



1.3 Curriculum Enrichment

1.3.1 Cross Cutting Issues

- a) Curriculum Syllabus
- b) Faculty Development Program

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)
Permanently affiliated to Thiruvalluvar & Annamalai University
INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

ENVIRONMENT & SUSTAINABILITY

**B. A., / B. Sc., / B. Com., / B. C. A., / B. B. A., DEGREE
I YEAR, I- SEMESTER
ENVIRONMENTAL STUDIES**

COURSE OBJECTIVE:

1. Creating the awareness about environmental problems among people.
2. Imparting basic knowledge about the environment and its allied problems.
3. Developing an attitude of concern for the environment.

SYLLABUS:

UNIT-I

Introduction to Environmental Sciences

UNIT - II

Natural Resources

UNIT - III

Ecosystem, Biodiversity & Conservation

UNIT - IV

Environmental Pollution and Management

UNIT - V

Social Issues – Human Population

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)
Permanently affiliated to Thiruvalluvar & Annamalai University
INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

HUMAN VALUES

**B. A., / B. Sc., / B. Com., / B. C. A., / B. B. A., DEGREE
I YEAR, II- SEMESTER
VALUE EDUCATION**

COURSE OBJECTIVE:

1. Helps students to become more responsive and practical.
2. Helps them to better recognize the perception of life.
3. Helps in developing a strong relationship with family and friends.

SYLLABUS:

UNIT-I

Value Education - Definition - relevance to present day - Concept of Human Values - self introspection - Self esteem.

UNIT-II

Family values - Components, structure and responsibilities of family - Neutralization of anger - Adjustability - Threats of family life - Status of women in family and society - Caring for needy and elderly - Time allotment for sharing ideas and concerns.

UNIT-III

Ethical values - Professional ethics - Mass media ethics - Advertising ethics - Influence of ethics on family life - psychology of children and youth - Leadership qualities - Personality development.

UNIT-IV

Social values - Faith, service and secularism - Social sense and commitment - Students and Politics - Social awareness, Consumer awareness, Consumer rights and responsibilities - Redressal mechanisms.

UNIT-V

Effect of international affairs on values of life/ Issue of Globalization - Modern warfare - Terrorism. Environmental issues - mutual respect of different cultures, religions and their beliefs.

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)
Permanently affiliated to Thiruvalluvar & Annamalai University
INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

PROFESSIONAL ETHICS

B. A., / B. Sc., / B. Com., / B. C. A., / B. B. A., DEGREE
I YEAR, II- SEMESTER
SOFT SKILLS

COURSE OBJECTIVE:

1. To encourage the all round development of students by focusing on soft skills
2. To develop and nurture the soft skills of the students through individual and group activities.
3. To expose students to right attitudinal and behavioral aspects and to build the same through activities

SYLLABUS:

Unit - I

Introduction: Listening and Speaking, Reading Skills

Unit - II

Exit Errors-Word Power

Unit - III

Career Concerns - Pleasing Personality

Unit - IV

Think Tank - Management Magic

Unit - V

Leading Light - Enhance and Empower



PROFESSIONAL ETHICS

B. A., / B. Sc., / B. Com., / B. C. A., / B. B. A., DEGREE

I YEAR – I SEMESTER

PROFESSIONAL ENGLISH - I

OBJECTIVES:

- To develop the language skills of students by offering adequate practice unprofessional contexts.
- To enhance the lexical, grammatical and socio-linguistic and communicative competence of first year physical sciences students
- To focus on developing students' knowledge of domain specific registers and the required language skills.
- To develop strategic competence that will help in efficient communication

LEARNING OUTCOMES:

- Recognize their own ability to improve their own competence in using the language
- Use language for speaking with confidence in an intelligible and acceptable manner
- Understand the importance of reading for life
- Read independently unfamiliar texts with comprehension
- Understand the importance of writing in academic life
- Write simple sentences without committing error of spelling or grammar (Outcomes based on
- guidelines in UGC LOCF – Generic Elective)

NB: All four skills are taught based on texts/passages.

UNIT 1: COMMUNICATION

Listening: Listening to audio text and answering questions

- Listening to Instructions

Speaking: Pair work and small group work.

Reading: Comprehension passages – Differentiate between facts and opinion

Writing: Developing a story with pictures.

Vocabulary: Register specific - Incorporated into the LSRW tasks

UNIT 2: DESCRIPTION

Listening: Listening to process description. - Drawing a flow chart.

Speaking: Role play (formal context)

Reading: Skimming/Scanning- Reading passages on products, equipment and gadgets.

Writing: Process Description – Compare and Contrast

Paragraph-Sentence Definition and Extended definition-

Free Writing.

Vocabulary: Register specific - Incorporated into the LSRW tasks.

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)

Permanently affiliated to Thiruvalluvar & Annamalai University

INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

UNIT 3: NEGOTIATION STRATEGIES

Listening: Listening to interviews of specialists / Inventors in fields(Subject specific)

Speaking: Brainstorming. (Mind mapping).

Small group discussions (Subject- Specific)

Reading: Longer Reading text.

Writing: Essay Writing (250 words)

Vocabulary: Register specific - Incorporated into the LSRW tasks

UNIT 4: PRESENTATION SKILLS

Listening: Listening to lectures.

Speaking: Short talks.

Reading: Reading Comprehension passages

Writing: Writing Recommendations

Interpreting Visuals inputs

Vocabulary: Register specific - Incorporated into the LSRW tasks

UNIT 5: CRITICAL THINKING SKILLS

Listening: Listening comprehension- Listening for information.

Speaking: Making presentations (with PPT- practice).

Reading : Comprehension passages –Note making.

Comprehension: Motivational article on Professional Competence, Professional Ethics and Life Skills)

Writing: Problem and Solution essay– Creative writing –Summary writing

Vocabulary: Register specific - Incorporated into the LSRW tasks

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)
Permanently affiliated to Thiruvalluvar & Annamalai University
INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

PROFESSIONAL ETHICS

B. A., / B. Sc., / B. Com., / B. C. A., / B. B. A., DEGREE
I YEAR – II SEMESTER

PROFESSIONAL ENGLISH -II

COURSE OBJECTIVE:

1. To develop the language skills of students by offering adequate practice in professional contexts.
2. To enhance the lexical, grammatical and socio-linguistic and communicative competence of first year physical sciences students
3. To focus on developing students' knowledge of domain specific registers and the required language skills.

UNIT I

COMMUNICATIVE COMPETENCE

UNIT II

PERSUASIVE COMMUNICATION

UNIT II

PERSUASIVE COMMUNICATION

UNIT IV

CREATIVITY AND IMAGINATION

UNIT-V

WORKPLACE COMMUNICATION & BASICS OF ACADEMIC WRITING



HUMAN VALUE

**M. A., / M. Sc., / M. Com., DEGREE
I YEAR, II- SEMESTER
HUMAN RIGHTS**

COURSE OBJECTIVE:

1. In-depth insight into the constitutional, statutory and institutional aspects of human rights protection in India.
2. Covers constitutional provisions dealing with human rights.
3. Discussion on institutional framework in India dealing with protection and enforcement of human rights.

SYLLABUS:

UNIT-I

Definition of Human Rights - Nature, Content, Legitimacy and Priority - Theories on Human Rights - Historical Development of Human Rights.

UNIT - II

International Human Rights - Prescription and Enforcement upto World War II - Human Rights and the U.N.O. - Universal Declaration of Human Rights

UNIT - III

Human Rights Declarations - U.N. Human Rights Declarations - U.N. Human Commissioner.

UNIT - IV

Amnesty International - Human Rights and Helsinki Process - Regional Developments - European Human Rights System - African Human Rights System - International Human Rights in Domestic courts.

UNIT - V

Fundamental Rights in the Indian Constitution - Directive Principles of State Policy - Fundamental Duties - National Human Rights Commission.



PROFESSIONAL ETHICS
BA ENGLISH DEGREE
II YEAR, IV– SEMESTER
WRITING FOR SPECIFIC PURPOSE

Course Objectives

1. To create a passion for writing in English for special purposes
2. Enable students to learn the techniques of writing

Course Out Comes :

- 1.Student is able to prepare her\him self.

UNIT - I

Getting started → Gaining control → Writing for a Diverse Audience → Organizing your thought → Managing the purpose of writing → Overcoming the writes Block.

UNIT - II → Making your message Accessible → The subject time → Beginning → Endings → Headings → Graphic Devices → Bullets

UNIT - III

An easy to read style → Strengthening a weak memo → Writing for special purpose → The executive summary → Clear Instructions

UNIT - IV

Good well letters → Letter of congratulations → Thank you notes → Letter of apology → Letter of recommendation → Delivering welcome news

UNIT - V

Letter of complaint → Responses to letters of complaint → Letter of request → Persuasion : some practical pointer → Shaping a persuasion message → The sales letter

Text Book :

Reference: Effective business writing Maryann PIOTROWSKI, Harper Collins publisher. Inc. NY 10022.



PROFESSIONAL ETHICS
BA ENGLISH DEGREE
III YEAR, V– SEMESTER
CHILDREN LITERATURE

Objectives

1. To make the students read a broad range of children's literature from Fairy tales to recent books
2. it gives students appreciation about their own cultural heritage as well as those of others;
3. it helps students develop emotional intelligence and creativity;

Course outcome:

- 1.The students learn to find happiness through daily activities and dreams.
- 2.The students are able to understand how being good leads to problems.

UNIT – I

- 1.Little Women - Louisa May Alcott

UNIT - II

- 1.Anna of Green Gables (Book I)- Anne Montgommz

UNIT - III

- 1.Harry Potter and the Philosopher's Stone -J .K.Rowling

UNIT – IV

- 1.The Ugly Duckling - Hans Christian Andersen
- 2.Hansel and Gretel - Grimm's Fairy Tales

UNIT – V

1. C.S.Lewis- On Three ways of Writing for Children 2. Philip Pullman - On Children's Literature and the Critics Who Disdain It (From Daemon Voices: On Stories and Storytelling).

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)
Permanently affiliated to Thiruvalluvar & Annamalai University
INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

PROFESSIONAL ETHICS **BA ENGLISH DEGREE** **III YEAR, V– SEMESTER** **CONTENT WRITING**

Course Objective

Expose students of English literature to the world of ‘ideation and creation’. By providing a platform for writing contents for Advertisement, Websites, Product descriptions and Social media contents (for clients to express, inform, entertain or persuade the audience/readers) enhances the artistic and analytic function of the student.

Course Outcome

Content Writing will play a vital role in the era of “start ups”. With technical expertise along with good writing skill scan provide a great career opportunity to a student.

Syllabus

Unit I

Introduction Writing for special purpose- nuances of technical writing- digital age writings- SEO- target identification and focus- various platforms. Types of Content Ads., Blogs, E-Books etc., Publication Platforms.

Unit II

Writing Tools, Tips, & Techniques.

Unit III

Advertising Objectives- Category of Ads. - Strategy - layout- language.

Unit IV

Social media and present day platforms.Social media tools.

Unit V

Content Writing Exercises, Commercials, Social Advertisements, Short films, Projects as teams

Reference Books.

Kristina Halvorson. Content Strategy for the Web

Mark W. Schaefer. The Content Code: Six essential strategies. 2015.



PROFESSIONAL ETHICS
BA ENGLISH DEGREE
III YEAR, VI- SEMESTER
INDIAN LITERATURE IN TRANSLATION

Course Objectives

1. To introduce the student to the polyphony of modern Indian literature in translation.
2. To understand the multi-faceted nature of cultural identities in the various Indian literature in translation.
3. To explore images in literary productions that express the writer's views on their society.

COURSE OUTCOMES

1. Students will be able to learn the universal qualities of pure love irrespective of caste, creed and society
2. Appreciate the poetic style and the indigenous metaphor.
3. Students will be able to know how to develop their leadership qualities.

UNIT - I: POETRY

1. Kurunthogai Verse 40 (poem: "Red Earth and pouring rain"):What could my mother be to yours) - Translated by Dr. JayanthasriBalakrishnan.
2. The modern woman by Bharathiyar. (puthumai Pen)
3. Thirukkural - The Possession of love.

UNIT - II: NON-FICTION

1. The five steps to success by YandamooriVeerandranath.

UNIT - III

1. Chemmeen - ThakazhiSivasankaraPillai (Translated by Anita Nair)
2. GracharGochar -VivekShenbag (Translated by SrinathPrerur)

UNIT - IV

1. Sakunthalam - Kalidasa
2. EvamIndrajith - Badal Sarkar (Translated by GirishKarnad)

UNIT - V

1. Bridges - Sivashankari (Translated by Krisnan)
2. The Bait - Mahim Bora (Translated by LalithSaika)



PROFESSIONAL ETHICS
BA ENGLISH DEGREE
III YEAR, VI– SEMESTER
FILM - APPRECIATION AND BOOK REVIEW

Objective:

- 1 To sensitize students in the nuances of cinema.
- 2 To introduce the semiotics of cinema to students.
- 3 To introduce theories relevant to film appreciation.
- 4 To expose students to the world of film language.

Course outcome

- 1.Students is able to get an overall view of cinema as a massive influence in the society
- 2.Learn the basics of film - language and venture on to higher level
- 3.Interpret the different concepts of the movie

UNIT - I

1. Film appreciation : An introduction
2. Reading the visual and visualizing the text: Film Language.

UNIT – II

1. Cinema : Aesthetics, Religion and politics
2. A Classic film is a critique of the medium.

UNIT - III

- 1 What's in a Name?
- 2 Brevity is the soul of wit
- 3 How you say a thing 4 Acting is believing

UNIT – IV

1. Watching the recommended movies and writing reviews

UNIT – V Reading books and writing Reviews

1. Becoming by Michelle Obama
2. A walk to remember by Nicholas Sparks
3. Three women , three ponds by Sudha Murthy
4. One Indian girl by Chetan Bhagat

Text Prescribed 1. Prof.N,Ilango,Film- Appreciation for Beginners, Manimekala Publishing House, Madurai, 2017.

