

**Dr. N.G.P. ARTS AND SCIENCE COLLEGE**  
**REGULATIONS 2023-24 for Under Graduate Programme**  
**(Outcome Based Education model with Choice Based Credit System)**

**B. Sc Clinical Laboratory Technology**

(For the students admitted during the academic year 2023-24 and onwards)

**B.Sc Clinical Laboratory Technology**

**Eligibility:**

A pass in Higher Secondary Examination with Physics / Botany/ Chemistry / Zoology / Biology/ Nursing/ Microbiology/ Bio Chemistry/ Home Science or Diploma in Pharmacy / DMLT / Pharmacology as one of the subjects as one of the subject and as per the norms set by the Government of Tamil Nadu or an Examination accepted as equivalent thereto by the Academic Council, subject to such conditions as may be prescribed thereto are permitted to appear and qualify for the **Bachelor of Science (Clinical Laboratory Technology)** Degree Examination of this College after a course study of three academic years.

**Programme Objectives:**

The Curriculum is designed to attain the following learning goals which students shall accomplish by the time of their graduation:

1. Attain careers as practicing laboratory technicians in fields such as clinical laboratories, hospitals, clinical research centers, biotechnology laboratories, equipment manufacturing industries.
2. Attain advanced studies in disciplines such as Microbiology, Medical Laboratory Technology, Biochemistry, Biotechnology, Hospital Administration, Hospital Records Management, etc.,.
3. Assume professional leadership roles.



**PROGRAM OUTCOMES:**

On the successful completion of the program, the following are the expected outcomes.

| <b>PO Number</b> | <b>PO Statement</b>                                                                                                                                                                        |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PO1</b>       | The students are familiarized with theoretical and practical aspects of life science education.                                                                                            |
| <b>PO2</b>       | Students are encouraged to recognize and appreciate life processes taking place in human body.                                                                                             |
| <b>PO3</b>       | Students are exposed to modern tools and techniques adopted in the medical field and are motivated to apply the contextual knowledge for analysis and interpretation of data.              |
| <b>PO4</b>       | Students are kindled to realize the need for lifelong learning and need for sustainable development.                                                                                       |
| <b>PO5</b>       | Students are encouraged to understand and follow ethical principles and practices and function effectively as an individual or team thereby achieve employability/entrepreneurship skills. |



**For students admitted in AY 23-24 and onwards**  
**Credit distribution for all UG programmes**

| Part                        | Subjects                                                        | No. of Papers | Credit     | Semester No.  |
|-----------------------------|-----------------------------------------------------------------|---------------|------------|---------------|
| <b>I</b><br>(12 Credits)    | Tamil / Hindi / French/Malayalam                                | 4             | 4 x 3 = 12 | I & IV        |
| <b>II</b><br>(12 Credits)   | English                                                         | 4             | 4 x 3 = 12 | I & IV        |
| <b>III</b><br>(108 Credits) | Core (Credits 2,3,4,5 )                                         | 16-19         | 70         | I to VI       |
|                             | Inter Departmental Course (IDC)                                 | 4             | 16         | I to IV       |
|                             | Discipline Specific Elective (DSE)                              | 3             | 3 x 4 =12  | V & VI        |
|                             | Skill Enhancement Course(SEC)                                   | 4             | 8          | III ,IV,V& VI |
|                             | Industrial Training                                             | 1             | 2          | V             |
| <b>IV</b><br>(8 Credits)    | Environmental Studies (AECC)                                    | 1             | 2          | I             |
|                             | Basic Tamil/ Advance Tamil /Human Rights &Women's Rights (AECC) | 1             | 2          | II            |
|                             | Innovation & IPR/Innovation, IPR &Entrepreneurship (AECC)       | 1             | 2          | VI            |
|                             | Generic Elective(GE) (AECC)                                     | 1             | 2          | V             |
| <b>V</b><br>(2 Credits)     | NSS/NCC/YRC/RRC/Yoga/<br>Sports/Clubs                           | -             | 2          | I-II          |
| <b>TOTAL CREDITS</b>        |                                                                 |               | <b>142</b> |               |




## CURRICULUM

## CLINICAL LABORATORY TECHNOLOGY A.Y : 23-24

| Course Code           | Course Category    | Course Name                          | L         | T        | P        | Exam (hours) | Max Marks |     |            | Credits   |
|-----------------------|--------------------|--------------------------------------|-----------|----------|----------|--------------|-----------|-----|------------|-----------|
|                       |                    |                                      |           |          |          |              | CIA       | ESE | Total      |           |
| <b>First Semester</b> |                    |                                      |           |          |          |              |           |     |            |           |
| <b>Part- I</b>        |                    |                                      |           |          |          |              |           |     |            |           |
| 231TL1A1TA            | Language-I         | Tamil-I                              | 4         | 1        | -        | 3            | 25        | 75  | 100        | 3         |
| 231TL1A1HA            |                    | Hindi-I                              |           |          |          |              |           |     |            |           |
| 231TL1A1MA            |                    | Malayalam-I                          |           |          |          |              |           |     |            |           |
| 231TL1A1FA            |                    | French -I                            |           |          |          |              |           |     |            |           |
| <b>Part- II</b>       |                    |                                      |           |          |          |              |           |     |            |           |
| 231EL1A1EA            | Language-II        | English - I                          | 4         | -        | 1        | 3            | 25        | 75  | 100        | 3         |
| <b>Part- III</b>      |                    |                                      |           |          |          |              |           |     |            |           |
| 233CL1A1CA            | Core - I           | Human Anatomy and Physiology         | 4         | 1        | -        | 3            | 25        | 75  | 100        | 4         |
| 233CL1A1CB            | Core -II           | General Biochemistry                 | 4         | -        | -        | 3            | 25        | 75  | 100        | 4         |
| 233CL1A1CP            | Core Practical - I | Biochemistry                         | -         | -        | 6        | 6            | 40        | 60  | 100        | 3         |
| 234IT1A1IA            | IDC - I            | Basics of Information Technology     | 3         | -        | -        | 3            | 25        | 75  | 100        | 3         |
| <b>Part-IV</b>        |                    |                                      |           |          |          |              |           |     |            |           |
| 233MB1A1AA            | AECC-I             | Environmental Studies                | 2         | -        | -        | -            | 50        | -   | 50         | 2         |
| <b>Part - V</b>       |                    |                                      |           |          |          |              |           |     |            |           |
| 233CL1A1XA            | Extension Activity | NSS/NCC/ YRC/RRC/ Yoga/Sports/ Clubs |           |          |          |              | 50        |     | 50         | 1         |
| <b>Total</b>          |                    |                                      | <b>21</b> | <b>2</b> | <b>7</b> |              |           |     | <b>700</b> | <b>23</b> |

*[Signature]*  
 BoS Chairman/HoD  
 Department of Clinical Laboratory Technology  
 Dr. N. G. P. Arts and Science College  
 Coimbatore - 641 048

|                                                                                                                         |                    |                   |
|-------------------------------------------------------------------------------------------------------------------------|--------------------|-------------------|
|  Dr. N.G.P. Arts and Science College |                    |                   |
| <b>APPROVED</b>                                                                                                         |                    |                   |
| BoS-15<br>9/6/2023                                                                                                      | AC-15<br>14/7/2023 | GB-20<br>5/8/2023 |



| Course Code                            | Course Category    | Course Name                                                             | L         | T        | P        | Exam (h) | Max Marks |     |            | Credits   |
|----------------------------------------|--------------------|-------------------------------------------------------------------------|-----------|----------|----------|----------|-----------|-----|------------|-----------|
|                                        |                    |                                                                         |           |          |          |          | CIA       | ESE | Total      |           |
| <b>Second Semester</b>                 |                    |                                                                         |           |          |          |          |           |     |            |           |
| <b>Part-I</b>                          |                    |                                                                         |           |          |          |          |           |     |            |           |
| 231TL1A2TA                             | Language-I         | Tamil-II                                                                | 4         | 1        | -        | 3        | 25        | 75  | 100        | 3         |
| 231TL1A2HA                             |                    | Hindi-II                                                                |           |          |          |          |           |     |            |           |
| 231TL1A2MA                             |                    | Malayalam- II                                                           |           |          |          |          |           |     |            |           |
| 231TL1A2FA                             |                    | French -II                                                              |           |          |          |          |           |     |            |           |
| <b>Part- II</b>                        |                    |                                                                         |           |          |          |          |           |     |            |           |
| 231EL1A2EA                             | Language-II        | English - II                                                            | 4         | -        | 1        | 3        | 25        | 75  | 100        | 3         |
| <b>Part- III</b>                       |                    |                                                                         |           |          |          |          |           |     |            |           |
| 233CL1A2CA                             | Core - III         | Bioanalytical Techniques                                                | 3         | -        | -        | 3        | 25        | 75  | 100        | 3         |
| 233CL1A2CB                             | Core - IV          | Intermediary Metabolism and Metabolic Disorders                         | 4         | -        | -        | 3        | 25        | 75  | 100        | 4         |
| 233CL1A2CP                             | Core Practical -II | Clinical Biochemistry-I                                                 | -         | -        | 4        | 4        | 40        | 60  | 100        | 2         |
| 234IT1A2IP                             | IDC - II           | Computer Applications in Clinical Laboratory                            | 3         | -        | 4        | 3        | 40        | 60  | 100        | 5         |
| <b>Part-IV</b>                         |                    |                                                                         |           |          |          |          |           |     |            |           |
| 231TL1A2AA<br>231TL1A2AB<br>235CR1A2AA | AECC-II            | Basic Tamil/<br>Advance Tamil<br>/Human Rights<br>and Women's<br>Rights | 2         | -        | -        | -        | 50        | -   | 50         | 2         |
| <b>Part-V</b>                          |                    |                                                                         |           |          |          |          |           |     |            |           |
| 233CL1A2XA                             | Extension Activity | NSS/NCC/<br>YRC/RRC/<br>Yoga/Sports/<br>Clubs                           | -         | -        | -        | -        | 50        | -   | 50         | 1         |
| <b>Total</b>                           |                    |                                                                         | <b>20</b> | <b>1</b> | <b>9</b> |          |           |     | <b>700</b> | <b>23</b> |



| Course Code           | Course Category     | Course Name                               | L         | T        | P        | Exam (h) | Max Marks |     |            | Credits   |
|-----------------------|---------------------|-------------------------------------------|-----------|----------|----------|----------|-----------|-----|------------|-----------|
|                       |                     |                                           |           |          |          |          | CIA       | ESE | Total      |           |
| <b>Third Semester</b> |                     |                                           |           |          |          |          |           |     |            |           |
| <b>Part-I</b>         |                     |                                           |           |          |          |          |           |     |            |           |
| 231TL1A3TA            | Language-I          | Tamil-III                                 | 3         | 1        | -        | 3        | 25        | 75  | 100        | 3         |
| 231TL1A3HA            |                     | Hindi-III                                 |           |          |          |          |           |     |            |           |
| 231TL1A3MA            |                     | Malayalam- III                            |           |          |          |          |           |     |            |           |
| 231TL1A3FA            |                     | French - III                              |           |          |          |          |           |     |            |           |
| <b>Part- II</b>       |                     |                                           |           |          |          |          |           |     |            |           |
| 231EL1A3EA            | Language - II       | English - III                             | 3         | 1        | -        | 3        | 25        | 75  | 100        | 3         |
| <b>Part- III</b>      |                     |                                           |           |          |          |          |           |     |            |           |
| 233CL1A3CA            | Core- V             | Clinical Pathology                        | 5         | -        | -        | 3        | 25        | 75  | 100        | 5         |
| 233CL1A3CB            | Core- VI            | Histopathology                            | 5         | -        | -        | 3        | 25        | 75  | 100        | 5         |
| 233CL1A3CP            | Core Practical- III | Pathology                                 | -         | -        | 6        | 6        | 40        | 60  | 100        | 3         |
| 233FN1A3IA            | IDC - III           | Clinical Nutrition                        | 3         | -        | -        | 3        | 25        | 75  | 100        | 3         |
| 233CL1A3SA            | SEC-I               | Laboratory Automation and Quality Control | 3         | -        | -        | 3        | 25        | 75  | 100        | 2         |
| <b>Total</b>          |                     |                                           | <b>22</b> | <b>2</b> | <b>6</b> |          |           |     | <b>700</b> | <b>24</b> |



