B.TECH, I SEMESTER

Credits	L	T	P	Course Code	Course Title	Category of Course
04	3	1	0	BSC -101	ENGINEERING PHYSICS-I	BSC

Total Hrs: 45

UNIT I

Interference: Coherent sources, conditions for sustained interference, Analytical treatment of interference, Division of Wave-Front – Fresnel's Biprism, Division of Amplitude-Interference by a plane parallel film, Wedge-shaped film, Newton's Rings, Michelson Interferometer, applications (Resolution of closely spaced spectral lines, determination of wavelengths).

UNIT II

Diffraction: Difference between interference and diffraction Fraunhofer and Fresnel diffraction. Fraunhofer diffraction through a single slit, Plane transmission diffraction grating, absent spectra, dispersive power, resolving power and Rayleigh criterion of resolution.

UNIT III

Polarisation: Polarised and unpolarised light, Uniaxial crystals, optic axis, double refraction, Nicol prism, quarter and half wave plates, Detection and Production of different types of polarized light, Polarimetry; Optical and specific rotation, Biquartz and Laurent's half shade polarimeter.

Laser and Fibre Optics: Spontaneous and Stimulated emission, Laser principle, Einstein's coefficients, characteristics of laser beam-concept of coherence, spatial and temporal coherence, He-Ne and semiconductor lasers (simple ideas), applications.

Propagation of light in optical fibres, numerical aperture, V-number, single and multimode fibres, Elementary idea of attenuation and dispersion, applications.

UNIT IV

Electrostatics: Dielectric polarization, dielectric relaxation process, types of polarization, relation between E,P and D, Gauss's law in the presence of a dielectric, Energy stored in a uniform electric field, dielectric losses and variation with frequency.

Electrodynamics: Maxwell's field equations –significance, differential and integral form, Maxwell's equations in different media- free space, dielectric and conductor.

UNIT V

Special Theory of Relativity: Inertial and non-inertial frames, Galilean transformations, Michelson's Morley Experiment, Postulates of Special Theory of Relativity, Lorentz transformations, Consequences of LT (length contraction and time dilation), addition of velocities, variation of mass with velocity, mass energy equivalence.

Text and Reference books:

1. Perspectives of Modern Physics - Arthur Beiser (TMH)
2. Optics – Ajoy Ghatak (TMH)
3. Modern Physics for Engineers – S.P.Taneja (R. Chand)
4. Engineering Physics – Satya Prakash (Pragati Prakashan)
5. Modern Engineering Physics – A.S.Vasudeva (S. Chand)
6. Engineering Physics (Vol-1)- S.L. Gupta (Dhanpat Rai)
7. Fundamentals of Physics – Resnick & Halliday (Asian Book)
8. Introduction to Electrodynamics – D.J. Griffith (Prentice Hall)

B.TECH, I SEMESTER

Credits	L	T	P	Course Code	Course Title	Category of Course
04	3	1	0	BSC- 102	ENGINEERING MATHEMATICS-I	BSC

Total Hrs: 45

UNIT I

Differential Calculus: Asymptotes (Cartesian Coordinates Only), Curvature (Cartesian Coordinates Only), Concavity, Convexity and Point of Inflexion (Cartesian Coordinates Only), Successive differential.

UNIT II

Differential Calculus: Partial Differentiation, Euler's Theorem on Homogeneous Functions, Approximate Calculations, Maxima & Minima of Two and More Independent Variables, Lagrange's Method of Multipliers.

UNIT III

Integral Calculus: Surface and Volumes of Solids of Revolution, Double Integral, Double Integral by changing into polar form, Areas & Volumes by Double Integration, Change of Order of Integration, Beta Function and Gamma Function (Simple Properties).

UNIT IV

Differential Equations: Differential Equations of First Order and First Degree - Linear Form, Reducible to Linear form, Exact Form, Reducible to Exact Form, and Linear Differential Equations of Higher Order with Constant Coefficients Only.

UNIT V

Differential Equations: Second Order Ordinary Differential Equations with Variables Coefficients, Homogeneous and Exact Forms, Change of Dependent Variable, Change of Independent Variable, and Method of Variation of Parameters.

Text and Reference books:

1. Advanced Engineering Mathematics, Erwin Kreyszig, Wiley 9th Edition.
2. Calculus and Analytical Geometry, Thomas and Finney, Narosa Publishing House. New Delhi.
3. A Text Book of Differential Equations, M.Ray and Chaturvedi, Students Friends & Co. Publisher, Agra
4. Higher Engineering Mathematics, B.V.Ramana, Tata McGraw Hill.

