Chhattisgarh Swami Vivekananda Technical University, Newai

Name of the Program: Bachelor of Technology
Semester: B.Tech – 3rd **Branch: Biotechnology**
Subject: Bio Chemistry **Course Code: B018311(018)**
Total Marks in End Semester Exam: 100 **L: 3 T: 1 P: 0 Credits: 4**
Minimum number of Class Tests: 02

Course Objective(s):

- It is intended to impart basic undergraduate-level knowledge in the area of general Biochemistry.
- Students would be able to understand the biochemical basis of cellular functions and organism physiology.
- It augurs understanding on central metabolic process and the role of enzymes in modulating pathways.
- To make the students conversant with structures and properties of Carbohydrates, proteins, lipids and nucleic acids nutrition aspects and metabolic regulation.
- The theoretical background of biochemical systems helps to interpret the results of laboratory experiments.

UNIT-IBiochemistry of Acid and Base

- Introduction to biological buffers and its importance in biochemistry, pH, water, basics of amino acids, pK and pI values of amino acids and pK values of the ionizable groups of proteins.
- Importance of buffer in Homeostasis.
- Handerson-hasselbach equation.

UNIT-IICarbohydrate

- Classification, properties, structure and function.
- Metabolism :EmbdenMeyerhoff pathway, TCA cycle, Gluconeogenesis, Glycogenesis, Glycogenolysis, Pentase phosphate pathway.
- Electron transport chain.

UNIT-IIIProteins and Amino acids

- Classification, properties, structure and function of proteins and amino acids, Ramchandran plot.
- Separation and purification of proteins.
- Metabolism : Synthesis of amino acids, urea cycle.

UNIT-IV Lipids, Nucleic acids and Vitamins

- Classification, function and lipid metabolism.
- Structure and types of DNA(Watson and Crick model) and RNA.
  Nucleic acid metabolism : Synthesis and break down of purine and pyrimidines.
- Vitamins : Classification and function, abnormalities related to vitamin deficiency.

UNIT-VApplied Biochemistry

- Plasma protein and their importance in medical biochemistry.
- Homeostasis and Thrombosis, metabolism of xenobiotics, use of isozymes to diagnose tissue damage.
- Biochemical basis of human disease (eg :- Diabetes), biochemical techniques.

Text Books:

1. Lehninger's Principles of Biochemistry, David L. Nelson and Michael M. Cox, Macmillan Worth publisher.
2. Fundamentals of Biochemistry by U.Satyanarayan, New Central Book Agency.
3. Fundamentals of Biochemistry by Jain and Jain, S. Chand Group.

Reference Books:

1. LubertStryer, Biochemistry (2000) 4th Edition, WH. Freeman and company.
2. Voet and Voet, Biochemistry (1995) 2nd Edition, John Wiley and Sons Inc.
3. Todd and Howards Mason – Text Book of Biochemistry (2004) 4th Edition.

Course Outcome:

After completion of course, student should be able to

- Understand systematic and comprehensive knowledge about basis of biomolecules.
- Student would be get a good group of the biochemical basis of cellular function and organism biochemistry.

Chhattisgarh Swami Vivekananda Technical University, Newai

Name of the Program: Bachelor of Technology
Semester: B.Tech – 3rd **Branch: Biotechnology**
Subject: Microbial Technology **Course Code: B018312(018)**
Total Marks in End Semester Exam: 100 **L: 3 T: 1 P: 0 Credits: 4**
Minimum number of Class Tests: 02

Course Objective(s):

- To make the student well acquainted with basic principles of Microbiology.
- The course impacts the knowledge of different typesmicroorganisms that are invisible to our naked eyes.
- The students will beintroduced to the major groups of microorganisms and their diversity in structure andfunctions and microbial interactions.
- Emphasis has been laid on bacterial growth,nutrition, control, metabolism, and genetics.
- The course also introduces the students to the scope and relevance of microbes in the field of medicine, agriculture, and industry.

UNIT-I Introduction and classification

- Introduction to Microbiology,History and Scope, Organization of Prokaryotic and Eukaryotic Cell Structure and Function.
- Diversity of the Microbial World- (Microbial Evolution, Taxonomy, Microbial Diversity).
- The Viruses and pathogenic microbes.

UNIT-II Nutrition and Growth

- Bacterial morphology, structure and characterization, cellular components of bacteria,sporulation and its mechanics; Autotrophs, heterotrophs.
- Growth and nutrition, nutritional requirements, enrichmentculture, growth curve, kinetics of Growth, mathematical expression of exponential growth phase.
- Measurement of growth and growth yields, Batch Culture, Synchronous growth; Techniques of pure culture.