| Course Code            | Course Category     | Course Name                              | L         | T        | P        | Exam (h) | Max Marks |     |            | Credits   |
|------------------------|---------------------|------------------------------------------|-----------|----------|----------|----------|-----------|-----|------------|-----------|
|                        |                     |                                          |           |          |          |          | CIA       | ESE | Total      |           |
| <b>Fourth Semester</b> |                     |                                          |           |          |          |          |           |     |            |           |
| <b>Part-I</b>          |                     |                                          |           |          |          |          |           |     |            |           |
| 231TL1A4TA             | Language-I          | Tamil-IV                                 | 3         | 1        | -        | 3        | 25        | 75  | 100        | 3         |
| 231TL1A4HA             |                     | Hindi-IV                                 |           |          |          |          |           |     |            |           |
| 231TL1A4MA             |                     | Malayalam- IV                            |           |          |          |          |           |     |            |           |
| 231TL1A4FA             |                     | French - IV                              |           |          |          |          |           |     |            |           |
| <b>Part- II</b>        |                     |                                          |           |          |          |          |           |     |            |           |
| 231EL1A4EA             | Language-II         | English - IV                             | 3         | 1        | -        | 3        | 25        | 75  | 100        | 3         |
| <b>Part- III</b>       |                     |                                          |           |          |          |          |           |     |            |           |
| 233CL1A4CA             | Core- VII           | Molecular Biology                        | 3         | -        | -        | 3        | 25        | 75  | 100        | 3         |
| 233CL1A4CB             | Core- VIII          | Clinical Biochemistry - Functional Tests | 4         | -        | -        | 3        | 25        | 75  | 100        | 4         |
| 233CL1A4CP             | Core Practical - IV | Clinical Biochemistry - II               | -         | -        | 4        | 4        | 40        | 60  | 100        | 2         |
| 233MB1A4IA             | IDC - IV            | General Microbiology                     | 3         | -        | -        | 3        | 25        | 75  | 100        | 3         |
| 233MB1A4IP             | IDC Practical       | Microbiology                             | -         | -        | 5        | 9        | 40        | 60  | 100        | 2         |
| 233CL1A4SA             | SEC - II            | Blood Banking and Blood Transfusion      | 3         | -        | -        | 3        | 25        | 75  | 100        | 2         |
| <b>Total</b>           |                     |                                          | <b>19</b> | <b>2</b> | <b>9</b> |          |           |     | <b>800</b> | <b>22</b> |



| Course Code           | Course Category     | Course Name                                            | L         | T        | P         | Exam (h) | Max Marks |          |            | Credits   |
|-----------------------|---------------------|--------------------------------------------------------|-----------|----------|-----------|----------|-----------|----------|------------|-----------|
|                       |                     |                                                        |           |          |           |          | CIA       | ESE      | Total      |           |
| <b>Fifth Semester</b> |                     |                                                        |           |          |           |          |           |          |            |           |
| <b>Part-III</b>       |                     |                                                        |           |          |           |          |           |          |            |           |
| 233CL1A5CA            | Core- IX            | Immunology                                             | 5         | -        | -         | 3        | 25        | 75       | 100        | 5         |
| 233CL1A5CB            | Core - X            | Hematology                                             | 4         | -        | -         | 3        | 25        | 75       | 100        | 4         |
| 233CL1A5CP            | Core Practical- V   | Hematological Techniques                               | -         | -        | 6         | 6        | 40        | 60       | 100        | 3         |
| 233CL1A5CQ            | Core Practical - VI | Molecular and Immunotechniques                         | -         | -        | 6         | 6        | 40        | 60       | 100        | 3         |
| 233CL1A5SA            | SEC -III            | Research Methodology and Biostatistics                 | 3         | -        | -         | 3        | 25        | 75       | 100        | 2         |
| 233CL1A5DA            | DSE -I              | Organisation of Clinical Laboratory and Lab Management | 4         | -        | -         | 3        | 25        | 75       | 100        | 4         |
| 233CL1A5DB            |                     | Human Genetics and Foetal Medicine                     |           |          |           |          |           |          |            |           |
| 233CL1A5DC            |                     | Clinical Enzymology                                    |           |          |           |          |           |          |            |           |
| 233CL1A5TA            | IT                  | Industrial Training                                    | -         | -        | -         | -        | 50        | 50       | 100        | 2         |
| <b>Part IV</b>        |                     |                                                        |           |          |           |          |           |          |            |           |
| 233CL1A5GA            | GE                  | Concepts of Health                                     | 2         | -        | -         | 3        | 50        | -        | 50         | 2         |
| <b>Total</b>          |                     |                                                        | <b>18</b> | <b>-</b> | <b>12</b> | <b>-</b> | <b>-</b>  | <b>-</b> | <b>750</b> | <b>25</b> |





| Course Code           | Course Category | Course Name                                       | L         | T        | P        | Exam (h) | Max Marks |     |             | Credits    |
|-----------------------|-----------------|---------------------------------------------------|-----------|----------|----------|----------|-----------|-----|-------------|------------|
|                       |                 |                                                   |           |          |          |          | CIA       | ESE | Total       |            |
| <b>Sixth Semester</b> |                 |                                                   |           |          |          |          |           |     |             |            |
| <b>Part-III</b>       |                 |                                                   |           |          |          |          |           |     |             |            |
| 233CL1A6CA            | Core- XI        | Cytology                                          | 5         | -        | -        | 3        | 25        | 75  | 100         | 5          |
| 233CL1A6CB            | Core- XII       | Medical Microbiology                              | 4         | -        | -        | 3        | 25        | 75  | 100         | 4          |
| 233CL1A6CV            | Core - XIII     | Project                                           | -         | -        | 8        | 3        | 40        | 60  | 100         | 4          |
| 233CL1A6SA            | SEC-IV          | Good laboratory Practices and Professional Ethics | 3         | -        | -        | 3        | 25        | 75  | 100         | 2          |
| 233CL1A6DA            | DSE -II         | Diagnostic Molecular Techniques                   | 4         | -        | -        | 3        | 25        | 75  | 100         | 4          |
| 233CL1A6DB            |                 | Stem Cell Technology                              |           |          |          |          |           |     |             |            |
| 233CL1A6DC            |                 | Forensic Science and Toxicology                   |           |          |          |          |           |     |             |            |
| 233CL1A6DD            | DSE -III        | Bio-safety and Bio waste anagement                | 4         | -        | -        | 3        | 25        | 75  | 100         | 4          |
| 233CL1A6DE            |                 | Genetic Engineering                               |           |          |          |          |           |     |             |            |
| 233CL1A6DF            |                 | Tumor markers and Immunohistochemistry            |           |          |          |          |           |     |             |            |
| <b>Part-IV</b>        |                 |                                                   |           |          |          |          |           |     |             |            |
| 233BC1A6AA            | AECC-III        | Innovation, IPR & Entrepreneurship                | 2         | -        | -        | -        | 50        | -   | 50          | 2          |
| <b>Total</b>          |                 |                                                   | <b>22</b> | <b>-</b> | <b>8</b> |          |           |     | <b>650</b>  | <b>25</b>  |
| <b>Grand total</b>    |                 |                                                   |           |          |          |          |           |     | <b>4300</b> | <b>142</b> |



### DISCIPLINESPECIFIC ELECTIVE

Students shall select the desired course of their choice in the listed elective course during Semesters V&VI

#### Semester V (Elective I)

##### List of Elective Courses

| S.No. | Course Code | Name of the Course                                     |
|-------|-------------|--------------------------------------------------------|
| 1     | 233CL1A5DA  | Organisation of Clinical Laboratory and Lab Management |
| 2     | 233CL1A5DB  | Human Genetics and Foetal Medicine                     |
| 3     | 233CL1A5DC  | Clinical Enzymology                                    |

#### Semester VI (Elective II)

##### List of Elective Courses

| S.No. | Course Code | Name of the Course              |
|-------|-------------|---------------------------------|
| 1     | 233CL1A6DA  | Diagnostic Molecular Techniques |
| 2     | 233CL1A6DB  | Stem Cell Technology            |
| 3     | 233CL1A6DC  | Forensic Science and Toxicology |

#### Semester VI (Elective III)

##### List of Elective Courses

| S.No. | Course Code | Name of the Course                     |
|-------|-------------|----------------------------------------|
| 1     | 233CL1A6DD  | Bio-safety and Bio waste Management    |
| 2     | 233CL1A6DE  | Genetic Engineering                    |
| 3     | 233CL1A6DF  | Tumor markers and Immunohistochemistry |



**GENERIC ELECTIVE COURSE (GE)**

The following course offered under Generic Elective Course

**Semester V (GE)**

| S.No. | Course Code | Course Name        |
|-------|-------------|--------------------|
| 1     | 233CL1A5GA  | Concepts of Health |

**EXTRA CREDIT COURSES**

The following are the courses offered under self study to earn extra credits:

**Semester III**

| S.No. | Course Code | Course Name         |
|-------|-------------|---------------------|
| 1     | 233CL1ASSA  | Disaster Management |
| 2     | 233CL1ASSB  | Community Medicine  |



## UG - REGULATION (R5)

(2023-24 and onwards)

(OUTCOME BASED EDUCATION WITH CBCS)

### 1.NOMENCLATURE

**1.1 Faculty:** Refers to a group of programmes concerned with a major division of knowledge Eg. Faculty of Computer Science consists of disciplines like Departments of Computer Science, Information Technology, Computer Technology, Computer Applications, Data Analytics, Cognitive Systems, Artificial Intelligence and Machine Learning and Cyber Security

**1.2 Programme:** Refers to the Bachelor of Science / Commerce / Arts stream that a student has chosen for study.

**1.3 Batch:** Refers to the starting and completion year of a programme of study. Eg. Batch of 2023-26 refers to students belonging to a 3 year Degree programme admitted in 2023 and completing in 2026.

**1.4 Course:** Refers to component of a programme. A course may be designed to involve lectures / tutorials / laboratory work / seminar / project work/ practical training / report writing / Viva- voce, etc., or a combination of these, to meet effectively the teaching learning needs.

- a) **Core Course:** A course, which should compulsorily be studied by a candidate as a core requirement
- b) **Inter Disciplinary Course (IDC):** A course chosen generally from a related discipline/subject with an intention to seek exposure in the discipline relating to the core domain of the student
- c) **Discipline Specific Elective (DSE) Course:** Elective courses offered under main discipline/ subject of study.
- d) **Skill Enhancement Courses (SEC):** Value-based and/or skill-based courses which are aimed at providing hands-on-training, competencies, skills, etc.
- e) **Ability Enhancement Compulsory Courses (AECC):** Mandatory courses that lead to Knowledge enhancement. Environmental Science, Human Rights and Women's Rights, Basic Tamil/ Advanced Tamil, Innovation and IPR, Innovation, IPR and Entrepreneurship.
- f) **Ability Enhancement Elective Course (AEEC)/Generic Elective (GE)** An elective course chosen generally from an unrelated discipline/subject, with an intention to seek exposure is Generic Elective.



### 1.5 Project Work:

Course involving application of knowledge in problem solving / analyzing /exploring a real life situation / difficult problem. The Project work will be given in lieu of a Core paper.

### Internship/Industrial Training

Students must undertake industrial / institutional training for a minimum of 15 days during the IV semester summer vacation. The students will submit the report for evaluation during V semester.