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)
Permanently affiliated to Thiruvalluvar & Annamalai University
INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

PROFESSIONAL ETHICS

MA ENGLISH DEGREE

I YEAR, I- SEMESTER

PUBLIC SPEAKING AND CREATIVE WRITING

OBJECTIVES

To help students understand the techniques of Creative Writing

To give practice in Writing

To enable students write any Creative Form of Literature

COURSE OUTCOME

The student will learn how to appreciate and analyze the poem

The student will get an idea of how to write poem

The student will receive the adequate knowledge about the paragraph writing

UNIT I

1. Writing and Thinking 2. Finding Ideas 3. Thinking about purpose, audience and tone 4. Arranging Ideas 5. Writing a First Draft Evaluating & Revising 6. Proof reading and publishing 7. Lateral Thinking

UNIT II

1. Writing a Poem 2. Poetic Analysis 3. Literary Devices 4. Exercises

UNIT III

1. Non – Fictional Writing 2. Paragraph Structure 3. Writing an Introduction 4. Writing a Conclusion 5. Exercises.

UNIT IV

1. Writing a Short Story 2. Pre-Writing 3. Basic Elements 4. Basic Framework 5. Exercises.

UNIT V

1. Screenplay Writing / Writing a Play 2. Literary Techniques 3. Production 4. Evaluation Pattern to be evolve.

REFERENCES

1. Elements of writing (Complete Course) James L. Kinneavy, John E. Warriner Austin: HBJ, 1993

2. Elements of Writing (Fourth Course) James L. Kinneavy, John E. Warriner Austin: HBJ, 1993 3. Rudolf f. Verdure and Kathleen S. Verdure: The Challenge of Effective Speaking, Thomson Wadsworth 13th ed., 2006.



PROFESSIONAL ETHICS
MA ENGLISH DEGREE
I YEAR, II- SEMESTER
CONTEMPORARY LITERARY THEORY – I

OBJECTIVES

- To help the students understand literary theory as a system to critically interpret literary texts.
- To enable the students to understand the broad spectrum of thought that is covered by literary theory and also to enhance their literary research.

COURSE OUTCOME

It reinforces the student's literary competence. → The students will develop an independent critical persona. → The students can understand the various types of theories → Theories after the 20th century is learned

UNIT I

New Criticism
Russian Formalism.

UNIT II

Psychoanalysis
Archetypal Criticism

UNIT III

Reader Response Theory
Phenomenological Criticism.

UNIT IV

Bakhtin
Eco criticism.

UNIT V

Modernism
Post-Modernism.

REFERENCE

1. Barry, Peter, Beginning Theory (Routledge, London, 2010).
2. Selden, Raman. A Reader's Guide to Contemporary Literary Theory. (Pearson, Singapore, 2009).

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)
Permanently affiliated to Thiruvalluvar & Annamalai University
INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

PROFESSIONAL ETHICS

MA ENGLISH DEGREE

I YEAR, II- SEMESTER

JOURNALISM AND MASS COMMUNICATION

OBJECTIVES

- To enable the students to get knowledge of the press, its history and other media.
- To know the uses and Importance of the Mass Media. • To get the knowledge of Print Media.

COURSE OUTCOME

The students can learn about the history and Ideologies of the print media.

The Characteristic of the Newspaper is introduced to the learners.

The learners can acquaint the Techniques and writings of the Print Media.

UNIT I: HISTORY AND IDEOLOGIES OF PRINT MEDIA

The Press Council Act – 1978 News under Emergency The Centenarian Newspapers in India Ethics of a Newspaper.

UNIT II: CHARACTERISTICS OF A NEWSPAPER:

Headlines Interviews Features Letters to the Editor Cartoons and Caricatures.

UNIT III: TECHNIQUES OF WRITING FOR THE PRINT MEDIA

Report Writing The Role of an Editor Qualities of an Interviewer Book Review Film Review

UNIT IV: HISTORY AND STUDY OF FILMS

The Arrival of Talkies Lumiere Brothers and the Evolution of Cinematography Documentary and Short Films National Film Festival.

UNIT V: USES AND IMPACT OF MASS MEDIA ON SOCIETY

Radio Journalism Television Journalism The Film Industry The web Media.

REFERENCES

1. Journalism Theory and Practice: B.N. Ahuja, Sultan Chand Pub, New Delhi
2. Mass Communication in India :Keval K. Kumar, Jaico Publishing House
3. Basic Journalism :Rengasamy Parthasarathy, Macmillan publications.



PROFESSIONAL ETHICS
MA ENGLISH DEGREE
II YEAR, IV – SEMESTER
ENGLISH FOR MEDIA

OBJECTIVES

- Introduction to Mass Media and Mass media is a form of communication that reaches a large people in a short time. For e.g.: TV, Newspaper, Radio and so on to communicate to the people. It very easy to reach all the people.
- Types of news analysis: News analysis may be for sentiment or business motive. It may be spoke or in the written form.
- Reviews: To design articles, advertisement, business, column, letters and novels.
- Report in the media English about the crime, election, sports and news. It can be in different font and style.

COURSE OUTCOME

The student is introduced to the essence of the Mass media and its definitions and its function.

The learner learns the News Analysis and its types.

UNIT I INTRODUCTION TO MASS MEDIA

Definition of Mass Media - Functions - Public Opinion

UNIT II TYPES OF NEWS ANALYSIS

94 Hard and soft news - Expected and Unexpected News - Box News - Follow up news - Scoop - Filters - News Analysis and Evaluation.

UNIT III REVIEWS

Editorial - Columns - Articles - Reviews - Features – Letters.

UNIT IV REPORTS

Reporting - Crime, Court, Election, Legislative, Sports, Investigative - Font, Caption, Style - Emphasis of News and Reports - Principles of Editing.

UNIT V

Writing and Editing - TV/Radio-News and News Headlines, Documentaries, TV/Radio Features

REFERENCES

1. KevalJ.Kumar – Mass Communications in India (Bombay: Jacco 1981)
2. MacBride –Many Voices, One world (London: Kagan Press, 1980)
3. D.S.Metha – Mass Communication and Journalism 4. James M.Neel – News Writing and Reporting.



PROFESSIONAL ETHICS

B.Sc MATHEMATICS

II YEAR, III- SEMESTER

MATHEMATICS FOR COMPETITIVE EXAMINATIONS - I

Objectives

To introduce concepts of mathematics with emphasis on analytical ability and computational skill needed in competitive examinations.

UNIT - I

Numbers, H.C.F. and L.C.M. of numbers, Decimal Fractions.

UNIT - II

Simplification, Square roots and Cube Roots, Average.

UNIT - III

Problems on numbers, problems on Ages.

UNIT - IV

Surds and Indices, Percentage, Profit and Loss.

UNIT -V

Ratio and Proportion, Partnership.

Text Books:-

1. R.S.Aggarwal, Quantitative Aptitude for competitive Examination, S.Chand and company, New Delhi.
2. Praveen R. V. Quantitative Aptitude and Reasoning, PHI Learning Pvt. Ltd, New Delhi.



PROFESSIONAL ETHICS

B.Sc MATHEMATICS

II YEAR, IV– SEMESTER

MATHEMATICS FOR COMPETITIVE EXAMINATIONS – II

Objectives

To introduce concepts of mathematics with emphasis on analytical ability and computational skill needed in competitive examinations.

UNIT - I

Chain rule -Time and work.

UNIT - II

Time and Distance

UNIT - III

Problems on Trains.

UNIT - IV

Boats and Streams.

UNIT - V

Alligation or Mixture.

Text Book:-

Quantitative Aptitude for competitive Examination R.S. Aggarwal.
S. Chand and company Ltd,152,Anna salai, Chennai. 2001



PROFESSIONAL ETHICS

B.Sc MATHEMATICS

III YEAR, V– SEMESTER

MATHEMATICS FOR COMPETITIVE EXAMINATIONS – III

Objectives

To introduce concepts of mathematics with emphasis on analytical ability and computational skill needed in competitive examinations.

UNIT - I

Simple Interest.

UNIT - II

Compound Interest

UNIT - III

Logarithms - Races and Games of Skill.

UNIT - IV

Area

UNIT - V

Volume and surface areas.

Text Book:-

Quantitative Aptitude for competitive Examination R.S. Aggarwal.
S. Chand and company Ltd, 152, Anna salai, Chennai. 2001



PROFESSIONAL ETHICS

B.Sc MATHEMATICS III YEAR, VI- SEMESTER OPERATIONS RESEARCH

Objectives

To develop computational skill and logical thinking in formulating industry oriented problems as a mathematical problem and obtaining optimal solutions to the problems.

UNIT - I

Network logic-Numbering the events-construction of network diagram-Critical pathmethod (CPM) - Three floats

UNIT - II

Three time estimates-Network scheduling by PERT Method- Cost consideration in PERTand CPM -Crashing

UNIT - III

Inventory models - EOQ model (a) Uniform demand rate infinite production rate with no shortages (b) Uniform demand rate infinite production rate with shortages allowed (c) Uniform demand rate finite production rate with no shortages (d) Uniform demand rate finite production rate with shortages allowed - Inventory control with Price Breaks.

UNIT - IV

Sequencing problem - n jobs through 2 machines, n jobs through 3 machines - two jobs through m machines - n jobs through m machines.

UNIT - V

Queuing Theory - Basic concepts - Steady state analysis of M/M/1 and M/M/N systems with finite and infinite capacities - Multi-channel queuing model (M/M/C)/FCFS/ ∞/∞ .

Recommended Text: Gupta P.K. and Hira D.S. (2000) *Problems in OperationsResearch*, S.Chand & Co. Delhi

**PROFESSIONAL ETHICS****B. Sc., PHYSICS (2020-2022)****II YEAR, III- SEMESTER****Basic Electrical Technology****Course Objectives**

1. Students can know the basic principles of electricity.
2. To expose the knowledge on different kinds of cells and batteries.
3. To state the different theorems for DC circuits and know the function of DC generator / motor.
4. To acquire the basic ideas of alternating voltage and current.
5. To know the principle of transformers and motors.

UNIT- I**BASIC ELECTRICITY PRINCIPLES**

Voltage, Current, Resistance, and Power-Ohm's law- Resistors Series, parallel - combinations - Series-Parallel combinations - Charge-Coulomb's law-Capacitors-Capacitance of capacitor-AC Electricity-LT/HT Line-Concept of neutral and earth-Application of fuse- MCB, ELCB- relays -Electrical Safety- Safety Precautions of Electricity - Electric Shock-Preventive measures of Electrical Shock.

UNIT- II**CELL AND BATTERIES**

Dry Cell -Voltaic Cell-Daniel cell-Leclanche cell-Secondary Cell and its Classification-Lithium Ion Battery- Disparity between Lead Acid Battery and Lithium Ion Battery-Hydrogen battery-UPS Battery -Solar cell-Principle and design.

UNIT- III**DC CIRCUITS**

Kirchhoff's Current and Voltage Law-Wheatstone's bridge-Source conversion-Superposition theorem-Thevenin's theorem-Norton's theorem-Joule's law of electric heating-Electric power-D.C generator-Construction and working-D.C motor-Speed of a D.C motor.

UNIT - IV**AC FUNDAMENTALS**

Generation of Alternating voltages and alternating currents-Equations of the alternating voltages and currents-Simple waveforms - Cycle-Time Period - Frequency-Amplitude-Different forms of emf equation - Phase-Phase difference-RMS, Average and Peak values-RLC circuit in series-Resonance in RLC circuit-Graphic representation of series resonance-Single phase and three phase connections-Star and delta connection.

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)
Permanently affiliated to Thiruvalluvar & Annamalai University
INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

UNIT- V

TRANSFORMERS & MOTORS

Transformer-Step and Step down transformers-Construction and working-Losses in a transformer-Efficiency of a transformer-Types of a transformers-AC generator/alternator-Principle and construction-Single phase and three phase induction motors-Principle and construction

Text Books

Unit-1 to Unit-5

1. B.L. Theraja, Fundamentals of Electrical Engineering and Electronics, S. Chand & Company Ltd., New Delhi, 2008.
2. B.L. Theraja and A.K. Theraja, A Text book of Electrical Technology, Volume I & II, Chand & Company Ltd., New Delhi, 2007.

Reference Books

1. V.K. Mehta and Rohit Mehta, Basic Electrical Engineering, S. Chand & Company Ltd., New Delhi, 2009.
2. Basic Electrical Engineering-Vocational Theory-Plus One Text Book-TN State Board.

Course Outcomes

1. After studied unit-1, the student will be able to know principle of Voltage, Current, Resistance, Ohm's law and Electrical safety.
2. After studied unit-2, the student will be able to distinguish between cells and batteries and able to explain the different types of batteries.

**PROFESSIONAL ETHICS****B. Sc., PHYSICS****II YEAR, IV– SEMESTER****Physics Workshop Skills****Course Objectives**

1. Employ the specific skills in the testing of instruments.
2. Express the functions and working of different power supply system
3. To know the principle and working of different electrical and electronics appliances
4. State the concept of mobile Communication in real time process and digital communication.
5. Explain the Identification, classification, and working principle of various Biomedical Instruments and application of these instruments in diagnosis, therapeutic treatment and imaging fields

UNIT- I**TESTING OF DISCRETE COMPONENTS**

Resistors- types - Characteristics -Colour coding -resistors in series and parallel - Capacitors - types -Capacitor in Series and Parallel - Multimeter Analog and Digital - How to Use a Multimeter -Testing of Voltage - Current Continuity (Testing of Fuse) -Resistance - Diode and Transistor-Design of Bread board-Soldering Technique used in PCBs.

UNIT- II**POWER SUPPLY**

Power Supply Unit-Parts of Power Supply- Regulated power supply- Zener diode voltage regulator- IC Voltage - Regulators - Inverter-Uninterrupted power supply (UPS) - Switched mode power supply (SMPS)-Cathode Ray Oscilloscope (CRO) and measurement of time period and frequency - Function generator.

UNIT- III**ELECTRICAL & ELECTRONICS APPLIANCES**

Electric iron Box-Electric Fan-Construction and Working of Ceiling and Table fans-Water Heater - Types-Function -Wet Grinder-Mixer Grinder-Principle and Design
Microwave Oven-Washing Machine - Function - Types-Semi and Fully Automatic-Top and Front loading-Fuzzy logic washing machine technology - Refrigerator-Air Conditioner-Principle and Design. 20



UNIT- IV

MASS AND MEDIA COMMUNICATION

Mobile Communication (GSM) -Android version- USB - Various Types of USB Cable and Connectors - VGA- AV port - HDMI- DVI - S Video and Display port- Bluetooth - Wi-fi and Li-fi - Direct broadcast satellite (DBS)- DTH and DTT- Radar Communication System.

