

## BSC-18101 Physics

1<sup>st</sup> /2<sup>nd</sup> Semester

Internal Marks: 40

External Marks: 60

Total Marks: 100

L T P C

3 1 0 4

### Course Outcomes

On completion of the course, the student will have the ability to

- Solve the problems in the fields of electromagnetism, lasers and fiber optics.
- Apply the knowledge acquired from the study of semiconductors to identify their use in latest technologies.
- Recognize the inadequacy of classical mechanics for certain physical problems and thus find the solutions of these problems using principles of quantum physics.
- Comprehend the concept of oscillations and hence to implement the same in the theory of machines.
- Understand the basic characteristics of materials relevant to engineering and technological applications.
- Apply multidisciplinary knowledge of science for reviewing complex problems from different angles/perspectives and to find the best possible solution/model.

### Detailed Contents:

#### **Part-A**

- 1. Basics of electromagnetic theory:** Concept of Gradient, Divergence & Curl, Relationship between Electric Field & Potential, Solid angle, Statements of Gauss's and Stoke's theorem, Maxwell's Equations in differential form, EM wave equation in vacuum, Transverse nature and polarization of EM waves, Introduction to Poynting vector. **07 Lectures**
- 2. Laser and Fiber optics:** Spontaneous & Stimulated Emissions, Einstein's theory, Components of laser, Classification of Lasers, Ruby Laser, He-Ne Laser, CO<sub>2</sub> Laser, Semiconductor Laser, Applications of Lasers in science, engineering and medicine, Introduction to fibre optics; Acceptance angle and numerical aperture, Step index and graded index optical fibres, V-number and modes of propagation, Loss in optical fibres (Qualitative idea), splicing, coupling and connectorizing, applications of optical fibres. **09 Lectures**

- 3. Semiconductors:** Intrinsic and extrinsic semiconductors, Dependence of Fermi level on carrier concentration and temperature (equilibrium carrier statistics), Carrier generation and recombination, Carrier transport, diffusion and drift, p-n junction, Introduction to LED and solar cell. **05 Lectures**

### **Part- B**

- 4. Mechanics and mechanics of solids:** Harmonic oscillator, Free, damped and forced oscillators, Impedance matching and resonance, Concept of stress and strain at a point. **05 Lectures**
- 5. Quantum Mechanics:** Need of Quantum mechanics, Wave-particle duality, Matter waves, Phase velocity & Group velocity, Significance & normalization of wave function, Eigen functions & Eigen values, Time dependent and independent Schrodinger wave equation, Particle in a box (One Dimensional Case). **05 Lectures**
- 6. Physics of materials:** Electronic materials; dielectrics and ferroelectrics, Magnetic materials; dia, para, ferro and ferrimagnetic, Concept of domain theory, Ferrites, B-H curve, Magnetic anisotropy, Magnetostriction, Superconductivity, Meissner effect, Type I & Type II superconductors, London equations, Brief introduction to BCS theory, Applications of superconductivity, Introduction to nanomaterials, Surface to volume ratio, Classification and properties of nanomaterials, Applications, potential and risks of nanomaterials. **09 Lectures**

### **Text Books**

- (1) M. N. Avadhanulu, "A Text Book of Engineering Physics", S. Chand Publishers, revised edition, 2014.
- (2) Serway & Jewett, "Physics for Scientists & Engineers" (Vol. I & II), Cengage Learning, 6<sup>th</sup> edition.
- (3) M. N. Khan, S. Panigrahi, "Principles of Engineering Physics" (Vol. I & II), Cambridge University Press, 1<sup>st</sup> edition, 2016.
- (4) D. R. Joshi, "Engineering Physics", McGraw Hill, 1<sup>st</sup> edition, second reprint, 2014.

