

Course Outcomes

MSBTE prescribed syllabus, as per the Scheme 'G'

Semester – I

Abbreviation	Subject	Code
ENG –	English	(17101)
	<ol style="list-style-type: none">1) Understand English - the language as a medium of expressing oneself and being global language, use it in all spheres of life – Personal, Professional and Social.2) Developing the vocabulary.3) Learn and apply rules of grammar.4) Comprehend the given unseen paragraph.	
EPH –	Basic Physics	(17102)
	<ol style="list-style-type: none">1) Understand the method of selection of material for intended purpose.2) Application of knowledge of heat conductors (good and bad conductors of heat) in various engineering concepts.3) Understand the effect of interference between the waves of light.4) Application of knowledge of wave motion and resonance in various engineering applications.5) Application of concept photoelectric effect for application like Photoelectric cell and Solar cell.	
ECH –	Basic Chemistry	(17103)
	<ol style="list-style-type: none">1) Understand the concept of valence electron and valency of elements.2) Application of knowledge of electrolysis in engineering applications.3) Understand the formation process/reactions of various molecules.4) Application of the properties of metals and alloys in engineering field.5) Understand the use of non-metallic material in engineering field.	
BMS –	Basic Mathematics	(17104)
	<ol style="list-style-type: none">1) Apply the Cramer's rule and Matrix method to solve simultaneous equations in three variables.2) Use concept of allied angle, compound angle, multiple and sub-multiple angles to solve engineering problems.3) Use factorization and de-factorization formulae to solve examples.4) Understand the relationship of two variables.	

EGG – Engineering Graphics (17001)

- 1) Draw different engineering curves and know their applications.
- 2) Draw orthographic projections of different objects.
- 3) Visualize three dimensional objects and draw Isometric Projections.
- 4) Draw simple geometrical figures using CAD package.

CMF – Computer Fundamentals (17002)

- 1) Use of Operating System.
- 2) Use MS-Word, MS-Excel, MS-Power Point, effectively for documentation.
- 3) Use browser for accessing the Internet
- 4) Handle Personal Computer System

WPI – Basic Workshop Practice (17007)

- 1) Understand basic components of computers.
- 2) Connect peripheral devices.
- 3) Clean various devices like Keyboard, Mouse, Printers and Motherboard.
- 4) Park and eject the papers over the printer.
- 5) Write Data on the CD and DVD.
- 6) Scan documents and Images.
- 7) Understand front panel and back panel connections.
- 8) Connection of Pen drives and DVD's.

Semester – II

Abbreviation	Subject	Code
CMS –	Communication Skills	(17201)

- 1) Utilize the skills necessary to be a competent communicator.
- 2) Select and apply the appropriate methods of communication in various situations.

APH –	Applied Physics	(17210)
--------------	------------------------	----------------

- 1) Understand laws and principles of electrical circuits.
- 2) Classify solids on the basis of semiconductor band theory.
- 3) Understand principles of Laser and its applications in engineering fields.
- 4) Identify superconductor and its types.
- 5) Understands applications of nanoparticles in engineering field.

ACH –	Applied Chemistry	(17211)
--------------	--------------------------	----------------

- 1) Select proper type of cell based on the requirement in electronics and computer engineering.
- 2) Apply knowledge of extraction, properties of copper and aluminium in engineering applications.
- 3) Know various insulating or dielectric materials used in for electronic equipments and computers.
- 4) Generalize different factors which affect atmospheric as well as electrochemical corrosion.

PIC – Programming in 'C' (17212)

- 1) Understand the concept of constants, variables data types and operators.
- 2) Write algorithm and draw flowchart for a given problem statement.
- 3) Develop programs using input and output operations.

BEL – Basic Electronics (17213)

- 1) Appreciate the importance of electronics in computer systems.
- 2) Understand the application of electronic circuits.

EMS – Engineering Mathematics (17216)

- 1) Use complex numbers for representing different circuit component in complex form to determine performance of electrical circuit and machines.
- 2) Apply rules and methods of differential calculus to solve problems.
- 3) Apply various numerical methods to solve algebraic and simultaneous equations.

DLS – Development of Life Skills (17010)

- 1) Understand and appreciate importance of life skills.
- 2) Use self-analysis and apply techniques to develop personality.
- 3) Use different search techniques for gathering information and working effectively.
- 4) Improve the presentation skills.

WPD – Web Page Designing (17013)

- 1) Design and Write code using HTML and CSS coding.
- 2) Write code for validation at client using JavaScript.
- 3) Design and Create static website.

Semester – III

Abbreviation Subject Code
AMS – Applied Mathematics (17301)

- 1) Apply derivatives to find slope, maxima, minima and radius of curvature.
- 2) Apply integral calculus to solve different engineering problems.
- 3) Apply the concept of integration for finding area.
- 4) Apply differential equation for solving problems in different engineering fields.
- 5) Apply the knowledge of probability to solve the examples related to the production process.

DSU – Data Structure using 'C' (17330)

- 1) Know the fundamentals of data structure.
- 2) Classify data structures.
- 3) Select the appropriate data structure.
- 4) Apply the different searching and sorting techniques.
- 5) Apply different algorithms to solve the real world problem.