UNIT-5

BIO-MEDICAL INSTRUMENTATION

Principle, description, function and recording of ECG, EMG and EEG -artificial pace maker-simulators -Heart lung machine -ventilators and nebulizers-Kidney dialysis machine- pH meter - Laser blood flow meter-Thermal scanner and pulse oximeter.

Text Books

1. B.L. Theraja, A Text book of Electrical Technology, S.Chand & Co., New Delhi, 2007.
2. Fundamentals of Power Supply Design: Technology from the Unitrode/Texas Instruments.
3. Robert A. Mammano, Power Supply Design Seminars, , Texas Instruments, 2017.
4. R.R. Gulati, Modern Television Practice Principles, Technology & Servicing, New Age International, 2007.
5. K. F. Ibrahim, Newness Guide to Television and Video Technology, Elsevier, 2007.

References:

1. I.J. Nagrath and D. P. Kothari, Electrical Machines, Tata McGraw Hill, 1997.
2. M. D. Singh, K. B.Khanchandani Power Electronics, Tata McGraw Hill, 2006.

E- Materials

1. <https://www.electronicsforu.com/>
2. <https://learnabout-electronics.org/>
3. <https://www.scienceabc.com/innovation/usb-type-c-different-usb-type-type-b.html>

Course Outcomes

1. After studied unit-1, the student will be able to test the instruments with specific skills
2. After studied unit-2, the student will be able to express the functions and working of Linear power supply.
3. After studied unit-3, the student will be able to know the basics of analytical instruments and how to calibrate it.
4. After studied unit-4, the student will be able to explain mobile communication and radar communication system.
5. After studied unit-5, the student will be able to demonstrate the principle and working of various biomedical equipment.

**PROFESSIONAL ETHICS****B.Sc., PHYSICS****III YEAR, V– SEMESTER****Cell Phone Technology****Course Objectives**

1. To learn the back ground information about cellular system.
2. To study the various mobile standards.
3. To teach the chip level information of mobile phones.
4. To expose the idea about trouble shooting of problems in mobile phones.
5. To acquire the knowledge about mobile service tools.

UNIT- I**THE CELLULAR SYSTEM**

Background - The cellular concept - interference Vs capacity, cell splitting, sectorisation. The cellular system-mobile location, in call handover and power control in cell planning. TACS standard. The cellular network - Base stations, MSC, services.

UNIT - II**MOBILE STANDARDS**

Smart Phones (Android, IOS, Windows) APPs - Mobile Software (PC suite)-WPAN standards - IrDA, Bluetooth, 1G, 2G standards, 2.5G applications. 3G devices and applications. Network protocols - TDMA(2G), GSM(2G), cdma one(2G), PDC 2(G), GPRS(2.5G), CDMA 2000 1x(2.5G), EDGE(3G), CDMA 2000 1xEV(3G), WCDMA(G)- WiMax (4G)

UNIT- III**CHIP LEVEL STUDY**

Block Diagrams -Schematic Diagrams - Chip Level Information of Mobile -Phones - BGA - SMD Reworking Station - Soldering lead -Soldering paste -De- Soldering wire - Identification of IC's - Assembling &Disassembling of Smart Phones.

UNIT- IV**TROUBLE SHOOTING**

Causes for various problems & Troubleshooting of Problems in a SmartPhone - Network Problems - Display Problems -Touch Problems - Sim Card Problems -Charging problems - Battery Problems - Software Problems -IMEI information - Problems related to mobile phone handsets - replacement of Various components ICS.

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)
Permanently affiliated to Thiruvalluvar & Annamalai University
INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

UNIT- V

MOBILE SERVICE TOOLS

Ultrasonic Cleaner - Computer Connectors - SIM Card Reader – MemoryCard Reader -
Mobile Virus - Virus Prevention - Removing Virus – HealthHazards with Mobiles - SAR.

Text Books

Unit 1 to Unit 5

1. ManaharLotia , Modern Mobile phone Introduction & Servicing, BPB Publications, 2017

Reference Books

1. ManaharLotia, Modern Mobile Phone Repair using Computer Software & Service Devices , BPB Publications, 2017.
2. ManaharLotia, Modern Mobile Phone Unlocking & Utility Codes For GSM & CDMA Phones, BPB Publications, 2017
3. Mobile Telephony, Digit Magazine, Jasubhai Digital Media Publications.
4. Raj Pandya, Mobile & Personal Communication Systems & Services, PHI Publications
5. William C.Y.Lee, Mobile Cellular Telecommunications (Analog & Digital Systems), McGraw Hill, New Delhi,1995
6. Andy Dornan, The Essential Guide to Wireless Communications & Applications, Prentice Hall, New Delhi, 2002.

E-Materials

1. <https://www.slideshare.net/priyahada/cellular-concepts-41556741>
2. <https://www.youtube.com/watch?v=whYljse4Abc>
3. <https://electronics.howstuffworks.com/cell-phone7.htm>

Course Outcomes

1. After studied unit-1, the student will be able understand the cellular communication system.
2. After studied unit-2, the student will be able to study the smart phones and various mobile standards like 1G,2G, etc.
3. After studied unit-3, the student will be able to learn chip level.

**PROFESSIONAL ETHICS****B.Sc., PHYSICS****III YEAR, VI- SEMESTER****Weather forecasting****Course Objectives**

1. To learn about the elementary idea of atmosphere, atmospheric pressure etc.
2. To study how to measure wind speed, direction, rain fall etc.
3. To teach the different weather systems and hurricanes
4. To explain the climate and environmental issues related to climate
5. To give an idea about weather forecasting

UNIT- I**INTRODUCTION TO ATMOSPHERE**

Elementary idea of atmosphere: physical structure and composition; compositional layering of the atmosphere; variation of pressure and temperature with height; air temperature; requirements to measure air temperature; temperature sensors: types; atmospheric pressure: its measurement; cyclones and anticyclones: its characteristics.

UNIT- II**MEASURING THE WEATHER**

Wind; forces acting to produce wind; wind speed direction: units, its direction; measuring wind speed and direction; humidity, clouds and rainfall, radiation: absorption, emission and scattering in atmosphere; radiation laws.

UNIT- III**WEATHER SYSTEMS**

Global wind systems; air masses and fronts: classifications; jet streams; local thunderstorms; tropical cyclones: classification;-naming tropical cyclones tornadoes; hurricanes

UNIT- IV**CLIMATE AND CLIMATE CHANGE**

Climate: its classification; causes of climate change; global warming and its outcomes; air pollution; aerosols, ozone depletion, acid rain, environmental issues related to climate.

**UNIT- V****BASICS OF WEATHER FORECASTING**

Weather forecasting: analysis and its historical background; need of measuring weather; types of weather forecasting; weather forecasting methods; criteria of choosing weather station; basics of choosing site and exposure; satellites observations in weather forecasting; weather maps; uncertainty and predictability; probability forecasts.

Text Books**Unit 1 to Unit 5**

1. Chandrasekar, Basics of Atmospheric Science, PHI Learning Pvt Ltd, New Delhi, 2010.
2. Howard J Critchfield, General Climatology, Prentice Hall of India, Pvt Ltd, New Delhi, 1975.

Reference Books

1. I.C. Joshi, Aviation Meteorology, Himalayan Books, 2014.
2. Stephen Burt, The weather Observers Hand book, Cambridge University Press, 2012.
3. S.R. Ghadekar, Meteorology, Agromet Publishers, Nagpur, 2001.
4. S.R. Ghadekar, Text Book of Agrometeorology, Agromet Publishers, Nagpur, 2005.
5. Charles Franklin Brooks Why the weather, Chapman & Hall, London. 1924.
6. John G. Harvey, Atmosphere and Ocean, The Artemis Press, 1995.

E-Materials

1. <https://en.wikipedia.org/wiki/Atmosphere>
2. <https://www.youtube.com/watch?v=6LkmD6B2ncs>
3. <https://www.youtube.com/watch?v=jTWwnUIygc8>
4. <https://weatherstationguide.com/measure-wind-speed/>
5. <https://en.wikipedia.org/wiki/Thunderstorm>

Course Outcomes

1. After studied unit-1, the student will be able to study the atmosphere and its physical structure and also to know the variation of pressure and temperature with height.
2. After studied unit-2, the student will be able to describe the measurement of wind speed, direction humidity, rainfall and can state the radiation laws.
3. After studied unit-3, the student will be able to explain the global wind systems and able to know thunderstorms and cyclones.
4. After studied unit-4, the student will be able to conceptualize the classification of climate, ozone depletion, acid rain and environmental hazards due to climate change.
5. After studied unit-5, the student will be able to understand the analysis and historical background of weather forecasting and know the predictability, probability forecasts.



PROFESSIONAL ETHICS

B.Sc., PHYSICS (2017-2020)

II YEAR, III- SEMESTER

ELECTRICAL APPLIANCES

UNIT - I

Resistance and its types – capacitance and its types – Colour codes-inductance and its units
– Transformers – Electrical Charge – Current – Electrical Potential

UNIT - II

Ohm's law – Galvanometer, Ammeter, Voltmeter and Multimeter Analog and Digital -
Electrical Energy – Power – Watt – kWh – Consumption and electrical power.

UNIT - III

AC and DC – Single phase and three phase connections – RMS and peak values, House
wiring – Star and delta connection – overloading – earthing – short circuiting – Fuses –
Colour code for insulation wires

UNIT - IV

Inverter – UPS – generator and motor – types – different types of windings – circuit
breaker-Electrical switches and its types.

UNIT - V

Electrical bulbs – Fluorescent lamps – Street Lighting – Flood lighting – Electrical Fans –
Wet Grinder – Mixer – Water Heater – Storage and Instant types, electric iron box,
microwave oven – Stabilizer, fridge.

Books for study:

1. A text book in Electrical Technology – B L Theraja – S chand & Co.
2. A text book in Electrical Technology – A K Theraja.
3. Performance and design of AC machines – M G Say ElBS Edn.

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)
Permanently affiliated to Thiruvalluvar & Annamalai University
INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

PROFESSIONAL ETHICS

B.Sc., PHYSICS

II YEAR, IV – SEMESTER

ELECTRONIC APPLIANCES

UNIT – I

Passive devices – Resistors – types – characteristics – colour coding – capacitors – type – characteristics – colour coding star and delta connection of a resistors and capacitors.

UNIT - II

chokes – Transformers – testing of diodes, transistors and ICs – CRO – Waveforms and Lissajoué's figures – A/F and R/F oscillators – usage of bread board.

UNIT – III

Semiconductor diode – Zener diode – Transistor – Transistor configurations – diode rectifier – half wave and full wave – Bridge retifier – Diode voltage doublers and multiplier.

UNIT – IV

Regulated power supply, Zener diode voltage regulator (Series and Shunt type) IC Voltage regulators: fixed positive – fixed negative – adjustable.

UNIT – V

Basic concepts of radio transmitter and receiver – Basic concepts of TV Transmitter and receiver – TV antennas: Resonance antennas and their characteristics – Dipole Antenna – Folded dipole – Yagi antenna – Yagi antenna design – Dish Antenna – DTH system – Mobile communication system - MODEM.

Books for study:

1. Principles of Electronics by V K Metha, S Chnd & Co., 5th edition 2001.
2. Functional Electronics by Ramanan.
3. Elements of Electronics by Bagde and Singh.
4. Monochrome and Colour TV by Gulati.
5. Basic Electronics, 6th Edition by B Grob, McGraw Hill NY 1989.

**PROFESSIONAL ETHICS****B.Sc., PHYSICS****III YEAR, V– SEMESTER****ASTRO PHYSICS****UNIT – I: ASTRONOMICAL INSTRUMENTS**

Optical telescope - reflecting telescope - types of reflecting telescope - advantages of reflecting telescopes - radio telescope - astronomical spectrographs - photographic photometry - photoelectric spectrometry- detectors and image processing.

UNIT – II : SPACE

Introduction – Hubble’s Law – Big bang theory – Shape of Universe – Expanding universe in space – Galaxies – Types of Galaxies – Spiral, Elliptical and Irregular Galaxies – Clusters of Galaxies – Milky Way – Quasars.

UNIT – III : STARS

Birth of Stars – Colour and Age – Life of Stars – Red giant stars – White dwarf star – Neutron Star – Black hole – Supernovae – Constellations - Zodiac.

UNIT – IV : SOLAR SYSTEM

Introduction – Sun – Structure of Sun – Nuclear reactions in sun – Sun spot and solar flares – Earth – Structure of earth – Atmosphere – Moon and its structure – Inner planets – Outer planets – Asteroids – Meteors – Meteorites - Comets.

UNIT – V : SPACE DISTANCE, UNITS AND CO-ORDINATES

Cislunar space – Translunar space – Inter planetary distance – Interstellar space – Inter galactic space – Light Year – Astronomical Unit – Astronomical Map. Astronomical Systems – Astronomical co-ordinates – Celestial Sphere – Celestial Equators – Celestial Poles - Celestic.

Books for study:

1. BaidyanathBasu / An introduction to Astrophysics / second printing, Prentice Hall of India Private limited New Delhi – 2001
2. Hewish. A / Physics of the universe / CSIR publication, New Delhi, 1992.
3. Murugesan. R / Modern Physics / S. Chand & Co. / New Delhi, 2003.

Books for reference:

1. Mohan Sundara Rajan / Space today / National Book Trust of Indi, 2000.
2. William K. Hartmann / The Cosmic Voyage through time and space / Wads worth

**PROFESSIONAL ETHICS****B.Sc., PHYSICS****III YEAR, VI- SEMESTER****INSTRUMENTATION TECHNIQUES****UNIT – I : ELECTRICAL INSTRUMENTATION**

AC bridges – Measurement of Inductance by Maxwell's Inductance Bridge – Measurement of Capacitance by De Sauty's Bridge – Measurement of Mutual Inductance by carry Foster bridge – ac differential voltmeter – dc differential voltmeter – Analog multimeter.

UNIT – II : ELECTRONIC INSTRUMENTATION

Analog to Digital converters – Dual slop ADC and Successive approximation ADC – Digital counter (four bit) – Digital voltmeter – Digital Frequency Meter – Digital Multimeter – Digital Thermometer.

UNIT – III : ANALYTICAL INSTRUMENTATION

CRO – measurement of time period and frequency – Distortion analyzer – Wave analyzer – Spectrum analyzer – IR spectrometer – UV spectrometer – Fast Fourier Transform (FFT) analyzer – Ultrasound scanner.