B.TECH, I SEMESTER

Credits	L	T	P	Course Code	Course Title	Category of Course
03	3	0	0	ESC -101	Computer Fundamentals & Programming in C	ESC

Total Hrs:45

UNIT I

An Overview of Computer System and Operating Systems :

Fundamentals:- Evaluation of Computers, Hardware organization of a computer, Introduction to microprocessor, generations of microprocessors, Commonly used CPUs. Input/Output devices, Input/ Output ports and connectors.

Operating System Basics : Introduction to Operating system, Functions of an Operating system, Classifiction of Operating Systems, Basic introduction to DOS, UNIX/LINUX OS, Windows XP.

UNIT II

Basic Introduction to System Software and Programs :

Machine Language, Assembly Language, Low level languages, High level Languages, Types of high level languages, Complier, Interpreter, Assembler, Loader, Linker, Relationship between Complier, Interpreter, Loader and Linker. Basic Introduction to Computer Networks :- Data Communication, modulation, Network devices, LAN, MAN topologies, WAN, OSI Reference model, Introduction to Internet and protocols : TCP/ IP Reference model. Backbone network, Network connecting devices, Hypertext documents, HTTP, DNS, Network Security.

UNIT III

An Overview of C :

Constants, Variables and Data types, operators and Expressions, managing I/O operations. Decision Making and branching. Decision Making and looping, Arrays, Character Arrays and Strings, User Defined Functions. Structure and Union in C : Defining structure, declaring variables, Accessing structure members, structure initialization, copying and comparing structure variables, operations on individual members, Array of structure, structure with structure, unions, size of structure.

UNIT IV

Pointers in C :

Introduction, Understanding Pointers, Accessing the address of a variable, Deciaring Pointer variables, initialization of Poiner variables, Accessing a variable through its pointer, Chain of pointers, Pointer Expressions, Pointer increments and scale Factors, pointer and Arrays, Pointer and Character Strings. Arrays of Pointer, Pointers as Function Arguments, Functions Returning Pointers, Pointers to Functions.

UNIT V

Dynamic Memory Allocation and File Management in C :

Introductoin, Dynamic memory allocation, allocating a block of memory : Malloc, allocating multiple blocks of memory : Calloc, Releasing the used space : Free, Altering the size of Block ; Realloc, Defining and opening file, closing file, I/O operation on files, error handling during I/ O operations, Random Access to files and command line arguments.

Text Books :

1. Fundamental of Computers and Programming with C, by A.K. Sharma, Dhanpat Rai Publications, New Delhi.
2. Fundamental of computing, C Programming & MS Office, by A.Leon & M.Leon.
3. Computer Networks (4th Edition), by Andrew S. Tanenbaum.
4. Essential of Computer & Network Technology by N S Gill, Khana book Publication.

Reference Books :

1. ANSI C, by Dennis Ritchi
2. Programming in C, by Lipschutz, SCHAUM SERIES OUTLINES
3. Operating System Concepts, (6th Edition). by Abraham Silbershatz, Peter Baer Galvin, Greg Gagne.
4. Balagurusamy-Programming in ANSI C.

B.TECH, I SEMESTER

Credits	L	T	P	Course Code	Course Title	Category of Course
04	3	1	0	ESC- 102	BASICS OF MECHANICAL ENGINEERING	ESC

Total Hrs:45

UNIT- I

Basic Concepts of Thermodynamics: Macroscopic and Microscopic Approaches, Thermodynamic Systems, Surrounding and Boundary, Thermodynamic Properties – Intensive and Extensive, Thermodynamic Equilibrium, State, Path, Process and Cycle, Concept of Thermodynamic Work and Heat, Zeroth Law of Thermodynamics, Energy and First law of Thermodynamics, First law applied to non-flow processes, Internal Energy and Enthalpy. Numerical Problems.

UNIT- II

I.C. Engines: Introduction, classification, Constructional details and working of 2 stroke & 4 stroke petrol engine & diesel engine, Otto, diesel and dual cycles, simple problems on Otto & diesel cycles.

Refrigeration, Air-Conditioning: Refrigerants: properties of refrigerants, list of commonly used refrigerants. Refrigeration –Definitions – Refrigerating effect, Ton of Refrigeration, Ice making capacity, COP, Relative COP, unit of Refrigeration. Principle and working of vapour compression refrigeration and vapour absorption refrigeration: Principles and applications of air conditioners, Room air conditioner.

