

**Maulana Abul Kalam Azad University of Technology, West Bengal**  
*(Formerly West Bengal University of Technology)*  
**1<sup>st</sup> Year Curriculum Structure for B.Tech courses in Engineering & Technology**  
 (Applicable from the academic session 2018-2019)

<b>Course Code :</b> BS-CH101/ BS-CH201	<b>Category :</b> Basic Science Courses
<b>Course Title :</b> Chemistry-I	<b>Semester :</b> First/ Second
<b>L-T-P :</b> 3-1-0	<b>Credit:</b> 4
<b>Pre-Requisites:</b>	

*Detailed contents*

**i) Atomic and molecular structure (10 lectures)**

Schrodinger equation. Particle in a box solutions and their applications for simple sample. Molecular orbitals of diatomic molecules (e.g. $H_2$ ). Energy level diagrams of diatomic. Pi-molecular orbitals of butadiene and benzene and aromaticity. 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 structures.

**ii) Spectroscopic techniques and applications (8 lectures)**

Principles of spectroscopy and selection rules. Electronic spectroscopy. Fluorescence and its applications in medicine. Vibrational and rotational spectroscopy of diatomic molecules. Applications. Nuclear magnetic resonance and magnetic resonance imaging, surface characterisation techniques. Diffraction and scattering.

**iii) Intermolecular forces and potential energy surfaces (4 lectures)**

Ionic, dipolar and van Der Waals interactions. Equations of state of real gases and critical phenomena.

**iv) Use of free energy in chemical equilibria (8 lectures)**

First and second laws of thermodynamics and 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. Water chemistry. Corrosion. Use of free energy considerations in metallurgy through Ellingham diagrams.

**v) Periodic properties (4 Lectures)**

Effective nuclear charge, penetration of orbitals, variations of s, p, d and f orbital energies of atoms in the periodic table, electronic configurations, atomic and ionic sizes, ionization energies, electron affinity and electronegativity, polarizability, oxidation states, coordination numbers and geometries, hard soft acids and bases, molecular geometries

**vi) Stereochemistry (4 lectures)**

Representations of 3 dimensional structures, structural isomers and stereoisomers, configurations and symmetry and chirality, enantiomers, diastereomers, optical activity, absolute configurations and conformational analysis. Isomerism in transitional metal compounds

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**vii) Organic reactions and synthesis of a drug molecule (4 lectures)**

Introduction to reactions involving substitution, addition, elimination, oxidation, reduction, cyclization and ring openings. Synthesis of a commonly used drug molecule.

**Course Outcomes**

The concepts developed in this course will aid in quantification of several concepts in chemistry that have been introduced at the 10+2 levels in schools. Technology is being increasingly based on the electronic, atomic and molecular level modifications. Quantum theory is more than 100 years old and to understand phenomena at nanometer levels, one has to base the description of all chemical processes at molecular levels.

The course will enable the student to:

- Analyse microscopic chemistry in terms of atomic and molecular orbitals and intermolecular forces.
- Rationalise bulk properties and processes using thermodynamic considerations.
- Distinguish the ranges of the electromagnetic spectrum used for exciting different molecular energy levels in various spectroscopic techniques
- Rationalise periodic properties such as ionization potential, electronegativity, oxidation states and electronegativity.
- List major chemical reactions that are used in the synthesis of molecules.

**Learning Resources:**

1. Engineering Chemistry, Satyaprakash, Khanna Book Publishing, Delhi
2. University chemistry, by B. H. Mahan
3. Chemistry: Principles and Applications, by M. J. Sienko and R. A. Plane
4. Fundamentals of Molecular Spectroscopy, by C. N. Banwell
5. Engineering Chemistry (NPTEL Web-book), by B. L. Tembe, Kamaluddin and M. S. Krishnan
6. Physical Chemistry, by P. W. Atkins
7. Spectroscopy of Organic Compounds, by P.S.Kalsi, New Age International Pvt Ltd Publishers
8. Physical Chemistry, P. C. Rakshit, Sarat Book House
9. Organic Chemistry: Structure and Function by K. P. C. Vollhardt and N. E. Schore, 5<sup>th</sup> Edition  
<http://bcs.whfreeman.com/vollhardtschore5e/default.asp>