UNIT-III Microbial metabolism

- Aerobic & anaerobic respiration.
- Fermentation, EntnerDuodruffs pathway.
- Photosynthesis and nitrogen fixation.

UNIT-IV Microbial molecular biology and genetics

- Genome and gene structure.
- Replication,Expression, Regulation of gene expression (operon system).
- Transformation conjugation and transduction.

UNIT-VIndustrial application

- Industrial and commercial applications of microorganisms.
- Climate control and detoxification of pollutants.
- Genetically modified microorganisms and their application in medicine, industry and agriculture.

Text Books:

1. Microbiology, M. Pelczar, E. Chan, N. Kreig, 5th ed, MGH.
2. Prescott's Microbiology by Willey, Sherwood and Woolverton.
3. Brock Biology of Microorganisms by Madigan, Martinko, Stahl and Clark.

Reference Books:

1. General Microbiology by Stanier, Ingraham, Wheelis and Painter.
2. Foundation of Microbiology (1999), K.P. Talaro& A. Talaro, 3rd Edition, W.C.B. McgrawHill
3. Microbiology and Biotechnology , D.P. Singh and S.K. Dwivedi, (2004) New Age International Pvt. Ltd

Course Outcome:

After completion of course, student should be able to

- Practical aspect of the course brings awareness in the students during handling of the microorganisms in a much protectedway so as to minimize the hazardous consequences.
- The students will be able to utilize the knowledge of industrial application for welfare of the community and theirbetterment.

Chhattisgarh Swami Vivekananda Technical University, Newai

Name of the Program: Bachelor of Technology

Semester: B.Tech – 3rd **Branch: Biotechnology**

Subject: Genetics **Course Code: B018313(018)**

Total Marks in End Semester Exam: 100 **L: 3 T: 1 P: 0 Credits: 4**

Minimum number of Class Tests: 02

Course Objective(s):

- The objective of the course is to focus on the basic principles of genetics incorporating the concepts of classical,molecular and population genetics.
- Compilation is required for recent advances in genetic principles for strongfoundation in Biotechnology.
- To provide student the knowledge about gene organization and genetic material.
- To provide student the knowledge about molecular inheritance,gene transfer and their regulation.
- To make the student well acquainted with concept of genetics and it's application.

UNIT-I Chemistry of Genetic Material

- Discovery of DNA as genetic material-experiments of Griffith; Avery, McCleodand McCarthy, and Harshey and Chase and RNA as genetic material-Experiment of Fraenkel and Singer.
- Nucleic acids: structure of DNA, RNA, and Proteins,
- DNA Replication in prokaryotes and eukaryotes.

UNIT-II Mendelism

- Mendelian inheritance and its applications, Mendelian principles in human genetics and in agriculture.
- Extension of Mendelism - Allelic variations, influence of environment on expression, penetrance and expressivity, epistasis, pleiotropy.
- Chromosomal basis of inheritance; sex linkage,, crossing over and chromosome mapping in eukaryotes.

UNIT-III Genome organization

- Organization of Prokaryotic and Eukaryotic genome.
- Fine structure of the Gene: Cistron, muton, and recon.
- Transformation, Transduction and Conjugation: F factor-mediated, Hfr and F-duction; Introduction to Genomics and Proteomics..

UNIT-IV Gene Expression and Gene regulation

- Genetic code: Brief account. Gene regulation inprokaryotes and eukaryotes, positive regulation, negative regulation, attenuation, generegulation in lambda phage life cycle.
- RNA processing and post-transcriptionalregulation; regulatory RNA; Eukaryotic transcription factors, enhancers, silencers,insulators, chromatin structure and gene regulation.
- Translational regulation inprokaryotes and eukaryotes, Post-translational modification and protein stability.

UNIT-V Techniques in genetics

- Mutation- types of Mutation, changes in chromosome number and structure Ames test.
- Viruses and their Genetic system; Phage 1 and it's life cycle, RNA phase. RNA viruses, Retroviruses.
- Genetic System of yeast and Neurospora.

