

பருவம்: முதற் பருவம்

பாடக் குறியீட்டு எண்: LT101T

அலகு

பாடங்கள்

1. அலகு – 1 (மரபு கவிதைகள்)

- 1.1 வள்ளலார்
- 1.2 பாரதியார்
- 1.3 பாரதிதாசன்
- 1.4 கவிமணி
- 1.5 கண்ணதாசன்

2. அலகு – 2 (புதுக்கவிதைகள்)

- 2.1 அப்துல் ரகுமான்
- 2.2 மு. மேத்தா
- 2.3 வைரமுத்து
- 2.4 தமிழ்ச்சி
- 2.5 நாட்டுப்புறப்பாடல்கள்

3. அலகு – 3 (இலக்கிய வரலாறு)

- 3.1 இருபதாம் நூற்றாண்டுக் கவிஞர்கள்
- 3.2 புதுக்கவிதையின் தோற்றமும், வளர்ச்சியும்
- 3.3 சிறுகதையின் தோற்றமும், வளர்ச்சியும்
- 3.4 நாட்டுப்புற இலக்கியங்கள்

4. அலகு- 4 (சிறுகதைகள்) கதவு – கி.ரா

- 4.1 கதவு
- 4.2 குடும்பத்தில் ஒரு நபர்
- 4.3 ஜெயில்
- 4.4 மின்னல்
- 4.5 எழுத மறந்த கதை

5. அலகு – 5 (மொழித் திறன்)

- 5.1 வல்லொற்று மிகுமிடம்
- 5.2 வல்லொற்று மிகாமிடம்

SEMESTER – I ENGLISH THROUGH LITERATURE – I LE101S

UNIT - 1 [15 HRS]**RELATIONSHIPS**

Freedom at Midnight – Larry Collins and Dominique Lapierre (Prose)

Night of the Scorpion – Nissim Ezekiel (Poem)

Driving Miss Daisy – Alfred Ubry (Play)

UNIT-2 [15 HRS]**SELF ENHANCEMENT**

Ulysses – Alfred Lord Tennyson (Poem)

Our Urgent Need for Self-esteem – Nathaniel Brandon (Prose)

Emotional Intelligence – Daniel Goleman (Prose)

UNIT - 3 [15 HRS]**BASIC GRAMMAR**

The Sentence

Parts of Speech

Nouns – Classes and Gender

Nouns – Number and Case

Adjectives

Comparison of Adjectives

UNIT- 4**BASIC LANGUAGE SKILLS** [15 HRS]

Dialogue Writing

Letter writing – [Formal, Informal]

Comprehension

Text

1. Elango, K. **Insights : A Course in English Literature and Language**. Hyderabad: Orient Black swan Private Limited, 2009.
2. Bhatnagar, R.P., and Bhargava, Rajul. **English for Competitive Examinations**. Chennai: Macmillan India Press, 2002.
3. David Green, **Contemporary English Grammar: Structures and Composition**. Chennai: Macmillan India Limited, 2004.

Reference

1. Prince, Donna. **Skills for Success**, New York: CUP 1998.
2. Wallace, Michael, J. **Study Skills in English**. Kottayam: CUP, 2004.

SEMESTER-I BIOMOLECULES BC101**UNIT I****[10 hrs]**

Scope of Biochemistry - Importance of biomolecules, Chemical Bonding- nature and types- ionic bond (or) polar bond, covalent (or) non-polar bonds, co-ordinate bond and non-covalent bonds (Hydrogen, hydrophobic, vanderwalls interactions). Isomerism- structural isomerism, and stereoisomerism.

UNIT II**[15 hrs]**

Introduction and definition of carbohydrates, classification – monosaccharides, oligosaccharides, polysaccharides; occurrence, structure and functions of monosaccharides (glucose and fructose). General properties with reference to glucose, anomers, epimers and mutarotation . Ring and straight chain structure of glucose (haworth projection formula). Kiliani synthesis ,inversion of sucrose.

UNIT III**[10 hrs]**

Structure, occurrence, properties and biological importance of disaccharides (sucrose, lactose, maltose). Structure, occurrence, properties and biological importance of polysaccharides – Storage polysaccharides (starch, glycogen, inulin), Structural polysaccharides (cellulose, chitin, pectin), Heteropolysaccharides (hyaluronic acid, heparin).

UNIT IV**[10 hrs]**

Nucleic acids – Bases ,Nucleosides and Nucleotides, Phosphodiester linkage, DNA and RNA, Structure –double helical structure of DNA, Properties of DNA – Denaturation, Renaturation, Tm and Hyperchromicity, Types of DNA, Structure of RNA- tRNA, mRNA and rRNA.

UNIT V**[15 hrs]**

Porphyrin nucleus and its classification, heme synthesis. bile pigments- chemical nature and physiological significance. Biological importance of Heterocyclic compounds- Thiazole, Indole, Pyridine, Pteridine, Pyrrole, Imidazole.