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<b>Course Code :</b> ES-ME191/ ES-ME 291	<b>Category :</b> Engineering Science Courses
<b>Course Title :</b> Engineering Graphics & Design	<b>Semester :</b> First/ Second
<b>L-T-P :</b> 1-0-4	<b>Credit:</b> 3
<b>Pre-Requisites:</b>	

<b>Sl. No.</b>	<b>Content</b>	<b>Lecture (L)</b>	<b>Practical (P)</b>
1	<b>INTRODUCTION TO ENGINEERING DRAWING</b>  Principles of Engineering Graphics and their significance, usage of Drawing instruments, lettering, Different types of lines and their use; Drawing standards and codes.	1	4
2	<b>LETTERING, DIMENSIONING, SCALES</b>  Plain scale, Diagonal scale and Vernier Scales.	1	4
3	<b>GEOMETRICAL CONSTRUCTION AND CURVES</b>  Construction of polygons, Conic sections including the Rectangular Hyperbola (General method only); Cycloid, Epicycloid, Hypocycloid, Involute, Archimedean Spiral.	1	4
4	<b>PROJECTION OF POINTS, LINES, SURFACES</b>  Principles of Orthographic Projections-Conventions - 1st and 3rd angle projection, Projections of Points and lines inclined to both planes; Projections of planes (Rectangle, pentagon, Hexagon etc.) inclined Planes - Auxiliary Planes.	1	4
5	<b>PROJECTION OF REGULAR SOLIDS</b>  Regular solids inclined to both the Planes- Auxiliary Views; Draw simple annotation, dimensioning and scale (Cube, Pyramid, Prism, Cylinder, Cone).	1	4
6	<b>COMBINATION OF REGULAR SOLIDS, FLOOR PLANS</b>  Regular solids in mutual contact with each other like Spheres in contact with cones standing on their base. Floor plans that include: windows, doors, and fixtures such as WC, bath, sink, shower, etc.	1	4
7	<b>ISOMETRIC PROJECTIONS</b>  Principles of Isometric projection – Isometric Scale, Isometric Views, Conventions; Isometric Views of lines, Planes, Simple and compound Solids; Conversion of Isometric Views to Orthographic Views and Vice-versa, Conventions;	1	4

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	<b>SECTIONS AND SECTIONAL VIEWS OF RIGHT ANGULAR SOLIDS</b> Prism, Cylinder, Pyramid, Cone – Auxiliary Views; Development of surfaces of Right Regular Solids - Prism, Pyramid, Cylinder and Cone; Draw the sectional orthographic views of geometrical solids, objects from industry and dwellings (foundation to slab only)	1	4
8	<b>OVERVIEW OF COMPUTER GRAPHICS, CUSTOMISATION&amp; CAD DRAWING</b> listing the computer technologies that impact on graphical communication, Demonstrating knowledge of the theory of CAD software [such as: The Menu System, Toolbars (Standard, Object Properties, Draw, Modify and Dimension), Drawing Area (Background, Crosshairs, Coordinate System), Dialog boxes and windows, Shortcut menus (Button Bars), The Command Line (where applicable), The Status Bar, Different methods of zoom as used in CAD, Select and erase objects.; Isometric Views of lines, Planes, Simple and compound Solids]; Set up of the drawing page and the printer, including scale settings, Setting up of units and drawing limits; ISO and ANSI standards for coordinate dimensioning and tolerancing; Orthographic constraints, Snap to objects manually and automatically; Producing drawings by using various coordinate input entry methods to draw straight lines, Applying various ways of drawing circles;	1	4
9	<b>ANNOTATIONS, LAYERING &amp; OTHER FUNCTIONS</b> applying dimensions to objects, applying annotations to drawings;		
10	Setting up and use of Layers, layers to create drawings, Create, edit and use customized layers; Changing line lengths through modifying existing lines (extend/lengthen); Printing documents to paper using the print command; orthographic projection techniques; Drawing sectional views of composite right regular geometric solids and project the true shape of the sectioned surface; Drawing annotation, Computer-aided design (CAD) software modeling of parts and assemblies. Parametric and non-parametric solid, surface, and wireframe models. Part editing and two-dimensional documentation of models. Planar projection theory, including sketching of perspective, isometric, multiview, auxiliary, and section views. Spatial visualization exercises. Dimensioning guidelines, tolerancing techniques; dimensioning and scale multi views of dwelling;	2	8