ETE – Electrical Technology (17331)

- 1) Know the concept of D.C. Circuits.
- 2) Understand the concept of A.C. Circuits.
- 3) Know the importance of 3 phase Circuits.
- 4) Know construction and working of different electrical machines.

RDM – Relational Database Management System (17332)

- 1) Design the database structure with appropriate data tables.
- 2) Aware of proper specifications of data.
- 3) Create normalized database file.
- 4) Understand Query Processing.

DTE – Digital Electronics (17333)

- 1) Understand the Digital Systems and Logic Families.
- 2) Select a logic gate for specific application.
- 3) Draw ladder network diagrams.

GUI – Graphical User Interface (GUI) Programming (17026)

- 1) Understand the concept of Visual Programming using VB 6.0
- 2) Understand the development environments and other programming and data access tools used in software development.
- 3) Design and Create the Windows application using controls, data access and crystal reports.

PPO – Professional Practices – I (17027)

- 1) Acquire information from different sources – the books, the internet and the magazines etc.
- 2) Prepare note for given topic.
- 3) Present given topic in a Seminar.
- 4) Interact with peers to share thoughts and information.
- 5) Prepare a report on Industrial Visits and Expert's Lecture.

Semester – IV

Abbreviation Subject Code
EST – Environmental Studies (17401)

- 1) Understand the importance of environment.
- 2) Know key issues about environment.
- 3) Understand the reasons for environment degradation.
- 4) Know aspects about improvement methods.
- 5) Know initiatives taken by the world bodies to restrict and reduce degradation.

CHM – Computer Hardware and Maintenance (17428)

- 1) Debug and repair the faults in the system.
- 2) Assemble the system.
- 3) Load the operating system and device drivers in the system.

CNE – Computer Network (17429)

- 1) Understand network & can identifying benefits of networks.
- 2) Understand and describe communication media.
- 3) Compare different types of Topology.
- 4) Compare different types of network devices.
- 5) Compare OSI and TCP/IP protocol suite.
- 6) Configuration of TCP/IP on Personal Computers in network.

MAP – Microprocessor and Programming (17431)

- 1) Write the syntax of given instructions.
- 2) Understand the execution of instructions in pipelining and address generation.
- 3) Apply instructions in Assembly Language Program for different problem statements.
- 4) Use the procedures and macros in assembly language programming.

OOP – Object Oriented Programming (17432)

- 1) Understand the concept of Object Oriented Programming.
- 2) Implement programs based on OOP concepts.
- 3) Understand basic fundamentals of C++.
- 4) Develop small software application using C++.

CGR – Computer Graphics (17056)

- 1) Specifically develop the logic and algorithms for developing basic graphics software.
- 2) Use of programming language constructs in program implementation.
- 3) To be able to apply different logics to solve given problem.
- 4) To be able to write program using different implementations for the same problem
- 5) Study different types of errors such as syntax, semantic, fatal, linker & logical
- 6) Understanding different steps to develop program such as
 - a. Problem definition
 - b. Analysis
 - c. Design of Logic
 - d. Coding
 - e. Testing
 - f. Maintenance (Modifications, error corrections, making changes etc.)

PPT – Professional Practices – II (17042)

- 1) Acquire the knowledge from different resources.
- 2) Present a given topic effectively in a seminar and build a stage-daring.
- 3) Interact with colleague through group discussion.

Semester – V

Abbreviation Subject Code
OSY – Operating Systems (17512)

- 1) Learn the various milestones in the history of Operating Systems and various Generations of computers as well as the modern trends in Operating Systems.
- 2) Understand the kernel architectures, the functions of operating systems and the use of system calls.
- 3) Understand the concept of processes, multiprogramming, Process Control Blocks, context switching.
- 4) Learn about the scheduler and implement various scheduling algorithms.
- 5) Understand about Deadlocks, Inter-process communications.
- 6) Learn about Memory Management and File Management techniques of the OS.
- 7) Understand the structure and file system structure of Unix OS.
- 8) Use UNIX commands, vi editor and file utilities and write shell scripts.

SEN – Software Engineering (17513)

- 1) To develop awareness about the concepts of Software Development Life Cycle (SDLC).
- 2) To develop scientific and engineering approach towards software product development.
- 3) To develop both, the technical skills as well as managerial skills needed for software development.
- 4) Understand to conceive, plan, design, develop, and deploy software projects.
- 5) To be able to implement new ideas into real product.

CSE – Computer Security (17514)

- 1) Understand the risks faced by Computer Systems and the nature of common Information hazards.
- 2) Identify the potential threats to confidentiality, integrity and availability of Computer
- 3) Systems.
- 4) Understand the working of standard security mechanisms.
- 5) Use cryptography algorithms and protocols to achieve Computer Security.
- 6) Understand the threats and security mechanisms for Computer Networks.
- 7) Build systems that are more secure against attacks.
- 8) Apply security principles to secure Operating Systems and applications.