UNIT – IV : BIO-MEDICAL INSTRUMENTATION

Bioelectric potentials – resting and action potential – Half cell potential – surface needle and micro electrodes – principle, description, function and recording of ECG, EMG and EEG artificial pace maker – simulators – heart lung machine – kidney machine – pH meter – laser blood flow meter.

UNIT - V

Strain gauge and measurement of strain – Measurement of pressure using electrical transducer – Measurement of seismic vibration using seismic transducer – Piezo – electric accelerometer – Measurement of temperature using semiconductor device – Radiation measurement by GM counter

Books for study:

1. Arumugam M / Biomedical instrumentation / Anuradha Publications, Kumbakonam / 2011.
2. Sawhney A K / A course in Electrical and Electronics Measurements and Instrumentation / Dhanpat Rai & Co., Delhi / 2003.
3. Alan S Morris / Measurement & Instrumentation Principles / Elsevier / 2006.

**PROFESSIONAL ETHICS****B.Sc., CHEMISTRY DEGREE****II YEAR, III- SEMESTER****21UCHES34 WATER TREATMENT AND ANALYSIS****OBJECTIVE:**

- To understand the different sources of water
- To learn the concept of pollution.
- To understand the techniques of pollution control.

OUTCOMES:

The student will be able to,

- Appreciate the importance of water.
- Acquire knowledge of remedies for various pollutants.
- Identify the causes for pollution.

UNIT - I

Introduction - Characteristics of water - Alkalinity - Hardness - Unit of hardness - Total solids - Oxidation - Transparency - Silica content - Purification of Water for drinking purpose - Potability of water - Clarification - Coagulation - Contact and Electrochemical Coagulation - Sterilisation and Disinfection of water - Precipitation - Aeration - Ozonisation - Chlorination.

UNIT - II

Water Softening Methods - Clark's process - Lime soda process - Modified lime soda process - Permutit or Zeolite process - Ion exchange process - Demineralisation of water - Determination of Hardness of water - Titration method - Complexometric method using EDTA - Expressing Hardness - Equivalents of Calcium Carbonate - Problems to determine Temporary and Permanent Hardness.

UNIT - III

Hard water and Industries - Industrial water treatment - Boiler feed water method of Softening - Prevention of plumbo solvency - Scales in boilers - Consequences - Internal conditioning methods - Desalination of Brackish water - Electrolysis - Reverse osmosis - Removal of Fe, Mn and Silicic acid - Effluent Treatment of Water from Paper Industry, Petrochemicals, Fertilizer industry and Power station.

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)
Permanently affiliated to Thiruvalluvar & Annamalai University
INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

UNIT - IV

Water analysis - Sampling of Water for analysis - Chemical Substances affecting Potability - Colour, Turbidity, Odour, Taste, Temperature, pH and Electrical Conductivity - Analysis of Solids present in water - Suspended Solids - Dissolved Solids - Total Acidity - Alkalinity - Free CO₂ - Free Chlorine - Ca, Mg, Fe, Mn, Ag and Zn - Water in Industry - Pollution of Water by Fertilisers, Detergents, Pesticides and Industrial wastes.

UNIT - V

Analysis of Chemical Substances Affecting Health - NH₃, Nitrate, Nitrite, Cyanide, Sulphate, Sulphide, Chloride and Fluoride - Measurement of Toxic Chemical Substances - Analysis of Chemical Substances indicative of Pollution - Dissolved oxygen - Biochemical Oxygen Demand (BOD) - Chemical Oxygen Demand (COD) - Bacteriological Examination of Water - Total Count Test - E. coli test - E. coli index - Most Probable Number method - Biological Examination of Water - Physical Examination of Water - Radioactivity of Water - Methods of removing Radioactivity from Water.

Reference Books

1. Industrial Chemistry (Including Chemical - Engineering) - B. K. Sharma - Goel Publishing House, Meerut (1987).
2. Pollution Control in Process Industries - S. P. Mahajan - Tata McGraw Hill Publishing Company Ltd., New Delhi (1991).
3. Water Pollution and Management, C. K. Varashney Wiley Eastern Ltd., Chennai20 (1991).

**PROFESSIONAL ETHICS****B.Sc., CHEMISTRY
II YEAR, IV– SEMESTER
21UCHES44 FOOD CHEMISTRY****OBJECTIVE:**

- To understand the different sources of food
- To learn the concept of food poisoning.
- To understand the techniques of food preservation.
- To study the importance of vitamins and uses.
- To appreciate the different minerals needed for day to day life

OUTCOMES:

The student will be able to,

- Appreciate the importance of various foods.
- Acquire knowledge of remedies for various ailments.
- Identify the causes for food spoilage.
- Reason out the deficiency of vitamins.
- Illustrate the importance of minerals.

UNIT - I

Cereals - Definition - Classification - Processing - Structure of Cereals - Composition and Nutritive value - Pulses - Definition - Classification - Processing - Structure of Pulses - Composition and Nutritive Value - Toxic Constituents in Pulses - Medicinal value of Cereals and Pulses - Sugar - Structure and Properties - Nutritive value - Sugar composition in different food items - Sugar related products - Classification and Nutritive value - Artificial sweeteners - Examples - Saccharin and Cyclamate - Advantages and Disadvantages.

UNIT - II

Vegetables and Fruits - Classification - Composition and Nutritive values - Fungi and Algae as food - Enzymatic Browning and Non- enzymatic Browning - Nutritive value of some common foods - Milk, Egg and Soyabeans.

UNIT-III

Beverages - Definition - Examples - Classification - Fruit Beverages - Milk Based Beverages - Malted Beverages - Examples - Alcoholic and Non-Alcoholic Beverages - Examples - Appetizers - Definition - Classification - Examples - Water - Functions and Deficiency.

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)

Permanently affiliated to Thiruvalluvar & Annamalai University

INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

UNIT-IV

Food Preservatives - Definition - Classification - Food Spoilage - Definition - Prevention - Methods of Preservation - Classification - Low and High temperature - Preservatives - Examples - Dehydration - Osmotic pressure - Food irradiation.

UNIT-V

Food Additives - Definition - Artificial sweeteners - Saccharin and Cyclamate - Classification - Their functions - Chemical substances - Packaging of Foods - Classification - Materials used for Packaging - Food Colours - Restricted use - Spurious Colours - Taste Enhancers - MSG - Vinegar.

Reference Books

- Food Science - B. Srilakshmi, III Edition, New Age International Publishers, 2005.
- Food Chemistry - Lilian Hoagland Meyer, CBS Publishers & Distributors, 2004.
- Food Science, Nutrition and Health - Brian A. Fox, Allan G. Cameron, Edward Arnold, London.
- Fundamentals of Foods and Nutrition - Mudambi R. Sumathi, and Rajagopal, M. V., - Wiley Eastern Ltd., Madras.
- Handbook of Food and Nutrition - M. Swaminathan - Bangalore Printing and Publishing Co. Ltd., Bangalore.

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)
Permanently affiliated to Thiruvalluvar & Annamalai University
INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

PROFESSIONAL ETHICS

B.Sc., CHEMISTRY III YEAR, V– SEMESTER APPLIED CHEMISTRY

UNIT - I

Petroleum - Origin - Composition of Petroleum - Inorganic, Engler and Modern theories - Classification - Refining (Simple Refinery) - Cracking - Thermal and Catalytic - Knocking - Octane Rating - Antiknock Compounds - Cetane Rating - Synthetic Petrol - LPG - Gobar Gas - Production - Feasibility and Importance of Biogas with special reference to Rural India - Petrochemicals - Elementary study - Definition - Chemicals from Natural Gas, Petroleum, Light naphtha and Kerosene - Origin - Composition - Synthetic Gasoline.

UNIT - II

Paper technology - Introduction - Manufacture of pulp - Various raw materials- Preparation of Sulphite pulp, Soda pulp and Rag pulp - Various processes Manufacture of Paper - Calendering - Uses.

UNIT - III

Sugar industry - Sugar industries in India - Sugarcane and sugar beet - Manufacture of cane sugar - Extraction of juice - Concentration - Separation of crystals - Recovery of Glucose from Molasses - Defection - Sulphitation - Carbonation - Testing and Estimation of Sugar - Double Sulphitation Process - Preparation of Bagasse - Use of Bagasse for Manufacture of Paper and Electricity - Preparation of Alcohol from Molasses

UNIT - IV

Explosives - Primary, Low and High Explosives - Single compound explosives - Binary explosives - Plastic explosives - Dynamites - Blasting explosives - Preparation and Uses of Lead Azide, Nitroglycerine, Nitrocellulose, TNT, Cordite, Picric Acid and Gun Powder - Introduction to Rocket Propellants - Photography - Chemical Principle - Preparation of Sensitive Emulsion - Exposure - Developing - Fixing and Printing - Colour photography - Xerographic copying - Coal - Classification by rank - Proximate and Ultimate analysis - Low and High Temperature Carbonisation - Otto-Hoffmann's by-product - Distillation of Coal Tar.

UNIT - V

Milk - Definition - Physico-Chemical properties of milk - Constituents of milk and Their Properties - Chemical change taking place in Milk due to Processing Parameters - Boiling, Pasteurisation, Sterilisation and Homogenisation - Definition and Composition of Creams,

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)

Permanently affiliated to Thiruvalluvar & Annamalai University

INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

Butter, Ghee and Ice Creams - Milk Powder -Definition, Need for making powder - Principles involved in Drying process - Spray drying and Drum drying.

Reference Books

1. Fundamental Concepts of Applied Chemistry - Jayashree Ghosh - 1st Edition, S. Chand & Co. Ltd, New Delhi, 2006.
2. Milk and Milk Products - Clarence Henry Eckles, Willes Barnes Combs, Harold Macy - 4th Edition, Tata McGraw Hill Publishing Company Ltd, Reprint 2002.
3. Industrial Chemistry - B. K. Sharma - 13th Edition, Goel Publishing House, 2008.

**PROFESSIONAL ETHICS****B.Sc., CHEMISTRY
III YEAR, VI– SEMESTER
GREEN CHEMISTRY****UNIT - I GREEN CHEMISTRY - INTRODUCTION**

Need for Green Chemistry - Principles of Green Chemistry - Atom economy - Definition with example (Ibuprofen synthesis) - Green oxidants - Hydrogen peroxide - Green synthesis - Evaluation of the type of the reaction - Rearrangements (100 % Atom economic) - Addition reaction (100 % Atom economic) - Organic reactions by Sonication method - Apparatus required - Examples of Sonochemical Reactions (Heck, Hunsdiecker and Wittig reactions).

UNIT - II GREEN SOLVENTS

Selection of Solvents - Aqueous Phase Reactions - Diels-Alder reaction in water - Catalysis in water (Aerobic Oxidation of Alcohols catalysed by Pd (II) / Bathophenanthroline) - Reactions in ionic liquids - Simple preparation - Types - Properties and Applications - Ionic liquids in Organic Reactions (Heck reaction, Suzuki reactions, Epoxidation), Industrial (Battery) and Analytical Chemistry (Matrices for MALDI-TOF MS, Gas Chromatography Stationary Phases) - Advantages and Disadvantages - Solid Supported Synthesis - Supercritical CO₂ - Preparation, Properties and Applications (Decaffeination, Dry cleaning) - Environmental impact.

UNIT - III GREEN TECHNIQUES

Microwave and Ultrasound Assisted Green Synthesis - Apparatus required - Examples of MAOS (Synthesis of Fused Anthroquinones, Leukart reductive Amination of Ketones) - Advantages and Disadvantages of MAOS - Aldol condensation - Cannizzaro condensation - Diel's-Alder reaction - Strecker's synthesis - Photochemical reactions using Sunlight - Photoreduction of Benzophenone to Benzopinacol using Sunlight - Photochemical alternative to Friedel- Crafts reaction - Nanoparticles - Introduction - Types of Nanoparticles - Techniques to prepare Nanoparticles - Top down and Bottom up approaches - Common growth methods.

UNIT - IV GREEN CATALYSIS

Green Catalysis - Heterogeneous catalysis - Uses of Zeolites, Silica, Alumina, Clay supported catalysis - Biocatalysis - Enzymes and Microbes - Phase Transfer Catalysis (PTC) - Principles, Catalysts and Lipophilicity of ions - Two phase systems - Solid-Liquid, Liquid-Liquid, Gas-Liquid - Triphase systems - Inverted PTC - Applications in Synthesis - Micellar Catalysis, Surfactants and Synthesis in water - Principles, Materials and Synthetic Applications.

**UNIT- V GREEN REACTIONS**

Acetylation of Primary Amine, Base catalysed Aldol condensation (Synthesis of Dibenzalpropanone), Halogen addition to C = C bond (Bromination of Trans- Stilbene), [4+2] Cycloaddition reaction (Diels-Alder reaction between Furan and Maleic acid) - Rearrangement reaction (Benzil- Benzilic acid rearrangement), Coenzyme catalyzed Benzoin condensation (Thiamine hydrochloride catalysed synthesis of Benzoin), Pechmann condensation for Coumarin synthesis (Clay catalysed Solid State Synthesis of 7- Hydroxy- 4-methylcoumarin) - Electrophilic Aromatic Substitution Reactions (Nitration of phenol, Bromination of Acetanilide) - Green oxidation reactions (Synthesis of adipic acid, Preparation of Manganese (III) acetylacetonate) - Zeolite catalyzed Friedel-Crafts acylation.

Books for Study

- Green Chemistry: Environmental Friendly Alternatives, Rs. Sanghi and M. M. Srinivatava, Narosa Publishing House, New Delhi.
- Green Chemistry, V. Ahluwalia, Narosa, New Delhi (2011).
- Nanotechnology, S. Shanmugam, MJP Publishers, Chennai. (2010).
- A Handbook on Nanochemistry, Patrick Salomon, Dominant Publishers and Distributers, New Delhi.
- Nanobiotechnology, S. Balaji, MJP Publishers, Chennai (2010).
- Nano: The Essentials, T. Pradeep, Tata Mc-Graw Hill, New Delhi (2007).