11	<b>DEMONSTRATION OF A SIMPLE TEAM DESIGN PROJECT</b> Geometry and topology of engineered components: creation of engineering models and their presentation in standard 2D blueprint form and as 3D wire-frame and shaded solids; meshed topologies for engineering analysis and tool-path generation for component manufacture; geometric dimensioning and tolerancing; Use of solid-modeling software for creating associative models at the component and assembly levels; floor plans that include: windows, doors, and fixtures such as WC, bath, sink, shower, etc. Applying colour coding according to building drawing practice; Drawing sectional elevation showing foundation to ceiling; Introduction to Building Information Modelling (BIM).	2	8
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### **Course Outcomes**

The student will learn:

- Introduction to engineering design and its place in society
- Exposure to the visual aspects of engineering design
- Exposure to engineering graphics standards
- Exposure to solid modelling

### **General Instructions**

1. In every topic some problems are to be done in the class and some are to be given to students as home assignment.
2. The problems for class work are to be prepared on drawing sheet of A1 size in the class/ using AutoCAD software.
3. The problems for home assignments are to be prepared on drawing copy/ using AutoCAD software.
4. Print out of every assignment is to be taken for CAD Drawings on Drawing sheets (A4 Sheets).
5. A title block must be prepared in each sheet/ assignment.

Following is the list of drawing instruments that required for making engineering drawings on paper with perfection.

1. Drawing Board
2. Mini drafter/ Set-squares ( $45^\circ$ - $45^\circ$  &  $60^\circ$ - $90^\circ$ ), T-square
3. Protractor ( $180^\circ$ ,  $360^\circ$ )
4. Scales (Plain, Diagonal)
5. Compass (Small and Large)
6. Divider (Small and Large)

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7. French Curves
8. Drawing paper (A1 Size)
9. Drawing pencil (H, HB, B)
10. Sharpener
11. Eraser
12. Drawing pins & clips
13. Duster or handkerchief etc.

**Learning Resources:**

1. Pradeep Jain, Ankita Maheswari, A.P. Gautam, Engineering Graphics & Design, Khanna Publishing House
2. Bhatt N.D., Panchal V.M. & Ingle P.R., (2014), Engineering Drawing, Charotar Publishing House
3. Agrawal B. & Agrawal C. M. (2012), Engineering Graphics, TMH Publication
4. Shah, M.B. & Rana B.C. (2008), Engineering Drawing and Computer Graphics, Pearson Education
5. Narayana, K.L. & P Kannaiah (2008), Text book on Engineering Drawing, Scitech Publishers
6. Corresponding set of CAD Software Theory and User Manuals

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<b>Course Code :</b> BS-M201	<b>Category :</b> Basic Science Course
<b>Course Title :</b> Mathematics – II A	<b>Semester :</b> Second (CSE &IT)
<b>L-T-P : 3-1-0</b>	<b>Credit: 4</b>
<b>Pre-Requisites:</b> High School Mathematics and BS-M101	

<b>Module No.</b>	<b>Description of Topic</b>	<b>Lectures Hours</b>
1	<b>Basic Probability:</b> Probability spaces, conditional probability, independence; Discrete random variables, Independent random variables, the Multinomial distribution, Poisson approximation to the Binomial distribution, infinite sequences of Bernoulli trials, sums of independent random variables; Expectation of Discrete Random Variables, Moments, Variance of a sum, Correlation coefficient, Chebyshev's Inequality.	11
2	<b>Continuous Probability Distributions:</b> Continuous random variables and their properties, Distribution functions and densities, Normal, Exponential and Gamma densities.	4
3	<b>Bivariate Distributions:</b> Bivariate distributions and their properties, distribution of sums and quotients, Conditional densities, Bayes' rule.	5
4	<b>Basic Statistics:</b> Measures of Central tendency, Moments, Skewness and Kurtosis, Probability distributions: Binomial, Poisson and Normal and evaluation of statistical parameters for these three distributions, Correlation and regression – Rank correlation.	8
5	<b>Applied Statistics:</b> Curve fitting by the method of least squares- fitting of straight lines, second degree parabolas and more general curves. Test of significance: Large sample test for single proportion, difference of proportions, single mean, difference of means, and difference of standard deviations.	8
6	<b>Small samples:</b> Test for single mean, difference of means and correlation coefficients, test for ratio of variances - Chi-square test for goodness of fit and independence of attributes.	4

**Course Outcomes:**

The students will be able to:

Learn the ideas of probability and random variables, various discrete and continuous probability distributions with their properties and their applications in physical and engineering environment.

