, postal stamps, stamp papers, etc.). Examination of credit cards, e-documents, digital signatures. Examination of manipulated and fake documents.	1	12
		Instructional Hours	**12**
Suggested Learning Methods: Laboratory practice			
IV	**Age of document** Examination of Ink and Paper, Determination of age of documents, Destructive method and non-destructive methods used in examination of ink and paper, Importance of typewriters and printers in forensic document examination, Examination of charred documents and secret writings, Examination of rubber stamps and mechanical impressions, Examination of alterations, erasures, overwriting, additions, and obliteration.	1	11
		Instructional Hours	**12**
Suggested Learning Methods: Hands on training			
V	**Typewriters and Printers** Physical matching of documents: analysis of sequence of folds, staple / punch marks, etc. Determination of age of documents. History of Typewriters, types of typewriters, identification of machine, typescripts and typist. History of printers, types of printers: dot matrix, inkjet, laser, Thermal etc. Examination of printed contents and identification of the printing machine. Facsimile machines - working, examination. Importance of Typewriters, printers and facsimile machines in Forensic document examination.	1	15
		Instructional Hours	**12**
Suggested Learning Methods: Library extra reading			
		Total Hours	**60**

Text Books	1. Ramachandran, Questioned Documents, Lawmann's 2020
Reference Books	1. Ordway Hilton, Elsevier; Scientific Examination of Questioned Documents, Rev. ED: New York, (1928). 2. Albert S. Osborn, Second ; Questioned Documents, Ed. Universal Law, Publishing, Delhi, (1928). 3. Albert S. Osborn; The problem of Proof, Second Ed. Universal Law, Publishing, Delhi (1998). 4. Charles C. Thomas, Billy Prior Bates; Typewriting Identification I.S.Q.D., Springfield, Illinois (1971).
Web. URLs	1. https://epgp.inflibnet.ac.in/epgpdata/uploads/epgp_content/S000016FS/P000695/M006281/ET/1516191959FSC_P8_M1_e-text.pdf 2. https://epgp.inflibnet.ac.in/epgpdata/uploads/epgp_content/S000016FS/P000695/M011511/ET/1516250867FSC_P8_M32_e-text.pdf

Tools for Assessment (25 Marks)						
CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
5	5	6	3	3	3	25

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Ms. Archana Sunil	Mr. Akhil Benny

Course Code	Title		
23U3FRP411	Core Paper XIV- Questioned Document Examination Practical		
Semester : IV	Credits : 3	CIA : 30 Marks	ESE : 45 Marks
Course Objective	Learn to provide evidence about suspicious or questioned documents using a variety of scientific principles and methods.		
Course Category	Employability		
Development Needs	Global		
Course Description	In forensic science, questioned document may be examined to determine its origin, authenticity, and many other facets in order to solve a potential crime.		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Understand the variation in handwriting and altered documents	Demonstration / Video Lessons	Practical
CO 2	To examine security documents	Demonstration	Practical
CO 3	Deciphering Secret writings	Demonstration / Video Lessons	Practical
CO 4	Analysis of ink	Demonstration / Video Lessons	Practical
CO 5	Learn to write report in forgery case	Demonstration / Video Lessons	Practical

Offered by	Forensic Science
Course Content	Instructional Hours / Week : 4

S. No.	Experiment
1	Examination of handwriting and comparison.
2	Examination and comparison of signature.
3	Security documents examination: currency note and passport examination.
4	Deciphering the secret writing and miniature writing.
5	Paper chromatography for ink analysis.
6	Analysis of sequence of stroke in altered documents (addition).
7	Identification of author from disguised writing.
8	Moot court and case laws
9	Report writing- in a simulated case of handwriting or signature forgery
10	Preservation of charred documents
	TOTAL 60 Hours

Tools for Assessment (30 Marks)

Analytical Skill	Lab Performance	Inference	Test I	Test II	Observation	Total
4	4	4	7	7	4	30

Mapping													
CO\ PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	H	H	H	H	-	-	L	-	-	H	H	-	M
CO2	H	H	M	H	-	-	M	-	-	H	H	-	M
CO3	H	H	M	H	-	-	M	-	-	H	H	-	M
CO4	H	H	M	H	-	-	M	-	-	H	H	-	M
CO5	H	H	M	H	-	-	M	-	-	H	H	-	M
H-High; M-Medium; L-Low													

Course designed by	Verified by Chairman
Mr. Akhil Benny	Mr. Akhil Benny

Course Code	Title		
23U3FRA405	Allied Paper V – DNA Fingerprinting		
Semester : IV	Credits : 3	CIA : 20 Marks	ESE : 55 Marks
Course Objective	Master the principles and practices of DNA fingerprinting for forensic analysis, genetic research, and identification purposes.		
Course Category	Employability		
Development Needs	Global		
Course Description	Explore the fundamentals of DNA Fingerprinting, its applications in forensics and genetics, and gain hands-on laboratory skills. Learn about DNA structure, analysis techniques, and their real-world applications in this intensive course.		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Learn about Human Genetics	Lecture/Demonstration	Assignment
CO 2	Understand DNA profiling	Lecture/ Case studies	Case studies
CO 3	Learn about DNA typing Systems	Lecture/Demonstration	Seminar
CO 4	Understand the application of DNA Profiling	Lecture/Video lecture	Quiz
CO 5	Acquire knowledge about Legal Perspective of DNA Profiling	Lecture/Demonstration	Assignment

Offered by | **Forensic Science**

Course Content | **Instructional Hours / Week: 3**

Unit	Description	Text Book	Chapters
I	**Introduction to Human Genetics** History: discovery, development in the findings. Definition, structure, properties and forensic importance- Human genetics- definition and explanations for Heredity, alleles, mutations and population genetics- Molecular biology of DNA, variations in DNA, Biochemical aspects. Genomics and medical genetics.	1	1
		Instructional Hours	**9**
Suggested Learning Methods: **Library extra reading**			
II	**DNA Profiling** Mitochondrial DNA- definition, structure, biochemical activity- DNA Profiling: Introduction, definition, history and importance in the field of forensic science- Types of samples used for DNA analysis- Collection, packaging and preservation of blood, saliva, semen, sweat and hair. Paternity and maternity index: equation, derivation and calculation.	1	2
		Instructional Hours	**9**
Suggested Learning Methods: Hands on training			
III	**DNA typing Systems** DNA typing systems- Polymorphism, RFLP analysis, PCR amplifications, sequence polymorphism- Analysis and functioning of SNP and Y- STR- Evaluation of results, frequency estimate calculations, allele frequency determination- Interpretations of results. Match probability- database, quality control, certification and accreditation.	1	3
		Instructional Hours	**9**

Suggested Learning Methods: Video lectures			
IV	**Application of DNA Profiling** Forensic Significance of DNA profiling: Applications in disputed paternity cases, child swapping- Missing person's identity- civil immigration, job disputes- Application in veterinary, wildlife and agriculture cases- Case studies related to paternity and maternity disputes and child swapping	1	4
		Instructional Hours	**9**
Suggested Learning Methods: Laboratory practice			
V	**Legal Perspective of DNA Profiling** Legal perspectives- legal standards for admissibility of DNA profiling, procedural and ethical concerns- Medical perspective: duties of a medical practitioner on conducting DNA profiling Status of development of DNA profiling in India and abroad- New and future technologies: DNA chips, SNPs and limitations of DNA profiling.	1	5
		Instructional Hours	**9**
Suggested Learning Methods: Online training			
		Total Hours	**45**

Text Books	1. Jeffrey R. Jenkins; DNA Fingerprinting: An Introduction 2009
Reference Books	1. John M. Butler; Advanced Topics in Forensic DNA Typing: Interpretation 2. Tehmina Anjum and Anis Ahmad Chaudhary;NA Fingerprinting: Approaches and Applications, 2013
Web. URLs	1. https://www.vedantu.com/biology/dna-fingerprinting 2. https://microbenotes.com/dna-fingerprinting-principle-methods-applications/

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
4	4	5	2	2	3	20

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Ms. Archana Sunil	Mr. Akhil Benny

Course Code	Title		
23U3FRP412	Core Paper XII - Forensic Biology Practical		
Semester : IV	Credits : 4	CIA : 40 Marks	ESE : 60 Marks
Course Objective	To provide hands-on experience in the application of forensic biology techniques, allowing students to develop practical skills for collecting, analyzing, and interpreting biological evidence crucial to criminal investigations, thereby preparing them for careers in forensic science.		
Course Category	Employability		
Development Needs	Global / National		
Course Description	Focuses on the hands-on skills needed for forensic science. You'll practice gathering, handling, and studying biological evidence, like DNA and blood.		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Understand the parts and working of Microscope	Demonstration / Video Lessons	Practical
CO 2	Examination of hair, pollen grains.	Demonstration	Practical
CO 3	Analysis of fibre, diatoms	Demonstration / Video Lessons	Practical
CO 4	Extract DNA	Demonstration / Video Lessons	Practical
CO 5	DNA separation and working of PCR	Demonstration / Video Lessons	Practical

Offered by	Forensic Science
Course Content	Instructional Hours / Week : 4

S. No.	Experiment
1	Introduction to microscope.
2	Microscopic examination of human hair
3	Analysis of pollen grains
4	Comparison of human and non-human hair
5	Analysis of fibre.
6	Analysis of diatoms.
7	Analysis of animal hair.
8	Extraction to DNA from cheek cells
9	Working with PCR
10	DNA separation using gel electrophoresis
	TOTAL 60 Hours

Tools for Assessment (40 Marks)						
Analytical Skill	Lab Performance	Inference	Test I	Test II	Observation	Total
5	5	5	10	10	5	40

Mapping													
CO \ PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	H	H	L	H	M	-	H	-	-	H	H	M	M
CO2	H	H	L	H	M	-	H	-	-	H	H	M	M
CO3	H	H	L	H	M	-	H	-	-	H	H	M	M
CO4	H	H	-	H	M	-	M	-	-	H	H	M	H
CO5	H	H	-	H	M	-	M	-	-	H	H	M	H
H-High; M-Medium; L-Low													

Course designed by	**Verified by Chairman**
Mr. Akhil Benny	Mr. Akhil Benny

Course Code	Title		
23U4FRS402	Skill Based Paper II - Research methodology and Statistics		
Semester : IV	Credits : 3	CIA : 20 Marks	ESE : 55 Marks
Course Objective	Develop foundational knowledge of qualitative and quantitative research methods, evaluation of research and applying statistical applications to relevant research data.		
Course Category	Skill Development		
Development Needs	Global/ International		
Course Description	*Research methodology is the logical, systematic plan to resolve a research problem and* Statistics is *a branch of science that deals with collection, organization and analysis of data from the sample to the whole population.*		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Familiarize with basic of research and the research process.	Lecture	Assignment
CO 2	Choose the appropriate research design and develop appropriate research hypothesis for a research project	Lecture/Demonstration	Seminar
CO 3	Learn various data collection methods	Lecture/Demonstration	Quiz
CO 4	Describe the appropriate statistical methods required for a particular research design	Lecture/Demonstration	Assignment
CO 5	Choose the right statistical technique to be used with the research method	Lecture	Case studies

Offered by | **Forensic Science**

Course Content | **Instructional Hours / Week : 3**

Unit	Description	Text Book	Chapters
I	**Introduction to Research** Research: Definitions, Characteristics and Objective of research-Epistemology and ontology of research, Types of research: Descriptive vs. Analytical, Applied vs. Fundamental, Qualitative vs. Quantitative, Conceptual vs. Empirical, and other kinds of research. Research methods vs Research Methodology, Inductive and deductive research, Ethics in Criminal Justice Research.	1	all
		Instructional Hours	**9**
Suggested Learning Methods: **Library extra reading**			
II	**Research Problem** Formulation of the research problem, Research process, Overview of the stages in research (hypothesis formation to analysis and report writing), Research design: Meaning of research design, Need for research design, Hypothesis: Definition, Types of hypothesis.	1	4,5
		Instructional Hours	**9**
Suggested Learning Methods: Library extra reading			

III	**Data collection** Types of Data's, Modes of collection of primary data: Observation, Interviews, interview schedules, Questionnaires, Modes of collection of secondary data. Population and unit of analysis, Sampling Techniques: Definition, Criteria for selecting a sampling design, Types of sampling: Probability sampling and non-probability sampling, Types of probability sampling: simple random sampling, systematic sampling, stratified sampling, cluster sampling, area sampling and multi-stage sampling, Types of nonprobability sampling: purposive sampling, convenience sampling, judgment sampling and snowball sampling. Advantages of sampling, Requirements of a good sample.	1	6,7,8
		Instructional Hours	**9**
Suggested Learning Methods: Group activity			
IV	**Introduction to Statistics** Variables; Discrete and Continuous, Independent and Dependent. Scales of measurement -Nominal, ordinal, Interval and ratio. Frequency for grouped and ungrouped data, Class Interval and Class width, Continuous and discontinuous data, Graphical representation of data, bar chart, pie-chart and histogram, Significance of statistics in forensic science.	1	13,14
		Instructional Hours	**9**
Suggested Learning Methods: Problem solving			
V	**Measures of Central Tendency** Measures of Central Tendency: Mean, Median and Mode-Measures of Dispersion: Range, quartile deviation, mean deviation and standard deviation and coefficient of variations. Measure of symmetry: Kurtosis and skewness- Introduction to Statistical Package for Social Science Research (SPSS).	1	15
		Instructional Hours	**9**
Suggested Learning Methods: Problem solving			
		Total Hours	**45**

Text Books	1. Kothari, C. R. (1996). Research methodology: Methods & techniques (2nd ed.). New Delhi: Wiley Eastern.
Reference Books	1. Agarwal, B. (2012). Basic statistics. Tunbridge Wells: Anshan. 2. Argyrous, G. (2000). Statistics for social science research: With a guide to SPSS. London: SAGE. 3. Gupta, S. P. (2008). Statistical methods. New Delhi: Sultan Chand & Sons. 4. Leabo, D., & Smith, C. (1968). Basic statistics (3rd ed.). Homewood, Illinois: R. D. Irwin
Web. URLs	1. https://epgp.inflibnet.ac.in/epgpdata/uploads/epgp_content/law/09._research_methodology/01._basics_of_research/et/8148_et_et.pdf 2. https://epgp.inflibnet.ac.in/epgpdata/uploads/epgp_content/law/09._research_methodology/17._research_ethics/et/5800_et_17_et.pdf

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
4	4	5	2	2	3	20

Mapping													
CO \ PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	M	-	-	-	-	H	-	H	-	-	-	H	-
CO2	L	H	-	-	-	H	-	H	-	-	-	M	-
CO3	L	H	-	-	-	H	-	H	-	-	-	H	-
CO4	M	H	-	-	-	H	-	H	-	-	-	M	-
CO5	M	H	-	-	-	H	-	H	-	-	-	H	-
H-High; M-Medium; L-Low													

Course designed by	Verified by Chairman
Mr. Akhil Benny	Mr. Akhil Benny

Course Code	Title	
22U4NM4BT2	Part IV : Basic Tamil – II (அடிப்படைத்தமிழ் - II)	
Semester: IV	Credits: 2	CIA: 50 Marks

(Common to all UG Programmes)

Course Objective	அற இலக்கியங்களை அறிமுகப்படுத்தல்.
Course Category	Skill Development (மாணவர்களின் மொழித்திறனை ஊக்குவித்தல்)
Development Needs	**Regional (** தமிழ் மொழியின் அவசியத்தை உணர்த்துதல்**)**
Course Description	மாணவர்களின் மொழித்திறனை ஊக்குவித்தல்

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	அற இலக்கிய அறிவு பெறுதல் - சிறுகதைகள் வழி சமூக அறிவு பெறுதல்.	விரிவுரை / காணொளி வகுப்பு	ஒப்படைவு
CO 2	தமிழ் எழுத்துக்கள் அறிமுகம் செய்தல் மற்றும் வாசித்தல் ஆகியவற்றின் பயன்பாடு.	குழு விவாதம்/ விரிவுரை	கருத்தரங்கு
CO 3	பிறமொழி அறிவுத் திறன் மேம்படச்செய்தல்.	விரிவுரை/காணொளி ப்பட விளக்கம்	ஒப்படைவு
CO 4	மொழிப்பெயர்ப்புத் திறன் மேம்படச்செய்தல்.	விரிவுரை/ குழு விவாதம்	குழுத்திட்டம்
CO 5	வார்த்தை அமைக்கும் திறன் பெறச்செய்தல்.	விரிவுரை / குழுத்திட்டம்	குழுத்திட்டம்

Offered by தமிழ்த்துறை

Course Content : Basic Tamil – II (அடிப்படைத்தமிழ் II) | **Instructional Hours / Week : 2 Hours**

Unit	Description	Text Book	Chapters
I	நீதி நூல்கள்	1.பாரதியார் ஆத்திச்சூடி 2.கொன்றைவேந்தன்	1.1 1 முதல் 12 வரிகள் 2.1 1 முதல் 7 வரிகள்
		Instructional Hours	**6 Hours**
Suggested Learning Methods : நீதிநூல்களின் சிறப்பினை அறியும் பயன் பெற்றமை			
II	பதினெண் கீழ்க்கணக்கு நூல் (திருக்குறள்)	திருக்குறள்	2.1.கடவுள் வாழ்த்து -அகர முதல எனத் தொடங்கும்... அதி 1 குறள் -1 2.2. வான் சிறப்பு- நீரின்றி அமையாது உலகு. அதி-2.குறள் - 10 2.3. அன்புடைமை - அன்பின் வழியது உயிர்நிலை. அதி - 8.குறள் - 10 2.4. கல்வி - கண்ணுடையார் என்பர் . அதி-40 குறள்-393 2.5. இனியவை கூறல் - இனிய உளவாக இன்னாத அதி10. குறள் -10
		Instructional Hours	**6 Hours**
Suggested Learning Methods : திருக்குறளின் சிறப்பினை அறிந்தமை			
III	கிராமியக் கதைகள்	கிராமியக் கதைகள்	3.1.பரமார்த்தக்குரு கதைகள் 3.2.நாட்டுப்புறக் கதைகள் அறிமுகம்
		Instructional Hours	**6 Hours**
Suggested Learning Methods : கிராமியக் கதைகளின் கதை அமைப்பினை அறியும் வாய்ப்பு பெற்றமை			

IV	மொழிப்பயிற்சி	மொழிப்பயிற்சி	4.1. பிறமொழிச் சொற்களுக்கு தமிழ்ச்சொல் எழுதுதல்
Instructional Hours			**6 Hours**
Suggested Learning Methods :		தமிழ்ச்சொல் எழுதும் திறன் பெற்றமை	
V	எழுத்துப்பயிற்சி	எழுத்துப்பயிற்சி	5.1தன்விவரம் எழுதுதல் 5.2 பெயர், கல்லூரி விவரம் எழுதச்செய்தல்
Instructional Hours			**6 Hours**
Suggested Learning Methods : பிறமொழி கலப்பு இன்றி தமிழ்ச்சொல் எழுதும் திறன் பெற்றமை			
Total Hours			**30 Hours**
Text Books	1. இளங்கலை தமிழ் மாணவர்களுக்குரிய பாடநூல்"அரிச்சுவடி" 2. தொகுப்பு: தமிழ்த்துறை, நேரு கலை மற்றும் அறிவியல் கல்லூரி, கோயம்புத்தூர்.		
Reference Books	1. ஔவையார் ஆத்திச்சூடி மணிவாசகர் பதிப்பகம், கோயம்புத்தூர் இராஜவீதி,01. 2. திருக்குறள் - பரிமேலழகர் உரை, மணிவாசகர் பதிப்பகம், சென்னை - 600018.		
Web. URLs	https://youtu.be/d5be921uxhE, https://youtu.be/Wtg-GJPfXTM.		