UNIT- III

Simple Lifting Machines: Definition of machine, velocity ratio, Mechanical advantage, Efficiency, Laws of machines, Reversibility of machine, Wheel and axle, Differential pulley block, Single, Double and Triple start worm and worm wheel, Simple and compound screw jacks, Problems.

Basics of Power Transmission: Transmission of mechanical power: introduction belt drives, gear drives, their advantages and disadvantages. Introduction to brakes and clutches.

UNIT- IV

Stresses and Strains: Introduction, Concept & types of Stresses and Strains, Poisons ratio, stresses and Strains in simple and compound bars under axial loading, Stress– Strain diagrams, Hook's law, Elastic constants and Mechanical Properties of metals like mild steel and cast iron.

UNIT V

Basics of Manufacturing Processes and Measurements: Brief introduction to classification of different manufacturing processes: Primary shaping processes, metal cutting processes, joining processes, finishing processes and processes bringing change in properties, Working principle, parts and specification of commonly used machine tools in workshop such as Lathe, Shaper and Milling. Measuring Instruments: introduction to slip gauges, Go and No Go gauges, dial gauges, vernier calliper, micrometer, sine bar, vernier height gauges.

Text Books:

1. Basics of Mechanical Engineering- R.K Rajput Laxmi Pub, Delhi.

2. Elements of Mechanical Engineering- D.S Kumar, S.K Kataria and Sons.

3. Engineering Thermodynamics- P.K Nag TMH, New Delhi.

4. Workshop Technology Vol I & II –Hazra & Chaudhary, Asian Book Comp., New Delhi.

Reference Books:

1. Engineering Thermodynamics- C.P Arora, Pub- TMH, New Delhi.

2. Manufacturing Science- Amitabha Ghosh & Ashok Kumar Malik, - East- West Press.

3 Manufacturing Process & Systems- Oswald, Munoz, John Wiley.

4 Workshop Technology Vol I, II & III- Chapman, WAJ, Edward Arnold.

5. Basics of Mechanical Engineering – Vineet Jain, Dhanpat Rai Publications

6. Automobile Engineering by Dr Kirpal Singh, standard Publishers Distributors

B.TECH, I SEMESTER

Credits	L	T	P	Course Code	Course Title	Category of Course
04	3	1	0	ESC 101	ELECTRONIC COMPONENTS & DEVICE	ESC

Total Hrs: 45

UNIT- I

Semiconductor Diode: Depletion layer, V-I characteristics, ideal and practical, diode resistance, capacitance, Diode Equivalent Circuits, Transition and Diffusion Capacitance), Zener Diodes breakdown mechanism (Zener and avalanche).

Diode Applications: Series, Parallel and Series-Parallel Diode Configurations, Half and Full Wave rectification, parameters of half wave and full wave rectifiers, Zener diode as shunt regulator.

UNIT- II

Bipolar Junction Transistor: Transistor Construction and working Operation. Common Base, Common Emitter, Common Collector Configurations and their comparison. Input and output Characteristics of different configuration. Dc load line analysis and biasing. Common emitter amplifier.

UNIT- III

Number System: Binary number system: Binary to decimal and decimal to binary conversion, Arithmetic operations of binary numbers, 1's and 2's complement, Representation of binary numbers as electrical signals. Octal number system: Octal to decimal conversion, decimal to octal conversion, binary to octal conversion, octal to binary conversion, advantages of octal number system. Hexadecimal number system: binary to hexadecimal and hexadecimal to binary conversion.

UNIT- IV

Logic Gates and Boolean algebra: Circuit, symbol and truth tables of OR, AND, NOT, X-OR, NAND, NOR, X-NOR. Bubbled gates. Realization of a function using logic gates.
Laws of Boolean algebra. De Morgan's Theorem. Duals. Minimization of a function by Boolean algebra and K-map.

UNIT- V

Operational Amplifiers: Introduction, Differential Amplifier Circuits, Op-Amp Basic, Practical Op-Amp Circuits (Inverting Amplifier, Non-inverting Amplifier, Unit Follower, Summing Amplifier, Integrator, Differentiator). Differential and Common- Mode Operation. Introduction to Field effect Transistor.

Text and Reference books::

1. Ravish R Singh, "Basic Electrical and Electronics Engineering", TMH publication.
2. B.L. Theraja, "Basic Electronics solid state", S. Chand publication.
3. J.B. Gupta, " Basic Electrical and Electronics Engineering.