## **Reference Books**

- (1) D. J. Griffiths, “Introduction to Electrodynamics”, Prentice Hall of India, 4<sup>th</sup> edition, 2012.
- (2) B. B. Laud, “Lasers & Non-Linear Optics”, New Age International Ltd., 3<sup>rd</sup> edition, 2015.
- (3) K. Thyagarajan, A. K. Ghatak, “Lasers: Fundamentals & Applications”, Springer, 2<sup>nd</sup> edition, 2010.
- (4) J. C. Palais, “Fibre Optic Communication”, Pearson India, 5<sup>th</sup> edition, 2011.
- (5) S. M. Sze, “Semiconductor Devices: Physics & Technology”, Wiley, 1985.
- (6) Milman and Halkias, “Integrated Circuits”, Tata McGraw Hill, 2001.
- (7) Ben G. Streetman, “Solid State Electronic Devices”, Prentice Hall of India, 1995.
- (8) M. K. Harbola, “Engineering Mechanics”, Cengage Learning, 2<sup>nd</sup> edition, 2013.
- (9) M. K. Verma, “Introduction to Mechanics”, University Press, 2<sup>nd</sup> edition, 2016.
- (10) S. H. Crandall, N. C. Dhall and T. J. Lardner, “An Introduction to the Mechanics of Solids”, McGraw Hill, 2<sup>nd</sup> edition with SI Units.
- (11) E. P. Popov, “Engineering Mechanics of Solids”, Pearson Education, 1998.
- (12) D. J. Griffiths, “Quantum Mechanics”, Pearson Education, 2008.
- (13) Richard Robinett, “Quantum Mechanics”, OUP, 2006.
- (14) B. S. Rajput, “Advanced Quantum mechanics”, Pragati Parkashan, 2013.
- (15) W. D. Callister, “Material Science & Engineering”, John Wiley & Sons, 7<sup>th</sup> edition, 2007.
- (16) D. Wei, “Solid State Physics”, Cengage Learning, 1<sup>st</sup> edition, 2008.
- (17) M. Tinkham, “Introduction to Superconductivity”, Dover Publications, 2<sup>nd</sup> edition, 1996.
- (18) R. Rakesh, “Nanotechnology”, S. Chand Publishers, 2<sup>nd</sup> edition, 2014.
- (19) A. K. Bandyopadhyay, “Nanomaterials”, New Age International Ltd., 2<sup>nd</sup> edition, 2017.
- (20) Charles Poole, Frank Owens, “Introduction to Nanotechnology”, Wiley, 2007.

## **Online Resources**

- (1) Electromagnetism: <http://nptel.ac.in/courses/115104088/> [accessed on 24.05.2018]
- (2) Lasers: <http://nptel.ac.in/courses/104104085/> [accessed on 24.05.2018]
- (3) Fiber optics: <http://nptel.ac.in/courses/117104127/> [accessed on 24.05.2018]
- (4) Semiconductors: <http://nptel.ac.in/courses/117103063/> [accessed on 24.05.2018]
- (5) Solid mechanics: <http://nptel.ac.in/courses/112107147/> [accessed on 24.05.2018]
- (6) Quantum mechanics: <http://nptel.ac.in/courses/115102023/1> [accessed on 24.05.2018]
- (7) Dielectrics: <http://nptel.ac.in/courses/115101005/20> [accessed on 24.05.2018]
- (8) Ferroelectrics: <http://nptel.ac.in/courses/113105015/19> [accessed on 24.05.2018]
- (9) Superconductivity: <http://www.nptel.ac.in/courses/115101012/> [accessed on 24.05.2018]
- (10) Nanotechnology: <http://nptel.ac.in/courses/118102003/> [accessed on 24.05.2018]
- (11) Khan academy (Free online courses): <https://www.khanacademy.org/>

## BSC-18102 Physics Laboratory

1<sup>st</sup> /2<sup>nd</sup> Semester

Internal Marks: 30

External Marks: 20

Total Marks: 50

L T P C

0 0 2 1

### Course Outcomes

On completion of the course, the student will have the ability to:

- Understand the importance of least count of instruments and errors in measurements and their propagation in the calculated results.
- Compare the quality of different lasers and their applications in different optical processes.
- Find the losses taking place in optical fibers and understand the working of an optical communication system.
- Control the motion of charged particle in external electric and magnetic fields and use this property for analyzing different ac and dc circuits.
- Understand the minute details of optical phenomena like interference, diffraction and polarization.
- Study properties of different electric and magnetic materials viz.; dielectric constant, polarizability, change in dimensions in external electric and magnetic fields, resistivity and energy gap in semiconductors.

