Program Outcomes, Program Specific Outcomes & Course Outcomes of B.Sc. IT Program

POs of B.Sc. IT Program	
Programme Outcomes	PO-1: To develop the necessary analytical abilities for developing computer-based solutions for real life problems. PO-2: To inculcate quality practices in Information Technology solutions development. PO-3: To imbibe professional skills in students for their future roles. PO-4: To prepare necessary knowledge base for potential research and development in Information Technology. PO-5: To help students' build-up a successful career in Information Technology and allied fields.
PSOs of B.Sc. IT Program	
Programme Specific Outcomes	PSO-1: Communicate effectively with a range of audiences using a range of modalities including written, oral and graphical. PSO-2: Apply the knowledge of engineering and management principles to manage projects effectively in diverse environments as a member or a leader in the team. PSO-3: Engage in independent and life-long learning for continued professional development.

Course	Course Outcomes (Cos)
B.Sc. IT 1ST SEM	
Business Communication Professional Skills (HUM101)	1. To improve the students' accuracy and fluency in English through a well-developed vocabulary, and enable them to listen to English spoken at normal conversational speed by educated English 2. To enable students face competitive exams such as, GRE, TOEFL, IELTS, UPSC and other Bank examinations 3. To enable them communicate their ideas relevantly and coherently in writing 4. Students will also exhibit advanced skills of interview, debating and discussion
Web Design Using HTML (COMP-201)	1. Students will be ready to discover how does web works really, what makes web sites work. 2. Simple and impressive design techniques, from basics till advanced to focus on goal oriented and user centric designs. 3. How to and where to start research, planning for website & actually build excellent web sites.

	4. To create web elements using various tags like buttons, text boxes, checkboxes etc. 5. Forms and validations for your website. 6. Setting up page layout, color schemes, contract in the designs. 7. Writing valid and concise html code for webpages.
Introduction to Computer Applications (COMP-101)	1. Bridge the fundamental concepts of computers with the present level of knowledge of the students. 2. Familiarise operating systems, programming languages, peripheral devices, networking, multimedia and internet. 3. Understand binary, hexadecimal and octal number systems and their arithmetic. 4. Understand how logic circuits and Boolean algebra forms as the basics of digital computer
English Literacy and Typewriting Awareness (ENG-105)	1. Establish correct posture and fingering at the keyboard and to improve keyboard memorisation 2. Develop good proofreading abilities, detect all errors, and acquire a critical attitude towards spelling, punctuation, syllabification, and syntax 3. Students can listen to and understand spoken text well and respond or apply the information appropriately with comments and/or questions. 4. Students should be able to write cohesion and cohesiveness in writing Essays, Letters and other Literature.
Business Organization and Management (BC-103)	1. Understand the concepts related to Business. 2. Demonstrate the roles, skills and functions of management. 3. Analyze effective application of PPM knowledge to diagnose and solve organizational problems and develop optimal managerial decisions using IT Tools. 4. Understand the complexities associated with management of human resources in the organizations and integrate the learning in handling these complexities also In IT organizations.
B.Sc. IT 2ND SEM	
Human Values and Professional Ethics (EDU101)	1. Students develop the capability of shaping themselves into outstanding personalities, through a value-based life. 2. Students turn themselves into champions of their lives. 3. Students take things positively, convert everything into happiness and contribute for the happiness of others. 4. Students become potential sources for contributing to the development of the society around them and institutions / organisations they work in. 5. Students shape themselves into valuable professionals, follow professional ethics and are able to solve their ethical dilemmas.