### 1.6 Extra Credits:

Extra credits shall be awarded for achievements in identified curricular/co-curricular/Extracurricular activities executed outside the regular class hours. Extra credits are not mandatory for completing the programme.

## 2. STRUCTURE OF PROGRAMME

### 2.1 PART- I: LANGUAGE- I

Tamil or any one of the languages namely Malayalam, Hindi and French will be offered under Part – I in the first four semesters.

### 2.2 PART- II: LANGUAGE- II

English will be offered during the first four semesters.

### 2.3 PART- III:

- Core Course
- Inter Departmental Course (IDC)
- Discipline Specific Elective (DSE)
- Skill Enhancement Course (SEC)
- Industrial Training (IT)

### 2.4 PART- IV:

#### 2.4.1 Ability Enhancement Compulsory Course (AECC):

The Ability Enhancement Compulsory Courses such as i)Environmental Studies, ii) Human Rights and Womens' Rights, iii) Innovation and IPR/ Innovation, IPR and Entrepreneurship are offered during I,II and VI Semester.

Basic Tamil

a) Those who have not studied Tamil up to XII Std and taken a non-Tamil language under Part-I shall take oneBasic Tamil coursein the second semester.



(OR)

Advanced Tamil

b) Those who have studied Tamil up to XII Std and taken a non-Tamil language under Part-I shall take one Advanced Tamil course in the second semester.

**Note:** Students who come under the above a+b categories are exempted from Human Rights and Women's Rights in the second semester.

**Ability Enhancement Elective Course (AEEC)/Generic Elective (GE)** An elective course chosen generally from an unrelated discipline/subject, with an intention to seek exposure is Generic Elective offered in V semester. (Theory/Practical/Non-Lab Practical)

### 2.5 PART- V: EXTENSION ACTIVITIES

The following extracurricular activities like NSS/YRC/NCC/RRC/Yoga/Sports/Clubs are offered under extension activities during semester I & II. Students will be evaluated based on their active participation in any one of the above activities. 75% Attendance is compulsory for extension activity.

### 3. CREDIT ALLOTTMENT

The following is the credit allotment:

- Lecture Hours (Theory) : 1 credit per lecture hour per week
- Laboratory Hours : 1 credit for 2 Practical hours per week
- Project Work : 1 credit for 2 hours of project work per week

### 4. DURATION OF THE PROGRAMME

The B.A. /B.Com./B. Sc. Programme must be completed within 3 years (6 semesters) and a maximum of 6 years (12 semesters) from the date of acceptance to the programme. If not, the candidate must enroll in the course determined to be an equivalent by BoS in the most recent curriculum recommended for the Programme.

### 5.REQUIREMENTS FOR COMPLETION OF A SEMESTER

Every student shall ordinarily be allowed to keep terms for the given semester in a program of his/ her enrolment, only if he/ she fulfills at least seventy five percent (75%) of the attendance taken as an average of the total number of lectures, practicals, tutorials, etc. wherein short and/or long excursions/field visits/study tours organised by the college and supervised by the faculty as envisaged in the syllabus shall be credited to his/her attendance. Every student shall have a minimum of 75% as an overall attendance.



## 6. EXAMINATIONS

The end semester examinations shall normally be conducted after completing 90 working days for each semester. The maximum marks for each theory and practical course shall be 100 with the following breakup:

### a) Mark distribution for Theory Courses

|                                      |             |
|--------------------------------------|-------------|
| Continuous Internal Assessment (CIA) | : 25 Marks  |
| End Semester Exams (ESE)             | : 75 Marks  |
| Total                                | : 100 Marks |

### i) Distribution of Internal Marks

| S.No.        | Particulars                                                          | Distribution of Marks |
|--------------|----------------------------------------------------------------------|-----------------------|
| 1            | CIA I (2.5 Units) (On completion of 45 <sup>th</sup> working day)    | 5                     |
| 2            | Model ( All 5 Units) (On completion of 85 <sup>th</sup> working day) | 5                     |
| 3            | Attendance                                                           | 5                     |
| 4            | Library Usage                                                        | 5                     |
| 5            | Skill Enhancement *                                                  | 5                     |
| <b>Total</b> |                                                                      | <b>25</b>             |

### Breakup for Attendance Marks:

| S.No | Attendance Range | Marks Awarded |
|------|------------------|---------------|
| 1    | 95% and Above    | 5             |
| 2    | 90% - 94%        | 4             |
| 3    | 85% - 89%        | 3             |
| 4    | 80% - 84%        | 2             |
| 5    | 75% - 79%        | 1             |

### Note:

Special Cases such as NCC, NSS, Sports, Advanced Learner Course, Summer Fellowship and Medical Conditions etc. the attendance exemption may be given by principal and Mark may be awarded.



**Break up for Library Marks:**

| S.No | Attendance Range  | Marks Awarded |
|------|-------------------|---------------|
| 1    | 10h and above     | 5             |
| 2    | 9h- less than 10h | 4             |
| 3    | 8h - less than 9h | 3             |
| 4    | 7h - less than 8h | 2             |
| 5    | 6h - less than 7h | 1             |

**Note:**

In exception, the utilization of e-resources of library will be considered.

**\*Components for "Skill Enhancement" may include the following:**

Class Participation, Case Studies Presentation/term paper, Field Study, Field Survey, Group Discussion, Term Paper, Presentation of Papers in Conferences, Industry Visit, Book Review, Journal Review, e-content Creation, Model Preparation, Seminar and assignment.

**Components for Skill Enhancement**

Any one of the following should be selected by the course coordinator

| S.No. | Skill Enhancement                        | Description                                                                                                                                                                                        |
|-------|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1     | Class Participation                      | <ul style="list-style-type: none"> <li>• Engagement in class</li> <li>• Listening Skills</li> <li>• Behaviour</li> </ul>                                                                           |
| 2     | Case Study Presentation/<br>Term Paper   | <ul style="list-style-type: none"> <li>• Identification of the problem</li> <li>• Case Analysis</li> <li>• Effective Solution using creativity/imagination</li> </ul>                              |
| 3     | Field Study                              | <ul style="list-style-type: none"> <li>• Selection of Topic</li> <li>• Demonstration of Topic</li> <li>• Analysis &amp; Conclusion</li> </ul>                                                      |
| 4     | Field Survey                             | <ul style="list-style-type: none"> <li>• Chosen Problem</li> <li>• Design and quality of survey</li> <li>• Analysis of survey</li> </ul>                                                           |
| 5     | Group Discussion                         | <ul style="list-style-type: none"> <li>• Communication skills</li> <li>• Subject knowledge</li> <li>• Attitude and way of presentation</li> <li>• Confidence</li> <li>• Listening Skill</li> </ul> |
| 6     | Presentation of Papers in<br>Conferences | <ul style="list-style-type: none"> <li>• Sponsored</li> <li>• International/National</li> <li>• Presentation</li> <li>• Report Submission</li> </ul>                                               |
| 7     | Industry Visit                           | <ul style="list-style-type: none"> <li>• Chosen Domain</li> <li>• Quality of the work</li> </ul>                                                                                                   |





|    |                    |                                                                                                                                                                                              |
|----|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                    | <ul style="list-style-type: none"> <li>• Analysis of the Report</li> <li>• Presentation</li> </ul>                                                                                           |
| 8  | Book Review        | <ul style="list-style-type: none"> <li>• Content</li> <li>• Interpretation and Inferences of the text</li> <li>• Supporting Details</li> <li>• Presentation</li> </ul>                       |
| 9  | Journal Review     | <ul style="list-style-type: none"> <li>• Analytical Thinking</li> <li>• Interpretation and Inferences</li> <li>• Exploring the perception if chosen genre</li> <li>• Presentation</li> </ul> |
| 10 | e-content Creation | <ul style="list-style-type: none"> <li>• Logo/ Tagline</li> <li>• Purpose</li> <li>• Content (Writing, designing and posting in Social Media)</li> <li>• Presentation</li> </ul>             |
| 11 | Model Preparation  | <ul style="list-style-type: none"> <li>• Theme/ Topic</li> <li>• Depth of background Knowledge</li> <li>• Creativity</li> <li>• Presentation</li> </ul>                                      |
| 12 | Seminar            | <ul style="list-style-type: none"> <li>• Knowledge and Content</li> <li>• Organization</li> <li>• Understanding</li> <li>• Presentation</li> </ul>                                           |
| 13 | Assignment         | <ul style="list-style-type: none"> <li>• Content and Style</li> <li>• Spelling and Grammar</li> <li>• References</li> </ul>                                                                  |

ii) Distribution of External Marks (ESE)

|              |   |    |
|--------------|---|----|
| Total        | : | 75 |
| Written Exam | : | 75 |

Marks Distribution for Practical course

|          |   |     |
|----------|---|-----|
| Total    | : | 100 |
| Internal | : | 40  |
| External | : | 60  |



## i) Distribution of Internals Marks

| S.No.        | Particulars           | Distribution of Marks |
|--------------|-----------------------|-----------------------|
| 1            | Experiments/Exercises | 15                    |
| 2            | Test 1                | 10                    |
| 3            | Test 2                | 10                    |
| 4            | Observation Notebook  | 05                    |
| <b>Total</b> |                       | <b>40</b>             |

## ii) Distribution of Externals Marks

| S.No.        | Particulars | External Marks |
|--------------|-------------|----------------|
| 1            | Practical   | 40             |
| 2            | Record      | 10             |
| 3            | Viva- voce  | 10             |
| <b>Total</b> |             | <b>60</b>      |

Practical examination shall be evaluated jointly by Internal and External Examiners

## Mark Distribution for Project/ Internship/ Industrial Training

|                 |   |            |
|-----------------|---|------------|
| <b>Total</b>    | : | <b>100</b> |
| <b>Internal</b> | : | <b>40</b>  |
| <b>External</b> | : | <b>60</b>  |

## i) Distribution of Internal Marks

| S.No.        | Particulars | Internal Marks |
|--------------|-------------|----------------|
| 1            | Review I    | 15             |
| 2            | Review II   | 20             |
| 3            | Attendance  | 5              |
| <b>Total</b> |             | <b>40</b>      |

## ii) Distribution of External Marks

| S.No         | Particulars                                                   | External Marks |
|--------------|---------------------------------------------------------------|----------------|
| 1            | Project Work /Internship /Industrial training<br>Presentation | 40             |
| 2            | Viva -voce                                                    | 20             |
| <b>Total</b> |                                                               | <b>60</b>      |

Evaluation of Project Work/Internship/ Industrial training shall be shall be done jointly by Internal and External Examiners.



## 7. Credit Transfer

a. Upon successful completion of **1 NPTEL Course (4 Credit Course)** recommended by the department, during Semester I to IV, a student shall be eligible to get exemption of one **4 credit course** during the V or VI semester. The proposed NPTEL course should cover content/syllabus of exempted core paper in V or VI semester.

| S. No. | Course Code | Course Name | Proposed NPTEL Course  | Credit |
|--------|-------------|-------------|------------------------|--------|
| 1      |             |             | Option - 1 Paper title | 4      |
|        |             |             | Option - 2 Paper title |        |
|        |             |             | Option - 3 Paper title |        |

b. Upon successful completion of **2 NPTEL Courses (2 Credit each)** recommended by the department, during Semester I to IV, a student shall be eligible to get exemption of **one 4 credit course** during the V or VI semester. Out of 2 NPTEL proposed courses, **atleast 1 course** should cover content/syllabus of exempted core paper in V or VI semester.