TEXTBOOKS:

1. Renuka Harikrishnan ,1995, “ Biomolecules and Enzymes” (second edition), Madurai, Indrajaya Pathipagam
2. J.L.Jain, Sanjay Jain and Nitin Jain, 1997, “Fundamentals of Biochemistry”(6th Edition) ,New Delhi, S.Chand& Company Ltd

REFERENCES:

1. Power & Chatwal “Biochemistry”, 4th edition , Himalaya Publishing House
2. Cambell &Farrell, 2007, “Biochemistry” 5th edition, Delhi, Baba Borkhanath printers
3. T.N.Pattabiraman, 1993“Principles of Biochemistry” 5th edition, Bangalore, Gajanana Book Publishers and Distributors
4. Dr.A.C.Deb, 1983,“Fundamentals of Biochemistry” (8th edition), Kolkata,New Central Book Agency
5. Lehninger, Nelson And Cox ,1982, “ Principles of Biochemistry”, (4th ed)UK, Macmillan Worth Publishers.

SEMESTER-I CELL BIOLOGY BC102

UNIT I**[15 hrs]**

Introduction – Classification of cell -Prokaryotic and eukaryotic cell. Cell membrane – structure and functions of Fluid Mosaic Model. Membrane proteins: Carbohydrate, lipids, proteins and their function in FMM. Membrane transport – Types of transport, passive and active transport, sodium potassium pump, Ca^{2+} and ATP_{ase} pumps, symport and antiport, endocytosis and exocytosis, liposomes.

UNIT II**[10 hrs]**

Endoplasmic reticulum – occurrence, morphology and function. Enzymes of the ER membrane. Lysosomes – structure and chemical composition. Ribosomes – structure and functions.

UNIT III**[10 hrs]**

Mitochondria: morphology and function., Golgi complex : structure & function. Microbodies – structure, morphology and function, peroxisomes and glyoxysomes

UNIT IV**[15 hrs]**

Nucleus – structure composition and biochemical function, chromosome structure – structure and organisation of chromatin, polytene and lambrush chromosome with example. Cell cycles – Phases of cell cycle, mitotic and meiotic cell cycle

UNIT-V**[10 hrs]**

Cytoskeleton - components and biological functions. Microtubules, Microfilaments and IF proteins - Distribution, chemical composition and function.

TEXTBOOKS:

1. Verma . P.S and Agarwal .P.K,1999, “Cell biology, Genetics, Molecular biology, Evolution and Ecology”,(24th edition) New Delhi, S.Chand & Company Ltd
2. De Robertis EDP and De Robertis EMF, 1987, “Cell and Molecular Biology”, (8th edition),New Delhi, B.I.Waverly Pvt Ltd

REFERENCES:

1. Sheela A. Stanly ,2008,“Cell biology for biotechnologist”, (I Edition), Narosa Publishing House Pvt-Ltd
2. Prakash S.Lohar, 2007, “Cell and Molecular biology” (I edition),Chennai, MJP publishers
3. Darnell J, Lodish H, Baltimore D,1986, “Molecular cell biology”, England, WH Freeman.
4. Cell biology –Gerald karp (7th edition) –international student version, wiley publications

SEMESTER – I ALLIED CHEMISTRY – I ACH101T

Objectives:

1. To introduce basic concepts of co-ordination chemistry & chemical bonding.
2. To know about the mechanism of aromatic electrophilic substitution.
3. To study the important concepts of electro chemistry & thermodynamics
4. To learn the various quantitative measurements.
5. To understand the pharmaceutical & petrochemical reactions

UNIT I ORGANIC CHEMISTRY

- 1.1 Chemical bonding –Types of Bonding-Bonding in Carbohydrates and Proteins-Structure of Amino acids-Zwitter ion-Isoelectric Point – Structure of Proteins.
- 1.2 Stereoisomerism - Types, causes of optical activity of Lactic Acid & Tartaric acid – Racemisation - Resolution, Geometrical isomerism – Maleic acid & Fumaric acid.
- 1.3 Oxidation-Reduction reactions- selectivity in Oxidation and Reduction reactions.

UNIT II INORGANIC CHEMISTRY

- 2.1 Co-Ordination Chemistry: Definition of terms used-classification of ligands-Werner's theory
- 2.2 Biochemistry of iron--Heme proteins-Nature of Heme-Dioxygen Binding-Iron storage and Transport- Structure and function of haemoglobin, myoglobin.
- 2.3 BioChemistry of other metals- Zn-CarboxypeptidaseA, Carbonic anhydrase - Mg-chlorophyll.Co-VitaminB₁₂

UNIT III PHYSICAL CHEMISTRY

- 3.1 Thermochemistry-Units of Energy changes-Exothermic and Endothermic reactions-Heat of reaction- Different types of heat of reaction
- 3.2 Ionic Equilibria-pH scale-Buffer solution-Types of Buffer Solution-Calculation of pH values of Buffer mixtures-Henderson equation
- 3.3 Acid-Base catalysis-Bronsted relation-Enzyme catalysis-Michaelis-Menten equation-Influence of pH and temperature

UNIT IV PHARMACEUTICAL CHEMISTRY

- 4.1 Development of New Drugs-Drug and Disease-Structure and activity-Additives and their role-Human Gene therapy- Animal and Synthetic Biotechnology
- 4.2 Mode of action and uses of sulpha drugs - Prontosil, sulphadiazine and sulphafurazole. Definition and one example of analgesics, antipyretics, tranquilizers, sedatives, local and general anaesthetics.