Text Books:

1. Genetics, P.K. Gupta, Rastogi Publication
2. Textbook on Molecular Genetics by D. N. Bharadwaj (2009); Kalyani Publisher.
3. Lewin's GENES XII by Jocelyn E. Krebs Elliott S. Goldstein and Stephen T. Kilpatrick

Reference Books:

1. Molecular Biology of the Gene by James D. Watson, A. Baker Tania, P. Bell Stephen, Gann Alexander, Levine Michael, and Losick Richard
2. The Biophysical Chemistry of Nucleic Acids and Proteins: Thomas E. Creighton,Helvetian Press; 2010.
3. Molecular Cell Biology, 8th edition (2016) by Harvey Lodish, Arnold Berk, Chris A. Kaiser, Monty Krieger, Anthony Bretscher, HiddePloegh, Angelika Amon and Kelsey C. Martin

Course Outcome:

After completion of course, student should be able to

- Understand about gene organization and genetic material.
- Understand about molecular inheritance gene transfer and their regulation.

Chhattisgarh Swami Vivekananda Technical University, Newai

Name of the Program: Bachelor of Technology
Semester: B.Tech – 3rd **Branch: Biotechnology**
Subject: Cell and Molecular Biology **Course Code: B018314(018)**
Total Marks in End Semester Exam: 100 **L: 2 T: 1 P: 0 Credits: 3**
Minimum number of Class Tests: 02

Course Objective(s):

- The object of the present course is to understand the structure and function of cellular and subcellular components of cells and tissues with the help of recent techniques.
- To provide students the knowledge about cellular content, organization, structure and function.
- To impart knowledge about basics of cellular and molecular biology.
- To integrate the dynamic discipline of modern cell biology in various fields like molecular biology, biochemistry, biophysics, microbiology, physiology, developmental biology, cytology and genetics.
- To impart a basic understanding of the developmental biology of plants and animals.

UNIT-I Microscopy

- Visualizing cells and tissues; Integrating cells into tissues (animals and plants).
- Structure of cell and cell organelles.
- Details of the cell cycle, cell division and regulation, Cell-Cell junctions, Mitosis and Meiosis.

UNIT-II Cell transport process and signaling

- Cell Membrane: Structure, membrane transport mechanisms.
- Molecular movements: In and out of cells, types of diffusion: differences Carbohydrates, proteins & lipids.
- Cell Signals: Introduction, signal methodologies, receptors for cell signals, types of receptors, Agonists versusantagonists, binding and activation, constitutive activity, Signaling pathways- notch pathway.

UNIT-III Genetic Foundations, Chromatin and Chromosome

- Mendelian and non-Mendelian inheritance.
- Transformation, transduction and conjugation.
- Mutational analysis: Translocations, inversions, deletions, and duplications, Karyotypes, aneuploidy and polyploidy.

UNIT-IV Genome maintenance and gene expression

- DNA replication, DNA modification, DNA damage and repair.
- Transcription.
- The genetic code, translation.

UNIT-V Molecular methodology

- DNA cloning, Sequencing and analysis.
- Restriction maps.
- Nucleic acid blotting andhybridization.

Text Books:

1. Genetics, P.K. Gupta, Rastogi Publication
2. Textbook on Molecular Genetics by D. N. Bharadwaj (2009); Kalyani Publisher.
3. Lewin's GENES XII by Jocelyn E. Krebs Elliott S. Goldstein and Stephen T. Kilpatrick

Reference Books:

1. Molecular Biology of the Gene by James D. Watson, A. Baker Tania, P. Bell Stephen, Gann Alexander, Levine Michael, and Losick Richard
2. The Biophysical Chemistry of Nucleic Acids and Proteins: Thomas E. Creighton, Helvetian Press; 2010.
3. Molecular Cell Biology, 8th edition (2016) by Harvey Lodish, Arnold Berk, Chris A. Kaiser, Monty Krieger, Anthony Bretscher, HiddePloegh, Angelika Amon and Kelsey C. Martin.

Course Outcome:

After completion of course, student should be able to

- Understand about gene organization and genetic material.
- Understand about molecular inheritance gene transfer and their regulation.

Chhattisgarh Swami Vivekananda Technical University, Newai

Name of the Program: Bachelor of Technology
Semester: B.Tech – 3rd **Branch: Biotechnology**
Subject: Biophysics **Course Code: B018315(018)**
Total Marks in End Semester Exam: 100 **L: 2 T: 0 P: 0 Credits: 2**
Minimum number of Class Tests: 02

Course Objective(s):

- It is intending to impart basic undergraduate-level knowledge in the area of general Biophysics.
- The student would be able to understand the molecular and mechanistic basis of the cellular functions.
- The student would be able to understand the organism physiology and pathophysiology.
- They would also be able to assimilate recent research findings, advancement and development in the relevant subject.
- It is intending to impart the basic knowledge of mechanobiology and its importance in human health.