Tools for Assessment (50 Marks)

CIA I	CIA II	CIA III	Seminar	Assignment	Group Project	Total
8	8	10	8	8	8	50

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by
Dr. S. Satheesh Kumar	Dr. A. Sridevi

Course Code	Title	
22U4NM4AT2	Part IV : Advanced Tamil – II (சிறப்புத்தமிழ் -II)	
Semester: IV	Credits: 2	ESE: 50 Marks

Course Objective	நூல்களின் வழி அறச் சிந்தனைகளை உருவாக்குதல் செம்மொழியினைச் செம்மைப்படுத்துதல்.
Course Category	Skill Development (மாணவர்களின் மொழித்திறனை ஊக்குவித்தல்)
Development Needs	Regional (தமிழ் மொழியின் அவசியத்தை உணர்த்துதல்)
Course Description	மாணவர்களின் மொழித்திறனை ஊக்குவித்தல்

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	அறச்சிந்தனைகள் பெறுதல் மற்றும் இலக்கண வழக்கு முறைகளைப் பெறுதல்.	விரிவுரை/காணொளிப்பட விளக்கம்	கருத்தரங்கு
CO 2	கடிதம் எழுதுதல் மற்றும் மொழியறிவைப் பெறுதல்	விரிவுரை/ குழு விவாதம்	ஒப்படைவு
CO 3	படைப்பாக்கத்திறன் அறிவுபெறச்செய்தல்	விரிவுரை	கருத்தரங்கு
CO 4	தகவல் தொடர்பியலுக்கானகடிதம்,அமைவுத்திறன் பெறச்செய்தல்	விரிவுரை/ குழு விவாதம்	குழுத்திட்டம்
CO 5	மொழியைப் பிழையின்றிப் பேச,எழுதும் திறன் பெறச்செய்தல்	விரிவுரை/காணொளிப்பட விளக்கம்	ஒப்படைவு

Offered by தமிழ்த்துறை

Course Content : Advanced Tamil – II (சிறப்புத்தமிழ் -II) | **Instructional Hours / Week : 2**

Unit	Description	Text Book	Chapters
I	பதினெண் கீழ்க்கணக்கு நூல்கள்	1.திருக்குறள் 2.நாலடியார்	1.1. கூடாநட்பு 1.2. செய்நன்றியறிதல் - நாலடியார் 1.3. கல்வி (131,132 செய்யுள்கள்)
		Instructional Hours	**6**
Suggested Learning Methods : திருக்குறளின் சுவை அறியும் வாய்ப்பு பெற்றமை			
II	சிறுகதை	1.வெ.இறையன்பு - பூனாத்தி சிறுகதைகள்	2.1 சேவியர் வாத்தியார் 2.2 தூரிகை
		Instructional Hours	**6**
Suggested Learning Methods : சிறுகதைகளின் சுவை அறியும் வாய்ப்பு பெற்றமை			
III	இலக்கணம்	இலக்கணப் பயிற்சி ஏடு	3.1 எழுத்தும் சொல்லும் 3.2 சுட்டெழுத்துகள் 3.3 சொற்களைச் சரியாகப் பயன்படுத்தும் முறை 3.4 வினைச்சொற்கள், பெயர்ச்சொற்கள் 3.5 வினா எழுத்துகள்
		Instructional Hours	**6**
Suggested Learning Methods : இலக்கணப் பிழை இன்றி எழுதும் பயிற்சி பெற்றமை			
IV	வழக்கறிதல்	இலக்கணம்	மரபு வழக்கு - இயல்பு வழக்கு, தகுதி வழக்கு - அறிதல்
		Instructional Hours	**6**
Suggested Learning Methods : வழக்குகள் பற்றி முழுமையாக அறியும் பயிற்சி பெற்றமை			

V	படைப்பாற்றல் பயிற்சி	இலக்கிய வரலாறு	கவிதை–சிறுகதை–நூல் மதிப்பீடு எழுதுதல்
Instructional Hours			**6**
Suggested Learning Methods : மதிப்பீடு செய்யும் பயிற்சி பெற்றமை			
		Total Hours	**30 Hrs**

Text Books	1. இளங்கலைத்தமிழ் மாணவர்களுக்குரிய பாடநூல்"திரட்டு" தொகுப்பு: தமிழ்த்துறை, நேரு கலை மற்றும் அறிவியல் கல்லூரி, கோயம்புத்தூர்.
Reference Books	1. திருக்குறள் –பரிமேலழகர் உரை, மணிவாசகர் பதிப்பகம், சென்னை - 018 2. வெ.இறையன்பு - பூனாத்தி சிறுகதைகள், விஜயா பதிப்பகம், கோவை.
Web. URLs	https://youtu.be/_vB59q6At8s, https://youtu.be/aSvxO_rV9eQ.

Course designed by	**Verified by**
Dr. S. Satheesh Kumar	**Dr. A. Sridevi**

Course Code	Title	
22U4NM4GEN	Non Major Elective : General 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

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

H-High; M-Medium; L-Low

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

Course Code	Title	
22U4VBOE01	Value Based Open Elective Course : Design Ecosystem	
Semester: IV	Credits: 2	ESE: 50 Marks

Course Objective	To gain the knowledge on ecosystem and environmental sustainability
Course Category	Crosscutting Issue : Environment And Sustainability
Development 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	Understand about the basic concepts of ecosystem and environmental planning	Lecture / Video Lessons
CO 2	Gain knowledge of challenges and design process of ecosystem	Lectures / Video Lessons
CO 3	Understand about functions and flow of energy in ecosystem	Case study / Model
CO 4	Analyse about process and mechanism of ecosystem control	Tutorial / Group Discussion
CO 5	Demonstrate about green infrastructure and regulatory framework	Lecture / Tutorial

Course Content — **Instructional Hours / Week : 2**

Unit	Description	Text Book	Chapters
I	**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**
Suggested Learning Methods : Video Lectures			
II	**Designing Ecosystem services & Biomes:** Design challenges and needs, the design process, biomes, ecoregions, other land classification systems.	1	3 & 4
		Instructional Hours	**6**
Suggested Learning Methods : 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			

IV	**Ecosystem control:** Population control process, community control process. Stream restoration design - hydrology, sedimentology, geomorphology, habitat, riparian corridor and construction.	2	6
		Instructional Hours	**6**
Suggested 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	4
		Instructional Hours	**6**
Suggested Learning Methods : Online Tutorial			
		Total Hours	**30**

Text Books	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 Management: Adaptive, Community-Based Conservation. Island Press. 2012. 3. Elliot, D. 2003. Energy, Society and Environment, Technology for a Sustainable Future. Routledge Press.
Reference Books	1. Sim Van Der Ryn and S. Cowan. Ecological Design. Island Press, 1996. 2. Neeraja, N. Environment and Ecology: A Dymanic Approach, 3rd Edition. GKP Books Catalogue. 2018.
Web. URLs	1. https://www.nationalgeographic.org/encyclopedia/ecosystem/ 2. https://www.environmentandecology.com/

Course designed by	**Verified by Chairman**
Dr. S. Esath Natheer	Dr. M. Thangavel

Course Code	Title	
22U4VBOE02	Value Based Open Elective Course: Design Thinking	
Semester: IV	Credits : 2	ESE : 50 Marks

Course Objective	Inculcate the fundamental concepts of design thinking and develop the students as a good designer by imparting creativity and problem solving ability
Course Category	Crosscutting Issue : Professional Ethics
Development Needs	Local, National and Global
Course Description	The course aims to provideintroduction to the basic concepts and techniques of design thinking and methods of implementing design thinking in the real world.

Course Outcomes		Teaching Methods
CO 1	Learn the basic concepts of design thinking	Direct Instruction
CO 2	Develop the skill of applying the design thinking	Direct Instruction
CO 3	Learn the business uses of design thinking	Video Lessons
CO 4	Understand the variety of approaches within the design thinking discipline	Direct Instruction
CO 5	Impart knowledge in design thinking mindset	Direct Instruction

Course Content	Instructional Hours / Week: 2

Unit	Description	Text Book	Chapters
I	**Design Thinking Background** Definition of Design Thinking, Variety within the Design Thinking Discipline, Design Thinking Mindset	1	1
		Instructional Hours	**06**
Suggested Learning Methods: Brain Storming			
II	**Design Thinking Approach** Fundamental Concepts – Empathy, Ethnography, Divergent Thinking, Convergent Thinking, Visual Thinking, Assumption Testing, Prototyping, Time for Learning and Validation	1	5,1,3
		Instructional Hours	**06**
Suggested Learning Methods : Learning by Teaching			
III	**Design Thinking Resources** – People, place, material, organizational fit **Design Thinking Processes** - Numerous Approaches, Double Diamond Process, 5-Stage, School Process, Designing for Growth Process, Role of Project Management	1	5,6
		Instructional Hours	**06**
Suggested Learning Methods : DIY Activities			

IV	**Design Thinking in Practice I:** Process Stages of Designing for Growth - Design Thinking Tools and Methods – I- Purposeful Use of Tools and Alignment with Process, Visualization, Journey Mapping	1	6
		Instructional Hours	**06**
Suggested Learning Methods: Case Method			
V	**Design Thinking in Practice II:** Design Thinking Tools and Methods – II- Value Chain Analysis, Mind Mapping, Brainstorming, Concept Development, Assumption Testing, Rapid Prototyping, Customer Co-Creation, Learning Launch	2	8
		Instructional Hours	**06**
Suggested Learning Methods : Project Based Learning			
		Total Hours	**30**

Text Books	1. "Designing for growth: A design thinking tool kit for managers", by Jeanne Liedtka and Tim Ogilvie., 2011, ISBN 978-0-231-15838-1 2. "The design thinking playbook: Mindful digital transformation of teams, products, services, businesses and ecosystems", by Michael Lewrick, Patrick Link, Larry Leifer., 2018, ISBN 978-1-119-46747-2
Reference Books	1. "Presumptive design: Design provocations for innovation", by Leo Frishberg and Charles Lambdin., 2016, ISBN: 978-0-12-803086-8 2. "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
Web. URLs	1. https://www.designcouncil.org.uk/news-opinion/design-process-what-double-diamond

Course designed by	**Verified by Chairman**
Ms. M. Nandhini	Dr. S. Jayapriya

Course Code	Title	
22U4VBOE03	Value Based Open Elective Course : Disaster Management	
Semester: IV	Credits: 2	ESE: 50 Marks

Course Objective	To learn knowledge about disaster and risk and apply the same in the time of any disaster.
Course Category	Crosscutting Issue : Environment And Sustainability
Development Needs	National
Course Description	This course is designed to provide students with a comprehensive understanding of the concepts, theories, and practices of disaster and risk management. Students will learn how to identify and assess risks, develop emergency plans, and mitigate the impact of disasters on communities and organizations.

Course Outcomes		Teaching Methods
CO 1	Understand different types of disasters and their impact on individuals and communities.	Lecture/ Demonstration
CO 2	Analyze the disaster management scenario in India, the policy framework, and the role of different stakeholders in reducing disaster risk and building resilience	Lecture/ Case 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	Analyze the concept and nature of disaster preparedness, different components of a disaster preparedness plan	Tutorial / Case Studies
CO 5	Narrate the emergency responses to be taken by the national disaster management force and the practical training process on disaster management	Lecture / Class Projects

Course Content	**Instructional Hours / Week:2**

Unit	Description	Text Book	Chapters
I	**Introduction on Disaster** Definitions and Terminologies used in Disaster Management, Basic concepts in Disaster Management, Types of Disaster: Natural Disaster: Flood, Cyclone, Earthquakes, Landslides, epidemic or Pandemic etc. (Case studies of each), Man-made Disaster: Fire, Industrial Pollution, Nuclear Disaster, Biological Disasters, Accidents (Air, Sea, Rail & Road), Structural failures (Building and Bridge), War & Terrorism etc. (Case studies of each).	1	1
	Instructional Hours		**6**
Suggested Learning Methods : Power Point Presentation			
II	**Disaster management in India** Hazard and Vulnerability Profile India, Disaster Management Indian scenario, India's vulnerability profile, Disaster Management Act 2005 and Policy guidelines, National Institute of Disaster Management, National Disaster Response Force	1	2

	(NDRF), National Disaster Management Authority, States Disaster Management Authority, District Disaster Management Authority and Cases Studies.		
		Instructional Hours	**6**
Suggested Learning Methods : PPT and Video Lecture			
III	**Risk and Vulnerability** Analysis Risk: Assessing Disaster Risk, Disaster Risk Reduction, Vulnerability: Its concept and analysis, Strategic Development for Vulnerability Reduction, Climate Variability & Disaster Risk, Industrial hazard and Risk Management	1	3
		Instructional Hours	**6**
Suggested Learning Methods : Video Lecture			
IV	**Disaster Preparedness** Concept and Nature, Disaster Preparedness Plan, Prediction, Early Warnings and Safety Measures of Disaster, Role of Information, Education, Communication, and Training, Role of Government, International and NGO Bodies.	1	4
		Instructional Hours	**6**
Suggested Learning Methods : PPT and Group Activity			
V	**Response and 3Rs** Emergency Response: Introduction, Crisis Response Plan (CRP), Communication, Participation, and Activation of Emergency Preparedness Plan, Search, Rescue, Evacuation and Logistic Management, Role of Government, International and NGO Bodies, Psychological relief and recovery, Relief operation and Recovery, Post Disaster Public Health Management, 3R - Rehabilitation, Reconstruction and Recovery, Reconstruction and Rehabilitation as a Means of Development, Damage Assessment, Post Disaster effects and Remedial Measures, Role of Educational Institutions in Disaster management.	1	5
		Instructional Hours	**6**
Suggested Learning Methods : Laboratory Practice			
		Total Hours	**30**

Text Books	1. Disaster and Risk Management (2023), Notes Compiled by the Department of Criminology, Nehru Arts and Science College, Coimbatore
Reference Books	1. J. P. Singhal, "Disaster Management", Laxmi Publications, 2003. 2. M C Gupta, "Manual on Natural Disaster Management in India", NIDM, New Delhi, 2013 3. R K Bhandani, "An Overview on Natural &Man-made Disasters and their Reduction", CSIR, New Delhi, 2000 4. Dr. Mrinalini Pandey, "Disaster Management", Wiley India Pvt. Ltd, 2014. 5. National Disaster Management Authority Publications-Guidelines & Templates for Disaster Management

Course designed by	**Verified by Chairman**
Dr. Reneesh K Rajan	Dr. Reneesh K Rajan

Course Code	Title	
22U4VBOE04	Value Based Open Elective Course : Environmental Pollution and Waste Management	
Semester: IV	Credits: 2	ESE: 50 Marks

Course Objective	To acquire deeper knowledge about Environmental Management Systems
Course Category	Crosscutting Issue : Environment And Sustainability
Development Needs	Global
Course Description	Environmental Pollution and waste Management involves studying the management of any unnecessary resource use or release of substances into the water, land or air that could harm human health or the environment

Course Outcomes		Teaching Methods
CO 1	Understand the types of environmental pollutants	Lecture / Group Learning
CO 2	Describe, develop and interpret methods of the Environmental Management Systems.	Lecture/ Online Tutorial
CO 3	Critically evaluate methods and possibilities within Environmental Management Systems from asystems perspective.	Lecture/ Online Tutorial
CO 4	Understand the effective management of environmental pollutants	Lecture/ Online Tutorial
CO 5	Learn Environmental Auditing for various Industries/Projects.	Lecture/ Online Tutorial

Course Content	Instructional Hours / Week : 2

Unit	Description	Text Book	Chapters
I	Introduction to Environmental pollutants,Types of pollutants, Biodegradable pollutants, Non-biodegradable pollutants; Air pollution, Water Pollution, Soil Pollution	1	1,2
		Instructional Hours	**6**
Suggested Learning Methods: Industrial Visit			
II	Introduction to Environmental Management System basic definitions and terms, Framework for Environmental Management Systems, Approach for developing an Environmental Management System.	2	2, 4
		Instructional Hours	**6**
Suggested Learning Methods :Web search			
III	The introduction and implementation of ISO 14001: environmental policy, planning, implementation and operation, checking, management review. Applications EMS in terms of Process flow chart, effluent Generation, composition and treatment of effluents from following industries – sugar, pulp and paper, electroplating, dairy, oil refineries, etc.	2	5
		Instructional Hours	**6**
Suggested Learning Methods : Online tutorial			
IV	Introduction to Environmental Auditing, Category “A” & “B” types of projects. Procedures and Guidelines to conduct Environmental Audit.	3	7

	Plastic Pollution: Causes, impacts, and reduction strategies -Global issue of plastic pollution and innovative solutions		
		Instructional Hours	**6**
Suggested Learning Methods : Online tutorial			
V	Municipal Solid Waste Management: Collection, transportation, and disposal of solid waste - Examination of waste treatment technologies and waste-to-energy processes. E-waste Management: Challenges and recycling techniques for electronic waste - Discussion on the environmental and health hazards associated with improper e-waste disposal.	1	8
		Instructional Hours	**6**
Suggested Learning Methods : Online tutorial			
		Total Hours	**30**

Text Books	1. ISO 14001 Certification - Environmental Management Systems: A Practical Guide for Preparing Effective Environmental Management Systems Textbook Binding – Import, 10 Aug 1995 by W. Lee Kuhre (Author) 2. M. N Rao, "Waste Water Treatment" Oxford and IBH publishing Co. Pvt Ltd, 2007 3. Peavy, H.S, D.R. Rowe &T.George, "Environmental Engineering", New York: McGraw Hill, 1987
Reference Books	1. Christopher Sheldon and Mark Yoxon, "Installing Environmental management Systems – a step by step guide" Earthscan Publications Ltd, London, 1999.
Web. URLs	1. https://www.anits.edu.in/online_tutorials/es/Unit%203.pdf

Course designed by	**Verified by Chairman**
Dr. O S Nimmi	Dr. N. Saranya

Course Code	Title	
22U4VB0E05	Value Based Open Elective Course : History of Ancient India	
Semester: IV	Credits: 02	ESE : 50 Marks

Course Objective	To explore the rich and diverse history of ancient India, examining its civilizations, political systems and cultural achievements.
Course Category	Employability
Development Needs	Global
Course Description	This course gives an in depth analysis of the Ancient Indian History marking the beginning of urban civilization in the Indian subcontinent.