JPR – Java Programming (17515)

- 1) Use of programming language constructs.
- 2) To know apply different logics to solve the given problem.
- 3) To be able to write program using different implementations for the same problem.
- 4) Study different types of errors.
- 5) Debugging of programs.
- 6) Understand different steps to develop program such as
 - a. Problem definition
 - b. Analysis
 - c. Design of Logic
 - d. Coding
 - e. Testing
 - f. Maintenance (Modifications, error corrections, making changes etc.)

BSC – Behavioural Science (17075)

- 1) Develop him/her as Team leader.
- 2) Use self-motivation and motivate others.
- 3) Build a team and develop team spirit among the team members.
- 4) Improve the interpersonal relationship skills.
- 5) Learn Problem solving and decision making skills.
- 6) Discuss a particular topic in a group and face the interview.

PWV – Windows Programming using VC++ (17076)

- 1) Study the GUI basics and Windows Programming basics.
- 2) Operate Windows Development Environment using VC++.Net Tool.
- 3) Create Write, Test, Compile and Implement Windows Programs.
- 4) Use MFC utilities for Keyboard interface, mouse interface, printer interface, etc.
- 5) Create and use checkboxes, Radio-Button, List Boxes, Scrollbars, etc.
- 6) Create and use Menus, Tool-Bars etc.
- 7) Create and handle Dialog Boxes and add various controls.

NMA – Network Management Administration (17061)

- 1) Identify different network components.
- 2) Install, manage and administer the network.
- 3) Understand requirements of Windows Server 2008.
- 4) Use of resource sharing on network.
- 5) Manage different roles of Servers.

PPT – Professional Practices – III (17062)

- 1) Acquire Information & Knowledge from different resources
- 2) Write the reports Industry Visits & Guest Lectures.
- 3) Deliver Seminars on a given topic which will help them to build self-confidence & Knowledge.
- 4) Interact with each other through group discussion.
- 5) Present the feedback of various activities.

Semester – VI

Abbreviation Subject Code
MAN – Management (17601)

- 1) Get familiarized with environment related to business processes.
- 2) Know the management aspects of the organisations.
- 3) Understand Role & Responsibilities of a Diploma engineer.
- 4) Understand importance of quality improvement techniques.
- 5) Appreciate need and importance of safety in industries.
- 6) Understand process of Industrial finance and its management.
- 7) Know the latest trends in industrial management.

STE – Software Testing (17624)

- 1) Understand how software testing fits into the software development process.
- 2) Learn various types and levels of software testing.
- 3) Develop the skills to find bugs in any type of software.
- 4) Learn how to effectively plan tests, communicate the bugs you find.
- 5) Use your new testing skill to test not just the software but also the product specification, the raw code and even the user's manual.
- 6) Understand STLC, test planning, test case writing and testing execution and defect management.
- 7) Understand the various automated testing tools to improve testing efficiency.

AJP – Advanced Java Programming (17625)

- 1) Understand the Internet programming using Java.
- 2) Creating Web Applications using the advanced features in Java.
- 3) Learning the GUI technologies such as, AWT and Swings, event handling mechanisms and network programming.
- 4) Understand the Database Interactions.
- 5) Understand and use the advanced server side components – servlets.
- 6) Understand the concepts like servlets, chaining, filtering, sessions, cookies and most important Applet – Servlet communication.

ESY – Embedded System – Elective (17626)

- 1) Know the hardware overview of 8051.
- 2) Write embedded program in C or Assembly language.
- 3) Understand the function of embedded system hardware such as processor, I/O devices,
- 4) Watchdog timer, Oscillator, Reset circuitry, Power supply.
- 5) Know memory organization in 8051.
- 6) Interface various devices using serial and parallel ports.
- 7) Understand the concept of Real Time Operating System.

OR

AMI – Advanced Microprocessor – Elective (17627)

- 1) Explain memory management and concept of pipelining.
- 2) Understand the concept of paging.
- 3) Understand the superscalar architecture of Pentium.
- 4) Design a program in assembly language using different functions of DOS and BIOS.

LPR – Linux Programming (17816)

- 1) Understand Kernel Basics.
- 2) Understand use of System Calls.
- 3) Understand file operations as carried by Linux O.S.
- 4) Understand Memory Management Basics, processes and process handling.
- 5) Understand interrupt handlers and exception handling.

IPR – Industrial Project (17817)

- 1) Work in Groups, Plan the work, and Coordinate the work.
- 2) Develop leadership qualities.
- 3) Develop Innovative ideas.
- 4) Practically implement the acquired knowledge.
- 5) Develop basic technical Skills by hands on experience.
- 6) Document and Write project report.
- 7) Develop skills to use latest technology in Computer/Information Technology field.
- 8) Analyse the different types of Case studies.
- 9) Testing of software and hardware.
- 10) Maintaining systems and accessories.

EDE – Entrepreneurship Development (17818)

- 1) Identify entrepreneurship opportunity.
- 2) Acquire entrepreneurial values and attitude.
- 3) Use the information to prepare project report for business venture.
- 4) Develop awareness about enterprise management.