UNIT-IBiomolecules

- Biomolecules, Chemical Bonds in Biochemistry
- Conformational changes in DNA molecules from DNA to RNA.
- The Biophysics of RNA, Protein function.

UNIT-IIProteins and Nucleic acids

- Hierarchical Structure of Proteins, torsional angles in proteins and nucleic acids.
- Characterization of secondary structure using CD.
- Protein stability and folding.

UNIT-IIIThermodynamics of Biomolecular structure

- Protein folding: thermodynamics and kinetics, Functional Design of Proteins.
- Electrical Phenomena in Excitable Cells, Electrically Excitable Cells.
- Electrical Signals of Nerve Cells, the Ionic Hypothesis and Rules of Ionic Electricity.

UNIT-IVMembrane Transport

- Membrane proteins.
- Channels and Transporters in Biological system.
- Functional Properties of Voltage-Gated Ion Channels, Ion pumping and Ion Channel rhodopsins and their use.

UNIT-V Cilia and Flagella

- Cilia and Flagella: Structure and Movement.
- MolecularMotors: Kinesin, Dynein and Myosin, and intracellular movement, Microtubule structure.
- Mechanobiology and its importance in human health.

Text Books:

1. Biochemistry. 5th edition. Berg JM, Tymoczko JL, StryerL.New York: W H Freeman; 2002.
2. Molecular Biology of the Cell. 4th edition. Alberts B, Johnson A, Lewis J, et al. New York: Garland Science; 2002.
3. Molecular Cell Biology. 4th edition. Lodish H, Berk A, Zipursky SL, et al. New York: W. H. Freeman; 2000.

Reference Books:

1. Basic Neurochemistry: Molecular, Cellular and Medical Aspects. 6th edition. Siegel GJ, Agranoff BW, Albers RW, et al., editors. Philadelphia: Lippincott-Raven; 1999.
2. Neuroscience. 2nd edition.Purves D, Augustine GJ, Fitzpatrick D, et al., editors. Sunderland (MA): Sinauer Associates; 2001.
3. The Biophysics of RNA. *ACS Chem. Biol.*200727440-444

Course Outcome:

After completion of course, the student should be able to

- Understand the molecular and mechanistic basis of the cellular function.
- Understand the organism physiology and pathophysiology.

Chhattisgarh Swami Vivekanand Technical University, Newai

Name of the Program: Bachelor of Technology
Semester: B.Tech – 3rd **Branch:Biotechnology**
Subject: BioChemistry(Lab) **Course Code: B018321(018)**
Total Marks in End Semester Exam: 40 **L: 0 T: 0 P: 2 Credits: 1**

List of Experiments:

1. Lab equipment orientation.
2. Qualitative tests for carbohydrates – distinguishing reducing from non-reducing sugars and keto from aldose sugars.
3. Quantitative tests for carbohydrates.
4. Qualitative tests for amino acid.
5. Quantitative method for amino acid estimation using ninhydrin – distinguishing amino from amino acid.
6. Protein estimation by Biuret method.
7. Protein estimation by Bradford method.
8. Total Carbohydrate estimation by Anthrone method.
9. Qualitative tests for lipid estimation.
10. Quantitative tests for lipid estimation.
11. Estimation of nucleic acids by DPA method.

Equipments/Machines/Instruments/Tools/Software Required:

- pH meter
- Colorimeter
- Water bath
- Balance (500 g – 0.1 g)
- Balance (200g - 0.1 mg)
- Table top Centrifuge
- Microfuge
- Micropipettes (200 µl – 1000 µl), (20 µl - 200 µl), (1 µl – 20 µl).
- Hot air Oven
- UV -Vis spectrometer
- Vortex shaker
- Magnetic Stirrer
- Fume hood
- Bunsen Burner

Recommended Books:

1. Experiments in Microbiology, Plant Pathology and Biotechnology, K. R. Aneja, New Age International
2. An Introduction to Practical Biotechnology, S. Harisha, Laxmi Publications (P) Ltd. New Delhi.

Chhattisgarh Swami Vivekanand Technical University, Newai

Name of the Program: Bachelor of Technology
Semester: B.Tech – 3rd **Branch:Biotechnology**
Subject: Microbial Technology (Lab) **Course Code: B018322(018)**
Total Marks in End Semester Exam: 40 **L: 0 T: 0 P: 2 Credits: 1**

List of Experiments:

1. Microbial Good Lab Practices and Biosafety.
2. Media preparation, sterilization and disinfection.
3. Microscopic examination of different groups of microorganisms.
4. Total count and viable count determination.
5. Microbial simple and differential staining methods.
6. Isolation of pure culture and its preservation.
7. Microbial Growth Curve Determination.
8. Effect of physical and chemical environment on growth.
9. Biochemical tests for microbial identification.
10. Antibiotic Sensitivity of Microorganisms.