B.TECH, I SEMESTER

Credits	L	T	P	Course Code	Course Title	Category of Course
02	2	0	0	MC-I	ENVIRONMENTAL STUDIES	MC

Total Hrs:45

UNIT-I

Introduction: Environment - Components of Environment Ecosystem: Types & Structure of Ecosystem, Balanced ecosystem Human Activities – Food, Shelter, And Economic & Social Security.

Impacts of Agriculture & Housing Impacts of Industry, Mining & Transportation Environmental Impact Assessment, Sustainable Development.

UNIT-II

Natural Resources, Water resources – Availability & Quality aspects, Water borne diseases & water induced diseases, Fluoride problem in drinking water Mineral resources, Forest Wealth Material Cycles – Carbon Cycle, Nitrogen Cycle & Sulphur Cycle.

Energy – Different types of energy, Conventional sources & Non-Conventional sources of energy Solar energy, Hydro electric energy, Wind Energy, Nuclear energy, Biomass & Biogas Fossil Fuels, Hydrogen as an alternative energy.

UNIT-III

Environmental Pollution – Water Pollution, Noise pollution, Land Pollution, Public Health Aspects.

Global Environmental Issues: Population Growth, Urbanization, Land Management, Water & Waste Water Management.

UNIT-IV

Air Pollution & Automobile Pollution: Definition, Effects – Global Warming, Acid rain & Ozone layer depletion, controlling measures.

Solid Waste Management, E - Waste Management & Biomedical Waste Management - Sources, Characteristics & Disposal methods.

UNIT-V

Introduction to GIS & Remote sensing, Applications of GIS & Remote Sensing in Environmental Engineering Practices. Environmental Acts & Regulations, Role of government, Legal aspects, Role of Nongovernmental Organizations (NGOs), Environmental Education & Women Education.

Text Books:

1. Benny Joseph (2005), “Environmental Studies”, Tata McGraw – Hill Publishing Company Limited.
2. R.J.Ranjit Daniels and Jagadish Krishnaswamy, (2009), “Environmental Studies”, Wiley India Private Ltd., New Delhi.
3. R Rajagopalan, “Environmental Studies – From Crisis to Cure”, Oxford University Press, 2005,
4. Aloka Debi, “Environmental Science and Engineering”, Universities Press (India) Pvt. Ltd. 2012.

Reference Books:

1. Raman Sivakumar, “Principals of Environmental Science and Engineering”, Second Edition, Cengage learning Singapore, 2005
2. P. Meenakshi, “Elements of Environmental Science and Engineering”, Prentice Hall of India Private Limited, New Delhi, 2006
3. S.M. Prakash, “Environmental Studies”, Elite Publishers Mangalore, 2007
4. Erach Bharucha, “Text Book of Environmental Studies”, for UGC, University press, 2005
5. G.Tyler Miller Jr., “Environmental Science – working with the Earth”, Tenth Edition, Thomson Brooks /Cole, 2004
6. G.Tyler Miller Jr., “Environmental Science – working with the Earth”, Eleventh Edition, Thomson Brooks /Cole, 2006
7. Dr.Pratiba Sing, Dr.AnoopSingh and Dr.Piyush Malaviya, “Text Book of Environmental and Ecology”, Acme Learning Pvt. Ltd. New Delhi.

B.TECH, I SEMESTER

Credits	L	T	P	Course Code	Course Title	Category of Course
03	3	0	0	HSMC- 101	COMMUNICATIVE ENGLISH	HSMC

Total Hrs:45

UNIT I

BASIC FUNCTIONAL ENGLISH

1. The English 'Alphabet' with emphasis on Vowels' and their sounds.
2. Introduction to various Parts of Speech – Noun, Verb, Adjective, Adverb, Pronoun, Preposition, Conjunction, Interjection.
3. Simple Present Tense.
4. Introduction to sentence composition – Subject and Predicate, Subject-Verb agreement, construction of Simple Sentences.
5. Articles – Uses and exceptions.
6. Vocabulary – Synonyms, Antonyms, Homonyms.
7. Commonly Mispronounced and misspelled words.
8. Common technical/ scientific/ legal terminologies
9. Question Formation – Close ended, open ended, and tag questions.

UNIT II

COMMUNICATIVE ENGLISH

1. English in every-day communication – greeting people, introducing oneself, giving public speeches and presentations, public speaking, making an argument, persuading someone, participating in interviews and group discussions, situational role plays, etc.
2. Politeness and etiquette in daily communications – Minding the Ps and Qs (please, quite, kindly, excuse me, pardon me, thank you, bless you, pleasure, etc).
3. *May* and *Can* for permission and possibility; *Could* for permission and possibility in the past; *Could* for politeness in the present.
4. *May* and *Might* for possibility; *Can* and *Be able to* for ability.
5. *Ought*, *Should*, *Must*, *Have to*, *Had to*, and *Need to* for obligation.