### Mandatory

The exempted core paper in the V or VI semester should be submitted by the students for approval before the end of 4<sup>th</sup> semester

Credit transfer will be decided by equivalence committee

| S. No. | Course Code | Course Name | Proposed NPTEL Course  | Credit |
|--------|-------------|-------------|------------------------|--------|
| 1      |             |             | Option - 1 Paper title | 2      |
|        |             |             | Option - 2 Paper title |        |
|        |             |             | Option - 3 Paper title |        |
| 2      |             |             | Option - 1 Paper title | 2      |
|        |             |             | Option - 2 Paper title |        |
|        |             |             | Option - 3 Paper title |        |



| NPTEL Courses to be carried out during semester I - IV. |              |       |                       |                                                                         |                                        |
|---------------------------------------------------------|--------------|-------|-----------------------|-------------------------------------------------------------------------|----------------------------------------|
| S.No.                                                   | Student Name | Class | Proposed NPTEL Course |                                                                         | Proposed Course for Exemption          |
|                                                         |              |       | Course I              | Option 1- Paper Title<br>Option 2- Paper Title<br>Option 3- Paper Title | Any one Core Paper in V or VI semester |
|                                                         |              |       | Course II             | Option 1- Paper Title<br>Option 2- Paper Title<br>Option 3- Paper Title |                                        |
| Class Advisor                                           |              | HoD   |                       | Dean                                                                    |                                        |

### 8. Innovations

Upon Successful outcome of Design Thinking / Copy right/Product/ Patent by the end of the V Semester, student shall be eligible to get exemption in AECC: Innovation, IPR & Entrepreneurship / Innovation & IPR offered during VI Semester.

### 9. Internship/Industrial Training

Students must undertake industrial / institutional training for a minimum of 15 days during the IV semester summer vacation. The students shall submit the report for evaluation during V semester.

### 10. Extra Credits: 10

Earning extra credit is not essential for programme completion. Student is entitled to earn extra credit for achievement in Curricular /Co-Curricular/ Extracurricular activities carried out other than the regular class hours.

A student is permitted to earn a maximum of Ten extra Credits during the programme period.



**A maximum of 1 credit under each category is permissible.**

| Category                                                            | Credit |
|---------------------------------------------------------------------|--------|
| Proficiency in foreign language                                     | 1      |
| Proficiency in Hindi                                                | 1      |
| Self study Course                                                   | 1      |
| Typewriting/Short hand                                              | 1      |
| CA/ICSI/CMA (Foundations)                                           | 1      |
| CA/ICSI/CMA(Inter)                                                  | 1      |
| Sports and Games                                                    | 1      |
| Publications / Conference Presentations (Oral/Poster)               | 1      |
| Lab on Project                                                      | 1      |
| Innovation / Incubation / Patent / Sponsored Projects / Consultancy | 1      |
| Representation in State / National level celebrations               | 1      |
| Awards/Recognitions/Fellowships                                     | 1      |

Credit shall be awarded for achievements of the student during **the period of study only**.

## **GUIDELINES**

### **Proficiency in foreign language**

A pass in any foreign language in the examination conducted by an authorized agency.

### **Proficiency in Hindi**

A pass in the Hindi examination conducted by Dakshin Bharat Hindi Prachar Sabha.

Examination passed during the programme period only will be considered for extra credit.

### **Self study Course**

A pass in the self study courses offered by the department.

The candidate should register the self study course offered by the department only in the III semester.

### **Typewriting/Short hand**

A Pass in short hand /typewriting examination conducted by Tamil Nadu Department of Technical Education (TNDTE) and the credit will be awarded.



**CA/ICSI/CMA(Foundations)**

Qualifying foundation in CA/ICSI/CMA / etc.

**CA/ICSI/CMA(Inter)**

Qualifying Inter in CA/ICSI/CMA / etc.

**Sports and Games**

Students can earn extra credit based on their achievements in sports in University/ State / National/ International levels.

**Publications / Conference Presentations (Oral/Poster)**

Research Publications in Journals  
oral/poster presentation in Conference

**Lab on Project (LoP)**

To promote the undergraduate research among all the students, the LoP is introduced beyond their regular class hours. LoP is introduced as group project consisting of not more than five members. It consist of four stages namely Literature collection, Identification of Research area, Execution of research and Reporting / Publication of research reports/ product developments. These four stages spread over from III to IV semester.

(Evaluation will be done internally)

**Innovation / Incubation / Patent / Sponsored Projects / Consultancy**

Development of model/ Products /Prototype /Process/App/Registration of Patents/ Copyrights/Trademarks/Sponsored Projects /Consultancy

**Representation in State/ National level celebrations**

State / National level celebrations such as Independence day, Republic day Parade, National Integration camp.

**Awards/Recognitions/Fellowships**

Regional/ State / National level awards/ Recognitions/Fellowships



**GUIDELINES****100 % CIA Courses:**

- AECC
- AEEC

| S.No | Type of Course                                                       |
|------|----------------------------------------------------------------------|
| 1    | Environmental Studies (AECC)                                         |
| 2    | Human Rights and Women's Rights, Basic Tamil / Advanced Tamil (AECC) |
| 3    | Innovation & IPR/ Innovation, IPR and Entrepreneurship (AECC)        |
| 4    | Generic Elective (AEEC)                                              |

**Modalities for Implementing Internal Assessment Marks:**

- Student pertaining to 2023 Batch (2023-26) UG programme for the above mentioned courses shall secure a minimum of 40% out of the maximum marks in the continuous internal assessment (CIA) i.e., 20 marks out of 50 marks.
- Students who have not acquired the minimum marks shall be allowed to reappear to improve their marks in the exam components only within the time duration of the programme, in the forthcoming semesters.

**Distribution of Internal Marks for AECC & AEEC**

| S.No.        | Particulars                                              | Distribution of Marks |
|--------------|----------------------------------------------------------|-----------------------|
| 1            | CIA I (2.5 Units) (On completion of 45th working day)    | 15                    |
| 2            | Model ( All 5 Units) (On completion of 85th working day) | 15                    |
| 3            | Assignment                                               | 05                    |
| 4            | Attendance                                               | 05                    |
| 5            | Library Usage                                            | 05                    |
| 6            | Skill Enhancement *                                      | 05                    |
| <b>Total</b> |                                                          | <b>50</b>             |



**Distribution of Internal Marks for Generic Elective (AEEC) (Practical)**

| S.No.        | Particulars                  | Distribution of Marks |
|--------------|------------------------------|-----------------------|
| 1            | CIA -I (1-5 Exercise)        | 5                     |
| 2            | CIA-II (6-10 Exercise)       | 5                     |
| 3            | Class Participation          | 10                    |
| 4            | Practical Record             | 10                    |
| 5            | Test-III & Viva -Voce(10+10) | 20                    |
| <b>Total</b> |                              | <b>50</b>             |

**Question paper pattern AECC & AEEC**

| Test                                                   | MARKS             | DESCRIPTION | TOTAL       | Remarks                                              |
|--------------------------------------------------------|-------------------|-------------|-------------|------------------------------------------------------|
| CIA Test I<br>1 Hour<br>First 2.5 Units                | 50 x 1 = 50 Marks | MCQ         | 50<br>Marks | Marks secured<br>will be<br>Converted<br>to 15 marks |
| CIA test II/<br>Model test<br>1 Hour<br>All five Units | 50 x 1 = 50 Marks | MCQ         | 50<br>Marks | Marks secured<br>will be<br>Converted<br>to 15 marks |

| Question paper pattern    |         | Total Marks - 50            |         |
|---------------------------|---------|-----------------------------|---------|
| <u>Basic Tamil</u>        |         | <u>Advanced Tamil</u>       |         |
| Section -A                |         | Section -A                  |         |
| Choose the correct answer | 10x2=20 | Choose the correct answer   | 10x1=10 |
| Section -B                |         | Section -B                  |         |
| True or false             | 10x2=20 | Fill in the blanks          | 10x2=20 |
| Section -C                |         | Section -C                  |         |
| Answer in one page        | 1x10=10 | Write an essay in two pages | 2x10=20 |





**Question paper pattern for all other courses falling under Part I to Part III**

**CIA I : [1 1/2 Hours-2.5 Units] - 25 Marks**

| SECTION     | MARKS             | DESCRIPTION                                                                  | TOTAL   | Remarks                                   |
|-------------|-------------------|------------------------------------------------------------------------------|---------|-------------------------------------------|
| Section - A | 8 x 0.5 = 04 Mark | MCQ                                                                          | 25 Mark | Marks secured will be converted To 5 mark |
| Section - B | 3 x 3 = 09 Mark   | Answer ALL Questions<br>Either or Type ALL<br>Questions Carry Equal<br>Marks |         |                                           |
| Section - C | 2 x 6 = 12 Mark   |                                                                              |         |                                           |

**CIA II/Model: [3 Hours-5 Units] - 75 Mark**

| SECTION     | MARKS            | DESCRIPTION                                                                              | TOTAL   | Remarks                                   |
|-------------|------------------|------------------------------------------------------------------------------------------|---------|-------------------------------------------|
| Section - A | 10 x 1 = 10 Mark | MCQ                                                                                      | 75 Mark | Marks secured will be converted To 5 mark |
| Section - B | 5 x 5 = 25 Mark  | Answer ALL Questions<br>(Either or Type Questions)<br>Each Questions Carry Equal<br>Mark |         |                                           |
| Section - C | 5 x 8 = 40 Mark  |                                                                                          |         |                                           |

**End Semester Examination: [3 Hours-5 Units] - 75 Mark**

| SECTION     | MARKS            | DESCRIPTION                                                                           | TOTAL   |
|-------------|------------------|---------------------------------------------------------------------------------------|---------|
| Section - A | 10 x 1 = 10 Mark | MCQ                                                                                   | 75 Mark |
| Section - B | 5 x 5 = 25 Mark  | Answer ALL Questions<br>(Either or Type Questions)<br>Each Questions Carry Equal Mark |         |
| Section - C | 5 x 8 = 40 Mark  |                                                                                       |         |



| Course Code | Course Name | Category    | L | T | P | Credit |
|-------------|-------------|-------------|---|---|---|--------|
| 231TL1A1TA  | TAMIL - I   | LANGUAGE- I | 4 | 1 | - | 03     |

#### PREAMBLE

This course has been designed for students to learn and understand

- மொழிப்பாடங்களின் வாயிலாக தமிழரின் பண்பாடு நாகரீகம், பகுத்தறிவு ஆகியவற்றை அறியச் செய்தல்
- கலை மற்றும் மரபுகளை அறியச் செய்தல்
- மாணவர்களின் படைப்பாக்கத்திறன்களை ஊக்குவித்தல்

#### COURSE OUTCOMES

On the successful completion of the course, students will be able to

| CO Number | CO Statement                                                                 | Knowledge Level |
|-----------|------------------------------------------------------------------------------|-----------------|
| CO1       | வாழ்க்கைத் திறன்கள் (Life Skills)- மாணவர்களின் செயலாக்கத் திறனை ஊக்குவித்தல் | K3              |
| CO2       | மதிப்புக்கல்வி (Attitude and Value education)                                | K4              |
| CO3       | பாட இணைச்செயல்பாடுகள் (Co-curricular activities)                             | K4              |
| CO4       | சூழலியல் ஆக்கம் (Ecology)                                                    | K4              |
| CO5       | மொழி அறிவு (Tamil knowledge)                                                 | K5              |

#### MAPPING WITH PROGRAMME OUTCOMES

| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 |
|---------|-----|-----|-----|-----|-----|
| CO1     |     | ✓   | ✓   |     | ✓   |
| CO2     | ✓   |     |     | ✓   |     |
| CO3     |     | ✓   |     |     | ✓   |
| CO4     |     |     | ✓   |     |     |
| CO5     | ✓   |     |     | ✓   | ✓   |