Books for Reference

- Methods and Reagents for Green Chemistry, P. Tundo, A. Perosa and F. Zechini, John Wiley & Sons Inc., New Jersey, (2007).
- The Chemistry of Nanomaterials: Synthesis, Properties and Applications, Vol. I and II, CNR Rao, Springer (2006).
- Nanotechnology: Basic Science and Emerging Technologies, Mick Wilson, Kamali Kannangara, Geoff Smith, Michelle Simmons, Burkhard Raguse, Overseas Press (2005).
- Nanochemistry, G. B. Segreev, Elsevier, Science, New York, (2006)

**PROFESSIONAL ETHICS****M.Sc., CHEMISTRY
I YEAR, I- SEMESTER
INDUSTRIAL CHEMISTRY-I****OBJECTIVES:**

- To make the students learn about fertilizers
- To understand the importance of sugar Industries
- To learn the importance of Chemical explosives
- To study about the leather industries
- To understand the importance of water industry

OUTCOMES:

- The students will be able to
- Acquire knowledge of fertilizers
- Appreciate the importance of sugar industries in India
- Acquire knowledge of Chemical explosives Illustrate the importance of leather industries Identify the importance of water industry

UNIT I Fertilizers: Fertilizer industries in India, Manufacture of ammonia, ammonium salts, urea, superphosphate, triple superphosphate and nitrate salts.

UNIT II Sugar: Cane sugar manufacture, recovery of sugar from molasses, sugar estimation sugar industries in India.

UNIT III Chemical Explosives: Preparation and chemistry of lead azide, nitroglycerine, nitrocellulose, TNT, RDX, Dynamite, cordite, picric acid, gunpowder, introduction to rocket propellants.

UNIT IV Leather Industry : Curing, preservation and tanning of hides and skins, process of dehairing and dyeing. Treatment of tannery effluents.

UNIT V Water Industry: Pollution of water by fertilizers, detergents, pesticides and industrial wastes, BOD, COD, thermal pollution. Water Treatment – Ion exchange, electrodialysis, reverse osmosis, softening of hard water.

Reference :

1. B.N.Chakrabarty, Industrial Chemistry, Oxford & IBH Publishing Co, New Delhi, 1981.
2. B.K. Sharma, Industrial Chemistry, Goel Publishing House, Meerut.

**PROFESSIONAL ETHICS****M.Sc., CHEMISTRY
I YEAR, II- SEMESTER
GREEN CHEMISTRY****OBJECTIVES:**

- To know the principle and importance of green chemistry.
- To understand the student green chemistry strategies for designing the chemical synthesis.
- To know the solvent free synthesis.
- To make the students knowledgeable ultrasound and microwave assisted green synthesis.

OUTCOMES:

- Have the knowledge on 12 rules on green chemistry.
- Apply the attractive techniques in green synthesis.
- Use of ionic liquids, and polymer supported reagents in green synthesis.
- Apply the phase transfer catalysis in green synthesis.

UNIT- I: BASIC PRINCIPLES OF GREEN CHEMISTRY Basic principles, prevention of waste/by-products, maximum incorporation of the reactants (starting materials and reagents) into the final product, prevention or minimization of hazardous products, designing safer chemicals, energy requirements for synthesis, selection of appropriate solvent, selection of starting materials, use of protecting groups, use of catalyst and products designed should be biodegradable.

UNIT- II: ULTRASOUND AND MICROWAVE ASSISTED GREEN SYNTHESIS **Ultrasound:** Introduction, instrumentation, the phenomenon of cavitation. Sonochemical esterification, substitution, addition, alkylation, oxidation, reduction and coupling reactions. **Microwaves:** Introduction, concept, reaction vessel/ medium, specific effects, atom efficiency (% atom utilization), advantages and limitations. N-alkylation and alkylation of active methylene compounds and Diels –Alder reactions. Reactions in water and reaction in organic solvents. Solvent free reactions and deprotection of esters.



UNIT- III: IONIC-LIQUIDS AS GREEN SOLVENTS 40 Introduction, structure, synthesis and applications of some important ionic liquids in organic synthesis. Polymer supported reagents in green synthesis: Introduction - properties and advantages of polymer supported reagents and choice of polymers. Preparation of sulfonazide polymer and application in diazotransfer reaction. Synthesis of polymer bound per acid and its applications, synthesis of polystyrene tin dichloride resin and its applications. Polymer supported catalytic reactions: Preparation of polymer supported $AlCl_3$ and applications - polymer supported photo sensitizers.

UNIT- IV: PHASE TRANSFER CATALYSIS IN GREEN SYNTHESIS: Introduction, mechanism of phase transfer catalyst reaction, types and advantages of phase transfer catalyst, types and applications of phase transfer reaction: Nitriles from alkyl or acyl halides, alkyl fluorides, alcohols, azides from alkyl halides, generation of dichlorocarbenes, addition to olefins, elimination reaction, alkylation reactions, Williamson synthesis, Benzoin condensation, Darzen reaction, Michael reaction, Wittig reaction, oxidation under PTC condition and reduction.

UNIT-V: INDUSTRIAL CASE STUDIES: Methyl Methacrylate (MMA)-Greening of Acetic acid manufacture, Vitamin-C- Leather manufacture-Types of Leather- Difference between Hide and Skin- Tanning -Reverse tanning-Vegetable tanning-Chrome tanning- Fat liquoring-Dyeing- Application Polyethylene-Ziegler Natta Catalysis, Metallocene Catalysis- Eco friendly Pesticides Insecticides.

Text Books:

1. New Trends in Green Chemistry, V. K. Ahluwalia, M. Kidwai, II Edn., Anamaya publishers New Delhi(2007).
2. Green Chemistry and Introductory text, Mike Lancaster, II Edition 41
3. Organic synthesis: Special techniques, V. K. Ahluwalia and R. Aggarwal, Narosa, New Delhi, 2003.

References:

1. Green Chemistry environment friendly alternatives, R. Sanghi and M M Srivastava, Narosa, New Delhi, 2003.
2. Green Chemistry – an introduction text, Royal Society of Chemistry, UK, 2002
3. P. T. Anastas and J. C. Warner, Green Chemistry theory and Practice, Oxford University press. Oxford (1988).



PROFESSIONAL ETHICS

B. Sc., COMPUTER SCIENCE DEGREE III YEAR, VI- SEMESTER OPEN SOURCE PROGRAMMING LAB

COURSE OBJECTIVE:

1. To understand basic HTML Tags.
2. To understand the types of CSS.
3. To learn PHP with MYSQL database connectivity.

LIST OF PROGRAMS:

1. Create a webpage with Frames and Tables.
2. Create a webpage incorporating CSS (Cascading Style Sheets).
3. Develop a shell program to find the factorial of an integer positive number.
4. Develop a shell program to find the details of a user session.
5. Create a simple calculator in JavaScript.
6. Develop a JavaScript program to scroll your name in the scrollbar.
7. Develop a program and check message passing mechanism between pages.
8. Application for Email Registration and Login using PHP and MySQL.
9. Program to Create a File and write the Data into it using PHP.
10. Program to perform the String Operation using Perl.



PROFESSIONAL ETHICS

B. Sc., COMPUTER SCIENCE DEGREE III YEAR, V– SEMESTER MOBILE APPLICATION DEVELOPMENT LAB

COURSE OBJECTIVE:

1. To impart Practical Training in android developer tools.
2. Build programs using eclipse environment.
3. Provide knowledge on working with simple android apps.

LIST OF PROGRAMS:

1. Sample application about Layouts.
2. Sample application about Internets.
3. Sample application about User Interfaces.
4. Sample application about Animations.
5. Create calculator app in Android.
6. Create sample android Camera Application.
7. Create basic list view demo in Android.
8. Create Google map in Android.



PROFESSIONAL ETHICS

B. Sc., COMPUTER SCIENCE DEGREE II YEAR, IV– SEMESTER RDBMS LAB

COURSE OBJECTIVE:

1. Creating a table and evaluate simple queries.
2. Applying the Set and Aggregate operations in Database.
3. Evaluate queries using SQL DML/DDL/DCL commands.

LIST OF PROGRAMS:

1. Execute a single line query and group functions.
2. Execute DDL Commands.
3. Execute DML Commands
4. Execute DCL and TCL Commands.
5. Implement the Nested Queries.
6. Implement Join operations in SQL
7. Create views for a particular table
8. Implement Locks for a particular table.
9. Develop a PL/SQL procedure for an application using exception handling.
10. Develop a PL/SQL procedure for an application using cursors.
11. Develop a PL/SQL procedure for an application using functions.
12. Develop a PL/SQL procedure for an application using package.

**PROFESSIONAL ETHICS****B. Sc., COMPUTER SCIENCE DEGREE
III YEAR, V– SEMESTER
SOFTWARE ENGINEERING****COURSE OBJECTIVE:**

1. Introduces the concepts and methods required for the construction of large software intensive systems.
2. Gets the idea of choosing the Requirements in Software Engineering.
3. Gives an understanding the concept of Data Engineering.
4. To impart knowledge on Testing and Debugging.
5. To enable the students to learn the basic of Project Management & Scheduling.

SYLLABUS:**UNIT–I: INTRODUCTION TO EVOLVING SOFTWARE**

Evolving Role of Software – Nature of Software – Software Engineering – The Software Process– Software Engineering Practices – Software Myths – A Generic View of Process Model – Process Assessment and Improvement – Process Models : Waterfall Model – Incremental Process Models – Evolutionary Process Models – Concurrent Models.

UNIT–II: REQUIREMENTS ENGINEERING

Requirements Engineering: Establishing the Groundwork – Initiating the Requirements Engineering Process – Eliciting Requirements – Collaborative Requirements Gathering – Quality Function Deployment – Usage Scenarios – Elicitation work Products – Building the Requirements Model – Elements of Requirements Model – Analysis Pattern – Requirements Analysis – Data Modeling Concepts.

UNIT–III: DATA ENGINEERING

Data Engineering: Design Process and Design Quality – Design Concepts – The Design Model– Creating an Architectural Design – Software Architecture – Data Design – Architectural style – Architectural Design – Architectural Mapping Using Data Flow – Performing User Interface Design – Golden Rules.

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)

Permanently affiliated to Thiruvalluvar & Annamalai University

INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

UNIT-IV: TESTING STRATEGIES

Testing Strategies: Strategic Approach to Software Testing – Strategic Issues – Test Strategies for Conventional and Object Oriented Software – Validation Testing – System Testing – Art of Debugging. Software Testing Fundamentals – White Box Testing – Basis Path Testing – Control Structure Testing – Black Box Testing – Model Based Testing.

UNIT-V: PROJECT MANAGEMENT

Project Management: Management Spectrum – People – Product – Process – Project – Critical Practices – Estimation: Project Planning Process – Software Scope and Feasibility – Resources – Software Project Estimation – Project Scheduling – Quality Concepts – Software Quality Assurance – Elements of Software Quality Assurance – Formal Technical Reviews.

**PROFESSIONAL ETHICS****B. Sc., COMPUTER SCIENCE DEGREE
III YEAR, V– SEMESTER
CLOUD COMPUTING****COURSE OBJECTIVE:**

1. To understand the concepts of Cloud Computing Services.
2. To enable the Students to learn Programming Models in Cloud Computing and its Environments.
3. To learn the basics of Software Development in Cloud.
4. Able to learn Security Aspects of Cloud Computing.

SYLLABUS:**UNIT I: UNDERSTANDING CLOUD COMPUTING**

Computing Paradigms – Cloud Computing Fundamentals – History of Cloud Computing – Cloud Computing Architecture & Management – Cloud Computing Deployment Models – Cloud Storage – Why Cloud Computing Matters – Advantages of Cloud Computing – Disadvantages of Cloud Computing – Cloud Services.

UNIT II: DEVELOPING CLOUD SERVICES

Cloud Service Models – SOA & Cloud – Multicore Technology – Memory and Storage Technologies – Networking Technologies – Web 2.0 – 3.0 – Software Process Models for Cloud – Agile SDLC for Cloud Computing – Pervasive Computing – Application Environment – Virtualization.

UNIT III: PROGRAMMING MODELS FOR CLOUD COMPUTING

Parallel and Distributed Programming Paradigms – Map Reduce, Twister and Iterative Map Reduce – CGL– Map Reduce – Programming models for Aneka Hadoop Library from Apache – Mapping Applications – Programming Support – Google App Engine, Amazon AWS – Cloud Software Environments –Eucalyptus, Open Nebula, Open Stack, CloudSim – SAP Labs – EMC – Sales force – VMware. Alumni

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)

Permanently affiliated to Thiruvalluvar & Annamalai University

INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

UNIT IV: SOFTWARE DEVELOPMENT IN CLOUD

Different Perspectives on SaaS Development – New Challenges in Cloud – Cloud B.Sc. Computer Science: Syllabus (CBCS) 62 Aware Software Development Using Paas Technology – Networking for Cloud Computing – Networking Issues in Data Centers – Transport Layer Issues in DCNs – TCP Enhancements for DCNs – Open Source Support for Cloud – Open Source Tools for Iaas Open Source Tools for Iaas – Open Source Tools for Paas – Open Source Tools for Research.

UNIT V: SECURITY IN CLOUD COMPUTING

Security Aspects – Platform Related Security – Audit and Compliance – Cloud Security Challenges and Risks – Software-as-a-Service Security– Security Governance – Risk Management – Security Monitoring – Security Architecture Design – Data Security – Application Security – Virtual Machine Security – Identity Management and Access Control – Autonomic Security – Advance Concepts in Cloud Computing.



PROFESSIONAL ETHICS

**B. Sc., COMPUTER SCIENCE DEGREE
III YEAR, V– SEMESTER
SOFTWARE TESTING**

COURSE OBJECTIVE:

1. To understand the concept of software testing, and software quality.
2. To learn to inspect and detect errors by going through each and every code segment.
3. To gain knowledge of various functional and structural testing techniques.

SYLLABUS:

UNIT I: INTRODUCTION TO SOFTWARE TESTING

Fundamentals of software testing – need for software testing– Psychology of testing – various approaches – characteristics of testing – principles of testing – testing strategies – verification and validation – Defect and Prevention strategies.