UNIT III

READING COMPREHENSION

1. Close reading and comprehension.
2. Summary paraphrasing. CV writing, official letters, memo, precise, and reports.
3. Analysis and interpretation of key texts.

UNIT IV

ORAL PRESENTATION

1. Oral presentation (with PPTs or PREZI) of reports, arguments, summary and analysis of texts, etc.
2. Extempore, speech delivery, Just a Minute Exercise
3. Group Discussion and PI

UNIT V

INTRODUCTION TO BUSINESS COMMUNICATION:

Definition, objectives, importance, elements, process, forms, models, levels of analysis of business communication, principles of effective communication, barriers to communication. Types of communication, formal and non-formal, verbal and non-verbal.

Text and Reference books:

1. Communication Skills for Engineers and Scientists, Sangeeta Sharma & Binod Mishra, PHI Learning Pvt. Ltd.
2. English for Engineers: Made Easy, Aeda Abidi & Ritu Chaudhary, Cengage Learning, (New Delhi)
3. A Practical Course for Developing Writing Skills in English, J.K. Gangal, PHI Learning Pvt. Ltd., New Delhi.
4. Intermediate Grammar, Usage and Composition, Tickoo, A. E. Subramaniam & P. R. Subramaniam, Orient Longman (New Delhi)
5. The Written Word , Vandana R. Singh, Oxford University Press (New Delhi)
6. The Great Short Stories edited by D.C. Datta, Ram Narain Lal Publishers (Allahabad)
7. Professional Communication, Kavita Tyagi & Padma Misra, PHI Learning Pvt. Ltd., New Delhi.
8. "Learn Correct English: Grammar, Usage and Composition" by Shiv K. Kumar & Hemalatha Nagarajan, Pearson (New Delhi).
9. "Current English Grammar and Usage with Composition" by R.P. Sinha, Oxford University Press (New Delhi).
10. "Grammar of the Modern English Language", by Sukhdev Singh & Balbir Singh, (New Delhi).

B.TECH, I SEMESTER

Credits	L	T	P	Course Code	Course Title	Category of Course
02	0	0	3	ESC- 103	WORKSHOP PRACTICE LAB	ESC

Total Hrs:20

Carpentry Shop

1. T – Lap joint
2. Bridle joint

Foundry Shop

1. Mould of any pattern
2. Casting of any simple pattern

Welding Shop

1. Gas welding practice by students on mild steel flat
2. Lap joint by gas welding
3. MMA welding practice by students
4. Square butt joint by MMA welding
5. Lap joint by MMA welding
6. Demonstration of brazing

Machine Shop Practice

1. Job on lathe with one step turning and chamfering operations
2. Job on shaper for finishing two sides of a job
3. Drilling two holes of size 5 and 12 mm diameter on job used / to be used for shaping
4. Grinding a corner of above job on bench grinder

Fitting and Smithy Shop

1. Finishing of two sides of a square piece by filing
2. Tin smithy for making mechanical joint and soldering of joint
3. To cut a square notch using hacksaw and to drill three holes on PCD and tapping

Text and Reference books :

1. Mechanical Workshop Practice, K.C. John, PHI Learning , New Delhi.
2. Elements of Workshop Technology Hajra & Choudhary, Media Promoters & Publisher.
3. Workshop Technology , W.A.J.Chapman, CBS Publisher & Distributor New Delhi.

B.TECH, I SEMESTER

Credits	L	T	P	Course Code	Course Title	Category of Course
01	**0**	**0**	**2**	**BSC- 103**	**PHYSICS-I LAB**	**BSC**

Total Hrs:20

LIST OF EXPERIMENTS:

1. To determine the specific rotation of Glucose (Sugar) solution using a polarimeter.
2. To convert a Galvanometer in to an ammeter of range 1.5 amp. and calibrate it.
3. To convert a Galvanometer in to a voltmeter of range 1.5 volt and calibrate it.
4. To study the variation of a semiconductor resistance with temperature and hence determine the Band Gap of the semiconductor in the form of reverse biased P-N junction diode.
5. To measure the height of a terrestrial objects using Sextant.
6. To find out the horizontal component of earth's magnetic field by using tangent galvanometer.
7. To determine the wave length of monochromatic light with the help of Fresnel's biprism.
8. To determine the number of lines per inch of the grating.
9. To study the characteristics of LASER sources.
10. To determine the bending losses of Optical fibres.
11. To determine the Numerical aperture of a given fibre.