#### COURSE FOCUSES ON

|                                     |                               |                                     |                                             |
|-------------------------------------|-------------------------------|-------------------------------------|---------------------------------------------|
| <input checked="" type="checkbox"/> | Skill Development             | <input checked="" type="checkbox"/> | Entrepreneurial Development                 |
| <input checked="" type="checkbox"/> | Employability                 | <input checked="" type="checkbox"/> | Innovations                                 |
| <input checked="" type="checkbox"/> | Intellectual Property Rights  | <input checked="" type="checkbox"/> | Gender Sensitization                        |
| <input checked="" type="checkbox"/> | Social Awareness/ Environment | <input checked="" type="checkbox"/> | Constitutional Rights/ Human Values/ Ethics |



|            |           |            |
|------------|-----------|------------|
| 231TL1A1TA | TAMIL - I | SEMESTER I |
|------------|-----------|------------|

Total Credits: 3

Total Instruction Hours: 60 h

### Syllabus

**Unit I மறுமலர்ச்சிக் கவிதைகள் 13 h**

1. இலக்கிய வரலாறு - மறுமலர்ச்சிக் கவிஞர்களின் தமிழ்ப்பணிகள்
2. பாரததேசம் - பாரதியார்
3. படி - பாரதிதாசன்
4. தமிழரின் பெருமை - நாமக்கல் கவிஞர்
5. தமிழ்க் கொலை புரியாதீர் - புலவர் குழந்தை
6. திரைத்தமிழ்
  - அ) 'விஞ்ஞானத்த வளர்க்கப் போறண்டி' எனத் தொடங்கும் பாடல் - உடுமலை நாராயண கவி
  - ஆ) 'சும்மா கிடந்த நிலத்தை' எனத் தொடங்கும் பாடல் - பட்டுக்கோட்டை கல்யாண சுந்தரனார்
  - இ) 'சமரசம் உலாவும் இடமே' எனத் தொடங்கும் பாடல் - மருதகாசி
  - ஈ) 'உன்னை அறிந்தால்' எனத் தொடங்கும் பாடல் - கண்ணதாசன்

**Unit II புதுக்கவிதைகள் 13 h**

1. இலக்கிய வரலாறு - புதுக்கவிதையின் தோற்றமும் வளர்ச்சியும்
2. கடமையைச் செய் - மீரா
3. மலையாளக் காற்று - சிற்பி
4. ஒப்பிலாத சமுதாயம் - அப்துல் ரகுமான்
5. கன்னிமாடம் - மு.மேத்தா
6. கரிக்கிறது தாய்ப்பால் - ஆரூர் தமிழ்நாடன்
7. ஐந்தாம் வகுப்பு 'அ' பிரிவு - நா. முத்துக்குமார்
8. ஹைகூ கவிதைகள் - 10 கவிதைகள்

**Unit III பெண்ணியம் 09 h**

1. தொலைந்து போனேன் - தாமரை
2. நீரில் அலையும் முகம் - அ. வெண்ணிலா
3. தற்காத்தல் - பொன்மணி வைரமுத்து
4. ஏனிந்த வித்தியாசங்கள்? - மல்லிகா
5. புதையுண்ட வாழ்க்கை - சுகந்தி சுப்ரமணியன்



**Unit IV சிறுகதைகள்**

15 h

1. இலக்கிய வரலாறு - சிறுகதையின் தோற்றமும் வளர்ச்சியும்
2. கனகாம்பரம் - கு.ப.ராஜகோபாலன்
3. ஆற்றங்கரைப் பிள்ளையார் - புதுமைப்பித்தன்
4. பொம்மை - ஜெயகாந்தன்
5. காய்ச்சமரம் - கி. ராஜநாராயணன்
6. காட்டில் ஒருமான் - அம்பை
7. வேட்கை - சூர்யகாந்தன்

**Unit V பயிற்சிப் பகுதி**

10 h

**அ. இலக்கணம்**

1. வல்லின ஒற்று மிகும், மிகா இடங்கள் - ஒற்றுப்பிழை நீக்கி எழுதுதல்
2. ர,ற-ல,ழ,ள - ண,ந,ன வேறுபாடு - ஒலிப்பு நெறி, சொற்பொருள் வேறுபாடு அறிதல்)

**ஆ. படைப்பாக்கம்**

1. கவிதை - எழுதுதல் (15 வரிகள் முதல் 30 வரிகள் வரை)
2. சிறுகதை - எழுதுதல் (குறைந்தது 3 பக்கங்கள்)

**Text Book**

தமிழ் மொழிப்பாடம் - 2022-2023, தொகுப்பு: தமிழ்த்துறை, டாக்டர் என்.ஜி.பி.

- 1 கலை அறிவியல் கல்லூரி, கோயம்புத்தூர் - 641048, வெளியீடு: நியூ செஞ்சுரி புக் ஹவுஸ், சென்னை - 600 098.

**References**

- 1 பேராசிரியர் புலவர் சோம. இளவரசு , எட்டாம் பதிப்பு - 2014, தமிழ் இலக்கிய வரலாறு - மணிவாசகர் பதிப்பகம், சென்னை - 600 108.
- 2 பேராசிரியர் முனைவர் பாக்கியமேரி , முதற் பதிப்பு - 2013 , இலக்கணம் - இலக்கிய வரலாறு - மொழித்திறன் - பூவேந்தன் பதிப்பகம், சென்னை-600 004.
- 3 இணையதள முகவரி: <https://www.tamilvu.org>



| Course Code | Course Name | Category   | L | T | P | Credit |
|-------------|-------------|------------|---|---|---|--------|
| 231TL1A1HA  | HINDI-I     | LANGUAGE-1 | 4 | 1 | - | 3      |

**PREAMBLE**

This course has been designed for students to learn and understand

- The writing ability and develop reading skill
- The various concepts and techniques for criticizing literature
- The techniques for expansion of ideas and translation process

**COURSE OUTCOMES**

On the successful completion of the course, students will be able to

| CO Number | CO Statement                                           | Knowledge Level |
|-----------|--------------------------------------------------------|-----------------|
| CO1       | Learn the fundamentals of novels and stories           | K1              |
| CO2       | Understand the principles of translation work          | K2              |
| CO3       | Expose the knowledge writing critical views on fiction | K2              |
| CO4       | Build creative ability                                 | K3              |
| CO5       | Apply the power of creative reading                    | K3              |

**MAPPING WITH PROGRAMME OUTCOMES**

| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 |
|---------|-----|-----|-----|-----|-----|
| CO1     | ✓   |     |     | ✓   | ✓   |
| CO2     |     | ✓   |     |     | ✓   |
| CO3     |     |     |     | ✓   |     |
| CO4     | ✓   |     | ✓   |     |     |
| CO5     |     | ✓   | ✓   |     | ✓   |

**COURSE FOCUSES ON**

|                                     |                               |                                     |                                             |
|-------------------------------------|-------------------------------|-------------------------------------|---------------------------------------------|
| <input checked="" type="checkbox"/> | Skill Development             | <input checked="" type="checkbox"/> | Entrepreneurial Development                 |
| <input checked="" type="checkbox"/> | Employability                 | <input checked="" type="checkbox"/> | Innovations                                 |
| <input checked="" type="checkbox"/> | Intellectual Property Rights  | <input checked="" type="checkbox"/> | Gender Sensitization                        |
| <input checked="" type="checkbox"/> | Social Awareness/ Environment | <input checked="" type="checkbox"/> | Constitutional Rights/ Human Values/ Ethics |



|            |         |            |
|------------|---------|------------|
| 231TL1A1HA | HINDI-I | SEMESTER I |
|------------|---------|------------|

Total Credits: 3

Total Instruction Hours: 60 h

### Syllabus

**Unit I** 13 h

गद्य - नूतनगद्यसंग्रह(जयप्रकाश)पाठ 1- रजियापाठ 2- मक्रीलपाठ 3- बहतापानीनिर्मला  
पाठ 4- राष्ट्रपितामहात्मागाँधी

**Unit II** 13 h

कहानीकुंज- डॉ.वी.पी. 'अमिताभ'(पाठ 1-4)

**Unit III** 12 h

व्याकरण : शब्दविचार ( संज्ञा, सर्वनाम,विशेषण)

**Unit IV** 12 h

अनुच्छेद लेखन

**Unit V** 10 h

अनुवाद अभ्यास-III (केवल अंग्रेजी से हिन्दी में) (पाठ 1 to 10)

### Text Books

- 1 प्रकाशक: सुमित्रप्रकाशन 204 लीलाअपाटर्मेंट्स, 15 हेस्टिंग्सरोड'अशोकनगरइलाहाबाद-211001
- 2 प्रकाशक: गोविन्दप्रकाशनसदरबाजार, मथुराउत्तरप्रदेश-281001
- 3 पुस्तक: व्याकरण प्रदिप - रामदेवप्रकाशक: हिन्दी भवन 36 टेगोर नगर इलाहाबाद-211024
- 4 पुस्तक: व्याकरण प्रदिप - रामदेवप्रकाशक: हिन्दी भवन 36 इलाहाबाद-211024
- 5 प्रकाशक: दक्षिण भारत प्रचार सभा चेन्नई -17



| Course Code | Course Name  | Category     | L | T | P | Credit |
|-------------|--------------|--------------|---|---|---|--------|
| 231TL1A1MA  | MALAYALAM- I | LANGUAGE - I | 4 | 1 | - | 3      |

#### PREAMBLE

This course has been designed for students to learn and understand

- The writing ability and develop reading skill
- The various concepts and techniques for criticizing literature, to learn the techniques for expansion of ideas and translation process
- The competency in translating simple Malayalam sentences into English and vice versa

#### COURSE OUTCOMES

On the successful completion of the course, students will be able to

| CO Number | CO Statement                                           | Knowledge Level |
|-----------|--------------------------------------------------------|-----------------|
| CO1       | Learn the fundamentals of novels and stories           | K1              |
| CO2       | Understand the principles of translation work          | K2              |
| CO3       | Expose the knowledge writing critical views on fiction | K2              |
| CO4       | Apply creative ability                                 | K3              |
| CO5       | Build the power of creative reading                    | K3              |

#### MAPPING WITH PROGRAMME OUTCOMES

| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 |
|---------|-----|-----|-----|-----|-----|
| CO1     | ✓   |     |     | ✓   | ✓   |
| CO2     |     |     |     |     | ✓   |
| CO3     |     | ✓   | ✓   |     |     |
| CO4     | ✓   |     |     | ✓   |     |
| CO5     |     | ✓   |     |     | ✓   |

#### COURSE FOCUSES ON

|                                     |                               |                                     |                                             |
|-------------------------------------|-------------------------------|-------------------------------------|---------------------------------------------|
| <input checked="" type="checkbox"/> | Skill Development             | <input checked="" type="checkbox"/> | Entrepreneurial Development                 |
| <input checked="" type="checkbox"/> | Employability                 | <input checked="" type="checkbox"/> | Innovations                                 |
| <input checked="" type="checkbox"/> | Intellectual Property Rights  | <input checked="" type="checkbox"/> | Gender Sensitization                        |
| <input checked="" type="checkbox"/> | Social Awareness/ Environment | <input checked="" type="checkbox"/> | Constitutional Rights/ Human Values/ Ethics |



|            |               |            |
|------------|---------------|------------|
| 231TL1A1MA | MALAYALAM - I | SEMESTER I |
|------------|---------------|------------|

Total Credits: 3

Total Instruction Hours: 60 h

### Syllabus

|                 |                                                   |      |
|-----------------|---------------------------------------------------|------|
| <b>Unit I</b>   | <b>Novel</b>                                      | 14 h |
|                 | Pathummayude Adu                                  |      |
| <b>Unit II</b>  | <b>Novel</b>                                      | 10 h |
|                 | Pathummayude Adu                                  |      |
| <b>Unit III</b> | <b>Short Story</b>                                | 14 h |
|                 | Nalinakanthi                                      |      |
| <b>Unit IV</b>  | <b>Short Story</b>                                | 10 h |
|                 | Nalinakanthi                                      |      |
| <b>Unit V</b>   | <b>Practical Application</b>                      | 12 h |
|                 | Expansion of ideas, General Essay and Translation |      |

### Text Books

- 1 Vaikkam Muhammed Basheer, "Pathummayude Adu" (NOVEL), DC Books & Kottayam
- 2 T.Padmanabhan, "Nalinakanthi" (Short Story), DC Books & Kottayam.