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Understand the basic ideas of statistics with different characterisation of a univariate and bivariate data set.

Apply statistical tools for analysing data samples and drawing inference on a given data set.

**Learning Resources:**

1. Reena Garg, Chandrika Prasad, Advanced Engineering Mathematics, Khanna Publishers.
2. Erwin Kreyszig, Advanced Engineering Mathematics, John Wiley & Sons
3. S. Ross, A First Course in Probability, Pearson Education India
4. W. Feller, An Introduction to Probability Theory and its Applications, Vol. 1, Wiley.
5. John E. Freund, Ronald E. Walpole, Mathematical Statistics, Prentice Hall.
6. B.S. Grewal, Higher Engineering Mathematics, Khanna Publishers.
7. N.G. Das, Statistical Methods (Combined Volume), Tata-McGraw Hill.

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<b>Course Code :</b> ES-CS201	<b>Category :</b> Engineering Science Courses
<b>Course Title :</b> Programming for Problem Solving	<b>Semester :</b> Second
<b>L-T-P :</b> 3-0-0	<b>Credit:</b> 3
<b>Pre-Requisites:</b>	

*Detailed contents*

**Unit 1:** Introduction to Programming (**4 lectures**)

Introduction to components of a computer system (disks, memory, processor, where a program is stored and executed, operating system, compilers etc.) - (**1 lecture**).

Idea of Algorithm: steps to solve logical and numerical problems. Representation of Algorithm: Flowchart/Pseudocode with examples. (**1 lecture**)

From algorithms to programs; source code, variables (with data types) variables and memory locations, Syntax and Logical Errors in compilation, object and executable code- (**2 lectures**)

**Unit 2:** Arithmetic expressions and precedence (**2 lectures**)

**Unit 3:** Conditional Branching and Loops (**6 lectures**)

Writing and evaluation of conditionals and consequent branching (**3 lectures**)

Iteration and loops (**3 lectures**)

**Unit 4:** Arrays (**6 lectures**)

Arrays (1-D, 2-D), Character arrays and Strings

**Unit 5:** Basic Algorithms (**6 lectures**)

Searching, Basic Sorting Algorithms (Bubble, Insertion and Selection), Finding roots of equations, notion of order of complexity through example programs (no formal definition required)

**Unit 6:** Function (**5 lectures**)

Functions (including using built in libraries), Parameter passing in functions, call by value, Passing arrays to functions: idea of call by reference

**Unit 7:** Recursion (**4 -5 lectures**)

Recursion, as a different way of solving problems. Example programs, such as Finding Factorial, Fibonacci series, Ackerman function etc. Quick sort or Merge sort.

**Unit 8:** Structure (**4 lectures**)

Structures, Defining structures and Array of Structures

**Unit 9:** Pointers (**2 lectures**)

Idea of pointers, Defining pointers, Use of Pointers in self-referential structures, notion of linked list (no implementation)

**Unit 10:** File handling (only if time is available, otherwise should be done as part of the lab)

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### **Course Outcomes**

The student will learn

- To formulate simple algorithms for arithmetic and logical problems.
- To translate the algorithms to programs (in C language).
- To test and execute the programs and correct syntax and logical errors.
- To implement conditional branching, iteration and recursion.
- To decompose a problem into functions and synthesize a complete program using divide and conquer approach.
- To use arrays, pointers and structures to formulate algorithms and programs.
- To apply programming to solve matrix addition and multiplication problems and searching and sorting problems.
- To apply programming to solve simple numerical method problems, namely root finding of function, differentiation of function and simple integration.