### Detailed Contents:

1. Basic knowledge of least count and error analysis (Vernier calipers and Screw gauge).
2. To find the divergence of given Laser.
3. To study diffraction using Laser beam and hence determine the wavelength of Laser beam.
4. To determine thickness of a glass plate using Michelson's Interferometer.
5. To determine the numerical aperture of an optical fiber.
6. To study the losses in an optical fiber.
7. To find the value of Planck's constant and photoelectric work function of the material of cathode using a solar cell.
8. To obtain the waveform of a given oscillator/A.C. Mains using CRO.
9. To study B-H curve using CRO.
10. To find the velocity of ultrasonic waves in a given liquid.
11. To find the dielectric constant of a substance.
12. Introduction to spectrometer and its use to find the angle of prism.

13. To find resistivity and energy gap of a semiconductor using four probe method.
14. To study the rotation of plane of polarization of plane polarized light using sugar solution.

**Note: Each student is required to perform at least Eight experiments from 1-14 and first experiment is compulsory.**

**Suggested Books:**

1. C L Arora, "Practical Physics", S. Chand & Co., 2010.
2. R S Sirohi, "Practical Physics", Wiley Eastern.
3. Harnam Singh, P. S. Hemne , "Practical Physics", S. Chand & Co., 4<sup>th</sup> edition.

## Mathematics-I

1<sup>st</sup> Semester

Internal Marks: 40

External Marks: 60

Total Marks: 100

### Course Outcomes

L	T	P	C
3	1	0	4

After studying this course, students shall be able to :

- Analyze the use of calculus and linear algebra to Engineering problems.
- Apply the concept of improper integrals to study Beta and Gamma functions.
- Explain utility of Taylor's theorem in error analysis.
- Apply the concept of rank to solve system of linear equations and diagonalization of matrices.
- Recognize and solve ordinary and linear differential equations.
- Infer the convergence of infinite series.

### Detailed Contents:

#### PART A

**1. Improper Integral:** Evaluation of improper integrals, Beta and Gamma functions and their properties. **04 Hrs**

**2. Ordinary Differential Equations:** Exact, Leibnitz and Bernoulli's equations, Euler's equations, equations of first order and higher degree: equations solvable for p, equations solvable for y, equations solvable for x and Clairaut's equation. **08 Hrs**

**3. Linear Differential Equations of Higher Orders:** Second order linear differential equations with constant coefficients, method of variation of parameters, Cauchy-Euler equation; Legendre's equation. **08 Hrs**

#### PART B

**4. Differential Calculus:** Taylor's and Maclaurin theorems with remainders (without proofs), exponential, trigonometric and logarithm series, indeterminate forms and L'Hospital rule. **04 Hrs**

**5. Infinite series:** Introduction to sequence, convergence of infinite series, tests for convergence (comparison, ratio, root, Cauchy integral test), power series, alternating series. **06 Hrs**

**6. Matrices:** Inverse and rank of a matrix, row reduced echelon form, system of linear equations, linear dependence and independence of vectors, symmetric, skew-symmetric and orthogonal matrices, determinants, eigen values and eigen vectors, similar matrices, diagonalization of matrices, Cayley Hamilton Theorem(without proof)

and its applications to find inverse and calculation of powers of square matrices.

**10 Hrs**

**Suggested Readings/Books:**

1. G.B. Thomas and R.L. Finney, *Calculus and Analytic geometry*, 9th Edition, Pearson, Reprint, 2002.
2. R.K.Jain and S.R.K.Iyengar, *Advanced Engineering Mathematics*, Narosa Publications, New Delhi.