### References

- 1 Malayala Novel Sahithyam.
- 2 Malayala Cherukatha Innale Innu.





| Course Code | Course Name | Category     | L | T | P | Credit |
|-------------|-------------|--------------|---|---|---|--------|
| 231TL1A1FA  | FRENCH - I  | LANGUAGE - I | 4 | 1 | - | 3      |

### PREAMBLE

This course has been designed for students to learn and understand

- The competence in general communication skills with oral, written and comprehension & expression
- The culture, life style and the civilization aspects of the French people as well as of France
- The students to acquire competency in translating simple French sentences into English and vice versa

### COURSE OUTCOMES

On the successful completion of the course, students will be able to

| CO Number | CO Statement                                                                                    | Knowledge Level |
|-----------|-------------------------------------------------------------------------------------------------|-----------------|
| CO1       | Learn the Basic verbs, numbers and accents                                                      | K1              |
| CO2       | Apply the adjectives and the classroom environment in France                                    | K2              |
| CO3       | Select the Plural, Articles and the Hobbies                                                     | K2              |
| CO4       | Measure the Cultural Activity in France                                                         | K3              |
| CO5       | Evaluate the sentiments, life style of the French people and the usage of the conditional tense | K3              |

### MAPPING WITH PROGRAMME OUTCOMES

| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 |
|---------|-----|-----|-----|-----|-----|
| CO1     | ✓   |     |     |     | ✓   |
| CO2     |     |     |     |     | ✓   |
| CO3     |     |     |     |     |     |
| CO4     | ✓   |     | ✓   |     | ✓   |
| CO5     | ✓   |     | ✓   |     |     |

### COURSE FOCUSES ON

|                                     |                               |                                     |                                           |
|-------------------------------------|-------------------------------|-------------------------------------|-------------------------------------------|
| <input checked="" type="checkbox"/> | Skill Development             | <input checked="" type="checkbox"/> | Entrepreneurial Development               |
| <input checked="" type="checkbox"/> | Employability                 | <input checked="" type="checkbox"/> | Innovations                               |
| <input checked="" type="checkbox"/> | Intellectual Property Rights  | <input checked="" type="checkbox"/> | Gender Sensitization                      |
| <input checked="" type="checkbox"/> | Social Awareness/ Environment | <input checked="" type="checkbox"/> | Constitutional Rights/Human Values/Ethics |



|            |            |            |
|------------|------------|------------|
| 231TL1A1FA | FRENCH - I | SEMESTER I |
|------------|------------|------------|

Total Credits: 3

Total Instruction Hours: 60 h

## Syllabus

Unit I Salut I Page 10 12 h

| Objectifs de Communication                                                                                                                           | Tâche                                                               | Activités de réception et de production orale                                                                                                                                                                                                                                                                                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Saluer</li> <li>• Enter en contact avec quelqu'un.</li> <li>• Se présenter.</li> <li>• S'excuser</li> </ul> | En cours de cuisine, premiers contacts avec les membres d'un groupe | <ul style="list-style-type: none"> <li>• Comprendre des personnes qui se saluent.</li> <li>• Échanger pour entrer en contact, se présenter, saluer, s'excuser.</li> <li>• Communiquer avec <i>tu</i> ou <i>vous</i>.</li> <li>• Comprendre les consignes de classe</li> <li>• Épeler son nom et son prénom.</li> </ul> Computer jusqu'à 10. |

Unit II Enchanté I Page 20 12 h

| Objectifs de Communication                                                                                    | Tâche                                                                             | Activités de réception et de production orale                                                                                                                                                       |
|---------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Demander de se présenter.</li> <li>• Présenter quelqu'un.</li> </ul> | Dans la classe de français, se présenter et remplir une fiche pour le professeur. | <ul style="list-style-type: none"> <li>• Comprendre les informations essentielles dans un échange en milieu professionnel.</li> <li>• Échanger pour se présenter et présenter quelqu'un.</li> </ul> |

Unit III J'adore I Page 30 12 h

| Objectifs de Communication                                              | Tâche                                                                                           | Activités de réception et de production orale                                                                                                                                                                                           |
|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Exprimer ses goûts.</li> </ul> | Dans un café, participer à une soirée de rencontres rapides et remplir de taches d'appréciation | <ul style="list-style-type: none"> <li>• Dans une soirée de rencontres rapid comprendre des personnes qui échangent sur elles et sur leurs goût</li> <li>• Comprendre une personne qui parler des goûts de quelqu'un d'autre</li> </ul> |



## Unit IV J'adore I Page 30

14 h

| Objectifs de Communication                                                                                       | Tâche                                                                                                             | Activités de réception et de production orale                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>Présenter quelqu'un</li> </ul>                                            | Dans un café,<br>participer<br>à une soirée<br>de rencontres<br>rapides et remplir<br>de taches<br>d'appréciation | <ul style="list-style-type: none"> <li>Exprimer ses goûts</li> <li>Comprendre une demande laissée sur un répondeur téléphonique.</li> <li>Parler de ses projets de week-end</li> </ul> |
| Autoévaluation du module I Page 40 – Préparation au DELF A1 page 42                                              |                                                                                                                   |                                                                                                                                                                                        |
| Demander à quelqu'un de faire quelque chose.<br>Demander poliment.<br>Parler d'actions passées.<br>Tu veux bien? | Organiser un programme d'activités pour accueillir une personne importante                                        | Comprendre une personne demande un service à quelqu'un.<br>Demander à quelqu'un de faire quelque chose.<br>Imaginer et raconter au passé à partir de situations dessinées.             |

## Unit V Practical Application

10 h

Make in Own Sentences

## Text Book

- 1 Regine Merieux, Yves Loiseau. 2012. LATITUDES – 1: Méthode de français (Page No: 9-55) Les Editions Dider, Paris, Imprime en Roumanie par Canale en Janvier



| Course Code | Course Name | Category     | L | T | P | Credit |
|-------------|-------------|--------------|---|---|---|--------|
| 231EL1A1EA  | ENGLISH - I | LANGUAGE- II | 4 | - | 1 | 3      |

#### PREAMBLE

This course has been designed for students to learn and understand

- the effect of dialogue, imagery and varied genres
- any spontaneous spoken discourse and respond to them with proper sentence structure
- the transactional concept of English language

#### COURSE OUTCOMES

On the successful completion of the course, students will be able to

| CO Number | CO Statement                                                                                     | Knowledge Level |
|-----------|--------------------------------------------------------------------------------------------------|-----------------|
| CO1       | Identify the various aspects in poetry                                                           | K2              |
| CO2       | Infer linguistic and non-linguistic features of the context for understanding and interpreting   | K3              |
| CO3       | Construct sentences and convey messages effectively in real life situations                      | K3              |
| CO4       | Apply different reading strategies with varying speed                                            | K3              |
| CO5       | Prepare modules with their own ideas and present them coherently in a grammatically correct form | K3              |

#### MAPPING WITH PROGRAMME OUTCOMES

| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 |
|---------|-----|-----|-----|-----|-----|
| CO1     | ✓   |     | ✓   | ✓   | ✓   |
| CO2     |     | ✓   |     |     | ✓   |
| CO3     | ✓   | ✓   |     | ✓   |     |
| CO4     |     |     | ✓   |     |     |
| CO5     | ✓   | ✓   |     |     | ✓   |

|                                     |                               |                                     |                                             |
|-------------------------------------|-------------------------------|-------------------------------------|---------------------------------------------|
| <input checked="" type="checkbox"/> | Skill Development             | <input checked="" type="checkbox"/> | Entrepreneurial Development                 |
| <input checked="" type="checkbox"/> | Employability                 | <input checked="" type="checkbox"/> | Innovations                                 |
| <input checked="" type="checkbox"/> | Intellectual Property Rights  | <input checked="" type="checkbox"/> | Gender Sensitization                        |
| <input checked="" type="checkbox"/> | Social Awareness/ Environment | <input checked="" type="checkbox"/> | Constitutional Rights/ Human Values/ Ethics |



|            |            |            |
|------------|------------|------------|
| 231EL1A1EA | ENGLISH- I | SEMESTER I |
|------------|------------|------------|

Total Credits: 3

Total Instruction Hours: 60 h

### Syllabus

#### Unit I Genre Studies 12 h

Nissim Ezekiel: The Worm- Author's Biography- title indications- outline- paraphrasing the poem- context of poem- form- poetic devices- enjambment- techniques- Annotations

Niyi Osundare: Our Earth Will Not Die- Author's Biography- title indications- outline- paraphrasing the poem- context of poem- form- poetic devices- enjambment- techniques- Annotations

A. G. Gardiner: On Superstitions- Author's biography- Narrative structure- Exploration of the text- passage analysis- insight of ideas- cohesion and context- style- language techniques- Annotation

Nancy Bella: Clever Thief- Author's Biography- Plot Summary- Detailed summary and Analysis- Themes- Important Quotations- Characters- Description - analysis- Terms- Symbols- Critical analysis

H. G. Wells: The Truth about Pyecraft- Author's Biography- narrative structure- passage analysis- insight of ideas- cohesion and context- style- language techniques

#### Unit II Listening Skills 12 h

Listening vs. hearing- Types of listening, Tips to enhance Listening Skills, Non-verbal and Verbal signs of active listening - Comprehensive Listening - Listening to pre-recorded audios on speeches, interviews and conversations - Listening Activities- Listening and responding to complaints (formal situation), Listening to problems and offering solutions (informal)

#### Unit III Speaking Skills 14 h

Formal occasions- Introducing oneself, Introducing others, Enquiries and Seeking permission, Making short presentations- Informal occasions- Requests, Offering help, Congratulating, Farewell party, graduation speech- Giving instructions to do a task and to use a device, Giving and asking directions

#### Unit IV Reading Skills 10 h

Study Skills: Skimming and Scanning- Reading different kinds of texts- Types of reading- Developing a good reading speed, reading aloud, Referencing skill - Word



Power (Denotation and Connotation) - Reading comprehension, Data interpretation -Charts, Graphs, Advertisements

**Unit V** Writing Skills 12 h

Sentence patterns, Note- making and note taking-Strategies - Paragraph writing: Structure and Principles - Academic Writing - Formal and Informal Letters, Report, Book /Movie Review

### Text Books

- 1 Gardiner, A. G. 1926. Alpha of the Plough: Second series, J.M. Dent & Sons Ltd., London, United Kingdom. pg.no-151-156. (Unit I)
- 2 Ezekiel, Nissim. "The Worm," Crazy Romantic Love, www.mianmawaisarain.live/2020/05/poem-worm-nissim-ezekiel.html. Accessed 3 Aug. 2022. (Unit I)
- 3 < <http://livros01.livrosgratis.com.br/ln000835.pdf> /> (Unit I)
- 4 Mithra, S. M. 1919. Hindu Tales from the Sanskrit, Macmillan & Co Ltd., London, United Kingdom. pg.no-127-142. (Unit I)
- 5 Nation, I. S. P and Jonathan Newton. 2009. Teaching ESL/EFL Listening and Speaking. Routledge, New York, United States. (Unit II)
- 6 Prabha, Dr. R. Vithya & S. Nithya Devi. 2019. Sparkle. (1st Edn.) McGraw - Hill Education, Chennai, India. (Unit III- V)

### References

- 1 Our Earth Will Not Die By Niyi Osundare." Studocu.Com, studocu.com /in/document/bangalore-university/bachelor-of-computer-applications /1586771577-our-earth-will-not-die/27675462. Accessed 3 Aug. 2022.
- 2 OnSuperstitions."THEHISTORIAN,thehistorian1947.wordpress.com/2019/03/08/on-superstitions-by-a-g-gardiner. Accessed 3 Aug. 2022.
- 3 Swales, John M. & Feak, Christine B. 2012. Academic Writing for Graduate Students: Essential Tasks and Skills, University of Michigan Press, Michigan, United States.
- 4 Rudzka, Brygida -Ostyn, 2003. Word Power: Phrasal Verbs and Compounds: A Cognitive Approach, Mouton de Gruyter, New York, United States.