### **Learning Resources:**

1. R. S. Salaria, Computer Concepts and Programming in C, Khanna Publishers
2. Byron Gottfried, Schaum's Outline of Programming with C, McGraw-Hill
3. E. Balaguruswamy, Programming in ANSI C, Tata McGraw-Hill
4. Brian W. Kernighan and Dennis M. Ritchie, The C Programming Language, Prentice Hall of India

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<b>Course Code :</b> ES-CS291	<b>Category :</b> Engineering Science Courses
<b>Course Title :</b> Programming for Problem Solving	<b>Semester :</b> Second
<b>L-T-P : 0-0-4</b>	<b>Credit:2</b>
<b>Pre-Requisites:</b>	

*The laboratory should be preceded or followed by a tutorial to explain the approach or algorithm to be implemented for the problem given.*

**Tutorial 1:** Problem solving using computers:

**Lab1:** Familiarization with programming environment

**Tutorial 2:** Variable types and type conversions:

**Lab 2:** Simple computational problems using arithmetic expressions

**Tutorial 3:** Branching and logical expressions:

**Lab 3:** Problems involving if-then-else structures

**Tutorial 4:** Loops, while and for loops:

**Lab 4:** Iterative problems e.g., sum of series

**Tutorial 5:** 1D Arrays: searching, sorting:

**Lab 5:** 1D Array manipulation

**Tutorial 6:** 2D arrays and Strings

**Lab 6:** Matrix problems, String operations

**Tutorial 7:** Functions, call by value:

**Lab 7:** Simple functions

**Tutorial 8 &9:** Numerical methods (Root finding, numerical differentiation, numerical integration):

**Lab 8 and 9:** Programming for solving Numerical methods problems

**Tutorial 10:** Recursion, structure of recursive calls

**Lab 10:** Recursive functions

**Tutorial 11:** Pointers, structures and dynamic memory allocation

**Lab 11:** Pointers and structures

**Tutorial 12:** File handling:

**Lab 12:** File operations

### **Laboratory Outcomes**

To formulate the algorithms for simple problems

To translate given algorithms to a working and correct program

To be able to correct syntax errors as reported by the compilers

To be able to identify and correct logical errors encountered at run time

To be able to write iterative as well as recursive programs

To be able to represent data in arrays, strings and structures and manipulate them through a program

To be able to declare pointers of different types and use them in defining self-referential structures.

To be able to create, read and write to and from simple text files.

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<b>Course Code :</b> HM-HU201	<b>Category :</b> Humanities and Social Sciences including Management courses
<b>Course Title :</b> English	<b>Semester :</b> Second
<b>L-T-P :</b> 2-0-0	<b>Credit:</b> 2
<b>Pre-Requisites:</b>	

### Detailed contents

#### **1. Vocabulary Building**

- 1.1 The concept of Word Formation: Compounding, Backformation, Clipping, Blending.
- 1.2 Root words from foreign languages and their use in English
- 1.3 Acquaintance with prefixes and suffixes from foreign languages in English to form derivatives.
- 1.4 Synonyms, antonyms, and standard abbreviations: Acronyms

#### **2. Basic Writing Skills**

- 2.1 Sentence Structures & Types: Simple, Compound, Complex
- 2.2 Use of phrases and clauses in sentences: Transformation of sentences, active, passive, narration
- 2.3 Importance of proper punctuation
- 2.4 Creating coherence: Arranging paragraphs & Sentences in logical order
- 2.5 Creating Cohesion: Organizing principles of paragraphs in documents
- 2.6 Techniques for writing precisely

#### **3. Identifying Common Errors in Writing**

- 3.1 Subject-verb agreement
- 3.2 Noun-pronoun agreement
- 3.3 Misplaced modifiers
- 3.4 Articles
- 3.5 Prepositions
- 3.6 Redundancies
- 3.7 Clichés

#### **4. Nature and Style of sensible Writing**

- 4.1 Describing
- 4.2 Defining
- 4.3 Classifying
- 4.4 Providing examples or evidence
- 4.5 Writing introduction and conclusion

#### **5. Writing Practices**

- 5.1 Comprehension
- 5.2 Précis Writing
- 5.3 Essay Writing
- 5.4 Business Letter, Cover Letter & CV; E-mail