**References:**

1. Erwin Kreyszig, *Advanced Engineering Mathematics*, 9th Edition, John Wiley & Sons, 2006.
2. Veerarajan T., *Engineering Mathematics for first year*, Tata McGraw Hill, New Delhi, 2008.
3. Ramana B.V., *Higher Engineering Mathematics*, Tata McGraw Hill New Delhi, 11th Reprint, 2010.
4. D. Poole, *Linear Algebra: A Modern Introduction*, 2nd Edition, Brooks/Cole, 2005.
5. N.P. Bali and Manish Goyal, *A text book of Engineering Mathematics*, Laxmi Publications, Reprint, 2008.
6. B.S. Grewal, *Higher Engineering Mathematics*, Khanna Publishers, 36th Edition, 2010.

***Topics for Self Learning(TSL)***

1. *Trigonometric formulas.*
2. *Methods of differentiation.*
3. *Methods of integration.*
4. *Basic properties of matrices and determinants.*

## Mathematics-II

2<sup>nd</sup> Semester

Internal Marks: 40

External Marks: 60

Total Marks: 100

### Course Outcomes

L	T	P	C
3	1	0	4

After studying this course, students shall be able to :

- Understand and apply concepts of vector calculus, differential equations and calculus of complex functions to engineering problems.
- Sketch basic cartesian, parametric and polar curves.
- Apply the techniques of multiple integrals in engineering problems.
- Evaluate integrals of vector point functions over line, surfaces and volumes.
- Substantiate the ability to integrate knowledge and ideas of multivariable calculus to engineering problems.
- Understand how to decompose the periodic functions in series of sine and cosine.

### Detailed Contents:

#### PART A

**1. Fourier Series:** Periodic functions, even & odd functions, Euler's formulae for Fourier series, Dirichlet's conditions, half range Fourier series. **05 Hrs**

**2. Curve tracing:** Introduction to maxima, minima, concavity, convexity, points of inflexion, tracing of basic cartesian, parametric and polar curves. **07 Hrs**

**3. Partial Differentiation:** Limit, continuity and partial derivatives, composite functions, total derivative. Applications: tangent plane and normal line, maxima, minima and saddle points, method of Lagrange multipliers, Taylor's and Maclaurian expansions for functions of two variables, errors and approximations. **08 Hrs**

#### PART B

**4. Multiple Integral:** Double integrals (cartesian, polar co-ordinates), change of order of integration, change of variables, applications of double integrals to find areas and volumes. Triple integrals (cartesian, spherical and cylindrical polar co-ordinates), applications of triple integrals to find volume involving cubes, sphere and rectangular parallelepipeds. **10 Hrs**



**5.Vector Calculus:** Del, directional derivative, gradient, curl, divergence, scalar line integrals, vector line integrals, scalar surface integrals, vector surface integrals, Theorems of Green, Gauss and Stokes (without proof ) and their applications. **10 Hrs**

**Suggested Readings/Books:**

1. G.B. Thomas and R.L. Finney, *Calculus and Analytic geometry*, 9th Edition, Pearson, Reprint, 2002.
- 2 R.K.Jain and S.R.K.Iyengar, *Advanced Engineering Mathematics*, Narosa Publications, New Delhi.

**References:**

1. Erwin Kreyszig, *Advanced Engineering Mathematics*, 9th Edition, John Wiley & Sons, 2006.
2. W. E. Boyce and R. C. DiPrima, *Elementary Differential Equations and Boundary Value Problems*, 9th Edn., Wiley India, 2009.
3. S. L. Ross, *Differential Equations*, 3rd Ed., Wiley India, 1984.
4. E. A. Coddington, *An Introduction to Ordinary Differential Equations*, Prentice Hall India, 1995.
5. E. L. Ince, *Ordinary Differential Equations*, Dover Publications, 1958.
6. J. W. Brown and R. V. Churchill, *Complex Variables and Applications*, 7th Ed., Mc-Graw Hill, 2004.
7. N.P. Bali and Manish Goyal, *A text book of Engineering Mathematics*, Laxmi Publications, Reprint, 2008.
8. B.S. Grewal, *Higher Engineering Mathematics*, Khanna Publishers, 36th Edition, 2010.

**Topics for Self Learning(TSL)**

1. Trigonometric formulas.
2. Methods of differentiation.
3. Methods of integration..
4. Variable separable method.
5. Solution of homogeneous first order differential equations.