| Course Code | Course Name                  | Category | L | T | P | Credit |
|-------------|------------------------------|----------|---|---|---|--------|
| 233CL1A1CA  | HUMAN ANATOMY AND PHYSIOLOGY | CORE     | 4 | 1 | - | 4      |

**PREAMBLE**

This course has been designed for students to learn and understand

- The concepts of human anatomy
- The anatomy of various organs of the human body
- The physiological roles of organ system

**COURSE OUTCOMES**

On the successful completion of the course, students will be able to

| CO Number | CO Statement                                                                                            | Knowledge Level |
|-----------|---------------------------------------------------------------------------------------------------------|-----------------|
| CO1       | Understand the definition of anatomical terms, general anatomy and physiology of central nervous system | K2              |
| CO2       | Describe the circulatory system and understand functions of cardiac system                              | K3              |
| CO3       | Interpret the anatomy and physiological functions of respiratory and digestive system                   | K3              |
| CO4       | Extend the structure and functions of excretory and reproductive system                                 | K3              |
| CO5       | Appreciate the anatomical techniques and anatomy and physiology of lymphatic and sensory systems and    | K3              |

**MAPPING WITH PROGRAMME OUTCOMES**

| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 |
|---------|-----|-----|-----|-----|-----|
| CO1     | ✓   | ✓   | ✓   | ✓   | ✓   |
| CO2     | ✓   | ✓   | ✓   | ✓   |     |
| CO3     | ✓   | ✓   | ✓   | ✓   | ✓   |
| CO4     | ✓   | ✓   | ✓   | ✓   |     |
| CO5     | ✓   | ✓   | ✓   | ✓   | ✓   |

|                                     |                               |                          |                                             |
|-------------------------------------|-------------------------------|--------------------------|---------------------------------------------|
| <input checked="" type="checkbox"/> | Skill Development             | <input type="checkbox"/> | Entrepreneurial Development                 |
| <input checked="" type="checkbox"/> | Employability                 | <input type="checkbox"/> | Innovations                                 |
| <input type="checkbox"/>            | Intellectual Property Rights  | <input type="checkbox"/> | Gender Sensitization                        |
| <input type="checkbox"/>            | Social Awareness/ Environment | <input type="checkbox"/> | Constitutional Rights/ Human Values/ Ethics |



|            |                              |            |
|------------|------------------------------|------------|
| 233CL1A1CA | HUMAN ANATOMY AND PHYSIOLOGY | SEMESTER I |
|------------|------------------------------|------------|

Total Credits: 4

Total Instruction Hours: 48 h

### Syllabus

**Unit I      General Anatomy** 10 h

Anatomical terms, Organization of the human body. Tissues -Definition, Types, characteristics and functions. Blood - Morphology, composition and functions. Peripheral Nervous system and Central Nervous system - Spinal cord- Anatomy and functions. Structure of neuron. Neurotransmitters - Acetyl choline and Dopamine. Transmission of nerve impulse- myelinated and non-myelinated nerve, Brief account of resting membrane potential, action potential. Exocrine and Endocrine glands- an overview.

**Unit II      Cardiovascular System** 08 h

Circulatory system - Structure of the heart. Blood Vessels -Structure of arterial and venous system, blood capillaries. Functions of Heart. Definitions of cardiac output and stroke volume. Principles of measurement of cardiac output. Normal values of blood pressure, heart rate and its regulation in brief.

**Unit III      Respiratory System and Gastro enteric system** 10 h

Respiratory system- Parts, Gross and microscopic structure of lungs. Functions of Lungs- Principles of respiration, respiratory muscles, lung volume and capacity. Transport of oxygen and carbondioxide. Digestive System: Parts of digestive system, Functions of gastro intestinal tract- intestinal secretions and movements of gastro intestinal tract.

**Unit IV      Excretory system and Reproductive system** 10 h

Excretory system - Structure of Kidney, Ureters, Urinary Bladder and Urethra. Structure and functions of nephron. Measurement and regulation of glomerular filtration rate. Mechanism of urine formation. Clearance tests- urea and creatinine. Reproductive System - Gross structure of male and female reproductive organs. Physiology of male and female reproductive system.

**Unit V      Lymphatic System** 10 h

Gross and microscopic structure of lymphatic tissue - Thymus, Spleen and Lymph Node, Functions of lymphatic organs. Special Senses - Structure of Skin, Eye, Nose, Tongue, Auditory and Olfactory apparatus. Anatomical Techniques: Embalming of human cadaver, Museum Techniques, Principles of Karyotyping.





### Text Books

- 1 William F G, 2005, "Review of Medical Physiology", 22nd edition, McGraw Hill, New Delhi.
- 2 Khurana I and Khurana A, 2014, "Textbook of Anatomy and Physiology for Nurses and Allied Health Sciences", 1st Edition, CBS Publishers and Distributors, New Delhi

### References

- 1 Arnould-Taylor W E, 2001, "A Textbook of Anatomy and Physiology", 3rd Edition, Stanley Thomas publishers, UK.
- 2 Sembulingam K and Sembulingam P, 2010, "Essentials of Medical Physiology", 5th Edition, Jaypee Medical Pub, New Delhi.
- 3 Jain AK, 2017, "Human Anatomy and Physiology", 3rd edition, Arya Publications, New Delhi.
- 4 <https://www.khanacademy.org/science/health-and-medicine/human-anatomy-and-physiology>.



| Course Code | Course Name          | Category | L | T | P | Credit |
|-------------|----------------------|----------|---|---|---|--------|
| 233CL1A1CB  | GENERAL BIOCHEMISTRY | CORE     | 4 | - | - | 4      |

**PREAMBLE**

This course has been designed for students to learn and understand

- The complex architecture and functioning of cells.
- The basics of various biomolecules such as carbohydrates, proteins, lipids, nucleic acids.
- The physiological functions and disorders of hormones.

**COURSE OUTCOMES**

On the successful completion of the course, students will be able to

| CO Number | CO Statement                                                                               | Knowledge Level |
|-----------|--------------------------------------------------------------------------------------------|-----------------|
| CO1       | Recall the structure and functions of cell and cellular organelles                         | K2              |
| CO2       | Understand the structure and functions of carbohydrates, lipids, proteins and nucleic acid | K2              |
| CO3       | Appreciate the significance of vitamins and minerals                                       | K3              |
| CO4       | Illustrate the classification and characteristics of enzymes.                              | K3              |
| CO5       | Interpret physiological role and dysfunction of endocrine hormones                         | K3              |

**MAPPING WITH PROGRAMME OUTCOMES**

| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 |
|---------|-----|-----|-----|-----|-----|
| CO1     | ✓   | ✓   | ✓   | ✓   | ✓   |
| CO2     | ✓   | ✓   |     | ✓   | ✓   |
| CO3     | ✓   | ✓   | ✓   | ✓   | ✓   |
| CO4     | ✓   | ✓   | ✓   | ✓   |     |
| CO5     | ✓   | ✓   | ✓   | ✓   |     |

|                                     |                               |                                     |                                             |
|-------------------------------------|-------------------------------|-------------------------------------|---------------------------------------------|
| <input checked="" type="checkbox"/> | Skill Development             | <input checked="" type="checkbox"/> | Entrepreneurial Development                 |
| <input checked="" type="checkbox"/> | Employability                 | <input checked="" type="checkbox"/> | Innovations                                 |
| <input type="checkbox"/>            | Intellectual Property Rights  | <input type="checkbox"/>            | Gender Sensitization                        |
| <input type="checkbox"/>            | Social Awareness/ Environment | <input type="checkbox"/>            | Constitutional Rights/ Human Values/ Ethics |



|            |                      |            |
|------------|----------------------|------------|
| 233CL1A1CB | GENERAL BIOCHEMISTRY | SEMESTER I |
|------------|----------------------|------------|

Total Credits: 4

Total Instruction Hours: 48 h

### Syllabus

#### Unit I Cell structure and function 12 h

An overview of cells and their molecular composition: -Cell Definition, Structure of prokaryotic and eukaryotic cells and differentiation between prokaryotic and eukaryotic cells, Function of cells. Cell organelles and their functions: Cell membrane, Cytosol, Endoplasmic reticulum, Ribosome, Golgi apparatus, Lysosomes, Peroxisomes, Glyoxysomes, Mitochondria, Cytoskeleton and Nucleus.

#### Unit II Carbohydrates and Lipids 8 h

Carbohydrates: Classification, Properties, Linear and cyclic Structure of monosaccharides, biological significance and functions of monosaccharides, Disaccharides, Polysaccharides. Lipids - Definition, classification - simple, compound and derived lipids, significance and functions of lipids.

#### Unit III Amino acids and Proteins 10 h

Amino acids - Definition, Classification, Essential and Non-essential amino acids. Proteins - Definition, Classification of proteins, Structure of proteins- primary, secondary -  $\alpha$  Helix, Beta-Pleated sheets, tertiary and Quaternary structure. Properties of peptides and proteins, Examples -Albumin, Globulins. Protein Denaturation.

#### Unit IV Nucleic acids and Vitamins 8 h

Structure of purines and pyrimidines, nucleotides and nucleosides, DNA- Double helical structure, A, B & Z forms of DNA, DNA Denaturation and Renaturation, Functions. RNA - Types and Functions. Vitamins - Definition, Classification, Sources, physiological functions and Deficiency of water and fat soluble vitamins. Minerals - Mineral requirement, Essential macro and micro minerals - Sources and functions.

#### Unit V Enzymes and Hormones 10 h

Enzymes - International classification - Six main classes of enzymes, Characteristic features, Factors affecting enzyme activity. Endocrine System - Hormones, Endocrine glands and their secretions, Functions - Pituitary, Thyroid, Adrenal, Male and Female reproductive hormones. Brief account of these hormonal disorders.



### Text Books

- 1 Jain J L, Jain S and Jain N, 2012, "Biochemistry", 1st Edition, S. Chand and Company pvt Ltd, New Delhi.
- 2 U.Satyanarayana and U.Chakrapani, 2018, "Biochemistry", 5th Edition, Elsevier, India.