#### **Addendum**

#### **Some examples of English words with foreign roots**

<b>Greek Root/Affix</b>	<b>Examples</b>
Anti	Antisocial, antiseptic

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Auto	Automatic, autograph
Anthropos	Anthropology, philanthropy
Bio	Biography
Chronos	Time
Di	Dilemma
Bio	Biology
Biblio	Bibliography
Chron	Chronology
Cracy	Contradiction
Geo	Geology
Hyper	Hyperactive
Mania	Kleptomania
Mega	Megaserial
Eu	Eulogy, euphoria
Geo	Geology
Graph	autograph, photograph
Hetero	Heterogeneous
Hyper	Hyperactive
Hypo	hypodermic, hypoglycemia
Macro	Macrocosm
Mega	megalomania
Micro	microcosm

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Mono	Monarch
Pan	Panorama
Pathos	Pathetic
Phobia	Hydrophobia
Pod (Gk), ped (Latin)	Pseudopodia
Poly	polyglot
Tele	Telephone
Theo	Theology, theist
<b>Latin Root</b>	<b>Examples</b>
Aud	Audible
Bene	Beneficial
Brev	abbreviate, brief
circum	Circulate
Contra	Contradict
Cred	Credible
Dict	Diction
Femina	Feminine
Inter	Internet, interval
Magna	Magnificent
Mal	Malnutrition
Multi	multinational
Nova	Novel
Multi	Multiple, multiplex
Non	Nonstop

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Pre	Previous, predicate
Re	Redo, rewind
Scrib	Scripture
Spect	Spectator
Trans	Transport
Uni	Unity
Omni	Omnipotent
Semi	Semicircle
Sub	Subway
somnus	Insomnia,
Super	Superman
Sym	Sympathy
scribe	Describe, scribble(write illegibly), inscribe
Trans	Transform
Un	Unnecessary
Uni	Universal

**Learning Resources:**

- (i) Kulbushan Kumar, R S Salaria, Effective Communication Skills, Khanna Publishing House, Delhi.
- (ii) Practical English Usage. Michael Swan. OUP. 1995.
- (iii) Remedial English Grammar. F.T. Wood. Macmillan.2007
- (iv) On Writing Well. William Zinsser. Harper Resource Book. 2001
- (v) Study Writing. Liz Hamp-Lyons and Ben Heasly. Cambridge University Press. 2006.
- (vi) Communication Skills. Sanjay Kumar and PushpLata. Oxford University Press. 2011.
- (vii) Exercises in Spoken English. Parts. I-III. CIEFL, Hyderabad. Oxford University Press
- (viii) Universal English Prof. Prasad Kataria Publications, 2019.
- (ix) "Communication Skills for Professionals"-Nira Konar, Prentice Hall of India 2nd edition, New Delhi, 2011
- (x) Gajendra Singh Chauhan, Smita Kashiramka and L. Thimmesha. Functional English. Cengage , 2019.

**Course Outcomes**

The student will acquire basic proficiency in English including reading and listening comprehension, writing and speaking skills.

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<b>Course Code :</b> HM-HU291	<b>Category :</b> Humanities and Social Sciences including Management courses
<b>Course Title :</b> Language Laboratory	<b>Semester :</b> Second
<b>L-T-P : 0-0-2</b>	<b>Credit:</b> 1
<b>Pre-Requisites:</b>	

- 1) Honing ‘Listening Skill’ and its sub skills through Language Lab Audio device; 3P
- 2) Honing ‘Speaking Skill’ and its sub skills 2P
- 3) Helping them master Linguistic/Paralinguistic features (Pronunciation/Phonetics/ Voice modulation/ Stress/ Intonation/ Pitch & Accent) of connected speech 2P
- 4) Honing ‘Conversation Skill’ using Language Lab Audio –Visual input; Conversational Practice Sessions (Face to Face / via Telephone, Mobile phone & Role Play Mode) 2P
- 5) Introducing ‘Group Discussion’ through audio –Visual input and acquainting them with key strategies for success 2P
- 6) G D Practice Sessions for helping them internalize basic Principles (turn- taking, creative intervention, by using correct body language, courtesies & other soft skills) of GD 4P
- 7) Honing ‘Reading Skills’ and its sub skills using Visual / Graphics/ Diagrams /Chart Display/Technical/Non Technical Passages Learning Global / Contextual / Inferential Comprehension; 2P
- 8) Honing ‘Writing Skill’ and its sub skills by using Language Lab Audio –Visual input; Practice Sessions 2P

#### **Course Outcomes**

- The student will acquire basic proficiency in English including reading and listening comprehension, writing and speaking skills.