## Principles of Engineering Economics and Management (HSMC-18101)

**External Marks: 60**

**L T P**

**Internal Marks: 40**

**2 1 0**

**Total Marks: 100**

**OBJECTIVES:** The students should understand economics, demand, production cost, factor pricing, cost estimate of projects, costing, investment alternatives, techniques for optimal utilization of resources.

### Part A

#### **Basic concepts and definition**

**(2 hrs)**

Demand, supply, cost, price, profit, fixed cost, variable cost, total cost, average cost, marginal cost, total productivity, marginal productivity, average productivity, Definition of economics.

#### **Theory of demand**

**(2 hrs)**

Law of Demand, Elasticity of demand, Indifference curve analysis, Consumer surplus and Engel's law of economics, Giffen's paradox.

#### **Production and cost**

**(3 hrs)**

Factors of production, Law of returns to scale, law of variable proportions, Internal and external economies and diseconomies, cost analysis

#### **Factor Pricing**

**(2 hrs)**

Marginal productivity theory, Modern theory of factor pricing

### Part B

#### **Cost accounting**

**(5 hrs)**

Costing and aid to management, general principle of cost accounting, cost analysis, concepts, classification and cost sheet, economic order quantity

#### **Marginal costing**

**(2 hrs)**

Marginal costing and Break-even analysis, Breakeven chart

#### **Replacement Studies**

**(4 hrs)**

Reasons for replacement, factors to be considered in replacement Studies, payback method, average rate of return, internal rate of return, present value method, challenger and defender

### **TEXT BOOKS**

1. Principles of economics by P.N. Chopra
2. Elementary economic theory by K.K. Dewett
3. Cost and management accounting by S.P. Jain, K.L. Narang
4. Accounting and financial management by Shashi K. Gupta, Dr.R.K. Sharma, Anju Gupta

### **REFERENCE BOOKS**

1. Labour Problems and Social Welfare (K. Math & Co. Meerut) by R.C. Saxena
2. Economics of Labour and Industrial Relations (Sahitya Bhawan Agra) by T.N. Bhagoliwal
3. Managerial Economics by K K Seo, Richard D Irwin 1992.
4. Economics, P A Samuleson, Tata McGraw Hill Publishers New Delhi 1997.

**On completion of the course, the student will have the ability to:**

<b>CO#</b>	<b>Course Outcome</b>
CO1	Understand economics and basic concepts
CO2	Understand demand and its application in analyzing consumer behaviour
CO3	Evaluate cost of various factors of production
CO4	Ensure effective and efficient use of various cost analysis
CO5	Apply various techniques for replacement of assets
CO6	Evaluate various factors of production and ensure its applications for cost reduction

I/II Semester

BSC- 18105 Chemistry

Internal Marks: 40

L T P C

External Marks:60

3 1 0 4

Total Marks:100

### COURSE OUTCOME:

After studying this course, the students should be able to :

1. Understand important properties of simple and complex molecules and apply it to explain the behaviour of materials.
2. Identification of molecules (simple and complex) based on their excitation in different molecular orbitals.
3. Interpret the phase diagram and use it in industry.
4. Apply the principles of water chemistry, on characteristics of surface water, drinking water, waste water and in industrial applications.
5. Analyse relationships between different thermodynamic functions with electrochemistry.
6. Understand the basic concept of different types of interactions in molecules and use it to explain their stereochemistry and identify major chemical reactions used in synthesis of molecules.