Course Outcomes		Teaching Methods
CO 1	Understand the salient features of Indus valley civilization	Lecture
CO 2	Evaluate the features Civilizations	Tutorial
CO 3	Evaluate the rise of new movements	Lecture
CO 4	Visualize the administration of Mauryas and the art and architecture of Mauryas	Tutorial
CO 5	Identify the administration of Guptas and their contribution to University	Lecture

Course Content — **Instructional Hours / Week : 2**

Unit	Description	Text Book	Chapters
I	Definitions - Nature and Scope of History - History and Its Relationship with other Social Sciences - Geographical Features of India Sources of Indian History: Pre- History Paleolithic, Mesolithic, Neolithic, Chalcolithic and Megalithic Cultures.	1 &4	1-5
		Instructional Hours	**6**
Suggested Learning Methods : Lecture/Tutorial			
II	Indus Valley Civilization - Its Features & Decline; Early Vedic and Later Vedic Civilizations Vedic Literature Society Economy - Polity Religion.	2	2-4
		Instructional Hours	**6**
Suggested Learning Methods : Lecture/Tutorial			
III	Rise of New Religious Movements Charvakas, Lokayathas, Jainism and Buddhism; Mahajanapadas - Rise of Magadha; Impact.	3	3
		Instructional Hours	**6**
Suggested Learning Methods : 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.	4	4 &5
		Instructional Hours	**6**
Suggested Learning Methods : Lecture/Tutorial			
V	Gupta Empire: A Brief Political Survey - Polity and Administration, Social and Economic Conditions, Agriculture and Land Grants - Feudalism, Caste System, Position of Women, Education, Literature, Science and Technology, Art and Architecture - Harshavardana and His Achievements.	4	5
		Instructional Hours	**6**
Suggested Learning Methods : Lecture/Tutorial			
		Total Hours	**30**

Text Books	1. E.H. Carr, What is History? Penguin Books, England, 1990. 2. Majumdar, R.C., History and Culture of the Indian People, Vols. I, II & & III. 3. Romila Thapar, Asoka and the Decline of the Mauryas, OUP, New Delhi, 1995. 4. Romila Thapar, Early India (From the earliest to AD 1300).
Reference Books	1. Poonam Dalal : Ancient and Medival India for UPSC & State Level Exam

Course designed by	**Verified by Chairman**
Ms. S. Kavitha	Dr. R. Malathi

Course Code	Title	
22U4VBOE06	Value Based Open Elective Course : Indian Knowledge System	
Semester: IV	Credits: 2	ESE: 50 Marks

Course Objective	To make the students understand the knowledge system in India and apply it to their day to day life
Course Category	Value Education
Development Needs	National
Course Description	This course will actively engage for spreading the rich heritage of our country and traditional knowledge in the field of Arts and literature, Agriculture, Basic Sciences, Engineering & Technology, Architecture, Management, Economics, etc

Course Outcomes		Teaching Methods
CO 1	Understand the History and an overview of Indian knowledge System.	Flipped Classroom
CO 2	Interpret the Importance of Vedic Corpus and Philosophical System	Student Centric
CO 3	Analyse the Foundational Concepts like Linguistics and and Number Systems.	Blended Mode
CO 4	Interpret the concepts of Astronomy and Town Planning Architecture.	Flipped Classroom
CO 5	Describe the Importance of Health, Wellness, Psychology and Administrative Governance	Case-Base

Course Content | **Instructional Hours / Week : 2**

Unit	Description	Text Book	Chapters
I	**Indian Knowledge System** : An Introduction: Importance of Ancient Knowledge-Defining Indian Knowledge System –The Indian Knowledge System Corpus-A Classification Framework-History of Indian Knowledge System.	1	1
		Instructional Hours	**06**
Suggested Learning Methods : Cooperative Learning			
II	**The Vedic Corpus**: Introduction to Vedas-The four Vedas. **Philosophical System**: Indian Philosophical System – Development and Unique Features-Vedic schools of Philosophy.	1	2 & 3
		Instructional Hours	**06**
Suggested Learning Methods : Peer Learning			

III	**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.	1	5 & 8
		Instructional Hours	**06**
Suggested Learning Methods : Group Learning			
IV	**Astronomy:** Unique aspects of Indian Astronomy-Historical Development of Astronomy in India-Elements of the Indian Calendar **Town Planning Architecture:** Indian Architecture- A Historical Perspective –Town Planning-Unitary Building –Temple Architecture	1	9 & 12
		Instructional Hours	**06**
Suggested Learning Methods : Mind Mapping			
V	**Health, Wellness and Psychology:** Ayurveda -Definition of Health-Tridosas-Relationships to Health-Disease-Disease Management-Yoga way of Life-Indian Approach to Psychology. **Governance and Public Administration:** Arthasastra Governance and Administration.	1	13 & 14
		Instructional Hours	**06**
Suggested Learning Methods : Case Studies			
		Total Hours	**30**

Text Books	1. B.Mahadevan,Vinayak Rajat Bhat,Nagendra Pavana R.N , Introduction to Indian Knowledge System: Concepts and Applications, PHI Learning Private Limited,Delhi, 2022.
Reference Books	1. Traditional Knowledge System in India by Amit Jha Atlantic publishers, 2002. 2. Traditional Knowledge System in India, by Amit Jha, 2009.
Web. URLs	1. https://www.youtube.com/watch?v=LZP1StpYEPM 2. http://nptel.ac.in/courses/121106003/

Course designed by	**Verified by Chairman**
Dr. N. Saranya	Dr. K. Rajarajeswari

Course Code	Title	
22U4VBOE07	Value Based Open Elective Course : Principles of Intellectual Property Rights	
Semester: IV	Credits: 2	ESE: 50 Marks

Course Objective	To make the students to recognize the importance of IP and to educate the pupils on basic concepts of Intellectual Property Rights. To learn the procedure of obtaining Patents, Copyrights, Trade Marks & Industrial Design
Course Category	Entrepreneurship
Development Needs	Global
Course Description	The course is designed to provide comprehensive knowledge to students regarding the general principles of IPR, Concepts and Theories, Criticisms of Intellectual Property Rights, the registration process, and the International Regime Relating to IPR.

Course Outcomes		Teaching Methods
CO 1	Understand Intellectual Property Rights (IPR), its significance in promoting innovation and creativity, and the different types of IPRs.	Lecture
CO 2	Equip with the knowledge to navigate the patent filing process effectively.	Tutorial
CO 3	Comprehend the fundamentals of copyrights, their types, registration procedures, terms and remedies	Lecture
CO 4	Narrate the trademarks, their rights, types, purpose, registration process, and the trademark landscape in India	Tutorial
CO 5	Analyze the significance of geographical indications (GI) and the need for their protection, the relevant laws and regulations in India	Lecture

Course Content	Instructional Hours / Week : 2

Unit	Description	Text Book	Chapters
I	**Introduction to Intellectual Property Rights (IPR):** Definition of IPR, Importance of IPR, Kinds of Intellectual property rights: Copy Rights, Patent, Trade Mark, Trade Secret and trade dress, Design, Layout Design, Geographical Indication, Plant Varieties and Traditional Knowledge, IPR in India and the world, IPR and WTO.	1	1,2
		Instruction Hours	**6**
Suggested Learning Methods : Lecture/Tutorial			
II	**Patent:** Introduction to Patent, Patent Act 1970 and its amendments, Patentable and non-Patentable inventions, legal requirements for obtaining Patent, Registration Procedure of Patent, The role of Patentees and Different layers of the international patent system: National and International Patent filing procedures.	1	4
		Instructional Hours	**6**
Suggested Learning Methods : Lecture/Tutorial			
III	**Copyright**: Introduction to Copyrights, Origin, and Definition & Types of Copyrights, Registration procedure, Assignment & license, Terms of Copyright, Piracy, Infringement, Remedies, Copyrights with special reference to software, Copyrights in India.	1	
		Instructional Hours	**6**
Suggested Learning Methods : Lecture/Tutorial			

IV	**Trademarks:** Introduction to trademarks, Rights of trademark, Types of trademark, purpose, and function of a trademark, trademark protection, and trademark registration process, trademarks in India.	1	9
		Instructional Hours	**6**
Suggested Learning Methods : Lecture/Tutorial			
V	**Design:** Introduction to Design, Registration of Design, Cancellation of Registration, International Convention on Design, functions of Design, **Geo Graphical Indication:** Introduction to Geo Graphical Indication, Why and how GI needs protection and GI laws, Indian GI act.	1	7,10
		Instructional Hours	**6**
Suggested Learning Methods : Lecture/Tutorial			
		Total Hours	**30**

Text Book	**1.** Intellectual Property Rights, Asha Vijay DurafeDhanashree K. Toradmalle, Wiley Publisher, 2022
Reference Book	1. B.L. Wadera, Patents, trademarks, copyright, Designs and Geographical Judications.
Web. URLs	1. https://dst.gov.in/sites/default/files/E-BOOK%20IPR.pdf

Course designed by	**Verified by Chairman**
Dr. K. Prathap Chandran	Dr. S. Saraswathi

Course Code	Title	
22U4VBOE08	Value Based Open Elective Course : Science, Society and Culture	
Semester: IV	Credits: 2	ESE: 50 Marks

Course Objective	To create awareness on Science, Indian Society and cultural heritage of our Country
Course Category	Skill Development
Development Needs	Global
Course Description	Facilitate the awareness on Science in everyday life, Indian Society and Social empowerment, Democracy and Freedom of our Country. Ancient Civilization, cultural heritage and perceptions of Indian Culture

Course Outcomes		Teaching Methods
CO 1	Know the concepts of Science in our daily life and awareness about Scientific community	Lecture / Video Lessons / Model
CO 2	Gain knowledge on Indian society and development of modern society	Lecture / Video Lessons
CO 3	Learn about Indian social issues and awareness on our social laws	Lectures / Case study
CO 4	Understand the Indian culture, diversity of culture and Traditional customs	Tutorial / Group Discussion
CO 5	Comparison of ancient heritage and civilization of our country and follow them in our life	Lecture / Tutorial

Course Content — **Instructional Hours / Week : 2**

Unit	Description	Text Book	Chapters
I	**Common Science** - Developments and their applications- effects in day to day Life - Achievements of Indians in Science and Technology. Awareness in the fields of IT, Space, Computers, Robotics, Nanotechnology and Biotechnology. Scientists of Ancient India, Science and Scientists of Medieval India, Scientists of Modern India. India's Policy in the Field of the Science, Policies and Reports related to Science-Innovative Technology Vision.	1	1
		Instructional Hours	**6**
Suggested Learning Methods : Video Lectures			
II	**Social Behaviour** - Salient features of our Society-Social diversity of India-Impact of globalization on Indian society. Social empowerment, Democracy and Freedom-Role of women and women's organization in the development of healthy society.	2	1
		Instructional Hours	**6**
Suggested Learning Methods : Video Tutorials			
III	**National Integration** – Communalism - Regionalism and Secularism – Problems relating to development and management of Social Sector-Services relating to Health, Education and Human Resources. Welfare schemes for vulnerable sections of the people-Performance of Centre and States schemes-Mechanisms-Laws,	2	1 & 2

	Institutions and Bodies constituted for the protection and development of vulnerable sections.		
		Instructional Hours	**6**
Suggested Learning Methods : 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.	3	1
		Instructional Hours	**6**
Suggested Learning Methods : Video Tutorials			
V	**Ancient Civilization**-Indus Valley Civilization-Harappa and Mohenjo-Daro civilization-Evolutions of early Buddhist Architecture-Advent in China-Ellora caves civilization-King Gupta's period of civilization-Vijayanagara inscriptions-Mohall's period of civilization-British culture.	4	2
		Instructional Hours	**6**
Suggested Learning Methods : Online Tutorial			
		Total Hours	**30**

Text Books	1. Science, Culture and Society: Understanding Science in the 21st Century by Mark Erickson, Paperback – Illustrated, 2015. 2. Khanna, Indian Social order and Laws, Universities Press. 3. Choudhary, Social Protection Law Provisions and Procedure. 4. Indian Heritage systems-Universal Law Publishing Company. 5. Ancient Civilization of Indian sub-continent- Ancient Books.
Reference Books	1. National integration and Secularism: Issues and Challenges, Regal Publications. 2. Ancient Culture of India: Issues and Concerns.
Web. URLs	1. https://www.amazon.in/Science-Culture-Society-Understanding-Century-dp-0745662250/dp/0745662250/ref=dp_ob_title_bk. 2. https://iasscore.in/upsc-syllabus/indian-society/indian-society-mains. 3. https://www.worldhistory.org/india/

Course designed by	**Verified by Chairman**
Dr. K. Narayanasamy	Mr. Akhil Benny

Course Code	Title	
22U4VBOE09	Value Based Open Elective Course : Community Engagement	
Semester: IV	Credits: 2	ESE: 50 Marks

Course Objective	This course serves as an introduction to community engagement, helping learners to explore methods of community involvement, change making process, and professionalism within the community.
Course Category	Skill Development
Development Needs	National
Course Description	Apply the principles of communication for outreach to the diverse public, decision makers, and stakeholder groups.

Course Outcomes		Teaching Methods
CO 1	Apply professional behavior when working with community organizations	Lecture/ Case Study
CO 2	Investigate the complexity of problems related to community needs	Lecture/ Role Play
CO 3	Design and conduct the phases of a community engagement process, using consensus building and relating to formal planning procedures.	Lecture/ Case Study
CO 4	Recognize community interests, power dynamics, and conflict, and facilitate empowerment of excluded groups and negotiation	Lecture/ / Role Play
CO 5	Direct cross-jurisdictional, inter-agency, inter-disciplinary, and multi-stakeholder collaboration.	Lecture/ Case Study

Course Content | **Instructional Hours / Week : 2**

Unit	Description	Text Book	Chapters
I	Concept, Ethics and Spectrum of Community engagement, Local community, Rural culture and Practice of community engagement	3	2
		Instructional Hours	**6**
Suggested Learning Methods : Seminar			
II	Rural Development Programs and Rural institutions, Local Administration and Community Involvement	2	3
		Instructional Hours	**6**
Suggested Learning Methods : Role Play			
III	Stages, Components and Principles of community development, Utility of public resources. Social contribution of community networking, Various government schemes.	1	3
		Instructional Hours	**6**
Suggested Learning Methods : Role Play			

IV	Community Engaged Research and Ethics in Community Engaged Research. PRA, Programmes of community engagement and their evaluation.	1	2
		Instructional Hours	**6**
Suggested Learning Methods : Creative Art Assignments			
V	Rural Distress, Rural Poverty, Impact of Disasters on Migrant Laborers, Mitigation of Disaster.	2	1
		Instructional Hours	**6**
Suggested Learning Methods : Community Participation Program			
		Total Hours	**30**

Text Books	1. Participatory Rural Appraisal, PRA Application in Rural Development Planning, R Ramesh 2. Introduction to Community Development, Theory, Practice, and Service-Learning, Gary Paul Green, Jerry W. Robinson, Jr, 2011, SAGE Publications
Reference Books	1. Community-based participatory research: a capacity-building approach for policy advocacy aimed at eliminating health disparities. Am J Public Health. 2010 2. Achieving successful community engagement: A rapid realist review. BMC Health Services Research.
Web. URLs	1. https://unnatbharatabhiyan.gov.in › presentations 2. https://www.wellawareworld.org/

Course designed by	**Verified by Chairman**
Ms. T D Lidya	Dr. P. Nathiya

Course Code	Title	
22U4VBOE10	Value Based Open Elective Course : Emotional Intelligence	
Semester: IV	Credits: 2	ESE: 50 Marks

Course Objective	To enable the Students to understand the concepts of Emotional Intelligence, its models and components
Course Category	Employability & Skill Development
Development Needs	National & Global
Course Description	Understanding the importance of Emotional Intelligence and build effective relationships

Course Outcomes		**Teaching Methods**
CO 1	Understand the Self-Awareness, Self-Management, Social Awareness and Relationship Management	Lecture/ Video Lectures
CO 2	Discover personal competence and techniques of building emotional intelligence.	Lecture/ Role Play
CO 3	Narrate the insights into establishing positive relationships	Lecture/ Peer Teaching
CO 4	Understand the emotional intelligence and its importance	Lecture/ Role Play
CO 5	Summarize the Self-Management Techniques	Lecture/ Group Discussion

Course Content — **Instructional Hours / Week : 2**

Unit	Description	Text Book	Chapters
I	**Fundamentals of Emotional Intelligence**: Meaning Definition Nature and Significance Models of Emotional Intelligence-: Ability, Trait and Mixed Building blocks of emotional intelligence: Self-awareness, Self-Management, Social Awareness, and Relationship Management	1	1&2
	Instructional Hours		**6**
Suggested Learning Methods : Video lectures			
II	**Personal Competence:** Meaning Definition Self Awareness: Observing and recognizing one's own feelings, Knowing one's strengths and areas of development. Self-Management: Managing emotions, anxiety, fear, and anger.	1	5&6
	Instructional Hours		**6**
Suggested Learning Methods : Role Play			
III	**Social Competence**: Social Awareness: Others' Perspectives, Empathy and Compassion Relationship Management: Effective communication, Collaboration, Teamwork and Conflict Management	2	1&2
	Instructional Hours		**6**
Suggested Learning Methods : Peer Teaching			
IV	**Emotional Intelligence:** Measurement and Development - Meaning Definition, Importance	2	4&5

	Measures of emotional intelligence Strategies to develop and enhance Emotional Intelligence		
		Instructional Hours	**6**
Suggested Learning Methods : Role Play			
V	**Self-Management Techniques**: Meaning Definition Techniques to regulate emotions such as Mindfulness, Conditioned relaxation response and Boundary setting Techniques of Relationship Management: Display of empathy, Effective Communication , Teamwork , Conflict resolution	2	6&7
		Instructional Hours	**6**
Suggested Learning Methods : Group Discussion			
		Total Hours	**30**

Text Books	1. Bar-On, R., & Parker, J.D.A.(Eds.) (2000). The handbook of emotional intelligence. San Francisco, California: Jossey Bros. 2. Goleman, D. (2005). Emotional Intelligence. New York: Bantam Book. 3. Sternberg, R. J. (Ed.). (2000). Handbook of intelligence. Cambridge University Press.
Reference Books	1. HBR's 10 Must Reads on Emotional Intelligence (2015) 2. HBR's 10 Must Reads on Managing Yourself (2011) 3. Self-Discipline: Life Management, Kindle Edition, Daniel Johnson.