B.TECH, I SEMESTER

Credits	L	T	P	Course Code	Course Title	Category of Course
01	**0**	**0**	**2**	**ESC -104**	**Computer Fundamentals & Programming in C Lab**	**ESC**

Total Hrs:20

LIST OF EXPERIMENTS:

1. Create a document to show the use of Washout/Watermark.
2. Implement the concept of mail merge.
3. Implement the concept of importing a file/document.
4. Implement the concept of merging the documents.
5. Crate a student table and do the following:
    a. Insert new row and fill data
    b. Delete any existing row
    c. Resize rows and columns
    d. Apply border and shading
    e. Apply merging/splitting of cells
    f. Apply sort
    g. Apply various arithmetic and logical formulas.
6. Make a presentation of College Education System using
    a. Blank Presentation
    b. From Design Template
    c. From Auto Content Wizard
7. Write a Program in 'C' to find the sum & difference.
8. Write a program in "C" to find the average of two numbers.
9. Write a program in "C" Write a program in "C" to check for prime number.
10. Write a program in "C" to check the even or odd.
11. Write a program in "C" Write a program in "C" for "for loop" , while loop and do while loop.
12. Write a program in "C" to find sum of natural number
13. Write a program to produce ASCII equivalent of given number
14. Write a program to find divisor or factorial of a given number.
15. Write a program to find sum of a geometric series
16. Write a program to cipher a string
17. Write a program to check whether a given string follows English capitalization rules
18. Write a program to find sum of the following series 1+ 1/2+ 1/3 +_____+1/20
19. Write a program to search whether a given substring exist in an input string or not and then delete this string from input string.
20. Write a recursive program for tower of Hanoi problem

B.TECH, I SEMESTER

Credits	L	T	P	Course Code	Course Title	Category of Course
01	**0**	**0**	**2**	**ESC 105**	**ELECTRONIC ENGINEERING LAB**	**ESC**

Total Hrs:20

LIST OF EXPERIMENTS:

1. Study of Multimeter and measuring electrical quantities with the help of multimeter.
2. To observe sine wave, square wave, triangular wave and ramp wave forms on the C.R.O and to measure the frequency of waveforms.
3. To obtain the V-I characteristics of PN Junction diode.
4. To obtain the V-I characteristics of Zener diode.
5. To observe waveform at the output of half wave rectifier with and without filter capacitor. To measure DC voltage, DC current, ripple factor with and without filter capacitor.
6. To observe waveform at the output of full wave rectifier with and without filter capacitor. To measure DC voltage, DC current, ripple factor with and without filter capacitor.
7. To observe waveforms at the output of clipper and clamper circuits.
8. To obtain common emitter characteristics of NPN/PNP transistor.
9. To obtain common base characteristics of NPN/PNP transistor.
10. Verify the truth table of AND, OR, NOT, NOR and NAND gates.

B.TECH, I SEMESTER

Credits	L	T	P	Course Code	Course Title	Category of Course
01	**0**	**0**	**2**	**HSMC- 102**	**LANGUAGE LAB**	**HSMC**

Total Hrs:20

LIST OF EXPERIMENTS:

1. Phonetic Symbols and Transcriptions
2. Word Formation
3. Affixes
4. Listening and speaking Skills.
5. Words often Mis-spelt and Mis- Pronounced
6. One Word for Many.
7. Synonyms and Antonyms.
8. Seminar Presentation.
9. Group Discussion.
10. Job Interview

Text and Reference books:

1. Advanced Manual for Communication Laboratories and Technical Report Writing, D. Sudha Rani, Pearson, (New Delhi)

2. A Course in Phonetics and Spoken English, J. Sethi & P.V. Dhamija, PHI Learning Pvt. Ltd. (New Delhi)

3. English Language Laboratories: A Comprehensive Manual, Nira Konar, PHI Learning Pvt .Ltd. (New Delhi)

4. Communication Skills for Engineers and Scientists, Sangeeta Sharma and Binod Mishra, PHI Learning Pvt. Ltd.(New Delhi).

5. Oxford English Learning Package.(With CDs: Headway Series)

6. Tata McGraw Hills English Learning Package (With CDs) 7. "Oxford Advanced Learners' Dictionary" published by Oxford University Press (New Delhi)