UNIT II: SOFTWARE DEVELOPMENT MODEL AND TESTING

Water fall model– V-model– Spiral model– Agile model – Life cycle of testing– Static Testing – dynamic testing – White box testing – Block box testing – Regression testing – Integration Testing – System and Performance Testing – Usability Testing

UNIT III: FUNCTIONAL AND STRUCTURAL TESTING

Boundary Value Analysis – Equivalence Class Testing – Decision Table – Based Testing – Cause Effect Graphing Technique – Path testing –Cyclomatic Complexity Graph Metrics – Data Flow Testing – Slice based testing

UNIT IV: TEST MANAGEMENT AND TOOLS

Test planning – cost–benefit analysis of testing – monitoring and control–Test reporting – Test control – Specialized testing – Object Oriented Testing – Automated Tools for Testing – Tool Selection and Implementation – Challenges in test automation – GUI Testing

UNIT V: SOFTWARE QUALITY AND SOFTWARE QUALITY ASSURANCE

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)

Permanently affiliated to Thiruvalluvar & Annamalai University

INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

Introduction to software quality and software quality assurance – basic principles about the software quality and software quality assurance – Planning for SQA – various models for software product quality and process quality – SCM – RAD – System Documentation

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)
Permanently affiliated to Thiruvalluvar & Annamalai University
INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

PROFESSIONAL ETHICS

M. Sc., COMPUTER SCIENCE DEGREE II YEAR, III- SEMESTER MINI PROJECT

COURSE OBJECTIVE:

1. Students will be able to practice acquired knowledge within the chosen area of technology for project development.
2. Identify, discuss and justify the technical aspects of the chosen project with a comprehensive and systematic approach.
3. Work as an individual or in a team in development of technical projects.

REGULATIONS:

1. Students should do their Mini Project work in the College during 3rd semester.
2. Each internal guide shall have maximum of eight Students.
3. Periodically the project should be reviewed minimum three times by the advisory committee.
4. The Students should prepare two copies of the project work and submit the same on the date fixed by the Department for the evaluation. After evaluation one copy is to be retained in the College Library and the student can hold one copy.
5. The Students should use Presentation during their Mini Project Viva voce Examinations.
6. To pass the Mini Project and viva-voce a candidate should secure 50% marks.
7. The candidate should compulsorily attend viva-voce examination to secure pass in that paper.

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)
Permanently affiliated to Thiruvalluvar & Annamalai University
INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

PROFESSIONAL ETHICS

M. Sc., COMPUTER SCIENCE DEGREE II YEAR, IV– SEMESTER PROJECT

COURSE OBJECTIVE:

1. Students will be able to practice acquired knowledge within the chosen area of technology for project development.
2. Identify, discuss and justify the technical aspects of the chosen project with a comprehensive and systematic approach.
3. Work as an individual or in a team in development of technical projects.

REGULATIONS:

1. Students should do their four months Project work in Company / Institutions during fourth semester.
2. Each internal guide shall have maximum of eight Students.
3. Periodically the project should be reviewed minimum three times by the advisory committee.
4. The Students should prepare two copies of the project work and submit the same on the date fixed by the Department for the evaluation. After evaluation one copy is to be retained in the College Library and the student can hold one copy.
5. The Students should use Presentation during their Mini Project Viva voce Examinations.
6. To pass the Mini Project and viva-voce a candidate should secure 50% marks.
7. The candidate should compulsorily attend viva-voce examination to secure pass in that paper.



PROFESSIONAL ETHICS

M. Sc., COMPUTER SCIENCE DEGREE II YEAR, III- SEMESTER SOFTWARE PROJECT MANAGEMENT

COURSE OBJECTIVE:

1. Remember the process of Software Project Management.
2. Identify the theoretical and methodological issues involved in modern Software Project Management.
3. Prepare the activity planning and evaluate the risks involved in it.
4. Analyze project monitoring activities.
5. Develop quality products by working as a team.

SYLLABUS:

Unit – I PROJECT EVALUATION AND PROJECT PLANNING

Importance of Software Project Management – Activities – Methodologies – Categorization of Software Projects – Setting objectives – Management Principles – Management Control – Project portfolio Management – Cost-benefit evaluation technology – Risk evaluation – Strategic program Management – Stepwise Project Planning.

UNIT II PROJECT LIFE CYCLE AND EFFORT ESTIMATION

Software process and Process Models – Choice of Process models – Rapid Application development – Agile methods – Dynamic System Development Method – Extreme Programming– Managing interactive processes – Basics of Software estimation – Effort and Cost estimation techniques – COSMIC Full function points – COCOMO II – a Parametric Productivity Model.

UNIT III ACTIVITY PLANNING AND RISK MANAGEMENT

Objectives of Activity planning – Project schedules – Activities – Sequencing and scheduling – Network Planning models – Formulating Network Model – Forward Pass & Backward Pass techniques – Critical path (CRM) method – Risk identification – Assessment – Risk



Planning – Risk Management – – PERT technique – Monte Carlo simulation – Resource Allocation – Creation of critical paths – Cost schedules.

UNIT IV PROJECT MANAGEMENT AND CONTROL

Framework for Management and control – Collection of data – Visualizing progress – Cost monitoring – Earned Value Analysis – Prioritizing Monitoring – Project tracking – Change control – Software Configuration Management – Managing contracts – Contract Management.

UNIT V STAFFING IN SOFTWARE PROJECTS

Managing people – Organizational behavior – Best methods of staff selection – Motivation – The Oldham – Hackman job characteristic model – Stress – Health and Safety – Ethical and Professional concerns – Working in teams – Decision making – Organizational structures – Dispersed and Virtual teams – Communications genres – Communication plans – Leadership.

Text Books:

- *"The Complete Software Project Manager: Mastering Technology"* - Anna P. Murray

- *"Software Project Management: A Concise Study"* - S. A. Kelkar



PROFESSIONAL ETHICS
BCA DEGREE
III YEAR, V– SEMESTER
MOBILE APPLICATION DEVELOPMENT

COURSE OBJECTIVE:

1. To impart Practical Training in android developer tools.
2. Build programs using eclipse environment.
3. Provide knowledge on working with simple android apps.

LIST OF PROGRAMS:

1. Sample application about Layouts.
2. Sample application about Internets.
3. Sample application about User Interfaces.
4. Sample application about Animations.
5. Create calculator app in Android.
6. Create sample android Camera Application.
7. Create basic list view demo in Android.
8. Create Google map in Android.

COURSE OUTCOME:

1. Study all the Basic Tools.
2. Practice the usage of control panel objects.
3. Apply various commands for layouts and animations.
4. Analysis the use of SQLite I.



PROFESSIONAL ETHICS

BCA DEGREE

III YEAR, VI – SEMESTER

PRACTICAL - SHELL PROGRAMMING

OPEN SOURCE SOFTWARE LAB

1. Create a web page with Frames and Tables.
2. Create a web page incorporating CSS (Cascading Style Sheets).
3. Write a shell program to find the factorial of an integer positive number.
4. Write a shell program to find the details of a user session.
5. Create a simple calculator in JavaScript.
6. Write a JavaScript program to scroll your name in the scrollbar.
7. Develop a program and check message passing mechanism between pages.
8. Application for Email Registration and Login using PHP and MySQL.
9. Program to Create a File and write the Data into it using PHP.
10. Program to perform the String Operation using Perl.



PROFESSIONAL ETHICS
BCA DEGREE
II YEAR, IV – SEMESTER
RDBMS LAB

COURSE OBJECTIVE:

1. Creating a table and evaluate simple queries.
2. Applying the Set and Aggregate operations in Database.
3. Evaluate queries using SQL DML/DDL/DCL commands.

LIST OF PROGRAMS:

1. Execute a single line query and group functions.
2. Execute DDL Commands.
3. Execute DML Commands
4. Execute DCL and TCL Commands.
5. Implement the Nested Queries.
6. Implement Join operations in SQL
7. Create views for a particular table
8. Implement Locks for a particular table.
9. Develop a PL/SQL procedure for an application using exception handling.
10. Develop a PL/SQL procedure for an application using cursors.
11. Develop a PL/SQL procedure for an application using functions.
12. Develop a PL/SQL procedure for an application using package.



PROFESSIONAL ETHICS

BCA DEGREE

III YEAR, V– SEMESTER

SOFTWARE ENGINEERING

COURSE OBJECTIVE:

1. Introduces the concepts and methods required for the construction of large software intensive systems.
2. Gets the idea of choosing the Requirements in Software Engineering.
3. Gives an understanding the concept of Data Engineering.
4. To impart knowledge on Testing and Debugging.
5. To enable the students to learn the basic of Project Management & Scheduling.

SYLLABUS:

UNIT–I: INTRODUCTION TO EVOLVING SOFTWARE

Evolving Role of Software – Nature of Software – Software Engineering – The Software Process– Software Engineering Practices – Software Myths – A Generic View of Process Model – Process Assessment and Improvement – Process Models : Waterfall Model – Incremental Process Models – Evolutionary Process Models – Concurrent Models.

UNIT–II: REQUIREMENTS ENGINEERING

Requirements Engineering: Establishing the Groundwork – Initiating the Requirements Engineering Process – Eliciting Requirements – Collaborative Requirements Gathering – Quality Function Deployment – Usage Scenarios – Elicitation work Products – Building the Requirements Model – Elements of Requirements Model – Analysis Pattern – Requirements Analysis – Data Modeling Concepts.

UNIT–III: DATA ENGINEERING

Data Engineering: Design Process and Design Quality – Design Concepts – The Design Model– Creating an Architectural Design – Software Architecture – Data Design – Architectural style – Architectural Design – Architectural Mapping Using Data Flow – Performing User Interface Design – Golden Rules.

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)
Permanently affiliated to Thiruvalluvar & Annamalai University
INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

UNIT-IV: TESTING STRATEGIES

Testing Strategies: Strategic Approach to Software Testing – Strategic Issues – Test Strategies for Conventional and Object Oriented Software – Validation Testing – System Testing – Art of Debugging. Software Testing Fundamentals – White Box Testing – Basis Path Testing – Control Structure Testing – Black Box Testing – Model Based Testing.

UNIT-V: PROJECT MANAGEMENT

Project Management: Management Spectrum – People – Product – Process – Project – Critical Practices – Estimation: Project Planning Process – Software Scope and Feasibility – Resources – Software Project Estimation – Project Scheduling – Quality Concepts – Software Quality Assurance – Elements of Software Quality Assurance – Formal Technical Reviews.



PROFESSIONAL ETHICS

BCA DEGREE

III YEAR, V- SEMESTER

CLOUD COMPUTING

COURSE OBJECTIVE:

1. To understand the concepts of Cloud Computing Services.
2. To enable the Students to learn Programming Models in Cloud Computing and its Environments.
3. To learn the basics of Software Development in Cloud.
4. Able to learn Security Aspects of Cloud Computing.

SYLLABUS:

UNIT I: UNDERSTANDING CLOUD COMPUTING

Computing Paradigms – Cloud Computing Fundamentals – History of Cloud Computing – Cloud Computing Architecture & Management – Cloud Computing Deployment Models – Cloud Storage – Why Cloud Computing Matters – Advantages of Cloud Computing – Disadvantages of Cloud Computing – Cloud Services.

UNIT II: DEVELOPING CLOUD SERVICES

Cloud Service Models – SOA & Cloud – Multicore Technology – Memory and Storage Technologies – Networking Technologies – Web 2.0 – 3.0 – Software Process Models for Cloud – Agile SDLC for Cloud Computing – Pervasive Computing – Application Environment – Virtualization.

UNIT III: PROGRAMMING MODELS FOR CLOUD COMPUTING

Parallel and Distributed Programming Paradigms – Map Reduce, Twister and Iterative Map Reduce – CGL- Map Reduce – Programming models for Aneka Hadoop Library from Apache – Mapping Applications – Programming Support – Google App Engine, Amazon AWS – Cloud Software Environments – Eucalyptus, Open Nebula, Open Stack, CloudSim – SAP Labs – EMC – Sales force – VMware. Alumni

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)

Permanently affiliated to Thiruvalluvar & Annamalai University

INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

UNIT IV: SOFTWARE DEVELOPMENT IN CLOUD

Different Perspectives on SaaS Development – New Challenges in Cloud – Cloud B.Sc. Computer Science: Syllabus (CBCS) 62 Aware Software Development Using Paas Technology – Networking for Cloud Computing – Networking Issues in Data Centers – Transport Layer Issues in DCNs – TCP Enhancements for DCNs – Open Source Support for Cloud – Open Source Tools for IaaS Open Source Tools for IaaS – Open Source Tools for Paas – Open Source Tools for Research.

UNIT V: SECURITY IN CLOUD COMPUTING

Security Aspects – Platform Related Security – Audit and Compliance – Cloud Security Challenges and Risks – Software-as-a-Service Security– Security Governance – Risk Management – Security Monitoring – Security Architecture Design – Data Security – Application Security – Virtual Machine Security – Identity Management and Access Control – Autonomic Security – Advance Concepts in Cloud Computing.



PROFESSIONAL ETHICS

BCA DEGREE

III YEAR, V- SEMESTER

SOFTWARE TESTING

COURSE OBJECTIVE:

1. To understand the concept of software testing, and software quality.
2. To learn to inspect and detect errors by going through each and every code segment.
3. To gain knowledge of various functional and structural testing techniques.

SYLLABUS:

UNIT I: INTRODUCTION TO SOFTWARE TESTING

Fundamentals of software testing – need for software testing– Psychology of testing – various approaches – characteristics of testing – principles of testing – testing strategies – verification and validation – Defect and Prevention strategies.

UNIT II: SOFTWARE DEVELOPMENT MODEL AND TESTING

Water fall model– V-model– Spiral model– Agile model – Life cycle of testing– Static Testing – dynamic testing – White box testing – Block box testing – Regression testing – Integration Testing – System and Performance Testing – Usability Testing

UNIT III: FUNCTIONAL AND STRUCTURAL TESTING

Boundary Value Analysis – Equivalence Class Testing – Decision Table – Based Testing – Cause Effect Graphing Technique – Path testing –Cyclomatic Complexity Graph Metrics – Data Flow Testing – Slice based testing

UNIT IV: TEST MANAGEMENT AND TOOLS

Test planning – cost–benefit analysis of testing – monitoring and control–Test reporting – Test control – Specialized testing – Object Oriented Testing – Automated Tools for Testing – Tool Selection and Implementation – Challenges in test automation – GUI Testing

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)

Permanently affiliated to Thiruvalluvar & Annamalai University

INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

UNIT V: SOFTWARE QUALITY AND SOFTWARE QUALITY ASSURANCE

Introduction to software quality and software quality assurance – basic principles about the software quality and software quality assurance – Planning for SQA – various models for software product quality and process quality – SCM – RAD – System Documentation



PROFESSIONAL ETHICS

B.COM DEGREE

I YEAR, I- SEMESTER

Consumer Protection and Consumer Rights

Objective:

To make students to acquire basic knowledge of consumer laws, consumer rights and consumer welfare and protection.