Course designed by	**Verified by Chairman**
Dr. R A Ayyapparajan	Dr. R A Ayyapparajan

Course Code	Title	
22U4VBOE11	Value Based Open Elective Course : Fundamentals of Tourism	
Semester: IV	Credits: 2	ESE: 50 Marks

Course Objective	To impart Knowledge on Tourism and its development in the economic growth and also to identify the tourist needs.
Course Category	Employability
Development Needs	Global
Course Description	To enhance the students to get part in the tourism industry and to know about concepts of tourism.

Course Outcomes		Teaching Methods
CO 1	Understand tourism and its development	Direct Instruction
CO 2	Analyse the Factors influencing the Travel Motivations.	Direct Instruction
CO 3	Comprehend the Tourist Transport	Video Lessons
CO 4	Understand the Tourist Accommodations	Direct Instruction
CO 5	Apply the Travel Agency Operations	Video Lessons

Course Content — **Instructional Hours / Week : 2**

Unit	Description	Text Book	Chapters
I	**The Tourism Phenomenon:** Definition – Tourism; Tour; Tourist; Visitor; Excursionist; Domestic; International; Inbound; Outbound; Destination. Growth of Tourism / Evolution / History of Tourism & Present status of tourism in India. Thomas Cook – Grand Circular Tour.	1	9, Key Terms
		Instructional Hours	**6**
Suggested Learning Methods : Lecture Based Learning			
II	**Travel Motivations:** ***Categories of Motivations:*** Physical Motivators, Cultural Motivators, Interpersonal Motivators, Status and prestige Motivators. ***Types of Tourism:*** Pleasure, relaxation, Rest and recreation, Health, Participation in Sports, Curiosity and Culture, Ethnic and Family, Spiritual and Religious, Professional or Business.	1	3
		Instructional Hours	**6**
Suggested Learning Methods : Group Learning Method			
III	**Tourist Transport:** Role of Transport in Tourism, Modes of Transport, Road Transport, Air Transport, Rail Transport, Sea Transport.	2	15
		Instructional Hours	**6**
Suggested Learning Methods : Group Learning Method			
IV	**Tourist Accommodation:** Definition, Types of Hotels, International Hotels, Resort Hotels, Commercial Hotels, Residential Hotels, Floating Hotels. **Supplementary Accommodation:** Motel, Youth Hostel, Camping Sites, Pension, Bed and Breakfast Establishment, Tourist Holiday Villages, Time and Resort Condominiums.	1	8
		Instructional Hours	**6**
Suggested Learning Methods: Group Learning Method			

V	**Travel Agency:** Products of Travel Agency, Classification of Travel Agency, Functions, Travel Related Business, International Travel Requirements, Travel Agency Operations.	3	2,3
		Instructional Hours	**6**
Suggested Learning Methods: Lecture Based Learning			
		Total Hours	**30**
Text Books	1. A.K. Bhatia, Tourism Development: Principles & Practices, Sterling Publishers Pvt 2007. 2. A.K. Bhatia, International Tourism Management, Sterling Publishers Pvt 2012. 3. Jagmohan Negi, Travel Agency Operations Concepts and Principles, Kanishka Publishers and Distributors, 2003.		
Reference Books	1. Biswanth Gosh, Tourism & travel management, Vikas Publishing House, Second Edition, 2008. 2. Christopher Holloway, Business of tourism, Elsevier Publisher, Second Edition, 2006.		

Course designed by	**Verified by Chairman**
Mr. B. Tamilselvan	Mr. B. Tamilselvan

Course Code	Title	
22U4VBOE12	Value Based Open Elective : Health Education	
Semester: IV	Credits: 2	ESE: 50 Marks

Course Objective	1. Acquire knowledge on different dimensions of health. 2. Inbuilt healthy life style practices
Course Category	Value education
Development Needs	Local
Course Description	It provides knowledge on values and practices for healthy living

Course Outcomes		Teaching Methods
CO 1	Recall the importance of health education	Interactive session
CO 2	Enlist the right choice of foods and dietary pattern	Interactive session
CO 3	Identify methods to manage mental health issues	Activity based teaching
CO 4	Practice effective personal health habits	Interactive session
CO 5	Summarize the importance of environmental health for mankind	Interactive session

Course Content — **Instructional Hours /Week : 2**

Unit	Description	Text Book	Chapters
I	**Health Education:** Concept of health, Components of wellness, spectrum and determinants of health - Definition of health-health education-Aim, objective and principles of health education - Health services, Related Activity -Measuring the health attitudes of students	1	1
		Instructional Hours	**6**
Suggested Learning Methods: Group Activity			
II	**Food and Health** Basic 4, 5and7 food groups; functional food groups-energy yielding, body building and protective foods (only sources and functions), food pyramid, meal planning pattern, healthy eating pattern.Related Activity -Assessing dietary adequacy of students	3,4	1 & 1, 2
		Instructional Hours	**6**
Suggested Learning Methods: Peer learning			
III	**Mental Health** Meaning of mental health – importance of mental health-characteristics of emotionally healthy-Self esteem-Values and patterns in decision making- Mental health problem of adolescences – depression & stress -causes and management Related activity-Stress level assessment in students	1	6
		Instructional Hours	**6**
Suggested Learning Methods: Role play			

IV	**Personal Health** Definition of personal health- under nutrition and over nutrition -prevalence of life style disease-healthy lifestyle practices- personal hygiene-Importance of physical activities & exercise Related Activity -Analyzing the physical activity pattern of students	1	8
		Instructional Hours	**6**
Suggested Learning Methods: Assignment			
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	**6**
Suggested Learning Methods: Group Discussion			
		Total hours	**30**

Text Books	1. Anspaugh (2001), Teaching Today's Health, Library of Congress Cataloging, 6th Edition, US 2. Tyler Miller (2006), Environmental Science, Cengage learning India private ltd 3. Srilakshmi (2010), Dietetics, New age International private limited, New Delhi 4. Srilakshmi (2010), Food Science, New age International private limited, New Delhi
Reference Books	1. Howley & Don Franus(B) (2003) Health Fitness Instructor's Handbook. Human Kinetics publication. 2. Ramachandran. L. Dharmalingam. T (1993) Health Education India. Vikas publishing House Private Limited
Journals	1. Health education

Course designed by	**Verified by Chairman**
Dr. A. Swarnalatha	Dr. A. Swarnalatha

Course Code	Title	
22U4VBOE13	Value Based Open Elective Course : Media and Politics	
Semester: IV	Credits: 2	ESE: 50 Marks

Course Objective	To Impart knowledge of understanding the media and politics
Course Category	Skill Development
Development Needs	Global
Course Description	This course examines how media and political institutions interact to shape public thinking and debates around social problems.

	Course Outcomes	Teaching Methods
CO 1	Understand the basic idea of media and Politics	Lecture and Demonstration
CO 2	Summarize the political stance of media.	Lecture
CO 3	Apply the Skills on writing political news.	Lecture and Demonstration
CO 4	Evaluate the various characteristics of media Organization.	Video Lectures
CO 5	Apply the mass media influences as individuals, groups, and society in political contexts	Discussion

Course Content | **Instructional Hours / Week : 2**

Unit	Description	Text Book	Chapters
I	Media –- Meaning and importance. Role of media in Society Political Communication – Mass Media politics and Society- Cinema and political manifestation. Social media and Political narration	1	1
		Instructional Hours	**06**
Suggested Learning Methods : Learning by Teaching			
II	Characteristics of Modern Mass Media: Print and Electronic Media – Political economy and Ownership	2	2
		Instructional Hours	**06**
Suggested Learning Methods : Active Learning			
III	Political Economy - State ownership versus private ownership of mass media – Consequences of private and public- Media ownership pattern Government Regulation – Monopoly- Media content and its Censorship.	1	2
		Instructional Hours	**06**
Suggested Learning Methods : Group Learning			
IV	Public Opinion- The relationship between the mass media and public sphere- Political manipulation of media content- the impact of mass media on global political processes.	3	3
		Instructional Hours	**06**
Suggested Learning Methods : Visual Learning			
V	Political effects of Mass Media: Individual- group- and Society Public- making public opinion- Setting of Political agenda-	2	4

	Political Socialization- Political mobilization		
		Instructional Hours	**06**
Suggested Learning Methods : Case study based Learning			
		Total Hours	**30**
Text Books	1. Lowe, L. (2016). The Definitive Guide to Creative Writing and Media Productions. United States: Xlibris UK. 2. Marshall, C. (2018). Writing for Social Media. United Kingdom: BCS Learning & Development Limited. 3. Cain, S., Batty, C. (2016). Media Writing: A Practical Introduction. United Kingdom: Palgrave Macmillan.		
Reference Books	1. Mencher, Melvin."Basic News Writing" Universal Bookstall, New Delhi.1993. 2. Sreenivas Rao. Academic Book Centre, Ahmedabad. 1981. 3. Barnard, J. (2019). The Multimodal Writer: Creative Writing Across Genres and Media. United Kingdom: Bloomsbury Academic. 4. Kuehn, S. A., Lingwall, J. A. (2016). The Basics of Media Writing: A Strategic Approach. United States: SAGE Publications.		
Web. URLs	1. https://www.bing.com/videos/		

Course designed by	**Verified by Chairman**
Mr. R. Baiju Paul	Mr. R. Baiju Paul

Course Code	Title	
22U4VBOE14	Value Based Open Elective : Positive Psychology and Work Life	
Semester: IV	Credits: 2	ESE: 50 Marks

Course Objective	To bring an experience marked by predominance of positive emotions and informing them about emerging paradigm of Positive Psychology
Course Category	Skill Development
Development Needs	National
Course Description	Build relevant competencies for experiencing and sharing happiness as lived experience and its implications

Course Outcomes		**Teaching Methods**
CO 1	Understand the realities of Psychology and Work life	Lecture/ Case Study
CO 2	Insight on origin and development of Positive Psychology	Lecture/ Role Play
CO 3	Reveal the knowledge about phases of Positive Psychology	Lecture/ Case Study
CO 4	Perceptiveness about Happiness in Psychology and its Traits	Lecture/ Role Play
CO 5	Furnish the specific skills and techniques for working with Trust and Companionship	Lecture/ / Role Play

Course Content		**Instructional Hours / Week : 2**

Unit	Description	Text Book	Chapters
I	Introduction to Positive Psychology : Positive Psychology: Concept, History, Nature, Dimension and scope of Positive Psychology Seligman's PERMA	3	1
	Instructional Hours		**6**
Suggested Learning Methods : Seminar			
II	Positive Emotional States and Processes, Positive Emotions and well being: Hope & Optimism, Love, The Positive Psychology of Emotional Intelligence, Influence of Positive Emotions	2	3
	Instructional Hours		**6**
Suggested Learning Methods : Role Play			
III	Strengths and Virtues : Character Strengths and Virtues Resilience in the phase of challenge & Loss, Empathy and Altruism	1	3
	Instructional Hours		**6**
Suggested Learning Methods : Role Play			
IV	Happiness : Introduction to Psychology of happiness, well being and scope, Types of happiness- Eudaimonic and Hedonic History of Happiness, Theories, Measures and Positive correlates of happiness, Traits associated with Happiness, Setting Goals for Life and Happiness	3	2
	Instructional Hours		**6**
Suggested Learning Methods : Creative Art Assignments			

V	**Forgiveness and Gratitude** : Forgiveness and Gratitude , Personal transformation and Role of suffering , Trust and Compassion	1	3
		Instructional Hours	**6**
Suggested Learning Methods : Community Participation Program			
		Total Hours	**30**
Text Books	1. Argyle, M. 1987. *The psychology of happiness.* London: Methuen. 2. Carr, Alan (2007). Positive Psychology: The science of human happiness and human strengths. Routledge, Taylor and Francis Group-London. Csikzentmihalyi, Mihaly (1990) Flow: The Psychology of Optimal Experience, Harper Perennial. 3. Garcia,Hector., & Mirrales. Francesc.(2017) IKIGAI-The Japanese Secret to a Long and Happy Life, Hutchinson London.		
Reference Books	1. Frankl, Viktor E. (1988). The Will to Meaning: Foundations and Applications of Logotherapy. Meridian/Plume 2. Frankl, Viktor E. (2000) Man's Search for Ultimate Meaning, Basic Books. 3. Snyder, C. R., & Lopez, S. J., & Pedrotti, J. T (2011) Positive Psychology: The Scientific and Practical Explorations of Human Strengths, Sage Publications India Pvt Ltd.		

Course designed by	**Verified by Chairman**
Ms. K. Merlin Jenefer	Dr. P. Nathiya

Course Code	Title	
22U4VBOE15	Value Based Open Elective Course : Professional Ethics	
Semester: IV	Credits: 2	ESE: 50 Marks

Course Objective	Students will understand the importance of Values and Ethics in their personal lives and Professional careers
Course Category	Employability & Skill Development
Development Needs	National & Global
Course Description	Understanding the importance of maintaining Professional Ethics and build effective career.

Course Outcomes		Teaching Methods
CO 1	Understand the basic purpose of Profession	Lecture
CO 2	Summarize the Professional Rights And Responsibilities	Lecture/ Peer Teaching
CO 3	Apply the various Roles in Applying Ethical Principles at Various Professional Levels	Lecture/ Case Study
CO 4	Professional Ethical Values and Contemporary Issues	Lecture/ Role Play
CO 5	Excelling in Competitive and Challenging Environment to Contribute to Industrial Growth.	Lecture/ Group Discussion

Course Content — **Instructional Hours / Week : 2**

Unit	Description	Text Book	Chapters
I	**Introduction to Professional Ethics: Meaning Definition Basic Concepts** Governing Ethics, Personal & Professional Ethics, Life Skills, Emotional Intelligence Profession and professionalism, Professional Associations, Professional Risks, Professional Accountabilities, Professional Success, Ethics and Profession.	1	1&2
	Instructional Hours		**6**
Suggested Learning Methods : Video lectures			
II	**Basic Theories:** Basic Ethical Principles, Moral Developments, Deontology Virtue Theory, Rights Theory, Casuist Theory, Moral Absolution, Moral Rationalism, Moral Pluralism Ethical Egoism, Feminist Consequentialism, Moral Issues, Moral Dilemmas, Moral Autonomy	1	5&6
	Instructional Hours		**6**
Suggested Learning Methods : Mini Case Analysis			
III	**Professional Practices:** Professions and Norms of Professional	2	1&2

	Conduct, Norms of Professional Conduct vs. Profession Responsibilities, Obligations and Moral Values in Professional Ethics, Professional codes of ethics The Centrality of Responsibilities of Professional Ethics; lessons from 1979 American Airlines DC-10 Crash and Kansas City Hyatt Regency Walk away Collapse.		
		Instructional Hours	**6**
Suggested Learning Methods : Group Discussion			
IV	Ethics in changing domains of Research: The US government wide definition of research misconduct, research misconduct distinguished from mistakes and errors, recent history of attention to research misconduct The emerging emphasis on understanding and fostering responsible conduct, responsible authorship, reviewing & editing.	2	4&5
		Instructional Hours	**6**
Suggested Learning Methods : Role Play			
V	Global issues in Professional Ethics: Introduction – Current Scenario, Technology Globalization of MNCs, International Trade, World Summits, Issues Business Ethics and Corporate Governance, Sustainable Development Ecosystem, Energy Concerns, Ozone Deflection, Pollution, Ethics in Manufacturing and Marketing Media Ethics; War Ethics; Bio Ethics, Intellectual Property Rights	2	6&7
		Instructional Hours	**6**
Suggested Learning Methods : Group Discussion			
		Total Hours	**30**

Text Books	1. Professional Ethics: R. Subramanian, Oxford University Press, 2015. 2. Ethics in Engineering Practice & Research, Caroline Whitbeck, 2e, Cambridge University Press, 2015
Reference Books	1. Business Ethics concepts & Cases: Manuel G Velasquez, 6e, PHI, 2008

Course designed by	**Verified by Chairman**
Dr. R A Ayyapparajan	Dr. R A Ayyapparajan

Course Code	Title	
22U4VBOE16	Value Based Open Elective Course : The Science of Happiness	
Semester: IV	Credits: 2	ESE: 50 Marks

Course Objective	To explore the key elements of happiness 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 Description	To create a positive work environment and promote happiness for themselves and others.