UNIT V APPLIED CHEMISTRY

- 5.1 Macromolecules-Classification of Polymers-Chemistry of polymerization-Addition
- 5.2 Polymerisation-Condensation Polymerisation-Coordination Polymerisation-Dendrimers-Biopolymers
- 5.3 Bio fuels-First generation of Bio fuels-Second generation of Bio fuels-Sustainable Bio Fuels-Calorific value of food and fat.

Text Books

1. J. D. Lee, Concise Inorganic Chemistry, 5th edition, Blackwell science, London 1996.
2. P. S. Kalsi. Organic Reaction stereochemistry & Mechanism. 4th edition . New Age International publishers. 2006.
3. Puri and Sharma. Principles of physical chemistry. 40th edition.2003
4. I. L. Finar, Organic chemistry, 6th edition, ELBS, 1990
5. G.R.Chatwal,Pharmaceutical Chemistry Organic (vol II), Himalaya Publishing House, Second Revised Edition 1997
6. Polymer Science, V. R. Gowariker, N. V. Viswanathan and J. Sreedhar, Wiley Eastern
7. J.Rajaram and J.C.Kuriacose,Thermodynamics For Students of Chemistry,Lal Nagin Chand,New Delhi, 3rd edition, 1986.

Reference Books:

1. F. A. Cotton, G. Wilkinson, C. Murillo and M. Bochman, Advanced Inorganic Chemistry, 6th edition., John wiley, New York 1999.
 2. Text book of Polymer Science, F.W. Billmeyer Jr, Wiley
 3. J.E. Huheey, Inorganic Chemistry, 5th Edn., Harper International.1993.
- Raj.K. Bansal,Organic Reaction Mechanism, 3rd edition, Tata McGraw Hill, 1998

SEMESTER – I ALLIED CHEMISTRY PRACTICAL – I ACHP101

QUALITATIVE ANALYSIS OF AN ORGANIC COMPOUND

- ✚ Systematic Analysis of an Organic Compound Containing one functional Group and Characterisation by Confirmatory Tests
- ✚ Reactions of Aldehyde (Aliphatic & Aromatic), Carbohydrate, (Reducing & Non-Reducing sugar), Carboxylic Acid (Mono & Di), Phenol (Mono & Dihydric), Primary amine, Amide (Mono & Di).

Reference Books :

- 1) A.O. Thomas, Practical chemistry- Scientific Book Center.
- 2) Vogel, Text book of chemical analysis, Longman.
- 3) S. Sundaram, & S. Viswanathan, Practical chemistry, 3 Volumes.
- 4) Vogel, Text book of Practical Organic chemistry, Longman

St. Joseph's College, Cuddalore

SEMESTER – I VALUE EDUCATION VE101**Unit I**

Values-Definition- Concept -Sources of values-Characteristics of values-Classification of values-Importance of value education-Erosion of values-Political erosion-social erosion-economic erosion.

Unit II

Personal values-Importance- Self concept-Meaning-the existential self- the categorical self- self - image- Ideal self- Attitude-Meaning-Formations-Factors determining attitude-Need for positive attitude-Developing positive attitude-Consequences of negative attitude.

Unit III

Adjustment problems- Emotional and sexual adjustments-Significance of youth period- Autonomy versus dependence -Feeling of inferiority- Marriage and family-Identity of roles- Vocational problems - Social discrimination- stress coping skills.

Unit IV

Social values-Meaning-Importance-Types-Social sensitiveness-Altruism-Toleration-Social adjustment- Social loyalty-Social justice-Panchsheel of values-Other social values-Family values- Value of team work-Functions of family-Moral values-Importance of moral values.

Unit V

Cultural values-Meaning-Importance -Religious values-Characteristics of religious values- significance of religious education- Secular values-mutual understanding – Mutual cooperation- Tolerance- Appreciation of universal truths- Character-Humanitarianism.

Text Books;

1. RATCHAGAR .I (2010) mental health of rural youth.vijay Nicole imprints private limited, Chennai.
2. RATCHAGAR .I (2012) Value education, personality enrichment& soft skills. Vijay Nicole imprints private limited, Chennai.

References;

1. Beliefs Attitudes and Values by Milton Rokeach (1968)
2. The Nature of Human Values by Milton Rokeach (Aug 1973)
3. Understanding Human Values by Milton Rokeach (Jul 1, 2000)
4. The Three Christs of Ypsilanti (New York Review Books Classics) by Milton Rokeach and Rick Moody (Apr 19, 2011)
5. Understanding Human Values by Milton Rokeach (Jul 1, 2001)
6. Health And Human Values by Frank Harron, (1983)