Environmental Studies (EVS301)	1. Appreciate the ethical, cross-cultural, and historical context of environmental issues and the links between human and natural systems. 2. Understand the transnational character of environmental problems and ways of addressing them, including interactions across local to global scales. 3. Apply systems concepts and methodologies to analyze and understand interactions between social and environmental processes. 4. Reflect critically about their roles and identities as citizens, consumers and environmental actors in a complex, interconnected world. 5. Demonstrate proficiency in quantitative methods, qualitative analysis, critical thinking, and written and oral communication needed to conduct high-level work as interdisciplinary scholars and/or practitioners.
Digital Electronics (ETE206)	1. Understand the concepts of various components to design stable analog circuits. 2. Represent numbers and perform arithmetic operations. 3. Minimize the Boolean expression using Boolean algebra anddesign it using logic gates. 4. Analyze and design combinational circuit 5. Design and develop sequential circuits. 6. Translate real world problems into digital logic formulations using VHDL.
Problem Solving & Programming C Language (COMP-121)	1. Illustrate the flowchart and design analgorithm for a given problem and to develop IC programs using operators 2. Develop conditional and iterativestatements to write C programs 3. Exercise user defined functions to solvereal time problems 4. Inscribe C programs that use Pointers toaccess arrays, strings and functions. 5. Exercise user defined data typesincluding structures and unions to solve problems 6. Inscribe C programs using pointers andto allocate memory using dynamic memorymanagement functions. 7. Exercise files concept to show input andoutput of files in C.
Introduction to Information System (CSE107)	1. Analyze web information sources for relevance and accuracy; and synthesize, evaluate and communicate the results, demonstrating writing competencies at the college level. 2. Describe the general characteristics of a computer system and identify types of computer hardware and software and explain their functions. 3. Demonstrate the use of a word processor, spreadsheet, and database application program by completing projects that require students to extend course content to real-world

	situations and manage and organize files and use data storage devices.
B.Sc. IT 3RD SEM	
Computer Graphics (CSE204)	1. To list the basic concepts used in computer graphics. 2. To implement various algorithms to scan, convert the basic geometrical primitives, transformations, Area filling, clipping. 3. To describe the importance of viewing and projections. 4. To define the fundamentals of animation, virtual reality and its related technologies. 5. To understand a typical graphics pipeline 6. To design an application with the principles of virtual reality
Software Engineering (CSE205)	1. Define various software application domains and remember different process model used in software development. 2. Explain needs for software specifications also they can classify different types of software requirements and their gathering techniques. 3. Convert the requirements model into the design model 4. and demonstrate use of software and user-interface design principles. 5. Distinguish among SCM and SQA and can classify different testing strategies and tactics and compare them. 6. Justify role of SDLC in Software Project Development and they can evaluate importance of Software Engineering in PLC.
Operating Systems (CSE211)	1. Describe the important computer system resources and the role of operating system in their management policies and algorithms. 2. Understand the process management policies and scheduling of processes by CPU 3. Evaluate the requirement for process synchronization and coordination handled by operating system. 4. Describe and analyze the memory management and its allocation policies. 5. Identify use and evaluate the storage management policies with respect to different storage management technologies.
Computer Programming in C++ (CSE102)	1. Understand the Object oriented programming fundamentals 2. Develop ability to design algorithms and use functions, strings and pointers 3. Write computer programs to solve practical engineering problems 4. Design efficient computer programs to solve practical engineering problems
B.Sc. IT 4TH SEM	

Emerging Technologies (COMP-321)	1. Identify and analyze various emerging technologies. 2. Identify and analyze various factors that affect business strategy with emerging technologies. 3. Understand the impact of emerging technologies in a global context. 4. Understand the impact of emerging technologies on society as a whole
Core PHP (COMP-221)	1. Write PHP code to produce outcomes and solve problems. 2. Display and insert data using PHP and MySQL. 3. Test, debug, and deploy web pages containing PHP and MySQL.
System Analysis & Design (CSE215)	1. Define and describe the five phases of the system development life cycle. 2. State at least five expected benefits from systems projects. 3. Explain at least three ways in which information systems support business requirements. 4. Describe how systems analysts interact with users, management, and other information systems professionals. 5. Develop data flow diagrams and decision tables.
Workshop on E-Accounting and E-filling of Returns (BC209)	1. Student must become familiar with the mechanism for conducting business transactions through electronic means.
Multimedia Technologies (CSE312)	1. Describe different realisations of multimedia tools and the way in which they are used. 2. Analyse the structure of the tools in the light of low-level constraints imposed by the adoption of various QoS schemes (i.e bottom up approach) 3. Identify and describe the function of the general skill sets in the multimedia industry. 4. Identify the basic components of a multimedia project. 5. Identify the basic hardware and software requirements for multimedia development and playback.
B.Sc. IT 5TH SEM	
Computer Networks (CSE301)	1. Students will be able to implement the terminology and concepts of the OSI reference model and the TCP-IP reference model. 2. To master the concepts of protocols, network interfaces, and design/performance issues in local area networks and wide area networks. 3. To be familiar with wireless networking concepts. 4. To be familiar with contemporary issues in networking technologies. 5. To be familiar with network tools and network programming