Course Outcomes		Teaching Methods
CO 1	Understand the Happiness as a Scientific Construct	Lecture Method
CO 2	Apply the Theories and Models of Well-being	Flipped Teaching
CO 3	Demonstrate the Individual Factors and Happiness	Lecture Method
CO 4	Analyze the Social and Environmental Factors in Happiness	Lecture Method
CO 5	Apply Happiness and Work Efficiency	Flipped Teaching

Course Content — **Instructional Hours / Week : 2**

Unit	Description	Text Book	Chapters
I	**Introduction to Happiness as a Scientific Construct** Defining 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 measurement	1	1
	Instructional Hours		**6**
Suggested Learning Methods : Group Discussion			
II	**Theories and Models of Well-being** Prominent theories of well-being – hedonic well-being, eudemonic well-being, PERMA model. Role of factors – autonomy, meaning, and engagement in happiness. Strengths and limitations of different well-being models	1	2
	Instructional Hours		**6**
Suggested Learning Methods : Group Discussion			
III	**Individual Factors and Happiness** Personality traits – optimism, resilience and their influence on happiness. Role of genetics and biological factors in determining happiness levels. Examination of personal values, goals, and self-esteem and their impact on subjective well-being	1	3
	Instructional Hours		**6**
Suggested Learning Methods : Group Discussion			
IV	**Social and Environmental Factors in Happiness** Importance of social relationships and social support in	1	4

	promoting happiness. Influence of social comparison, social norms, and cultural factors on well-being. Impact of environmental factors – access to nature, quality of living conditions on happiness.		
		Instructional Hours	**6**
Suggested Learning Methods : Group Discussion			
V	**Happiness and Work Efficiency** Impact of happiness on work efficiency and productivity, strategies for managing daily hassles and reducing stress in the workplace, link between happiness and creativity in the workplace, Strategies for fostering a creative and innovative work environment	1	5
		Instructional Hours	**6**
Suggested Learning Methods : Group Discussion			
		Total Hours	**30**

Text Books	1. Susan A. David, IlonaBOni well, and Amanda Conley Ayers; The Oxford Hand book of Happiness.
Reference Books	1. Achor, S. (2010). The happiness advantage: The seven principles of positive psychology that fuel success and performance at work. Random House. 2. Lyubomirsky, S. (2008). The how of happiness: A scientific approach to getting the life you want. Penguin. 3. Diener, E., & Seligman, M. E. P. (2002). Very happy people. Psychological Science, 13(1), 81-84.
Web. URLs	1. https://onlinecourses.nptel.ac.in/noc23_hs06/preview

Course designed by	**Verified by Chairman**
Dr. S. Balaji	Dr. K. Rajarajeswari

Course Code	Title		
23U3FRC513	Core Paper XIII- Serology and DNA Typing		
Semester : V	Credits : 4	CIA : 25 Marks	ESE : 75 Marks

Course Objective	To impart knowledge and skill for analysing human biological samples.
Course Category	Employability
Development Needs	Global
Course Description	Forensic Serology involved the methods of identifying the person under question by means of biological analysis. This involves a two-step process. First step is the serological analysis and the second step is the DNA analysis.

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Collect, preserve and analyse body fluids.	Lecture/Demonstration	Assignment
CO 2	Extract DNA from biological sample.	Lecture/ Case studies	Case studies
CO 3	Compare DNA using markers for various identifications.	Lecture/Demonstration	Seminar
CO 4	Perform chemical tests for body fluids	Lecture/Video lecture	Quiz
CO 5	Identify and individualise blood samples	Lecture/Demonstration	Assignment

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Course Content **Instructional Hours / Week: 5**

Unit	Description	Text Book	Chapters
I	**Biological Evidences** Collection, packing and preservation of biological evidences. Preservatives used in biological evidences. Bioterrorism and bio war, use of locust as a bioweapon, microbial forensics.	1	1
		Instructional Hours	**15**
Suggested Learning Methods: **Library extra reading**			
II	**Blood and its function** Human Blood: composition, functions. Collection, packaging and preserving techniques. Grouping : General Principles, theory of their inheritance, Blood group determination from fresh blood, titer, Raulax formation and Bombay blood group. Definition of antigen and antibody, Various antigen-antibody reactions, Difference between precipitation, agglutination and flocculation. Immunochemical techniques : principle, function and forensic significance.	1	2
		Instructional Hours	**15**
Suggested Learning Methods: Laboratory practice			

III	**Forensic Examination of Body fluids** Analysis of blood : identification, confirmatory for fresh blood stains. Takayama and Teichmann test for dried blood stains. Identification of blood group from stain of blood, Semen, saliva and sweat : absorption elution, absorption inhibition and mixed agglutination. Semen : location, collection, packing, evaluation and tests for identification and forensic significance. Urine : location, collection, packaging, preservation, evaluation and tests for identification and forensic significance. Forensic significance of other body fluids like sweat, saliva, milk and its collection and identification.	1	3
		Instructional Hours	**15**
Suggested Learning Methods: Hands on training			
IV	**Introduction to Human Genetics** Human genetics - definition and explanations for Heredity, alleles, mutations and population genetics. Molecular biology of DNA, variations in DNA, Biochemical aspects. Genomics and medical genetics. Mitochondrial DNA - definition, structure, biochemical activity. DNA Profiling **:** Introduction, definite ion, history and importance in the field of forensic science. Paternity and maternity index : equation, derivation and calculation.	1	4
		Instructional Hours	**15**
Suggested Learning Methods: Video lectures			
V	**DNA Profiling** DNA typing systems - Polymorphism, RFLP analysis, PCR amplifications, sequence polymorphism. Analysis and functioning of SNP and Y- STR, Evaluation of results, frequency estimate calculations, allele frequency determination, Interpretations of results. Match probability - database, quality control, certification and accreditation. Forensic Significance of DNA profiling : Applications in disputed paternity cases, child swapping. Missing person's identity, civil immigration, job disputes. Case studies related to paternity and maternity disputes and child swapping. Legal standards for admissibility of DNA profiling.	1	5
		Instructional Hours	**15**
Suggested Learning Methods: Online training			
		Total Hours	**75**
Text Books	1. Forensic Serology notes compiled by the department of Forensic Science, Nehru Arts and Science College, Coimbatore.		

Reference Books	1. DNA Structure and functions by Richard R. Sinden; Academic Press, Inc. 1994. 2. DNA Profiling and DNA fingerprinting; Edited by Jorg T. Epplen and Thomas Lubjuhn; Birkhauser Verlag, Switzerland, 1999. 3. Modi, J.K. (1988): Medical Jurisprudence and Toxicology, N.M. Tripathi Pvt. Ltd. 4. Fraser, Roberts J.A (1965): An introduction to Medical Genetics. 5. Chatterjee, C. C- (1975): Human Physiology.
Web. URLs	1. https://epgp.inflibnet.ac.in/epgpdata/uploads/epgp_content/S000016FS/P000699/M011528/ET/1516257136FSC_P12_M2_e-text.pdf 2. https://epgp.inflibnet.ac.in/epgpdata/uploads/epgp_content/S000016FS/P000699/M011539/ET/1516257484FSC_P12_M13_e-text.pdf 3. https://epgp.inflibnet.ac.in/epgpdata/uploads/epgp_content/S000016FS/P000699/M011530/ET/1516257192FSC_P12_M4_e-text.pdf

Tools for Assessment (25 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
5	5	6	3	3	3	25

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Ms. Archana Sunil	Mr. Akhil Benny

Course Code	Title		
23U3FRC514	Core Paper XIV - Forensic Medicine and Anthropology		
Semester : V	Credits : 3	CIA : 20 Marks	ESE : 55 Marks
Course Objective	To impart knowledge and skill of reading and understanding medico-legal reports and draw conclusions based on it.		
Course Category	Employability		
Development Needs	Global		
Course Description	Medico legal reports such as postmortem report often help to narrow down the investigation. This course is designed to provide an in-depth knowledge about the various causes of death and methodologies to identify them.		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	To understand medico legal aspects of death	Lecture/Demonstration	Assignment
CO 2	Identify the time since death from post-mortem report.	Lecture/ Case studies	Case studies
CO 3	Understand various causes of death.	Lecture/Demonstration	Seminar
CO 4	Identify various injuries and punishments associated with it.	Lecture/Video lecture	Quiz
CO 5	Read and understand reports on crimes against body.	Lecture/Demonstration	Assignment

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Course Content **Instructional Hours / Week : 5**

Unit	Description	Text Book	Chapters
I	**Introduction to Forensic Medicine and Death** Forensic Medicine: Introduction, History, Scope, Legal Procedure: Inquest, Summons. Death: Definition, types, brain death, Suspended animation, Modes of death: coma, syncope and asphyxia, determination of time since death, Identification: methods to identify living person for gender, race, age.	1	3
		Instructional Hours	**15**
Suggested Learning Methods: **Library extra reading**			
II	**Injury and Post Mortem Examination** Autopsy: introduction, legal requirements to conduct autopsy, preparation of autopsy report, Examination of dead body: types and methods, Examination of bones, Exhumation, Signs of death: Immediate, Early and Late. Rigor mortis, algor mortis, post mortem hypostasis, muscle changes, putrefaction, saponification and mummification. Injury: definition, classification, ante mortem and post mortem injuries, estimation of age of different types, Mechanical injuries: definition, classification, Causes of death by injuries, Medico legal aspects of injuries, vehicular injuries, Medico legal aspects in cases of burns and scalds- Identification of injuries by torture	1	16
		Instructional Hours	**15**
Suggested Learning Methods: Online training			

III	**Offences against body** Sexual offenses: Introduction, types, examination of accused and victim, Thermal deaths: types, post mortem appearances. Flash burns, scalds establishment of identity, Electrical injuries: factors influencing, effects, properties, Post mortem appearances, Lightning stroke: types of burns, Post mortem appearances, radioactive substances, action on an individual.	1	17
		Instructional Hours	**15**
Suggested Learning Methods: Video lectures			
IV	**Forensic Anthropology** Introduction, definition, history, scope and importance, Human skeletal system: Structure and functions, Classification of bones, Characteristics of bones. Anatomy of bones: general aspects for human and non human skeletal systems, Forensic importance of bones: estimation of age, identification of gender.	1	21
		Instructional Hours	**15**
Suggested Learning Methods: Laboratory practice			
V	**Ossification and Its Importance** Ossification: Introduction, definition, Important Ossification points in human skeletal system: For estimation of age and gender- Rate of ossification: estimation and comparison with non-human ossification points for gender identification, Anatomy of different bones, the skull, clavicle, scapula and ribs, vertebral column, Humerus radius ulna, carpals, metacarpals and phalanges, pelvis, Femur tibia, fibula, patella, tarsals, metatarsals	1	9,10
		Instructional Hours	**15**
Suggested Learning Methods: Hands on training			
		Total Hours	**75**

Text Books	1. Narayana Reddy K.S, Introduction to Forensic Medicine and Toxicology, 13th edition.
Reference Books	1. Text book of Forensic Medicine and Toxocology: V V Pillay, 15th edition, Paras Medical Publishing, Hyderabad. 2. Fundamentals of Forensic Medicine and Toxicology: R. Basu, Publishers- Books and Allie (P) LTD, Kolkata. 3. Guharaj Forensic Medicine: P V Guharaj, Edited by M R Chandran, Orient Longman, 2nd Edition, Hyderabad. 4. Nicholas V. Piscataqua: Forensic Anthropology: Current Methods and Practice.
Web. URLs	1. https://epgp.inflibnet.ac.in/Home/ViewSubject?catid=eCJfy23Kjy3c0vICLa6VYg== 2. https://epgp.inflibnet.ac.in/epgpdata/uploads/epgp_content/S000016FS/P000701/M015724/ET/1464331542FSC_P14_M9_e-text.pdf 3. https://epgp.inflibnet.ac.in/epgpdata/uploads/epgp_content/S000016FS/P001353/M026913/ET/1516254684FSC_P11_M35_e-text.pdf

Tools for Assessment (20 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
4	4	5	2	2	3	20

Mapping													
CO \ PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	H	M	M	H	M	-	M	-	-	M	H	L	-
CO2	M	H	H	H	M	-	H	-	-	H	H	L	-
CO3	H	H	M	H	M	-	H	-	-	H	H	L	-
CO4	M	M	L	H	H	-	H	-	-	H	H	H	-
CO5	M	M	L	H	H	M	H	-	-	M	H	H	-
H-High; M-Medium; L-Low													

Course designed by	Verified by Chairman
Mr. Akhil Benny	Mr. Akhil Benny

Course Code	Title		
23U3FRC515	Core Paper XV - Introduction to Digital Forensic Science		
Semester : V	Credits : 3	CIA : 20 Marks	ESE : 55 Marks
Course Objective	Gain an *overview of digital forensics and digital evidence and u*nderstand the best practices in dealing with electronic evidences.		
Course Category	Skill Development		
Development Needs	Global		
Course Description	Digital Forensics is a science of finding evidence from digital media like a computer, mobile phone, server, or network and the process of preservation, identification, extraction and documentation of computer evidence which can be used by the court of law.		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Become familiar with the concept of digital forensics and cyber threats	Lecture/Demonstration	Assignment
CO 2	Understand the various digital forensic investigation methods	Lecture/Demonstration	Case studies
CO 3	Gain basic ideas of operating system and network forensics	Lecture/ Case studies	Seminar
CO 4	*Understand the threats associated with mobile devices.*	Lecture/Video lecture	Quiz
CO 5	Acquire knowledge in emerging trends in digital Forensics	Lecture/Demonstration	Assignment

Offered by	Forensic Science

Course Content	Instructional Hours / Week : 5

Unit	Description	Text Book	Chapters
I	**Introduction to Digital Evidence** Overview of digital evidence and its importance in investigations Types of digital evidence : computer, mobile devices, cloud, and social media, Legal and ethical considerations in collecting, analyzing, and presenting digital evidence.	1	all
		Instructional Hours	**15**
Suggested Learning Methods : **Library extra reading**			
II	**Fundamentals of Digital Forensics** Principles of digital forensics : preservation, identification, extraction, documentation, and analysis, Tools and techniques used in digital forensics investigations, Chain of custody and its importance in digital forensics.	1	4
		Instructional Hours	**15**
Suggested Learning Methods : Library extra reading			

III	**Operating Systems and File Systems** Introduction to operating systems and file systems, Types of file systems : FAT, NTFS, EXT, and HFS, Analysis of file systems : data carving, file headers, and footers. Network Forensics : Introduction to network forensics and its importance, Packet analysis and its role in network forensics, Tools used in network forensics	1	5,6,7
		Instructional Hours	**15**
Suggested Learning Methods : Online training			
IV	**Mobile Devices and social media forensics** Introduction to mobile device forensics, Types of mobile devices: smartphones, tablets, and wearable devices. Tools and techniques used in mobile device forensics. Cloud and Social Media Forensics; Introduction to cloud and social media forensics, Types of cloud and social media platforms, Tools and techniques used in cloud and social media forensics.	1	9,10
		Instructional Hours	**15**
Suggested Learning Methods : Hands on training			
V	**Emerging Trends in Digital Evidence** Introduction to emerging trends in digital evidence : Internet of Things, Artificial Intelligence, and Blockchain. The impact of emerging trends on digital forensics investigations. Future of digital evidence and digital forensics.	1	12
		Instructional Hours	**15**
Suggested Learning Methods: Video lectures			
		Total Hours	**75**

Text Books	1. "Digital Forensics: Principles and Practices" by Niranjan Reddy, K. Srinivas, and V. Kamakshi Prasad
Reference Books	1. Digital Forensics and Cyber Crime: Second International ICST Conference, ICDF2C 2010, Abu Dhabi, United Arab Emirates, October 4-6, 2010, Revised Selected Papers" edited by Pavel Gladyshev and Marcus K. Rogers 2. "Handbook of Digital Forensics and Investigation" edited by Eoghan Casey 3. "Cyber Crime and Digital Evidences: Indian Perspective" by S. C. Lakhotia and Abhishek Kumar 4. "Digital Evidence and Computer Crime: Forensic Science, Computers and the Internet" by Eoghan Casey
Web. URLs	1. What Is Digital Forensics: Process, Tools, and Types | Computer Forensics Overview | RecFaces

Tools for Assessment (20 Marks)						
CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
4	4	5	2	2	3	20

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Mr. Akhil Benny	Mr. Akhil Benny

Course Code	Title		
23U3FRP516	Core Paper XVI – Forensic Serology Practical		
Semester : V	Credits : 3	CIA : 30 Marks	ESE : 45 Marks
Course Objective	Serology is the study of the bodily fluids inside of the body such as blood, semen, saliva, perspiration and faecal matter		
Course Category	Employability		
Development Needs	Global		
Course Description	*Course is structured to provide the basic concepts of analytical methods as it applies to hair ,body fluid and other evidences.*		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Learn to analyze and compare and identify different types of hair.	Demonstration / Video Lessons	Practical
CO 2	Conduct test to identify blood stains, blood group and diatoms.	Demonstration	Practical
CO 3	Learn the distillation of alcoholic drinks.	Demonstration / Video Lessons	Practical
CO 4	Learn the systematic methods of collection and packing of toxicological samples.	Demonstration / Video Lessons	Practical
CO 5	To prepare a TLC plate and examination of drugs and pesticides.	Demonstration / Video Lessons	Practical

Offered by	Forensic Science
Course Content	Instructional Hours / Week : 4

S. No.	Experiment
1	Analysis and comparison of human and animal hair.
2	Blood grouping of fresh blood stains.
3	Presumptive test for blood stains.
4	Microcrystal tests for dried blood stains.
5	Microscopic analysis of diatom
6	Preliminary examination of saliva
7	Preliminary examination of Semen
8	Identification of species (precipitin test)
9	Confirmatory examination of saliva
10	Confirmatory tests for Semen
	TOTAL 60 Hours

Tools for Assessment (30 Marks)

Analytical Skill	Lab Performance	Inference	Test I	Test II	Observation	Total
4	4	4	7	7	4	30

Mapping													
CO \ PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	H	H	H	H	M	-	M	L	-	H	H	L	-
CO2	H	H	H	H	M	-	M	L	-	H	H	L	-
CO3	H	H	H	H	M	-	M	L	-	H	H	L	-
CO4	H	H	H	H	M	-	M	L	-	H	H	L	-
CO5	H	H	H	H	M	-	M	L	-	H	H	L	-
H-High; M-Medium; L-Low													

Course designed by	Verified by Chairman
Ms. Archana Sunil	Mr. Akhil Benny

Course Code	Title		
23U3FRE501	Discipline Specific Elective Paper : I (A) – Due Diligence and Loss Prevention		
Semester : V	Credits : 4	CIA : 25 Marks	ESE : 75 Marks

Course Objective	Due diligence is next level forensic science in which the course has an objective of training forensic scientists in preventing potential crimes.
Course Category	Employability
Development Needs	Global
Course Description	When it come to crimes, private sector focuses more on preventing it from happening. Due diligence looks forward to techniques to prevent crimes from happening.