### References

- 1 Deb, AC, 2001, "Fundamentals of Biochemistry", 7th Edition New central Agency, Calcutta.
- 2 Devlin T M, 2010, "Textbook of Biochemistry with Clinical Correlations", 7th Edition, John Wiley and Sons, USA.
- 3 DM. Vasudevan , Sreekumari S., Kannan Vaidyanathan , 2019. Textbook Of Biochemistry For Medical Students, 9th Edition, Jaypee Brothers Medical Publishers, India.
- 4 [https://www.khanacademy.org/search?page\\_search\\_query=biochemistry](https://www.khanacademy.org/search?page_search_query=biochemistry).



|            |                               |            |
|------------|-------------------------------|------------|
| 233CL1A1CP | CORE PRACTICAL : BIOCHEMISTRY | SEMESTER I |
|------------|-------------------------------|------------|

Total Credits: 3  
Total Instructions Hours: 72 h

| S.No | Contents                                                                                    |
|------|---------------------------------------------------------------------------------------------|
| 1    | Reagent preparation - Normal solution, Molar solution , Molal solution, Percentage solution |
| 2    | Qualitative analysis of Monosaccharides – Pentose - Arabinose                               |
| 3    | Qualitative analysis of Hexoses - Glucose, Fructose                                         |
| 4    | Qualitative analysis of Disaccharides - Sucrose, Maltose and Lactose.                       |
| 5    | Qualitative analysis of Polysaccharide - Starch.                                            |
| 6    | Qualitative analysis of Histidine                                                           |
| 7    | Qualitative analysis of Tyrosine                                                            |
| 8    | Qualitative analysis of Tryptophan                                                          |
| 9    | Qualitative analysis of Arginine                                                            |
| 10   | Estimation of Acid Number and Iodine Number                                                 |
| 11   | Estimation of Saponification Number                                                         |
| 12   | Protein estimation by Lowry's method                                                        |

### References

- 1 Sadasivam S and Manikam A, 1996, "Biochemical methods ", 2<sup>nd</sup> Edition, New Age International publishers, New Delhi
- 2 Plummer D T, 2004, " An Introduction to practical Biochemistry", 3rd Edition, Tata McGraw-Hill Education Pvt. Ltd, New Delhi
- 3 Jayaraman J, 2015, "Laboratory manual in Biochemistry" 5th Edition, New Age International (P) Ltd.
- 4 Pattabiraman T N and SitaramaAcharya U, 2015, "Laboratory Manual in Biochemistry", 4th Edition. , All India Traveller Book Seller



| Course Code | Course Name                      | Category | L | T | P | Credit |
|-------------|----------------------------------|----------|---|---|---|--------|
| 234IT1A1IA  | BASICS OF INFORMATION TECHNOLOGY | IDC      | 3 | - | - | 3      |

### PREAMBLE

This course has been designed for students to learn and understand

- The components of Computer System and Architecture
- The ideas about System Software and Application software
- The development of Laboratory and Management Information System

### COURSE OUTCOMES

On the successful completion of the course, students will be able to

| CO Number | CO Statement                                                  | Knowledge Level |
|-----------|---------------------------------------------------------------|-----------------|
| CO1       | Understand the Components of Computer System and Architecture | K1              |
| CO2       | Relate the Terminology between Software and Hardware          | K2              |
| CO3       | Outline the Data Transmission Medium and Topologies           | K3              |
| CO4       | Understand the basics of Internet Applications with Protocols | K2              |
| CO5       | Apply and Manage E-Healthcare System                          | K4              |

### MAPPING WITH PROGRAMME OUTCOMES

| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 |
|---------|-----|-----|-----|-----|-----|
| CO1     | ✓   | ✓   | ✓   | ✓   | ✓   |
| CO2     |     | ✓   |     |     | ✓   |
| CO3     | ✓   | ✓   |     | ✓   |     |
| CO4     |     |     | ✓   |     | ✓   |
| CO5     | ✓   | ✓   | ✓   | ✓   | ✓   |

|                                     |                               |                                     |                                             |
|-------------------------------------|-------------------------------|-------------------------------------|---------------------------------------------|
| <input checked="" type="checkbox"/> | Skill Development             | <input checked="" type="checkbox"/> | Entrepreneurial Development                 |
| <input checked="" type="checkbox"/> | Employability                 | <input checked="" type="checkbox"/> | Innovations                                 |
| <input type="checkbox"/>            | Intellectual Property Rights  | <input type="checkbox"/>            | Gender Sensitization                        |
| <input type="checkbox"/>            | Social Awareness/ Environment | <input type="checkbox"/>            | Constitutional Rights/ Human Values/ Ethics |



|            |                                  |            |
|------------|----------------------------------|------------|
| 234IT1A11A | BASICS OF INFORMATION TECHNOLOGY | SEMESTER I |
|------------|----------------------------------|------------|

**Total Credits: 3**

**Total Instruction Hours: 36 h**

### Syllabus

#### **Unit I Introduction to Computers 6 h**

Introduction to Computers: Characteristics of Computers-Generation of Computers - Components of the Computer System, Computer Architecture: CPU -Memory unit - Input and Output Devices.

#### **Unit II Computer Software 6 h**

Software - Definition, Relationship between Hardware and Software - Software categories: System Software, Application Software- Terminology Software: Firmware, Liveware, Freeware and Shareware.  
Operating System: Evolution, Types, Functions

#### **Unit III Networking 8 h**

Data Communication: Components, Data Transmission Mode- Transmission Media: Guided/ Wired Media, Unguided/ Wireless Media, Analog and Digital Transmission- Multiplexing: Multiplexers - Computer Networks: LAN, MAN, WAN - Network Topologies: Mesh, Bus, Ring, Star, Tree.

#### **Unit IV Internet basics 8 h**

Evolution of Internet - Basic Internet Terms: WWW, Web Page, Website, Home Page, Browser, URL, Hypertext, Web Server- Internet Applications: Email, FTP, Telnet, Chatting and Instant Messaging, Sending and Receiving emails, Email Address Structure, Advantages and Disadvantages.

#### **Unit V Laboratory and Hospital Information System 8 h**

Fundamentals: Overview of LIS Development and Project Planning - Data Management and Basic LIMS: Functional Requirements and Features - Data Management and Advanced LIMS: Functional Requirements and Features.  
Hospital Information System: Introduction to E-Healthcare- Managing a Hospital with Information - Quantitative Techniques for Decision Support.



**Text Books**

- 1 Jennifer Sargunar, "Introduction to Computer Science", Pearson edition, Second Edition, 2011
- 2 Kelkar S. A "Hospital Information System", PHI Learning Publisher, Eastern Economy Edition, 2010

**References**

- 1 Christine Paszko, Elizabeth turner,"Library Information Management System", Second edition, 2002
- 2 Niranjana Shrivastava, 2013, "Fundamentals of Computers and Information System", Wiley, India.
- 3 ITL Education Solutions, 2012"Introduction to Information Technology", 2<sup>nd</sup> Edition, Pearson Education, India.
- 4 [https://www.tutorialspoint.com/basics\\_of\\_computers/index.htm](https://www.tutorialspoint.com/basics_of_computers/index.htm)





| Course Code | Course Name           | Category | L | T | P | Credit |
|-------------|-----------------------|----------|---|---|---|--------|
| 233MB1A1AA  | ENVIRONMENTAL STUDIES | AECC     | 2 | - | - | 2      |

### PREAMBLE

This course has been designed for students to learn and understand

- Multi disciplinary aspects of Environmental studies
- Importance to conserve the Biodiversity
- Causes of Pollution and its control

### COURSE OUTCOMES

On the successful completion of the course, students will be able to

| CO Number | CO Statement                                                                                     | Knowledge Level |
|-----------|--------------------------------------------------------------------------------------------------|-----------------|
| CO1       | To understand the importance of natural resources in order to conserve for the future            | K1              |
| CO2       | To impart knowledge on Natural resources and its conservation                                    | K2              |
| CO3       | To impart knowledge on Biodiversity and its conservation                                         | K3              |
| CO4       | To create awareness on effects, causes and control of air, water, soil and noise pollution etc., | K4              |
| CO5       | To build awareness about sustainable development and Environmental protection                    | K1              |

### MAPPING WITH PROGRAMME OUTCOMES

| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 |
|---------|-----|-----|-----|-----|-----|
| CO1     | ✓   | ✓   | ✓   | ✓   | ✓   |
| CO2     | ✓   | ✓   | ✓   | ✓   | ✓   |
| CO3     | ✓   | ✓   | ✓   | ✓   | ✓   |
| CO4     | ✓   | ✓   | ✓   |     |     |
| CO5     | ✓   | ✓   | ✓   | ✓   | ✓   |

|                                     |                               |                          |                                             |
|-------------------------------------|-------------------------------|--------------------------|---------------------------------------------|
| <input checked="" type="checkbox"/> | Skill Development             | <input type="checkbox"/> | Entrepreneurial Development                 |
| <input checked="" type="checkbox"/> | Employability                 | <input type="checkbox"/> | Innovations                                 |
| <input type="checkbox"/>            | Intellectual Property Rights  | <input type="checkbox"/> | Gender Sensitization                        |
| <input type="checkbox"/>            | Social Awareness/ Environment | <input type="checkbox"/> | Constitutional Rights/ Human Values/ Ethics |



|            |                       |            |
|------------|-----------------------|------------|
| 233MB1A1AA | ENVIRONMENTAL STUDIES | SEMESTER I |
|------------|-----------------------|------------|

Total Credits: 2

Total Instruction Hours: 24 h

### Syllabus

**Unit I** Introduction to Environmental studies & Ecosystems 5 h

Introduction to Environmental studies & Ecosystems: Multidisciplinary nature of environmental studies; components of environment – atmosphere, hydrosphere, lithosphere and biosphere. Scope and importance; Concept of sustainability and sustainable development. Ecosystem- Structure and function of ecosystem; Energy flow in an ecosystem: food chain, food web and ecological succession.

**Unit II** Natural Resources: Renewable and Non-renewable Resources 5 h

Natural Resources: Renewable and Non-renewable Resources: Land Resources and land use change; Land degradation, soil erosion and desertification. Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and tribal populations. Water: Use and overexploitation of surface and ground water, floods, droughts, conflicts over water (international & inter-state). Energy resources: Renewable and non-renewable energy sources, use of alternate energy sources, growing energy needs.

**Unit III** Biodiversity and Conservation 5 h

Biodiversity and Conservation: Levels of biological diversity: genetic, species and ecosystem diversity; Biogeography zones of India; Biodiversity patterns and global biodiversity hot spots. India as a mega-biodiversity nation; Endangered and endemic species of India. Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts, biological invasions; Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

**Unit IV** Environmental Pollution, Environmental Policies & Practices 5 h

Environmental Pollution, Environmental Policies & Practices: Environmental pollution: types, causes, effects and controls; Air, water, soil, chemical and noise pollution. Nuclear hazards and human health risks. Solid waste management: Control measures of urban and industrial waste. Pollution case studies. Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture. Environment Laws: Environment Protection Act; Prevention & Control of Pollution Act – Air & Water. Wildlife Protection Act; Forest Conservation Act;

**Unit V** Human Communities and the Environment & Field Work 4 h

Human Communities and the Environment & Field Work: Human population and growth: Impacts on environment, human health and welfares. Environmental ethics: Role of Indian and other religions and cultures in environmental conservation. Environmental communication and public awareness. Visit to an area to document environmental assets; river/forest/flora/fauna, etc. Population explosion – Family Welfare Programmes. Role of Information Technology in



Environment and human health. Role of the Colleges, Teachers and Students in village adoption towards clean, green and make in villages in various aspects.

### Text Books

- 1 Carson, R. 2002. **Silent Spring**. Houghton Mifflin Harcourt
- 2 Gadgil, M., & Guha, R.1993. **This Fissured Land: An Ecological History of India**. Univ. of California Press.

### References

- 1 Gleeson, B. and Low, N. (eds.) 1999. **Global Ethics and Environment**, London, Routledge.
- 2 Gleick, P.H. 1993. **Water in Crisis**. Pacific Institute for Studies in Dev., Environment & Security. Stockholm Env. Institute, Oxford Univ. Press.
- 3 Groom, Martha J. Gary K. Meffe, and Carl Ronald carroll. 2006, **Principles of Conservation Biology**. Sunderland: Sinauer Associates.
- 4 Grumbine, R. Edward, and Pandit, M.K. 2013. **Threats from India's Himalaya dams**. Science, 339: 36-37.
- 5 McCully, P.1996. **Rivers no more: the environmental effects of dams** (pp. 29-64). Zed Books.
- 6 McNeil, John R. 2000. **Something New Under the Sun: An Environmental History of the Twentieth Century**.
- 7 Odum, E.P., Odum, h.T. & Andrews, J.1971. **Fundamentals of Ecology**. Philadelphia: Saunders.



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|                                                                                     |                      |                     |
|-------------------------------------------------------------------------------------|----------------------|---------------------|
|  |                      |                     |
| Dr. N.G.P. Arts and Science College                                                 |                      |                     |
| APPROVED                                                                            |                      |                     |
| BoS-15<br>9/6/2023                                                                  | AC - 15<br>14/7/2023 | GB - 20<br>5/8/2023 |





|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| 1        | 2        | 3        | 4        | 5        |
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