Unit - I

Introduction of Consumer Protection Act 1986 – Objectives - Consumer Protection Act

2006 (Amendments) – Salient features.

Unit - II

Definitions of the term: - Consumer – Types of Consumer Appropriate authority – Complainant – Consumer dispute – Restrictive Trade Practice.

Unit - III

The various Consumer Rights: - Right to Safety, Right to Information, Right to Choose, Right to be heard – Right against exploitation – Right to Consumer Education.

Unit - IV

Consumer Protection Council: - Composition and Powers of National Commission, State Commission and District Consumer Forum.

Unit - V

Redressal of consumer grievances-Goods & Services covered under Consumer Protection Act-Procedure for filing of complaints with District Forum, State Commission, National Commission.



PROFESSIONAL ETHICS
B.COM DEGREE
III YEAR, V– SEMESTER
Entrepreneurial Development

Objective:

To encourage students to become entrepreneurs.

UNIT-I

Meaning of Entrepreneur – Entrepreneur and Enterprise – Entrepreneur and Manager – Entrepreneur and Entrepreneur – Qualities (Traits) of True Entrepreneur – Characteristics of Entrepreneur – Types of Entrepreneurs – Functions of an Entrepreneur – Roles of Entrepreneurs in the Economic Development.

UNIT-II

Establishing an Enterprise – Project Identification – Selection of the Product – Project Formulation – Assessment of Project Feasibility – Preparation of Project Report – Selection of Site (Location).

UNIT-III

Selection of Types of Organization – Sole Proprietorship – Partnership Joint Stock Company – Factors Influencing the Choice of Organization – Sources of Project Finance
– Sources of Long Term Finance – Sources of Short Term Finance.

UNIT-IV

Incentives and Subsidies – Meaning of Incentives and Subsidies – Need and Problems – Incentives for Development of Backward Area – Incentives for SSI Units in Backward Areas – Taxation Benefits to SSI Units – Subsidies and Incentives in Tamil Nadu.

UNIT-V

Women Entrepreneurs – Concept – Functions and Role – Problems of Women Entrepreneurs – Suggestions for Development of Women Entrepreneurs – Rural Entrepreneurship – Need – Problems – How to Develop Rural Entrepreneurship.

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)
Permanently affiliated to Thiruvalluvar & Annamalai University
INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

PROFESSIONAL ETHICS

B.COM DEGREE

III YEAR, V- SEMESTER

Income Tax Law & Practice – I

Unit - I: Introduction

Income Tax Act 1961- Basic Concepts – Assessment Year – Previous Year – Person – Assessee – Income – Gross Total Income – Total Income - Agricultural Income – Casual Income – Capital and Revenue Receipts – Capital and Revenue Expenditures – Exempted Incomes u/s 10. Residential status of an individual- Residential status of a HUF – Residential status of firm and association of persons – Residential status of a company – incidence of tax liability.

Unit - II: Salaries

Meaning and features of Salary – Allowances – Perquisites – Profits in lieu of Salary – Provident Fund and its types – payments exempted u/s 10: Leave travel concession; gratuity; pension; leave encashment; retrenchment compensation; VRS – Deductions from salary: EA and professional tax- deduction u/s 80C- taxable salary

Unit - III: Income from House Property

Annual value – Determination of annual value- Income from let out house property – Income from self-occupied house property – Deductions allowed from Income from house property u/s 24.

Unit - IV: Profit and Gains of Business or profession and depreciation

Meaning of business and profession – deductions expressly allowed – expenses expressly disallowed – treatment/ admissibility of certain expenses and incomes – income from business- income from profession.

Meaning of depreciation – conditions for depreciation – actual cost – written down value – computation of allowable depreciation.

Unit - V: Income tax authorities

CBDT – powers – Director General of income tax – Chief commissioner of income tax – Assessing officer – appointment – Jurisdiction – powers relating to search and seizure.



PROFESSIONAL ETHICS
B.COM DEGREE
II YEAR, III- SEMESTER
Computer Applications in Business

Objective:

To provide basic knowledge of computer applications in business.

UNIT-I

Introduction to Computer–Characteristics of a Computer –History of Computer–Computer generation - Hardware–Software – System Software and application software.

UNIT-II

MS - Word Processing: Starting MS word - MS word environment - working with word documents, text, tables - checking spelling and grammar - printing a documents.

UNIT-III

MS Excel - MS Excel Sheet - MS Excel environment - Working with Excel workbook -worksheet - Formulas and functions - Inserting charts - printing in Excel.

UNIT-IV

MS Power Point - Starting MS Power Point - MS power point environment – working with power point - working with different views – designing, presentation &printing in Power Point.

UNIT-V

Electronic Commerce - Types - Advantages and Disadvantages - Electronic data interchange (EDI) working of EDI - EDI benefits &Limitations - SMART card – SMART card applications.

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)
Permanently affiliated to Thiruvalluvar & Annamalai University
INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

PROFESSIONAL ETHICS

M.COM DEGREE

I YEAR, II– SEMESTER

GOODS AND SERVICES TAX (GST)

Course Objectives

1. To gain expert knowledge on the principles and law relating to Indirect Taxation and GST in India.
2. To expose the students with the latest development in GST.
3. To impart skill in applying and analysing the provisions of Goods and Service Tax Act.
4. To know about the basic Administration of GST.
5. To Familiarize the Provisions to appeal in the court.

Unit 1: Introduction:

Meaning and Definition of Indirect Taxes-Nature-Scope Constitutional provisions-Advantages-Disadvantages-Difference between Direct and Indirect Taxes- Types- Milestones in the history of Indirect Taxation in India - **Goods & Services Tax (GST) Act 2016**- Introduction - Meaning- Definition-Major Indirect Taxes merged in to Goods and Service Tax.

Unit 2: Basic Provisions of GST:

Introduction--Historical backdrop of Goods and Service Tax-objectives & features - Strengths, Weaknesses, Opportunities and Challenges (SWOC) Analysis of GST in India.– Advantages & Limitations of GST-Economy, Industry and trade, tax payers-Types of GST - CGST-IGST-SGST- UTGST Schedules-Rate of GST- Tamil Nadu GST Provisions.

Unit 3: Main Provisions of GST:

Provisions Compensation (GST) Law-Definitions of important terms-Levy of Tax- Collection-relating to Place, Time and Value of Supply-Different meaning of supply- Composite Supply Mixed supply- Scope of Supply- Taxable Supply- E-Commerce-Supply Chain. GST Exemption limit-Tax Invoice-Credit and Debit Notes-Valuation Rules-

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)

Permanently affiliated to Thiruvalluvar & Annamalai University

INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

Computation Tax Input tax Credit (ITC)-Registration-procedures-Deemed Registration-Cancellation of Registration.

Accounts and Records- Period of Retention of Records- Presumption as to Documents- Returns- Annual-Final-Payment of Tax-Information Technology in GST Audit- Special Audit-Assessment-Refund-Consumer welfare Fund-GST Practitioners - TDS/TCS.

Unit 4: Administration of GST:

GST Council-Authorities-Inspection-search seizure-Arrest-Demand-Recovery-Liability to pay tax in certain cases-Advance Ruling- Authority and Appellate Authority - GSTN-Information infrastructure for GST.

Unit 5: Appeals & Revisions under GST:

Appeals-Appeal to High Court Appeal to Supreme Court- Revisions-Offences- Compounding of Offences-Penalty Transitional provisions-IGST Provisions- Inter-state Supply- Intra-state supply- Zero rated Supply- Imported Supply- Transfer of ITC-Compensation Rules- Base year Revenue-Projected Revenue-Miscellaneous provisions-Interest-Job Work Procedure Deemed Export.



PROFESSIONAL ETHICS
BBA DEGREE
I YEAR, I- SEMESTER
Principles of Management

Course Objectives

1. To familiarize the students with principles of management concepts.
2. To provide an insight about the management functions of planning, organizing, staffing, directing & controlling.

Unit I: Management

Management: Definition, Nature, Scope – Functions of Management – Principles of Management – Management: Art, Science and Profession – Levels of Management: Top level, Middle level, Lower level.

Unit II: Planning

Planning: Introduction, Nature, Scope – Importance of Planning – Steps in Planning – Types of Plan – Decision Making – Types of Decision – Decision Making Process.

Unit III: Organizing

Organizing: Definition, Principles – Organizations Structure: Types – Span of Control – Departmentation – Process and Methods.

Unit IV: Staffing & Directing

Staffing & Directing: Meaning – Recruitment – Selection – Directing: Nature, Purpose – Decentralization – Motivation – Maslow's and Herzberg Theories.

Unit V: Controlling

Controlling: Meaning, Nature, Importance – Control Process – Co-ordination – Need, Type and Techniques for excellent Co-ordination.



PROFESSIONAL ETHICS
BBA DEGREE
II YEAR, III- SEMESTER
Human Resource Management

Objective:

To encourage students to become a leader.

UNIT - I

Definition of HRM-Objectives of HRM-Nature and Scope of HRM-Principles of HRM-Difference between Personnel Management and HRM-Duties and Responsibilities of HR manager-Qualities of HR managers-Role of HR manager-Importance of HRM-Challenges of HRM-Evolution and growth of HRM-Environment of HRM-Strategic HRM.

UNIT - II

Human Resources Planning-Features of HR planning-factors influencing HR planning-Recruitment-Principles of Recruitment-objectives-steps involved in recruitment process-sources of recruitment- Selection-definition-importance-process of Selection-Use of various tests-Interview techniques in Selection-objectives-types-limitations-guidelines-Recruitment vs Selection-Placement.

UNIT - III

Employee Training and Development-Defenition-Objectives-Advantages-limitations-Identification of training needs-essentials of good training program-characteristics process of training-Training methods-on the job training-off the job training methods-Executive development-advantages of training employees-Techniques-effectiveness of training and development program.

UNIT - IV

Performance Appraisal – Definition – features – objectives - Advantages-limitations-characteristics of an effective performance appraisal systems-Need for Performance Appraisal-Objectives-Process-Methods-Traditional and Modern methods of performance appraisal-merit rating-concepts and methods-BARS-Compensation.

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)

Permanently affiliated to Thiruvalluvar & Annamalai University

INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

UNIT - V

Transfer-Objectives-types-merits-demerits-characteristics of effective transfer policy-Promotion and Termination of services-purpose of promotion-factors influencing promotion-types of promotion-open and closed system of promotion-advantages-importance of promotion-demotion-career development-Mentoring-HRM Audit-Benefits-Scope-Approaches.



PROFESSIONAL ETHICS

BBADEGREE

III YEAR, V- SEMESTER

Industrial Relation and Labor Laws

Unit-1

Industrial relations -Meaning and Definition- roles – importance –Trade unions- Importance of Trade union- Industrial disputes-types- and their resolutions.

Unit -2

Participative management – structure – scope – Collective Bargaining – works committee – Joint management councils – Pre Requisites for successful participants – Roles of government in collective bargaining.

Unit – 3

Industrial unrest – employee dissatisfaction – Grievances – Disciplinary action – domestic enquiry – Strikes – lockout – prevention of strikes - Lockouts.

Unit – 4

Industrial factories act –Meaning and Definition-Importance of Factories act-need– provisions of the act regarding Welfare-Health – Safety measures of workers.

Unit – 5

Workmen compensation act –Meaning and Definition and International labor organization – Importance of ILO-Role and Functions of ILO.

**PROFESSIONAL ETHICS****BBA DEGREE****III YEAR, V– SEMESTER****Organizational Behavior****Objective:**

To provide basic knowledge of importance of leadership and motivation in organization.

UNIT-I

Organizational behavior: Meaning, nature, importance-Role-historical development of organizational behavior-organization as a social system-open system-factors influencing organizational behavior-environmental factors –constraints over organization and managerial performance.

UNIT-II

Meaning of group and group dynamic-reason for formation of groups-characteristics and theories of group of dynamic-types of groups of organization-group cohesiveness and characteristics-group decision process.

UNIT-III

Leadership concepts- characteristics -leadership theories-leadership effectiveness. Motivation-concepts and importance-financial and non-financial –Morale: meaning, characteristics.

UNIT-IV

Organizational culture: Definition- organizational culture-types, characteristics. functions. organizational climate-definition-distinction between organizational climate and culture-Organizational effectiveness-conflicts-Definition, features-sources of conflicts-measure of conflicts.

UNIT-V

Management of change: meaning. importance, resistance to change-causes-concept vs social changes –factors contributing to organizational change-organizational development and meaning.

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)
Permanently affiliated to Thiruvalluvar & Annamalai University
INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

PROFESSIONAL ETHICS BA (TAMIL) DEGREE

பயன்பாட்டுத் தமிழ்

பட்டநூல் :

கா. பட்டாபிராமன் - மொழிப் பயன்பாடு,
நியூ செஞ்சரி புக் ஹவுஸ் (பி) லிட்.,
41-பி, சிட்கோ இன்டஸ்ட்ரியல் எஸ்டேட்,
-ஊட்டூர்.