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Examine the concept of legal due diligence	Lecture/Demonstration	Assignment
CO 2	Understand the concepts of Financial Due Diligence	Lecture/ Case studies	Case studies
CO 3	To gain knowledge about the operational Due diligence	Lecture/Demonstration	Seminar
CO 4	Understand ESG Analysis and Risk Assessment	Lecture/Video lecture	Quiz
CO 5	Acquire basic idea about Investigations in Loss Prevention	Lecture/Demonstration	Assignment

Offered by | **Forensic Science**

Course Content | **Instructional Hours / Week : 5**

Unit	Description	Text Book	Chapters
I	**Due Diligence Process and Best Practices** Due Diligence Process, Steps, Team Structure and Roles, Due Diligence Best Practices and Lessons Learned, Case Studies and Examples.	1	1
		Instructional Hours	**15**
Suggested Learning Methods: **PowerPoint presentation**			
II	**Financial Due Diligence** Financial Statements Analysis, Cash Flow Analysis, Projections and Forecasts, Valuation Methods, Key Performance Indicators.	1	2
		Instructional Hours	**15**
Suggested Learning Methods: Library extra reading			
III	**Operational Due Diligence** Business Model and Strategy, Industry and Market Analysis, Customer Base and Revenue Streams, Operations and Supply Chain, Human Resources and Management.	1	3
		Instructional Hours	**15**
Suggested Learning Methods: Video lectures			

IV	**ESG Analysis and Risk Assessment** Environmental Impact Assessment, Social and Community Impact Assessment, Governance and Ethics Assessment, Due Diligence Report Structure and Content, Risk Assessment and Mitigation Strategies, Due Diligence Checklist and Templates.	1	4
		Instructional Hours	**15**
Suggested Learning Methods: Library extra reading			
V	**Investigations in Loss Prevention** Basic questions of investigation, Types of Investigations, Information sources, Investigation and Auditing, Investigative Leads. Loss Prevention services and speculations.	1	5
		Instructional Hours	**15**
Suggested Learning Methods: PowerPoint presentation			
		Total Hours	**75**

Text Books	1. Notes Compiled by the Department of Forensic Science, Nehru Arts and Science College, Coimbatore.
Reference Books	1. Due Diligence: An M&A Value Creation Approach by William J. Gole and Paul J. Hilger 2. The Art of Due Diligence by Barbara L. Koenig 3. Due Diligence Handbook: Corporate Governance, Risk Management and Business Planning by Leo F. Dalton

Tools for Assessment (25 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
5	5	6	3	3	3	25

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Mr. Akhil Benny	Mr. Akhil Benny

Course Code	Title		
23U3FRE502	Discipline Specific Elective Paper : I (B) – Advanced Digital Forensic		
Semester : V	Credits : 4	CIA : 25 Marks	ESE : 75 Marks

Course Objective	Introduce the students to cybercrimes, their types, investigation and laws related to it.
Course Category	Skill Development
Development Needs	Global
Course Description	Cyber forensic Science is an advanced area in forensic science. This course is designed to introduce the concepts to any forensic student who wish to specialize in the cyber forensic field.

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Recognize terminologies related to computers and cyber security.	Lecture/Demonstration	Assignment
CO 2	Have an overall view of various cybercrimes.	Lecture/ Case studies	Case studies
CO 3	Develop a basic idea about the tools and techniques in the field of cybercrime investigation.	Lecture/Demonstration	Seminar
CO 4	Legal framework in which cybercrime investigation is done.	Lecture/Video lecture	Quiz
CO 5	Know the role and functions of various cybercrime investigation tools.	Lecture/Demonstration	Assignment

Offered by : **Forensic Science**

Course Content — **Instructional Hours / Week : 5**

Unit	Description	Text Book	Chapters
I	**Introduction and Topology** Historical development, Classification of cybercrime – Conventional crime vs. cybercrime, Causes for cybercrime, Trends in cybercrime worldwide. Hacking, cracking, DoS, Viruses, worms, malwares, bombs, email bombing, data diddling, salami attacks, phishing, steganography, cyber stalking, spoofing, pornography, defamation, computer vandalism, cyber terrorism, cyber warfare, crime in social media, social engineering, credit card frauds and financial frauds, telecom frauds, Cloud based crime, Understanding fraudulent behaviour, fraud triangle, fraud detection techniques, Intellectual Property Rights, Violation of Intellectual Property Rights, E-commerce frauds.	1	1
	Instructional Hours		**15**

Suggested Learning Methods: **PowerPoint presentation**

II	**Cyber Crimes** Introduction to Computer Crime, Characteristics of Computer Crime, Classification of computer crimes. Introduction to cyber crimes and their classification, Hacking and Cyber Laundering, Spamming, Obscenity and Pornography, Programme Manipulation, Cyber stalking and web jacking, Phishing and Spoofing, DOS and DDOS Attacks, Intellectual, Property Crimes & Computer Security. Introduction to Cyber forensic, Malware and their types, Types of viruses and worms, Super zapping and trap doors, Identity Theft Frauds, Cyber Criminals & Their Targets, Modus operandi of cyber criminal.	1	2
		Instructional Hours	**15**
Suggested Learning Methods: Library extra reading			
III	**Evidence Collection** Cardinal rules of cyber forensic, Imaging of Hard disk and other media, Password Cracking, E-Mail Investigation, Encryption and decryption methods, Restoration of Deleted File, Tools for Cyber Forensic Analysis, Digital crime scene investigation, Cyber Forensic Workstation, Legal Perspective of Digital Evidences.	1	3
		Instructional Hours	**15**
Suggested Learning Methods: Video lectures			
IV	**Cyber crime investigation** Cyber/digital forensics, Cyber forensics life cycle, Chain of custody, Search, seizure and preservation of digital evidence, Cyber forensic tools, Cloud forensics, Data privacy issues, Cryptography, Cyber forensic divisions in State and Central Governments, Cybercrime cells, Cyber appellate authorities.	1	4
		Instructional Hours	**15**
Suggested Learning Methods: Library extra reading			
V	**Cyber laws in India** Information Technology (amended) Act, 2008 – Indian Evidence Act, 1872 – Digital evidence – Cyber laws across the globe – UNCITRAL – Jurisdiction issues Unit V: Cybercrime and Counter-measures Information security – Best information security practices in India and other countries – E-mail security – Web application security, malware security, network security, cloud security and wireless security.	1	5
		Instructional Hours	**15**
Suggested Learning Methods: PowerPoint presentation			
		Total Hours	**75**

Text Books	2. Notes Compiled by the Department of Forensic Science, Nehru Arts and Science College, Coimbatore.
Reference Books	4. Colarik, A. & Janczewski, L. (2011). Cyber Warfare and Cyber Terrorism. Springer. 5. Fadia, A. (2005). The Unofficial Guide to Ethical Hacking. Course Technology. 6. Erickson, J. (2008). Hacking: The Art of Exploitation, 2nd Edition. No Starch Press.
Web. URLs	1. https://epgp.inflibnet.ac.in/epgpdata/uploads/epgp_content/Forensic_Science/16._Digital_forensics/10._Introduction_to_cyber_crimes_and_their_classification/et/6311_et_6311_et_et.pdf 2. https://epgp.inflibnet.ac.in/epgpdata/uploads/epgp_content/forensic_science/16._digital_forensics/26._cardinal_rules_of_cyber_forensic/et/6316_et_6316_et_et.pdf

Tools for Assessment (25 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
5	5	6	3	3	3	25

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Mr. Akhil Benny	Mr. Akhil Benny

Course Code	Title		
23U3FRE503	Discipline Specific Elective Paper : I (C) - Forensic Psychology		
Semester : V	Credits : 4	CIA : 25 Marks	ESE : 75 Marks
Course Objective	To enhance understanding of behavior, in terms of its biological, cognitive, social, emotional and contextual components and their interaction, and to develop an appreciation for its implications in forensic settings.		
Course Category	Skill Development		
Development Needs	Global		
Course Description	Forensic Psychology is the application of psychology in the aid of legal investigation. Forensic psychology looks into the vast psychological perspectives and applies them to legal investigations including issues such as public policies, new laws, competency, and also the mental state of a defendant.		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	To understand the basic concepts of psychology suitable for forensic science professionals	Lecture/Demonstration	Assignment
CO 2	Understand the concepts of Normality and Abnormality	Lecture/Demonstration	Case studies
CO 3	Gain knowledge about various psychological disorders	Lecture/Video lecture	Seminar
CO 4	Able to discriminate Sociopathy and Psychopathy	Lecture/ Case studies	Quiz
CO 5	To learn about Criminal profiling and various Criminal profiling methods.	Lecture/Demonstration	Assignment

Offered by	Forensic Science

Course Content	Instructional Hours / Week : 5

Unit	Description	Text Book	Chapters
I	**Forensic Psychology** Definition and sub-specializations of forensic psychology, History of Forensic Psychology, Ethical Issues in forensic psychology, Relationship between psychology and law and Relationship of forensic psychology with criminology and criminal psychology Scope and future of forensic psychology, Mac Naughten rule, Insanity in Indian penal code (IPC 84): Legal insanity and medical insanity.	1	1
		Instructional Hours	**15**

Suggested Learning Methods: **Library extra reading**

II	**Normality and Abnormality** The concept of normality and abnormality, Historical view of abnormal behaviour, Abnormal behaviour: Current status and classification systems- ICD and DSM- Merits and demerits of classification- Causes and risk factors, biological viewpoints, Psycho-social viewpoints: Major perspectives, Socio-cultural viewpoint, Alcohol abuse and dependence, Clinical picture and Causal factors, Drug abuse and dependence, Opium and its derivatives, Barbiturates, Amphetamines, Cocaine, Hallucinogens, Marijuana, Caffeine and nicotine, Factors affecting drug abuse.	1	2
		Instructional Hours	**15**
Suggested Learning Methods: Library extra reading			
III	**Psychological Disorder** Mood disorders: Mania and depression, Unipolar and bipolar disorders, Causal factors in mood disorders: Biological, Psychological, and Socio-cultural factors, Anxiety disorders, Phobic disorders, Panic disorder and agoraphobia, Generalised Anxiety Disorder and Obsessive Compulsive Disorder, Personality disorders: Clinical features of personality disorders, Types of Personality disorders, Paranoid, Schizoid, Schizo-typal, Histrionic, Narcissistic, Antisocial, Borderline, Avoidant, Dependent, Obsessive-compulsive, Passive-aggressive and Depressive personality disorder, Causal factors in personality disorders: Biological, Psychological and Socio-cultural, Schizophrenia and delusional disorder, The clinical picture in schizophrenia, Subtypes of schizophrenia-Paranoid, Catatonic, Disorganised, Residual and undifferentiated type, Causal factors in Schizophrenia, Biological, Psychological, and Socio-cultural factors, The clinical picture in delusional disorder, Causal factors in delusional disorder.	1	3
		Instructional Hours	**15**
Suggested Learning Methods: Case studies			
IV	**Psychopathy and Sociopathy** Eyewitness testimony: its importance and significance, Violence and aggression: biological factors, psychological factors and social factors, Childhood disorders and criminality, The Criminal Psychopath-general behavioural characteristics of psychopaths, difference between psychopath and sociopath, Antisocial Personality Disorder and Psychopath and Offending patterns of criminal psychopaths, Criminal Homicide, Multiple Murder, Serial Killers, Mass Murders.	1	4
		Instructional Hours	**15**
Suggested Learning Methods: Video lectures			

V	**Criminal Profiling** Inductive and Deductive approaches and criminal profiling methods. Polygraph: instrument and its parameters, scientific basis and techniques: relevant-irrelevant techniques, CQT, Card test Brain mapping, BEOS: introduction to BEOS instrument, Procedure, suspect interview, designing of probes-audio & amp;amp; visual, recording and its analysis, Narco Analysis: History and Procedure and its forensic importance.	1	5
		Instructional Hours	**15**
Suggested Learning Methods: Video lectures			
		Total Hours	**75**

Text Books	1. Notes compiled by the department of forensic science, Nehru Arts and Science College Coimbatore.
Reference Books	1. Alloy, L.B., Riskind, J.H., Manos, M.J. – Abnormal Psychology-Current Perspectives,9 th Edition(2005), Tata Mc graw –Hill. 2. Bartol, C.R & amp;amp; Bartol, A.M. (2008).Introduction to Forensic Psychology: 3. Research and Application.USA: SAGE publications. 4. Carson, R.C., Butcher, J.N. & Mineka, S. (2000). Abnormal Psychology and 5. Modern Life. (11th Ed). New York: Alleyn & amp;amp; Bacon.
Web. URLs	1. https://epgp.inflibnet.ac.in/Home/ViewSubject?catid=eCJfy23Kjy3c0vICLa6VYg==

Tools for Assessment (25 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
5	5	6	3	3	3	25

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Ms. Archana Sunil	Mr. Akhil Benny

Course Code	Title		
23U4FRT503	Skill Based Paper – Internship		
Semester : V	Credits : 3	CIA : 30 Marks	ESE : 45 Marks
Course Objective	The objective of this course is to provide undergraduate students with hands-on experience in the working of various organisations in the field of criminal justice administration.		
Course Category	Skill Development		
Development Needs	Employability		
Course Description	This course provides undergraduate students with an opportunity to work with various agencies involved in the criminal justice system and get real time experience. This will develop skills in critical thinking, laboratory skills, and effective communication.		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	To understand the functions of various organisations involved in criminal justice administration.	Hands-on training	Review
CO 2	Analyse the administration and activities of the different agencies in the field of forensic science.	Hands-on training	Review
CO 3	Understand the scope of Forensic Science in various fields.	Hands-on training	Review
CO 4	Know the skillset require for a forensic scientist to work in the industry.	Hands-on training	Review
CO 5	Create knowledge and give it to the society.	Hands-on training	Review
Offered by	Forensic Science		

List of activities student must indulge in **Instructional Hours: 3 Hrs**

The students must undergo a 15-day internship in various labs/police station/ advocate office/court/ prison/ related industries to expose to the various agencies and their functioning

Details of the evaluation procedure:

(i) Student must complete all 15 days of internship work and produce certificate issued by the respective agency for proof.

(ii) A report comprise of the daily activities done by the student should be submitted within the stipulated time.

(iii) During the end semester examination, the evaluation will be done by a panel of examiners, including internal examiners.

(iv) A public viva voce, where the I, & II Year students will be the audience

Tools for Assessment CIA (30 Marks)				
Review - I	**Review - II**	**Review - III**	**Document Preparation & Implementation**	**Total**
7	**7**	**7**	**9**	**30**

ESE (45 Marks)	
Record Work and Presentation	**Viva voce**
30	**15**

Mapping													
CO \ PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	H	M	M	L	H	M	M	M	H	H	H	H	M
CO2	H	H	M	M	H	M	M	M	H	H	H	M	H
CO3	H	H	M	H	H	M	M	M	M	H	H	M	M
CO4	H	H	H	M	H	L	H	H	H	M	H	H	M
CO5	H	H	M	H	M	H	M	M	H	H	M	H	H
H-High; M-Medium; L-Low													

Course designed by	Verified by Chairman
Mr. Akhil Benny	Mr. Akhil Benny

Course Code	Title		
23U3FRC617	Core Paper XVII - Forensic Toxicology		
Semester : VI	Credits : 4	CIA : 25 Marks	ESE : 75 Marks

Course Objective	Develop knowledge and skill for the analysis of forensic toxicological samples
Course Category	Employability
Development Needs	Global
Course Description	Toxicology is the study of the action of poisons in the body. Forensic Toxicology deals with the identification of cause of death based on the analysis of body samples for various poisons.

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Know the biological action of various toxins inside body.	Lecture/Demonstration	Assignment
CO 2	Extract and isolate toxins.	Lecture/ Case studies	Case studies
CO 3	Provide first aid in toxicology related cases.	Lecture/Demonstration	Seminar
CO 4	Collect, pack and preserve toxicological evidences.	Lecture/Video lecture	Quiz
CO 5	Study the metabolism and extraction of common poisons in the body	Lecture/Demonstration	Assignment

Offered by	**Forensic Science**
Course Content	**Instructional Hours / Week : 5**

Unit	Description	Text Book	Chapters
I	**Introduction to Forensic Toxicology** Forensic toxicology: Introduction, Role of the toxicologist, significance of toxicological findings- Poisons, definition, classification on the basis of their origin, physiological action and chemical nature, types of poisoning- Modes of administration- Signs and symptoms of poisoning, its effect on vital functions- Medico legal and post-mortem findings and report writing.	1	11
	Instructional Hours		**15**
Suggested Learning Methods: Library extra reading			
II	**Drugs and its actions** Drugs: definition, classification and scope and forensic importance- Commonly consumed drugs, their mode of actions, symptoms, street names, methods of consumption- Analysis of drugs: chemical and instrumental. Spot tests and qualitative analysis- Importance of physical and biochemical instrumentation in the field of dug analysis.	1	21
	Instructional Hours		**15**
Suggested Learning Methods: Video lectures			

III	**Extraction, Collection and Analysis of Toxins** Extraction, isolation and clean up procedures: conventional and modern techniques. Application of chromatography for the separation of poison and drugs. Spectrophotometric techniques for the quantification of poisons and drugs- Examination of metallic poisons, snake venom, insect bites.	1	14
		Instructional Hours	**15**
Suggested Learning Methods: Laboratory practice			
IV	**Introduction to Pharmacology** Forensic pharmacology: definition, introduction- Absorption, distribution, metabolism, pathways of drug metabolism, drug metabolism and drug toxicity-Population and clinical pharmacokinetics and bio analytical techniques.	1	17
		Instructional Hours	**15**
Suggested Learning Methods: Video lectures			
V	**Collection of Evidences and Report Writing** Management of Toxicological cases in the hospital: Signs and symptoms of common poisons, antidotes and Stomach washing- Collection and preservation of viscera for various types of poisons: Choice of preservatives, containers and storage- Report writing in toxicological cases.	1	25
		Instructional Hours	**15**
Suggested Learning Methods: Hands on training			
		Total Hours	**75**

Text Books	1. Narayana Reddy K.S, Introduction to Forensic Medicine and Toxicology, 13th edition.
Reference Books	1. Modi's: Medical Jurisprudence & Toxicology, M. M. Trirathi Press Ltd. Allahabd, 1988. 2. S.N. Tiwari: Analytical Toxicology, Govt. of India Publications, New Delhi, 1987. 3. Saferstein, R: Forensic Science Hand Book, Vol I, II and III, Pretince Hall, NI, 1982. Saferstein, R: Criminalistics, 2002. 4. O Hara &Osterburg : Introduction to Criminalistics, 1949
Web. URLs	1. https://epgp.inflibnet.ac.in/Home/ViewSubject?catid=eCJfy23Kjy3c0vICLa6VYg==