#### Detailed Content

1. **Atomic and molecular structure** : Crystal field theory and the energy level diagrams for transition metal ions and their magnetic properties. Band structure of solids and the role of doping on band structure. **07Hrs**
2. **Spectroscopic techniques and applications** : Principles of spectroscopy and selection rules. Beer-Lambert's Law. Electronic spectroscopy; Auxochrome, chromophore, electronic transition, bathochromic shift, hypsochromic shift, hyperchromic shift and hypochromic shift. Calculation of wavelength maxima by Woodward Fieser Rule and its applications. Vibrational spectroscopy; Fundamental vibrations, Fingerprint and functional group region, Interpretation of spectra, Hooks law and its Applications. Principles and applications of  $^1\text{H}$ NMR and  $^{13}\text{C}$ NMR Spectroscopy. **07 Hrs**
3. **Intermolecular forces and potential energy surfaces** :Ionic, dipolar and van Der Waals interactions. Equations of state of real gases and critical phenomena. **03Hrs**
4. **Use of free energy in Chemical equilibria & Phase equilibria** : Thermodynamic functions: Energy, entropy and free energy. Estimations of entropy and free energies. Free energy and emf. Cell potentials, the Nernst equation and applications. Acid base, oxidation reduction and solubility equilibria. **05Hrs**  
Phase diagrams of water system (one component system), lead- silver system and KI-water system(two component system), Numerical problems. **04 Hrs**
5. **Water Chemistry** : Introduction, Hardness and Alkalinity of water, units and determination, Analysis and water quality parameters, Softening of water by lime-soda method, EDTA, Ion-exchange method and Zeolite method, Boiler feed water: Specifications, Scale and sludge formation, Priming, foaming and Boiler corrosion. Different methods for water purification. Desalination of Brackish water. Removal of heavy metals using nanomaterials. **07 Hrs**

6. **Stereochemistry & Organic reactions:** Structural isomers and stereoisomers, configurations and conformational analysis- R,S,E and Z, conformations- eclipsed , staggered, skew, chair and boat form of cyclohexane . Symmetry, chirality, enantiomers, diastereomers, optical activity. **04 Hrs**

Introduction to reactions involving substitution-electrophilic and nucleophilic, addition, elimination- E1 and E2, oxidation and reduction using different reagents. Synthesis of Aspirin and acetaminophen. **03Hrs**

**Suggested Readings/Books:**

1. PC Jain and Monica Jain, "Engineering Chemistry" , Dhanpat Rai Publication, 14<sup>th</sup> Edition, 2002.
2. B R Puri, LR Sharma and MD Pathania, "Principles of Physical Chemistry, Vishal Publishing Co., 46<sup>th</sup> edition, 2013.
3. RT Morrison and RN Boyd, " Study Guide to Organic Chemistry" Pearson Prentice Hall, 6<sup>th</sup> Edition, 2007.
4. P. Atkins and J. de Paula., "Atkin's Physical Chemistry", Oxford University Press, 10<sup>th</sup> Edition, 2014.
5. B. L. Tembe, Kamaluddin and M. S. Krishnan , "Engineering Chemistry (NPTEL Web-book).



# 1<sup>st</sup> /2<sup>nd</sup> Semester HSMC 18102 ENGLISH

Internal Marks: 40

External Marks: 60

Total Marks: 100

L	T	P	C
3	0	0	3

## COURSE OUTCOMES

After studying this course, the students shall be able to:

- Grasp the significance of effective communication in English at work places.
- Acquire effective listening skills and reading skills for academic and professional efficiency.
- Present their thoughts and ideas in an organized way in written form.
- Enhance grammatical competence in English through lessons on English language usage.
- Utilise suitable writing styles while expressing themselves in written form in English.
- Produce effectively different forms of professional writing.

## Detailed Contents:

### 1. INTRODUCTION TO COMMUNICATION IN ENGLISH

Importance of communication

Importance of Communicating in English

Communication: Concept of Communication; Process of communication; Modes of Communication: formal and Informal Communication; Oral and Written; Verbal and Non-verbal. Classification of Non-verbal Communication-Kinesics, Proxemics and Paralanguage. Basics of Effective Communication.

Language as a tool of Communication; Characteristics of Language (06Hrs.)

Barriers to Communication

### 2. LISTENING SKILLS

Importance of Listening in Communication; Poor Listening habits; Types of Listening; Qualities of a good Listener; Barriers to Effective Listening. (03 Hrs.)

### 3. READING SKILLS

Reading Process; Reading Strategies; Intensive Reading Skills; Reading Comprehension (03 Hrs.)