Essential of E-Commerce (BC304)	1. Explain various aspects of E-Commerce. 2. Understand the dynamics of fourth channel 3. Appreciate the internet technology and its infrastructure. 4. Understand the methodology for online business dealings using E-Commerce infrastructure
Data Structure (CSE201)	1. Student will be able to choose appropriate data structure as applied to specified problem definition. 2. Student will be able to handle operations like searching, insertion, deletion, traversing mechanism etc. on various data structures. 3. Students will be able to apply concepts learned in various domains like DBMS, compiler construction etc. 4. Students will be able to use linear and non-linear data structures.
Microprocessors & Its Applications (ETE301)	1. Students will be able to program a microcontroller to perform various tasks. 2. An ability to interface a microcontroller to various devices. 3. An ability to effectively utilize microcontroller peripherals. 4. An ability to design and implement a microcontroller-based embedded system. 5. Introduction to the Architecture and programming of the microprocessor 8085.
Java Programming (CSE304)	1. To gain knowledge of the structure and model of the Java programming language. 2. Students will be able to use the Java programming language for various programming technologies. 3. To develop software in the Java programming language. 4. Students will evaluate user requirements for software functionality required to decide whether the Java programming language can meet user requirements. 5. To propose the use of certain technologies by implementing them in the Java programming language to solve the given problem.
Visual Basics Programming (CSE318)	1. Demonstrate knowledge of programming terminology and how applied using Visual Basic (e.g., variables, selection statements, repetition statements, etc.) 2. Develop a Graphical User Interface (GUI) based on problem description 3. Develop an Event Planning Chart based on problem description so as to define the processing that is to occur based on specific events 4. Develop an Algorithm to verify processing is accurate 5. Develop programs that retrieve input from a file as opposed to input only provided by user
B.Sc. IT 6TH SEM	

Next Generation Technologies (CSE218)	1. Purpose and implement a network which is capable of handling very high data rate especially multimedia data providing qos and backward compatible with old networks.
Database Management System (CSE213)	1. Master the basic concepts and appreciate the applications of database systems. 2. Master the basics of SQL and construct queries using SQL. 3. Be familiar with a commercial relational database system (Oracle) by writing SQL using the system 4. Be familiar with the relational database theory, and be able to write relational algebra expressions for queries
Cryptography & Internet Security (CSE314)	1. This course builds on the overview about information security, which includes an overview of public and secret key cryptosystems. 2. Students will be able to comprehend and apply authentication services and mechanisms. 3. Students will be able to apply the knowledge and skills obtained to study further concepts in information security
Computer Architecture (CSE214)	1. Students will study basic computer organization, design and micro-operations. 2. Understanding of CPU functioning and computer arithmetic. 3. Learning various methods and techniques of memory organization 4. Ability to design memory organization that uses banks for different word size operations. 5. Ability to understand the concept of I/O organization.
Artificial Intelligence (CSE305)	1. Students will be able to identify problems that are amenable to solution by AI methods, and which AI methods may be suited to solving a given problem. 2. Formalise a given problem in the language/framework of different AI methods (e.g., as a search problem, as a constraint satisfaction problem, as a planning problem, etc). 3. Implement basic AI algorithms (e.g., standard search or constraint propagation algorithms). 4. Design and perform an empirical evaluation of different algorithms on a problem formalization, and state the conclusions that the evaluation supports.