Tools for Assessment (25 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
5	5	6	3	3	3	25

Mapping													
CO \ PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	M	M	H	H	L	M	-	-	-	H	H	-	-
CO2	M	H	H	H	L	L	M	-	-	H	H	-	L
CO3	H	M	M	L	L	L	-	L	-	H	H	-	M
CO4	M	H	H	H	L	-	M	-	-	H	H	-	-
CO5	M	H	H	H	L	M	-	-	-	H	H	-	-
H-High; M-Medium; L-Low													

Course designed by	**Verified by Chairman**
Ms. Archana Sunil	Mr. Akhil Benny

Course Code	Title		
23U3FRP618	Core Paper XVIII - Toxicology Practical		
Semester : VI	Credits : 3	CIA : 30 Marks	ESE : 45 Marks
Course Objective	t*oxicological* examination looks for the presence of drugs and/or poisons in biological tissues and fluids.		
Course Category	Employability		
Development Needs	Global		
Course Description	*Course is structured to provide the basic concepts of analytical methods as it applies to, drug and body fluid and other toxicologic evidences.*		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Learn the cleanup procedures of viscera	Demonstration / Video Lessons	Practical
CO 2	Learn the examination of ethanol and methanol	Demonstration	Practical
CO 3	Learn the distillation of alcoholic drinks.	Demonstration / Video Lessons	Practical
CO 4	Learn the systematic methods of collection and packing of toxicological samples.	Demonstration / Video Lessons	Practical
CO 5	To prepare a TLC plate and examination of drugs and pesticides.	Demonstration / Video Lessons	Practical

Offered by	Forensic Science
Course Content	Instructional Hours / Week : 4

S. No.	Experiment
1	Clean up procedure for viscera
2	Test for ethanol and methanol
3	TLC examination of pesticides
4	Preparation of different mobile phases and spraying reagents
5	Examination of plant poisons
6	Collection and packing of toxicological samples.
7	Extraction of drugs and poisons from different matrices.
8	Distillation of alcoholic drinks.
9	Preparation of TLC plates.
10	TLC examination of drugs
	TOTAL 60 Hours

Tools for Assessment (30 Marks)

Analytical Skill	Lab Performance	Inference	Test I	Test II	Observation	Total
4	4	4	7	7	4	30

Mapping													
CO \ PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	H	H	H	H	M	-	M	L	-	H	H	L	-
CO2	H	H	H	H	M	-	M	L	-	H	H	L	-
CO3	H	H	H	H	M	-	M	L	-	H	H	L	-
CO4	H	H	H	H	M	-	M	L	-	H	H	L	-
CO5	H	H	H	H	M	-	M	L	-	H	H	L	-
H-High; M-Medium; L-Low													

Course designed by	Verified by Chairman
Ms. Archana Sunil	Mr. Akhil Benny

Course Code	Title		
23U3FRV619	Core Paper XIX - Project and Viva voce		
Semester : VI	Credits : 3	CIA : 30 Marks	ESE : 45 Marks
Course Objective	The objective of this course is to provide undergraduate students with hands-on experience in conducting research projects, with a focus on developing skills in problem-solving, critical analysis, data collection, and effective communication.		
Course Category	Skill Development		
Development Needs	Employability		
Course Description	This course provides undergraduate students with an opportunity to design, plan, and execute a research project in their field of study, developing skills in critical thinking, data analysis, and effective communication.		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Explain the basic concepts of research in Forensic Science	Classroom	Review
CO 2	Write extensively about a particular topic.	Practical Training	Review
CO 3	Analyse literature, collect data and interpret it	Reading review articles	Review
CO 4	Choose a problem and conduct a scientific enquiry on it.	Laboratory/ Survey	Review
CO 5	Create knowledge and give it to the society.	Research paper writing	Review
Offered by	Forensic Science		

List of activities student must indulge in **Instructional Hours / Week : 6**

The students, under the guidance of a teacher shall take up a project on any relevant topic related to Forensic Science.

Details of the evaluation procedure:

(i) Each student will work on a topic/area of interest and conduct a micro level quantitative or qualitative study as their project work

(ii) The student has to submit a project report and should appear for a public viva voce before a panel of internal and external examiners

(iii) The project report will be evaluated at two levels- continuous assessment and end semester examination.

(iv) A public viva voce.

Project Guidelines

ARRANGEMENT OF CONTENTS:

The sequence in which the project report material should be arranged and bound is as follows:

1. Cover Page & Title Page
2. Table of Contents
3. List of Tables
4. List of Figures
5. List of Symbols, Abbreviations
6. Chapters
7. References
8. Appendices The table and figures shall be introduced in the appropriate places

Tools for Assessment CIA (30 Marks)				
Review - I	**Review - II**	**Review - III**	**Document Preparation & Implementation**	**Total**
7	**7**	**7**	**9**	**30**

ESE (45 Marks)	
Record Work and Presentation	**Viva Voce**
30	**15**

Mapping													
CO \ PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO 5**
CO1	H	M	-	L	M	H	L	M	M	L	H	M	L
CO2	H	L	L	M	L	H	M	M	L	H	H	M	L
CO3	H	M	-	H	M	H	H	L	M	H	H	M	L
CO4	H	H	H	M	H	H	H	M	L	M	H	M	L
CO5	M	M	M	H	L	H	M	L	L	H	M	M	L
H-High; M-Medium; L-Low													
Course designed by								**Verified by Chairman**					
Mr. Akhil Benny								Mr. Akhil Benny					

Course Code	Title		
23U3FRE604	Discipline Specific Elective Paper : II (A) – Anti Money Laundering and KYC		
Semester : VI	Credits : 4	CIA : 25 Marks	ESE : 75 Marks
Course Objective	To educate students on the principles and practices of Anti-Money Laundering (AML) and Know Your Customer (KYC) regulations, enabling them to recognize and prevent financial crimes effectively while complying with regulatory requirements.		
Course Category	Employability		
Development Needs	Global		
Course Description	This course covers Anti Money Laundering (AML) and Know Your Customer (KYC) basics. Students understand the rules, spot risks, and protect your business from fraud while following the law.		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Learn Money Laundering Methods	Lecture/Demonstration	Assignment
CO 2	Understand AML Legislation and International Cooperation	Lecture/Demonstration	Seminar
CO 3	Know about Financial Intelligence	Lecture/ tutorial	Quiz
CO 4	Acquire knowledge on Regulatory Bodies and Guidelines	Lecture/Video lecture	Assignment
CO 5	Understand KYC (Know Your Customer) and Customer Risk Management	Lecture/ Case studies	Case study

Offered by	Forensic Science
Course Content	Instructional Hours / Week : 6

Unit	Description	Text Book	Chapters
I	**Money Laundering Methods** Money Laundering: Definition and Significance, Impact of Money Laundering on the Global Economy, Financial Terrorism, Different Methods and Techniques Used in Money Laundering	1	1
		Instructional Hours	**18**
Suggested Learning Methods: **Powerpoint presentation**			
II	**AML Legislation and International Cooperation** Money Laundering Legislation in Different Countries International Cooperation Among Countries and International Bodies, Global Efforts and Coordination for AML and CFT Role of Financial Intelligence Units (FIUs)	1	2
		Instructional Hours	**18**
Suggested Learning Methods: Library extra reading			
III	Basel Committee on AML and KYC, Financial Action Task Force (FATE), Money Laundering and Correspondent Banking - AML structure in India - PMLA Objectives, Financial Intelligence	1	3
		Instructional Hours	**18**
Suggested Learning Methods: Online training			

IV	**Regulatory Bodies and Guidelines** Basel Committee on AML and KYC, Financial Action Task, Force (FATF) and Its Recommendations, AML Structure in India, Prevention of Money Laundering Act (PMLA) Objectives, RBI Guidelines, Key Agencies: FIU IND, ED, NIA, SFIO	1	4
		Instructional Hours	**18**
Suggested Learning Methods: Video lectures			
V	**KYC (Know Your Customer) and Customer Risk Management** Historical Overview of KYC and Regulatory Framework, Customer Acceptance Policy and Customer Identification Procedure, Risk Management in KYC, KYC for Different Types of Accounts and Customers, Monitoring Transactions and Reporting Obligations Under PML Act, Role of KYC in Fraud Control, Interconnectedness of KYC, AML, and CFT, Regulatory Coordination for AML, CFT, and KYC	1	5
		Instructional Hours	**18**
Suggested Learning Methods: Case studies			
		Total Hours	**90**

Text Books	1. Notes Compiled by the department of Forensic Science, Nehru Arts and Science College Coimbatore
Reference Books	1. Minahan, T. P. (Year of publication). Anti-Money Laundering: What You Need to Know. Publisher. 2. Minahan, T. P. (Year of publication). Anti-Money Laundering Compliance Handbook: A Practical Hands-On Guide for Compliance Professionals. Publisher. 3. Morini, M., & Cherubini, U. (Year of publication). Understanding and Managing Model Risk: A Practical Guide for Quants, Traders, and Validators. Publisher. 4. Barnes, P. (Year of publication). Anti Money Laundering and Know Your Customer. Publisher.

Tools for Assessment (25 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
5	5	6	3	3	3	25

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Mr. Akhil Benny	Mr. Akhil Benny

Course Code	Title		
23U3FRE605	Discipline Specific Elective Paper : II (B) – Audio and Video Identification		
Semester : VI	Credits : 4	CIA : 25 Marks	ESE : 75 Marks

Course Objective	To learn the acquisition, analysis, and evaluation of audio & video recordings and speaker identification by comparing voices that may ultimately be presented as admissible evidence in a court of law
Course Category	Skill development
Development Needs	Global
Course Description	Audio-Video forensics involves the scientific interpretation of audio & video recordings which are obtained from a civil investigation or criminal legal proceedings. speaker dentification usually consists of the both aural and spectrographic analysis of voice and identifying a person solely by their speech.

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Extract an audio or video clip from the source.	Lecture/Demonstration	Assignment
CO 2	Enhance the audio and video signals for examination	Lecture/ Case studies	Case studies
CO 3	Check the authenticity of an audio or video file	Lecture/Demonstration	Seminar
CO 4	Identification of the voice (speaker).	Lecture/Video lecture	Quiz
CO 5	Have a strong foundation on visual examination of audio spectra.	Lecture/Demonstration	Assignment

Offered by Forensic Science

Course Content **Instructional Hours / Week : 6**

Unit	Description	Text Book	Chapters
I	**Basic Circuits** Basic Electric Circuits - LR, CR, LCR circuits, Conventional Filters and Digital Filters (high pass filters, low pass filters). Noise Characteristics : Properties of Noise, Acoustic Characteristics of Environments-Diffraction, Reverberation and Diffusion. Recording Formats - Analog and Digital, Audio and Video file formats. Linear and Non –linear Editing.	1	1
		Instructional Hours	**18**
Suggested Learning Methods: Library extra reading			
II	**Introduction to video technology** Concept of Video film production - Introduction to video technology component of Digital Image Processing. Concept of Digital Water Marking. Visual examination technique on video frame image - Facial Image Recognition from video frame image.	1	2
		Instructional Hours	**18**
Suggested Learning Methods: Power point presentation			

III	**Forensic audio and video analysis** Introduction to Forensic Audio & Video Analysis: A basic understanding of forensic audio and video technology - Audio and Video Evidence handling procedures. Authentication of recorded audio and video. Scientific methodology of forensic audio-video analysis. Recovery of digital audio-video / Deleted Video & Audio Files recovery - Exporting evidence as video or still image files- Software used for audio and video analysis. Admissibility of audio and video evidence in court.	1	3
		Instructional Hours	**18**
Suggested Learning Methods: Online training			
IV	**Basics of speaker identification** Introduction: Forensic Speaker Identification, Forensic Phonetics- Forensic challenges in Voice recognition. Forensic Phonetic Parameters : Acoustic vs. Auditory Parameters, Linguistic vs. Non-Linguistic Parameters. Forensic Significance : Linguistic Analysis- Requirements on forensic-phonetic parameters. The human vocal tract and the production and description of speech parameters : Vocal tract structures. Forensic Significance – Vocal cord activity, Nasals and Nasalization. Phonetic Aspects of Speech : Articulators – Active/Passive, Phonemes –Segmental and Supra segmental, Prosodic features- Stress, Intonation, Duration, Syllables, Nasalization, Accent features.	1	4
		Instructional Hours	**18**
Suggested Learning Methods: Video lectures			
V	**Forensic speaker identification** Characterizing Forensic Speaker Identification: Speaker Recognition – Speaker Identification and Verification, Forensic Significance. Components of Speaker Recognition. Approaches to Speaker Recognition System of Auditory Analysis, Spectrographic approach or Voice Print Identification. Automatic Approach: Gaussian Mixture Models, Long Term Averaging, Vector Quantization, Hidden Markov Models, Neural Networks. Expressing Results in Forensic Speaker Recognition– Likelihood Ratio, Objective/Subjective Methods. Concept of Test and Error in Speaker Identification. Admissibility of Voice evidence in Court.	1	5
		Instructional Hours	**18**
Suggested Learning Methods: Power point presentation			
		Total Hours	**90**

Text Books	1. Notes compiled by the department of Forensic Science, Nehru Arts and Science College, Coimbatore.
Reference Books	5. Philip Rose; Forensic Speaker Identification, Taylor and Francis, Forensic Science Series, London (2002) 6. Bengold & Nelson Moryson; Speech and Audio signal processing, John Wiley & Sons, USA (1999) 7. Oscar Tosi; Voice Identification-Theory of Legal Applications, University Park Press, Baltimore (1979)

Tools for Assessment (25 Marks)													
CIA I		**CIA II**		**CIA III**		**Assignment**		**Seminar**		**Quiz**		**Total**	
5		**5**		**6**		**3**		**3**		**3**		**25**	
Mapping													
CO \ PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	H	H	H	H	M	L	L	-	-	H	H	M	-
CO2	H	H	H	H	M	L	M	-	-	H	H	M	-
CO3	H	H	H	H	M	L	M	-	-	H	H	M	-
CO4	H	H	H	H	M	L	M	-	-	H	H	M	-
CO5	H	L	L	H	M	L	L	-	-	H	H	M	-
H-High; M-Medium; L-Low													

Course designed by	Verified by Chairman
Mr. Akhil Benny	Mr. Akhil Benny

Course Code	Title		
23U3FRE606	Discipline Specific Elective Paper : II (A) – Criminology and Jurisprudence		
Semester : VI	Credits : 4	CIA : 25 Marks	ESE : 75 Marks
Course Objective	Gain a deep understanding of criminology and jurisprudence to analyze the causes of criminal behavior, evaluate legal systems, and promote effective strategies for crime prevention and justice.		
Course Category	Skill Development		
Development Needs	Global		
Course Description	Explores the science of crime and the principles of law in this course. Examine the causes of criminal behavior, the legal system's operations, and their societal implications. Perfect for those interested in criminal justice and legal studies.		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Know the basics of Criminology and Jurisprudence	Lecture/Demonstration	Assignment
CO 2	Understand the theories of crime.	Lecture/Demonstration	Seminar
CO 3	Acquire knowledge about criminal law and Justice	Lecture/ tutorial	Quiz
CO 4	Learn the Criminological Concepts	Lecture/Video lecture	Assignment
CO 5	Understand Jurisprudence and Legal Philosophy	Lecture/ Case studies	Case study

Offered by	Forensic Science

Course Content	Instructional Hours / Week : 6

Unit	Description	Text Book	Chapters
I	**Introduction to Criminology and Jurisprudence** Overview of Criminology and Jurisprudence as fields of study. Historical development of criminology and jurisprudence. Theories of crime causation. Legal systems and types of law.	1	1
		Instructional Hours	**18**
Suggested Learning Methods: **Powerpoint presentation**			
II	**Theories of Crime** Classical, Positivist, and Contemporary theories of crime. Understanding criminal behaviour. Social, psychological, and biological factors in crime	1	2
		Instructional Hours	**18**
Suggested Learning Methods: Library extra reading			
III	**Criminal Law and Justice** Introduction to criminal law principles. Elements of a crime. Criminal defenses and culpability. Criminal procedure and the justice system.	1	3
		Instructional Hours	**18**
Suggested Learning Methods: Online training			

IV	**Criminological Concepts** Types of crime: property crime, violent crime, whitecollar crime, etc. Criminal justice agencies and their roles. Punishment and sentencing. Victimology and restorative justice.	1	4
		Instructional Hours	**18**
Suggested Learning Methods: Video lectures			
V	**Jurisprudence and Legal Philosophy** Schools of jurisprudence: Natural law, Legal positivism, etc. Human rights and legal ethics. Critical legal studies and feminist jurisprudence. The relationship between law and morality	1	5
		Instructional Hours	**18**
Suggested Learning Methods: Case studies			
		Total Hours	**90**

Text Books	2. Notes Compiled by the department of Forensic Science, Nehru Arts and Science College Coimbatore
Reference Books	5. Siegel, L. J., & McCormick, C. (2021). Criminology. Cengage Learning. 6. Schmalleger, F. (2021). Criminal Justice: A Brief Introduction. Pearson. 7. Weisburd, D., & Eck, J. E. (2005). The Criminology of Place: Street Segments and Our Understanding of the Crime Problem. Oxford University Press. 8. Vago, S. (2018). Law and Society: An Introduction. Routledge. 9. Bartol, C. R., & Bartol, A. M. (2021). Criminal Behavior: A Psychological Approach. Pearson. 10. Liebling, A., Maruna, S., & McAra, L. (2011). The Oxford Handbook of Criminology. Oxford University Press. 11. Bix, B. (2018). Jurisprudence: Theory and Context. Routledge.