Equipments/Machines/Instruments/Tools/Software Required:

- Autoclave
- Hot Air Oven
- Laminar Air Flow
- Microscope
- Water Bath
- Colony Counter
- Digital Balance
- Rotating Incubator
- BOD Incubator
- Distillation Unit

Recommended Books:

1. Experiments in Microbiology, Plant Pathology and Biotechnology, K. R. Aneja, New Age International.
2. Practical Microbiology- Principles and Techniques Vinita Kale and Kishore Bhusari.

Chhattisgarh Swami Vivekanand Technical University, Newai

Name of the Program: Bachelor of Technology
Semester: B.Tech – 3rd **Branch:Biotechnology**
Subject: Cell and Molecular Biology (Lab) **Course Code: B018323(018)**
Total Marks in End Semester Exam: 40 **L: 0 T: 0 P: 2 Credits: 1**

List of Experiments:

1. Understanding components of different kinds of microscopes.
2. Study of unicellular organisms in pond water.
3. Visualization of mitochondria, plastids, and other intracellular structures.
4. Study of leaf and stem structure of monocot and dicot by section cutting.
5. Study of the structure of plant cell by preparation of stained slide of onion bulb peel.
6. Study of mitosis using onion root tips.
7. Study of meiosis using young anthers of *Allium sepa*.
8. Hanging drop method for studying motility of microorganisms from sewage water.
9. Measurement of cell size by ocular micrometry.
10. Totipotency: Analysis of Growth and Subculture

Equipments/Machines/Instruments/Tools Required:

- Microscope
- Ocular micrometer
- Stage micrometer
- Microscopic slide
- Different cell strainer
- Common lab instruments, chemicals and glassware.

Recommended Books:

1. Cell & molecular biology "concepts and experiments", G. Karp, John Wiley & sons.
2. Experimental Microbiology, Plant Pathology and Biotechnology by K. R. Aneja

Chhattisgarh Swami Vivekananda Technical University, Newai

Name of the Program: Bachelor of Technology
Semester: B.Tech – 3rd **Branch: Biotechnology**
Subject: Software Lab **Course Code: B018324(018)**
Total Marks in End Semester Exam: 40 **L: 0 T: 0 P: 2 Credits: 0**
Minimum number of Class Tests: 02

List of Experiments:

1.Introduction to Database and Sequence Retrieval

I. AIM: To search for records at NCBI, both using search terms or identifiers (first part of lab) and GQuery, or using a nucleotide sequence.
II. Aim: To explore your species of interest, look at the region in detail view of the genome for the Ensemble Database.
III. Aim: To Exploring protein sequence and functional information form the Uniport Database.

2. Sequence Similarity search

I. Aim: To comparing parts of the genomes of a couple of different species using different kinds of Blast searches: a) BlastP b) PSI-Blast c) Translated Blast.
II. AIM: To explored conserved regions, motifs and domains using multiple sequence alignment a) ClustalW. b) T-COFFEE c). c) Clustal Omega

3. Evolutionary relationships analysis.

I. AIM : To draw the phylogenetic tree of the given sequences using the software
a) phylodraw. c) Phylip d) ClustalW

4. Protein Structure Prediction and Homology modeling

I. AIM : Secondary structure prediction of the given protein sequences using:
a) GOR V b) SOPMA c) JPred
II. AIM : Homology modeling of given query sequence using:
a) EsyPred3D b) Geno3D c) SWISS MODEL
III. AIM : Surface Topography analysis , ligand-binding sites prediction of given query protein using:
a) CASTp b) 3DligandSite c) metaPocket

5. Protein Structure Visualization and binding site

I. AIM :Visualization of given Protein Structure By Using Swiss-PDB
II. AIM :Visualization of given Protein Structure By Using Rasmol
III. AIM :Visualization of given Protein Structure By Using Pymol

Resource:

1. https://spdbv.vital-it.ch/
2. https://pymol.org/
3. http://www.openrasmol.org/
4. http://sts.bioe.uic.edu/castp/