- | | | |
|--------|---|---|
| அலகு 1 | : | ஆசிரியர் கடிதம் |
| அலகு 2 | : | அனுபவக் கடிதம் |
| அலகு 3 | : | விளம்பரத் தமிழ், பதிப்பாசிரியர் |
| அலகு 4 | : | மெய்ப்புத் திருத்தலும் நூலாக்கப் பணிபுறம் |
| அலகு 5 | : | வானொலி, தொலைக்காட்சி நிகழ்ச்சிகளில் பங்குபெறல்,
ஆவணங்கள் வரைதல். |



PROFESSIONAL ETHICS
BA (TAMIL) DEGREE

திறன் அடிப்படையிலான விருப்பப்பாடம் - 3

கல்னெட்டியல்

பாடநூல்	:	இரா.நாகராஜர் நடனகவிநாதன், கு.நாமோதரன், ச.ஹரிஹரன் கல்னெட்டியல் கட்டுரைகள் - 3, 7 முதல் 13 முடிய தமிழ்நாடு அரசு தொல்பொருள் ஆய்வுத் துறை சென்னை - இரண்டாம் பதிப்பு - 1980
அலகு 1	:	தமிழ்மொழி, கல்னெட்டியல் அமைப்பு
அலகு 2	:	தமிழ்க் கல்னெட்டுக்கள், தமிழ்க் கல்னெட்டுக்கள்
அலகு 3	:	தமிழ்க் கல்னெட்டுக்கள் -2, தமிழ்க் கல்னெட்டுக்கள் -3
அலகு 4	:	தமிழ்க் கல்னெட்டுக்கள் -4, வடமொழிக் கல்னெட்டுக்கள்
அலகு 5	:	செய்ப்பாடுகள் நடுக்கல்

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)
Permanently affiliated to Thiruvalluvar & Annamalai University
INDILI, KALLAKURICHI – 606 213



NAAC
2nd CYCLE

Criterion I
Metric 1.3.1

PROFESSIONAL ETHICS BA (TAMIL) DEGREE

திறன் அடிப்படையிலான விருப்பப்பாடம் - 2

தூள் - 2

படைப்பிலக்கியமும் மொழிபெயர்ப்பும்

அலகு 1	: மரபுக்கவிதை	-	வெண்பா அல்லது ஆசிரியப்பா
அலகு 2	: புதுக்கவிதை	-	20 அடிகள்
அலகு 3	: சிறுகதை	-	குறிப்பிட்ட பொருளில் மூன்று பக்கங்களில் அமைதல்
அலகு 4	: ஓரங்க நாடகம்	-	கொடுக்கப்படும் தலைப்பை ஒட்டி நான்கு அல்லது ஐந்து பக்கங்களில் அமைதல்
அலகு 5	: மொழிபெயர்ப்பு	-	100 சொற்கள் அடங்கிய ஆங்கிலப் பகுதியைத் தமிழில் மொழிபெயர்த்தல்

(பொதுவாக மரபுக்கவிதை, புதுக்கவிதை, சிறுகதை, ஓரங்கநாடகம் இவற்றின் இலக்கணம் - அமைப்பு - பாடுபொருள் போன்றவற்றைக் கற்பித்து அதன் பிறகு படைப்புகளுக்கான பயிற்சி அளித்தல் வேண்டும். மொழிபெயர்ப்பின் நுட்பங்கள் - மொழிபெயர்ப்பின் வகைகளைக் கற்பித்தல் வேண்டும்)



PROFESSIONAL ETHICS BA (TAMIL) DEGREE

திறன் அடிப்படையிலான விநியோகப்பாடம் - 4

தாள் - 4

தகவல் தொடர்பியல்

- பாடநூல் : முனைவர் கி.இராசா - மக்கள் தகவல் தொடர்பியல் அறிமுகம்
பாவை பப்ளிகேஷன்ஸ், 142, ஜூனியர்ஸ்ட்ரீட் சாலை,
இராயப்பேட்டை, சென்னை - 600 014.
- அலகு 1 : கொள்கைகளும் கோட்பாடுகளும்
- அலகு 2 : தகவல் தொடர்புச் சாதனங்கள்
- அலகு 3 : வானொலி
- அலகு 4 : தொலைக்காட்சி, திரைப்படம்
- அலகு 5 : விளம்பரம்

பார்வை நூல்கள் :

1. வேதபாளன், வ.ஜெயா - மக்கள் தகவல் தொடர்பியல்
ஜெயா பதிப்பகம், கோயம்புத்தூர், 1998
2. முனைவர் மு.கோமதி - தகவல் தொடர்பு ஊடகங்களில் இலக்கியச் செல்வாக்கு
மேகன் முகில் பதிப்பகம்,
10, தண்டபாணி நகர், கோண்டு, கடலூர்-2
3. வெ.கிருஷ்ணமூர்த்தி - தகவல் தொடர்பியல்
மணிவாசகர் பதிப்பகம், சென்னை, 1991
4. வெ.நல்லையா - தொலைக்காட்சியும் பிறதகவல் துறைகளும்
வள்ளுவன் வெளியீட்டகம், திருவள்ளூர், சென்னை -41, 1990

DR. R.K.SHANMUGAM COLLEGE OF ARTS & SCIENCE



[2(f) & 12(B) Certified by UGC] (Accredited by NAAC)
(Permanently affiliated to Thiruvalluvar University) (An ISO 9001 – 2015 Certified Institution)



INDILI, KALLAKURICHI – 606 213

1.3 CURRICULUM ENRICHMENT

FACULTY DEVELOPMENT PROGRAM

We conduct Faculty Development Programmes every year. These programmes enhance the research abilities of the faculty members. These programmes nurture the abilities of staff members towards teaching skill. They provide necessary refreshment to the staff members there by relaxing their minds bringing out their best performances.

PARTICIPANTS LIST

Year	Name of the participant	Designation	Title of the FDP /MDP/ professional development / administrative training program	Dates (from-to) (DD-MM-YYYY)
2019 - 2020	Dr. J. AHAMED SULTHAN	HOD Chemistry	F.D.P on Novel Strategies and applications in Meteterial Science.	26-12-2019 to 31-12-2019
2019 - 2020	Mrs. B. SANGEETHA	Asst. Prof. Chemistry	F.D.P on Novel Strategies and applications in Meteterial Science.	26-12-2019 to 31-12-2019
2019 - 2020	Mr. A. VENGATESAN	Asst. Prof. Chemistry	F.D.P on Novel Strategies and applications in Meteterial Science.	26-12-2019 to 31-12-2019
2019 - 2020	Dr. A. SENTHILRAJA	Asst. Prof. Chemistry	F.D.P on Novel Strategies and applications in Meteterial Science.	26-12-2019 to 31-12-2019
2019 - 2020	Mr. K. KUMAR	Asst. Prof. Chemistry	F.D.P on Novel Strategies and applications in Meteterial Science.	26-12-2019 to 31-12-2019
2019 - 2020	Mr. N. ANGAMUTHU	Asst. Prof. Chemistry	F.D.P on Novel Strategies and applications in Meteterial Science.	26-12-2019 to 31-12-2019

2019 - 2020	Mr. V. MARIYAPPILLAI	Asst. Prof. Chemistry	F.D.P on Novel Strategies and applications in Meteterial Science.	26-12-2019 to 31-12- 2019
2019 - 2020	Dr. R. JAYASEELAN	Asst. Prof. Chemistry	F.D.P on Novel Strategies and applications in Meteterial Science.	26-12-2019 to 31-12- 2019
2019 - 2020	Dr. P. NETHAJI	Asst. Prof. Chemistry	F.D.P on Novel Strategies and applications in Meteterial Science.	26-12-2019 to 31-12- 2019
2019 - 2020	Dr. K. RAMAR	Asst. Prof. Chemistry	F.D.P on Novel Strategies and applications in Meteterial Science.	26-12-2019 to 31-12- 2019
2019 - 2020	Dr. J. AHAMED SULTHAN	HOD Chemistry	Holistic Teacher Training in Innovative Skills of Cooperative Learning and Development of E-Content in Teaching Padagogies in Higher Education	25-11-2019 to 01-12- 2019
2019 - 2020	Dr.P.John Victor	Vice Principal	Importance of Empowerment For Teaching Gurus	5/21/2020
2019 - 2020	Dr.P.John Victor	Vice Principal	FDP on Learning Management System(Moodle)	03.05.2020 to 05.05.2020

2019 - 2020	DR.G.MOHANASUNDER	Principal I/C -Asst. Prof. Tamil	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mrs.R.PRAVEENA	HOD Tamil	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mrs.V.BINDHU	Asst. Prof. Tamil	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	DR.K.RAVICHANDIRAN	Asst. Prof. Tamil	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mr.P.PANDIYAN	Asst. Prof. Tamil	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	DR.M.NAGARAJAN	Asst. Prof. Tamil	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	MR.K.BALAKRISHNAN	Asst. Prof. Tamil	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	MS.C.THAMARAI SELVI	Asst. Prof. Tamil	Faculty Development Programme on Out Come Based	27.06.2019

			Education	
2019 - 2020	MR.K,VEERARAGAVAN	Asst. Prof. Tamil	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	MR.B.SRINIVASAN	Asst. Prof. Tamil	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mrs.G.CHITRA	Asst. Prof. Tamil	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	DR.K.NITHYA	Asst. Prof. Tamil	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	MR.S.ABDUL HAKKIM	Asst. Prof. Tamil	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	MR.G.PERIYASAMY	Asst. Prof. Tamil	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	MR.T.SATHISH KUMAR	HOD English	Faculty Development Programme on Out Come Based Education	27.06.2019

2019 - 2020	MRS. S.KAVITHA	Asst. Prof. English	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	MRS.S.MAHESWARI	Asst. Prof. English	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	MR.R.SURENDIRAN	Asst. Prof. English	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	MR.P.V.NARASIMMA RAO	Asst. Prof. English	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	MRS.D.SAKTHI BRINDA	Asst. Prof. English	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	MR.S.VIGNESH	Asst. Prof. English	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	MRS.S.MANGAIYARKARAS I	Asst. Prof. English	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	MISS.B.ABINAYA	Asst. Prof. English	Faculty Development Programme on Out Come Based Education	27.06.2019

			Education	
2019 - 2020	MISS.N.AJAYAVALLI	Asst. Prof. English	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	MRS.AJEETHA	Asst. Prof. English	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	MR.K.SATHISH KUMAR	Asst. Prof. English	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	MR.P.JAYASRINATH	Asst. Prof. English	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Dr.S.VIMALKUMAR	HOD Maths	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mr.R.KANNIYAPPAN	Asst. Prof. Maths	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mrs.B.JENNY PRIYA	Asst. Prof. Maths	Faculty Development Programme on Out Come Based Education	27.06.2019

2019 - 2020	Mrs.R.PUNITHA	Asst. Prof. Maths	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Dr.M.MANOHARAN	Asst. Prof. Maths	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mrs.ISWARIYA	Asst. Prof. Maths	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mr.M.NARAYANAN	Asst. Prof. Maths	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mr.A.MANI	Asst. Prof. Maths	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mr.U.MOHANRAJ	Asst. Prof. Maths	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mrs.K.LALITHA	Asst. Prof. Maths	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	DR. S. AZHAGUVELAVAN	Asst. Prof. Maths	Faculty Development Programme on Out Come Based Education	27.06.2019

			Education	
2019 - 2020	Dr.S.POONGODISATIYA	Asst. Prof. Maths	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mr.G.ANGURAJ	HOD Physics	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mrs.D.SASIKALA	Asst. Prof. Physics	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mr.S.SUNDHARAVADIVEL	Asst. Prof. Physics	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Dr.K.RAJA	Asst. Prof. Physics	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Dr.N.PRAKASH	Asst. Prof. Physics	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mr. R. MURUGAN	Asst. Prof. Physics	Faculty Development Programme on Out Come Based Education	27.06.2019

2019 - 2020	Dr.R.AMALANATHAN	Asst. Prof. Physics	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Dr. S. MADHU	Asst. Prof. Physics	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	DR.J.AHAMED SULTHAN	HOD Chemistry	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mrs.B. SANGEETHA	Asst. Prof. Chemistry	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mr.A. VENGATESAN	Asst. Prof. Chemistry	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	DR. A. SENTHILRAJA	Asst. Prof. Chemistry	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mr. K. KUMAR	Asst. Prof. Chemistry	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mr.N. ANGAMUTHU	Asst. Prof. Chemistry	Faculty Development Programme on Out Come Based Education	27.06.2019

			Education	
2019 - 2020	Mr.A.SHANMUGAM	Asst. Prof. Chemistry	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mr.V. MARIYAPILLAI	Asst. Prof. Chemistry	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	DR.R. JAYASEELAN	Asst. Prof. Chemistry	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mrs. M. SURIYANANDHINI	Asst. Prof. Chemistry	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	MAHALAKSHMI.R	HOD C.S	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	KARTHIKA.K	Asst. Prof. C.S	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	ELAMARAN.S	Asst. Prof. C.S	Faculty Development Programme on Out Come Based Education	27.06.2019

2019 - 2020	ABIRAMAN.V	Asst. Prof. C.S	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	KARTHICK.B	Asst. Prof. C.S	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	DHANALAKSHMI	Asst. Prof. C.S	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	D.ASHOK	HOD B.C.A	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	B.KARTHICK	Asst. Prof. B.C.A	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	R.KALAIVANI	Asst. Prof. B.C.A	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	S.DHANALAKSHMI	Asst. Prof. B.C.A	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	DR.P.JOHN VICTOR	Vice Principal	Faculty Development Programme on Out Come Based	27.06.2019

			Education	
2019 - 2020	DR.T.ARUL	HOD Commerce	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	MR.P.RAJA	Asst. Prof. Commerce	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	MRS.V.SUBASINI	Asst. Prof. Commerce	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	MRS.C.RAJESWARI	Asst. Prof. Commerce	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	DR.R.ANANDARAMAN	Asst. Prof. Commerce	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	DR.K.AMUTHAVALLI	Asst. Prof. Commerce	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Dr.A.Sankaran	HOD B.B.A	Faculty Development Programme on Out Come Based Education	27.06.2019

2019 - 2020	Dr.K.Thirupathi	Asst. Prof. B.B.A	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Ms.R.Sathya	Asst. Prof. B.B.A	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Dr.Thiruvarasi	Asst. Prof. B.B.A	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Ms.A.S.Kalaivani	Asst. Prof. B.B.A	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	NANDHINI. A	Asst. Prof. B.B.A	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mr. A. S. MUTHUKUMAR	MANAGER	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mrs. R. ALAMELU	CASHIER	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mrs. T. JEYANTHI	CASHIER	Faculty Development Programme on Out Come Based	27.06.2019

			Education	
2019 - 2020	Mr. K. ELANGO	OFFICE ATTENDER	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mrs. V. MALA	TYPIST	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mr. C. SRINIVASAN	ACCOUNTANT	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mr. S. DHANASEKARAN	JUNIOR ASST	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mrs. A. SUJITHA	JUNIOR ASST	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mr. N. SHAJAHAN	LAB ASST B.C.A	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mr. J. SHAGUL	LAB ASST. C.S	Faculty Development Programme on Out Come Based Education	27.06.2019

2019 - 2020	Mr. K. VELU	LAB ASST. Physics	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mr. R. PRABU	LAB ASST. Chemistry	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mr. N. SELVAM	LAB ASST. Physics	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mr. N. RAJINIKANTH	ASST. LIBRARIAN	Faculty Development Programme on Out Come Based Education	27.06.2019
2019 - 2020	Mrs. JULEGA BEE	JUNIOR ASST	Faculty Development Programme on Out Come Based Education	27.06.2019