Tools for Assessment (25 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
5	5	6	3	3	3	25

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Mr. Akhil Benny	Mr. Akhil Benny

Course Code	Title		
23U3FRE607	Discipline Specific Elective Paper : III (A) - Forensic Finance		
Semester : VI	Credits : 4	CIA : 25 Marks	ESE : 75 Marks
Course Objective	Learn to *identify analyse and provide evidence that financial fraud has taken place*		
Course Category	Employability		
Development Needs	Global		
Course Description	Financial forensics is a field that combines criminal investigation skills with financial auditing skills to identify criminal financial activity coming from within or outside of an organization.		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Acquire knowledge about the concept of Forensic Finance	Lecture/Demonstration	Assignment
CO 2	To learn various Financial Analysis Techniques	Lecture/Demonstration	Seminar
CO 3	Acquire skills to detect and prevent Fraud	Lecture/ tutorial	Quiz
CO 4	Know about various investigative techniques and tools	Lecture/Video lecture	Assignment
CO 5	Learn the Professional Conduct and legal framework	Lecture/ Case studies	Case study

Offered by	Forensic Science

Course Content	Instructional Hours / Week : 6

Unit	Description	Text Book	Chapters
I	**Introduction and operation analysis** Definition of Forensic Finance, History and Evolution of Forensic Finance, Role of Forensic Finance in Investigations and Litigation Business Model and Strategy, Industry and Market Analysis, Customer Base and Revenue Streams, Operations and Supply Chain, Human Resources and Management	1	1
	Instructional Hours		**18**
Suggested Learning Methods: **Powerpoint presentation**			
II	**Financial Analysis Techniques** Financial Statement Analysis, Ratio Analysis, Cash Flow Analysis, Projections and Forecasts, Valuation Methods, key performance indicators	1	2
	Instructional Hours		**18**
Suggested Learning Methods: Library extra reading			
III	**Fraud Detection and Prevention** Types of Financial Fraud, Red Flags and Warning Signs, Fraud Detection Techniques, Fraud Prevention Strategies	1	3
	Instructional Hours		**18**
Suggested Learning Methods: Online training			

IV	**Investigative Techniques and Tools** Interviewing Techniques, Document Analysis, Digital Forensics Data Mining and Analysis, Case Management Software	1	4
		Instructional Hours	**18**
Suggested Learning Methods: Video lectures			
V	**Professional Conduct and legal framework** Code of Conduct and Professional Standards, Confidentiality and Data Protection, Conflict of Interest and Independence, Communication and Transparency. Laws and Regulations Governing Financial Crimes in India, Investigation and Litigation Process in India, Expert Witness Testimony and Reports in India	1	5
		Instructional Hours	**18**
Suggested Learning Methods: Case studies			
		Total Hours	**90**

Text Books	3. Notes Compiled by the department of Forensic Science, Nehru Arts and Science College Coimbatore
Reference Books	12. Forensic Accounting and Fraud Examination by William S. Hopwood, Jay J. Leiner, and George R. Young 13. Financial Investigation and Forensic Accounting, Third Edition by George A. Manning and Richard A. Simpson 14. Forensic Analytics: Methods and Techniques for Forensic Accounting Investigations by Mark Nigrini 15. Fraud Examination, Fifth Edition by W. Steve Albrecht, Chad O. Albrecht, Conan C. Albrecht, and Mark F. Zimbelman 16. Principles of Fraud Examination, Fourth Edition by Joseph T. Wells

Tools for Assessment (25 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
5	5	6	3	3	3	25

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Mr. Akhil Benny	Mr. Akhil Benny

Course Code	Title		
23U3FRE608	Discipline Specific Elective Paper : III (B) – Mobile and Wireless Device Forensics		
Semester : VI	Credits : 4	CIA : 25 Marks	ESE : 75 Marks
Course Objective	Master the techniques and tools required to investigate, recover, and analyze digital evidence from mobile and wireless devices, preparing you for roles in law enforcement, cybersecurity, and digital forensics.		
Course Category	Skill Development		
Development Needs	Global		
Course Description	This course covers the fundamentals of forensic examination for mobile devices, such as smartphones and tablets. Students will learn to acquire, analyze, and report digital evidence from these devices		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Learn the basics of Mobile and Wireless Technologies	Lecture/Demonstration	Assignment
CO 2	Understand Mobile and Wireless Devices Security	Lecture/Demonstration	Seminar
CO 3	Gain an overview of Mobile Forensics	Lecture/ tutorial	Quiz
CO 4	Understand Android Forensics	Lecture/Video lecture	Assignment
CO 5	Know iOS Forensics	Lecture/ Case studies	Case study

Offered by Forensic Science

Course Content Instructional Hours / Week : 6

Unit	Description	Text Book	Chapters
I	**Introduction to Mobile and Wireless Technologies** Asynchronous Transfer Mode (ATM), Wireless Application Protocol (WAP). Cellular technologies including Advanced Mobile Phone System (AMPS), Imode, Time Division Multiple Access (TDMA), Code Division Multiple Access (CDMA) and Global System for Mobile Communications (GSM) including features and relative strengths. Functions of Subscriber Identity Module (SIM), International Mobile Equipment Identity (IMEI), Bluetooth and Mobile Payment Gateways. Understanding of the mobile phone operating systems – Android, iOS, Windows.	1	1
		Instructional Hours	**18**
Suggested Learning Methods: **Power point presentation**			
II	**Mobile and Wireless Devices Security** Security issues in Bluetooth, Mobile phones including SIM cloning and other Bluetooth vulnerabilities. Attacks - Denial of Service (DOS), Packet Spoofing & Masquerading, Eavesdropping, VOIP Spam and Vishing (VOIP Phishing), Toll frauds, Phone Phreaking, Call tampering, Wireless Hack Walkthrough and Manin-the-Middle-attacks. Overview of WEP attack. Attacks on WEP, WPA and WPA-2 Encryption, fake hotspots. Wireless Public Key Infrastructure. Securing WLAN, WEP Decryption script, Understanding of SQLite Databases. Voice, SMS and Identification Data Interception in GSM. SMS security issues – Availability, Confidentiality and Integrity issues.	1	2

		Instructional Hours	**18**
Suggested Learning Methods: Library extra reading			
III	**Overview of Mobile Forensics** Mobile Forensic, Types of Evidence present in mobile phones - Files present in SIM card, external memory dump, and evidences in memory card. Seizure and Preservation of mobile phones and PDA. Mobile phone evidence extraction process, Data Acquisition Methods – Physical, File System, Logical and Manual Acquisition. Good Forensic Practices, Mobile Forensic Investigation Toolkit. Tracking of mobile phone location. Challenges to Mobile forensics.	1	3
		Instructional Hours	**18**
Suggested Learning Methods: Online training			
IV	**Android Forensics** Android Forensics – Procedures for handling android device, imaging android USB mass storage devices, Logical and physical data extraction techniques. Data recovery techniques. Forensic tools used. CDR and IPDR analysis.	1	4
		Instructional Hours	**18**
Suggested Learning Methods: Video lectures			
V	**iOS Forensics** iOS Forensics – File Systems, iOS architecture, Data stored in iPhones, Crosscontamination and Syncing, Data extraction - Extracting Image Geo-Tags, Data Analysis and Recovery - SQLite databases, Forensic Tools used.	1	5
		Instructional Hours	**18**
Suggested Learning Methods: Case studies			
		Total Hours	**90**

Text Books	4. Notes Compiled by the department of Forensic Science, Nehru Arts and Science College Coimbatore
Reference Books	17. Reiber, Lee. "Mobile Forensic Investigations: A Guide to Evidence Collection, Analysis, and Presentation." 18. Hoog, Andrew. "Android Forensics: Investigation, Analysis, and Mobile Security for Google Android." 19. Morrissey, Sean. "iOS Forensic Analysis: for iPhone, iPad, and iPod touch." 20. Davidoff, Sherri, and Jonathan Ham. "Network Forensics: Tracking Hackers through Cyberspace." 21. Bergman, Neil, Mike Stanfield, and Jason Rouse. "Hacking Exposed Mobile: Security Secrets & Solutions." 22. Johansen, Gerard. "Digital Forensics and Incident Response: A Practical Guide to Deploying Digital Forensics and Incident Response."

Tools for Assessment (25 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
5	5	6	3	3	3	25

Mapping													
CO \ PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	H	M	L	L	H	-	-	-	-	H	H	L	-
CO2	H	H	M	H	L	-	M	-	-	H	H	M	-
CO3	H	H	M	H	L	-	M	-	-	H	H	M	-
CO4	H	H	H	H	L	-	-	-	-	H	H	M	-
CO5	H	M	L	L	M	-	-	-	-	M	H	M	-
H-High; M-Medium; L-Low													

Course designed by	Verified by Chairman
Mr. Akhil Benny	Mr. Akhil Benny

Course Code	Title		
23U3FRE609	Discipline Specific Elective Paper : III (C) – Interrogation Techniques		
Semester : VI	Credits : 4	CIA : 25 Marks	ESE : 75 Marks
Course Objective	Master effective and ethical interrogation techniques to extract valuable information, enhance investigative skills, and ensure compliance with legal and ethical standards		
Course Category	Skill Development		
Development Needs	Global		
Course Description	Learn the skills and strategies for conducting effective and ethical interrogations. This course covers communication, rapport-building, and legal aspects, benefiting law enforcement and security professionals.		

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Understand the Psychophysiological Basis of the Forensic Assessment	Lecture/Demonstration	Assignment
CO 2	Gain an insight into the preparation for the Interview/Interrogation	Lecture/Demonstration	Seminar
CO 3	Learn the methods of advanced Interrogation Techniques	Lecture/ tutorial	Quiz
CO 4	Know question formulation and Cognitive Interviewing	Lecture/Video lecture	Assignment
CO 5	Acquire knowledge on Specialized Interrogation Scenarios	Lecture/ Case studies	Case study

Offered by	Forensic Science

Course Content	Instructional Hours / Week : 6

Unit	Description	Text Book	Chapters
I	Psychophysiological Basis of the Forensic Assessment Introduction to Psychophysiology in Interrogation Understanding the Physiology of Stress Responses Polygraph Examination and its Application in Interrogations Ethical Considerations in Psychophysiological Interrogations	1	1
		Instructional Hours	18
Suggested Learning Methods: Powerpoint presentation			
II	Preparation for the Interview/Interrogation The Importance of PreInterview Preparation Developing an Interview Strategy Gathering Background Information and Intelligence Legal and Ethical Considerations in PreInterview Preparation	1	2
		Instructional Hours	18
Suggested Learning Methods: Library extra reading			
III	Advanced Interrogation Techniques Morgan Interview Theme Technique (MITT) Forensic Statement Analysis Projective Analysis of Unwitting Verbal Cues Traditional Scoring of the Forensic Assessment Interview (FAINT) The Validation of the Forensic Assessment Interview (FAINT)	1	3
		Instructional Hours	18
Suggested Learning Methods: Online training			

IV	Question Formulation and Cognitive Interviewing Question Formulation: Irrelevant, Relevant, and Comparison Questions Cognitive Interviewing Techniques Enhancing Memory Recall in Witnesses and Suspects Ethical Considerations in Questioning and Cognitive Interviewing	1	4
		Instructional Hours	**18**
Suggested Learning Methods: Video lectures			
V	Specialized Interrogation Scenarios Interviewing Witnesses and Victims Hypnosis in Interrogation Preemployment Interviewing Passenger Screening with Verbal and Nonverbal Cues The Integrated Interrogation Technique Understanding Aggressive Behavior and Dealing with Angry People.	1	5
		Instructional Hours	**18**
Suggested Learning Methods: Case studies			
		Total Hours	**90**

Text Books	5. Notes Compiled by the department of Forensic Science, Nehru Arts and Science College Coimbatore
Reference Books	23. Inbau, F. E., Reid, J. E., Buckley, J. P., & Jayne, B. C. (2013). Essentials of the Reid Technique: Criminal Interrogation and Confessions. Jones & Bartlett Learning. 24. Inbau, F. E., Reid, J. E., Buckley, J. P., & Jayne, B. C. (2011). Criminal Interrogation and Confessions. Jones & Bartlett Learning. 25. Rabon, D., & Rabon, R. (2013). Interviewing and Interrogation: The Discovery of Truth. CRC Press. 26. Bull, R., Bilby, C., & Cooke, C. (2009). The Investigator's Guide to Behavioral Profiling. Springer. 27. Zulawski, D. E., & Wicklander, D. E. (2002). Practical Aspects of Interview and Interrogation. CRC Press.

Tools for Assessment (25 Marks)

CIA I	CIA II	CIA III	Assignment	Seminar	Quiz	Total
5	5	6	3	3	3	25

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by Chairman
Mr. Akhil Benny	Mr. Akhil Benny

Course Code	Title		
23U4FRZ604	Skill Based Paper IV - Outdoor Training		
Semester : VI	Credits : 3	CIA : 30 Marks	ESE : 45 Marks

Course Objective	To make the students competent for physical tests
Course Category	Skill Development
Development Needs	National
Course Description	Police jobs in India demands specific fitness benchmarks. This course id designed to train the learner to develop physical strength in this regard.

Course Outcomes		Teaching Methods	Assessment Methods
CO 1	Do physical exercises which keep them healthy.	Outdoor Activities	Physical test
CO 2	Do basic drill movements	Outdoor Activities	Physical test
CO 3	Play various games which require physical strength.	Outdoor Activities	Physical test
CO 4	Follow commands properly and coordinate with team mates.	Outdoor Activities	Physical test
CO 5	Showcase lifesaving skills and self defense tactics.	Outdoor Activities	Physical test

Offered by	**Forensic Science**

List of activities student must indulge in **Instructional Hours / Week : 3**

1. Drill- Parade, march past, turnings, salute
2. Physical Training
• Running
• Stretching Exercises
• Cardio Training
• Endurance Training
• Muscle Building Exercises (Push-ups, Sit-ups, Chin-ups, etc.)
3. Yoga
4. Self Defense Training
5. Games : Kabadi, Football,

Internal evaluation

The students need to perform the Parade individually and, in the contingent, to make sure the effective assessment of Drill movements and synchronization within the contingent.

External Evaluation

Students' progress in learning drill movements and march past will be assessed both individually and as part of contingent.

Apart from the Parade students' performance will also be measured in terms of physical activity tests such as Running700 meters, push-ups, sit-ups and Chin-ups.

A person with substantial experience in outdoor training and Parade will be invited as the External Examiner. Both internal and external examiner will assess the performance of the student in the evaluation.

Tools for Assessment CIA (30 Marks)						
Activity I	**Activity II**	**Activity III**	**Activity IV**	**Activity V**	**Activity VII**	**Total**
4	**4**	**4**	**7**	**7**	**4**	**30**

ESE (45Marks)			
Activity - I	**Activity - II**	**Activity - III**	**Activity - IV**
15	**15**	**10**	**5**

Mapping													
CO \ PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	H	H	H	L	M	M	L	M	M	H	H	M	M
CO2	M	M	M	M	H	M	M	M	H	H	H	M	H
CO3	H	L	M	H	M	M	L	H	M	H	H	M	M
CO4	M	H	L	M	L	L	H	M	H	M	H	H	M
CO5	M	M	H	H	M	H	M	H	H	H	M	H	H
H-High; M-Medium; L-Low													

Course designed by	Verified by Chairman
Mr. Akhil Benny	Mr. Akhil Benny

Course Code	Title	
23UFRSS02	Self-Study Paper- Occupational Safety	
Semester : II-V	Credits : 1	ESE : 50 Marks
Course Objective	Explain the concept of health and safety culture and its significance in the management of health and safety in industry and organisations.	
Course Category	Employability	
Development Needs	Global	
Course Description	Develop the ability to apply knowledge of health and safety inspection at a workplace.	

Course Outcomes	
CO 1	Outline the scope and nature of occupational health and safety
CO 2	Explain the moral, social, and economic reasons for maintaining and promoting good standards of health and safety in the workplace
CO 3	Explain the role of national governments and international bodies in formulating a framework for the regulation of health and safety.
CO 4	Describe the key features and appropriate content of an effective health and safety policy.
CO 5	Outline the control measures that should be taken when working with electrical systems or using electrical equipment in all normal workplace conditions.

Offered by	Forensic Science

Course Content

Unit	Description
I	**Introduction to Occupational Health and Safety:** Foundations in health and safety
II	**Health and Safety Management Systems:** Health and safety management systems – Plan, Health and safety management systems - Do
III	**Workplace Hazards and Risk Control:** Workplace hazards and risk control
IV	**Specific Workplace Hazards and Risks** Electrical safety, Fire safety
V	**Health and Safety Practical Application** Health and safety practical application
Text Books	NEBOSH. (2023). International General Certificate In Occupational Health and Safety
Reference Books	RMS Publishing. (2019). A Study Book For The NEBOSH National General Certificate: Essential Health & Safety Guide.

Mapping

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

H-High; M-Medium; L-Low

Course designed by	Verified by
Mr. Akhil Benny	Mr. Akhil Benny

Course Code	Title	
23UFRSS01	Self Study Paper – Martial Arts	
Semester : II - VI	Credits : 1	ESE : 50 Marks
Course Objective	To make the students competent for physical tests	
Course Category	Skill Development	
Development Needs	National	
Course Description	Police jobs in India demands specific fitness benchmarks. This course id designed to train the learner to develop physical strength in this regard.	
Course Outcomes		
CO 1	Do physical exercises which keep them healthy.	
CO 2	Do basic drill movements	
CO 3	Play various games which require physical strength.	
CO 4	Follow commands properly and coordinate with team mates.	
CO 5	Showcase lifesaving skills and self defense tactics.	
Offered by	Forensic Science	

List of activities student must indulge in

1. Physical Training
   - Running
   - Stretching Exercises
   - Cardio Training
   - Endurance Training
   - Muscle Building Exercises (Push-ups, Sit-ups, Chin-ups, etc.)
2. Self-Défense Training
   - Any form of martial art with its all-preliminary steps/sets and training.

Internal evaluation

The students need to perform both activities individually to make sure the effective assessment.

External Evaluation

Students' progress in both activities individually will be assessed both individually and as part of contingent.

Apart from the Parade students' performance will also be measured in terms of physical activity tests such as Running700 meters, push-ups, sit-ups and Chin-ups.

A person with substantial experience in outdoor training and Parade will be invited as the External Examiner. Both internal and external examiner will assess the performance of the student in the evaluation.

Mapping													
CO \ PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	H	H	H	L	M	M	L	M	M	H	H	M	M
CO2	M	M	M	M	H	M	M	M	H	H	H	M	H
CO3	H	L	M	H	M	M	L	H	M	H	H	M	M
CO4	M	H	L	M	L	L	H	M	H	M	H	H	M
CO5	M	M	H	H	M	H	M	H	H	H	M	H	H
H-High; M-Medium; L-Low													

Course designed by	Verified by
Mr. Akhil Benny	Mr. Akhil Benny