5. http://www.sbg.bio.ic.ac.uk/3dligandsite
6. https://projects.biotec.tu-dresden.de/metapocket/
7. https://geno3d-prabi.ibcp.fr/
8. https://www.unamur.be/sciences/biologie/urbm/bioinfo/esypred/
9. https://swissmodel.expasy.org/
10. https://archive.is/20141016030756/http://gor.bb.iastate.edu/
11. https://npsa-prabi.ibcp.fr/cgi-bin/npsa_automat.pl?page=/NPSA/npsa_sopma.html
12.http://pearl.cs.pusan.ac.kr/phylodraw/
13. https://www.genome.jp/tools-bin/clustalw
14. https://www.ebi.ac.uk/Tools/msa/clustalo/
15. https://blast.ncbi.nlm.nih.gov/Blast.cgi
16. https://www.uniprot.org/
17. http://www.ensembl.org/
18. www.ncbi.nlm.nih.gov
19. http://www.compbio.dundee.ac.uk/jpred/index.html

Chhattisgarh Swami Vivekananda Technical University, Newai

Name of the Program: Bachelor of Technology
Semester: B.Tech – 3rd **Branch: Biotechnology**
Subject: Personality Development **Course Code: B000306(046)**
Total Marks in End Semester Exam: 10 **L: 0 T: 1 P: 2 Credits: 0**
Minimum number of Class Tests: 02

Course Objective(s):

- To understand the concept of personality and image.
- To develop leadership, listening and interacting skills.
- To develop attitudinal changes.
- To develop decision-making qualities.
- To communication skill.

UNIT-IPersonality Concepts

- What is Personality – its physical and psychic aspects. How to develop a positive self image, how to aim at Excellence and how to apply the cosmic laws that govern life and personality
- How to improve Memory – how to develop successful learning skills and how to develop and effectively use one'screative power.
- How to apply the individual MOTIVATORS that make you a self-power personality.

UNIT-IIIInterpersonal Skills

- Leadership: Leaders who make a difference, Leadership: your idea, what do we know about leadership? If you are serious about Excellence.
- Concepts of leadership, two important keys toeffective leadership, Principles of leadership, Factors of leadership, Attributes.
- Listening: Listening skills, how to listen, saying a lot- just by listening, the words and the music, how to talk to a disturbed person,Listening and sometimes challenging. How to win friends and influence people, How to get along withothers. How to develop art of convincing others. How can one make the difference. How to deal with othersparticularly elders. Conflicts and cooperation.

UNIT-IIIAttitudinal Changes

- Meaning of attitude,benefits of positive attitudes, How to develop the habit of positive thinking..
- Negative attitude and wining:What is FEAR and how to win it. How to win loneliness. How to win overFAILURE. How to win over PAIN. How to win over one's ANGER and others anger. What is stress andhow to cope up with it.
- The art of self-motivation. How to acquire mental well-being. How to acquire physical well-being.

UNIT-IV Decision Making

- How to make your own LUCK. How to plan goals/objectives and action plan to achieve them. How to make RIGHT DECISION and overcome problems.How to make a Decision.
- Decisionmaking: A question of style. Which style, when? People decisions: The key decisions. What do we knowabout group decision making?
- General aids towards improving group decision making.

UNIT-VCommunication Skills: Public Speaking:

- Importance of Public speaking for professionals. The art ofSpeaking - Forget the fear of presentation, Symptoms of stage fear, Main reason for speech failure, Stopfailures by acquiring Information; Preparation & designing of speech, Skills to impress in public speaking &Conversation, Use of presentation aids & media.
- Study & Examination: How to tackle examination, How to develop successful study skills.
- Group discussions**:** Purpose of GD, What factors contribute to group worthiness, Roles to be played in GD.

Text Books:

1. Basic Managerial Skills for all by E. H. McGrawth, prentice Hall India Pvt. Ltd., 2006
2. Basic Employability Skills by P. B. Deshmukh, BSP Books Pvt. Ltd., Hyderabad, 2014
3. Personality: Classic Theories & Modern Research; Friedman ; Pearson Education, 2006

Reference Books:

1. How to Develop a Pleasing Personality by Atul John Rego, Better Yourself Books, Mumbai, 2000
2. How to Succeed by Brain Adams, Better Yourself Books, Mumbai, 1969
3. How to Win Friends and Influence People by Dale Carnigie, A. H. Wheeler 2006

Course Outcome:

After completion of course, student should be able to

- Develop inner and outer personality exposure,effective leadership qualities and interacting skills, positive attitude, motivating skills and develop winning philosophies .
- Develop decision-making tools,group presentation, public speaking and impressive conversation.