### 4. BASIC WRITING SKILLS

Sentence structures; Use of phrases and Clauses in sentences; Creating Coherence; Organising Principles of Paragraphs in documents; Paragraph Writing (04 Hrs.)

### 5. IDENTIFYING COMMON ERRORS IN WRITING

Subject Verb Agreement

Noun-Pronoun Agreement

Misplaced Modifiers

Articles and Prepositions (04 Hrs.)

## **6. NATURE AND STYLE OF WRITING**

Describing; Defining; Providing examples or evidence; Writing Introduction and Conclusion;  
Essay Writing (4 Hrs.)

## **7. COMMUNICATION AND TECHNICAL WRITING**

Business Letter Writing: Complaint letter, Collection Letter, Sales Letter, Inquiry Letter,  
Order Placement Letter; Job Application and Resume Writing; E-mail Writing; Structuring a  
Project Report (06Hrs.)

### **Suggested Readings/Books:**

M. Ashraf Rizvi, "*Effective Technical Communication*" McGraw Hill

Meenakshi Raman & Sangeeta Sharma, "*Fundamentals of Technical Communication*"  
Oxford university Press.

Chrissi Wright, "*Handbook of Practical communication*" Jaico Publishing House, Mumbai

Asha Kaul, "*Effective business Communication*" Prentice Hall of India.

Sunita Mishra & C. Mualikrishna, "*Communication Skills For Engineers*" Pearson Education.

"*Practical English Usage*." Michael Swan. OUP. 1995

"*Remedial English Grammar*". F.T. Wood, Macmillan. 2007

"*On Writing Well*" William Zinsser. Harper Resource Book. 2001

"*Study Writing*". Liz Hamp-Lyons and Ben Heasley. Cambridge University Press. 2006.

"*Communication Skills*." Sanjay Kumar and Pushpa Lata. Oxford University Press. 2011



**1<sup>st</sup> /2<sup>nd</sup> Semester HSMC 18103 ENGLISH Laboratory**

**Internal Marks: 40**

**L T P C**

**External Marks: 60**

**0 0 2 1**

**Total Marks: 100**

**COURSE OUTCOMES**

**After studying this course, the students shall be able to:**

- Develop a knack for structured public talk.
- Grasp the nuances of interpersonal skills through conversation and dialogues.
- Acquire proficiency in skills involved in effective participation in group discussion.
- Perform satisfactorily in job interviews for career settlement and growth.
- Demonstrate fluency in speech in acceptable accent.
- Receive and understand spoken material accurately.

**Detailed Contents:**

**1. Oral Presentation: Power Point PRESENTATIONS**

**THEORETICAL BASIS:** Importance of Oral Presentation; Elements of Effective Presentation. Outlining and Structuring: Guidelines for Effective Delivery. Visual Aids.

**2. Seminar Presentation**

**Theoretical basis:** Guidelines for effective seminar presentation. Handling question answer session.

**3. Group Discussion:- GD practice sessions**

**Theoretical basis-** Nature of Group Discussion; Characteristics of Group Discussion; Group Discussion strategies.GD practice sessions

**4. Job Interviews - Mock Interviews**

**Theoretical Basis** :-Purpose and Process of Job Interview; Pre-Interview Preparation Techniques; Interview Question answering Strategies; Frequently Asked Questions; Projecting a Positive Image.

**5. British Accent-English Sound System; Pronunciation and Stress Placement**

**6. Listening Comprehension-Listening to a recorded talk and participation in conversation.**

**7. Conversation and Dialogues.**

## **Suggested Readings/Books**

R.K. Bansal & J.B. Harrison "Spoken English" Orient Longman.

J.Sethi, Kamlesh Sadanand & D. V. Jindal , "A Practical Course in English Pronunciation"  
Prentice Hall of India Pvt. Ltd. New Delhi.

T. Balasubramaniam, "A Text book Of English Phonetics for Indian Students" Macmillan

Daniel Jones," English Pronouncing Dictionary" Current Edition with CD

Rosetta Stone English Library

Murphy's English Grammar with CD. Cambridge

M.Ashraf Rizvi" Effective Technical Communication"Tata McGraw Hills.