COMPUTER APPLICATIONS

(UG DEGREE STANDARD)

SUBJECT CODE: 288

UNIT - I: BASIC MATHEMATICS

Prepositional logic sets, relations, functions, partial orders, matrix, algebra, integration, differentiation.

UNIT - II: DIGITAL COMPUTER FUNDAMENTALS

Number systems - Decimal, Binary, Octal, Hexadecimal - Conversion from one to another - Characters and codes - ASCII code, Excess-3 code, gray code - Binary addition, subtraction, multiplication and division - Unsigned binary numbers - Signed magnitude numbers - Complements in number systems - Truth tables, AND, OR, NOT, NOR & NAND gates, EX-OR gates - Parity generators and checkers.

Boolean Algebra and Digital Circuits : Boolean laws and theorems - De Morgan's theorems - Duality theorem - Simplification of sum of 2 product and product of sum expressions - Karnaugh map and simplifications - Simple arithmetic circuits - Half and Full adders - Binary adder/subtracter - BCD adder - Data processing circuits - Multiplexers - Demultiplexers - Encoders and Decoders.

Operating Systems: Types - Scheduling algorithms, Memory Management - Requirements - Partitioning - Paging - Segmentation - Virtual memory

UNIT - III: PROGRAMMING IN C AND C++

Data Types - Variables - Operators - Control structures - Looping structures - Arrays - Strings - Built-in-functions. Function - Scope of Variables - Advanced features of functions. Pointer - Pointers to Array - Pointer Array - Pointer Arithmetic - Pointer of Pointer - Functions and Pointers -Structures and Pointers - Dynamic Allocation - Function pointer.

C++: Objects - Classes - Inheritance-reusability - Creating new data types - Polymorphism and overloading.

UNIT - IV: MANAGEMENT INFORMATION SYSTEMS

Fundamentals of Information System – Overview of Information of System Solving Business Problems with Information Systems : System Approach to Problem Solving – Developing Information System Solution – Information Systems for Strategic Advantages – Fundamentals of Strategic Advantage - Strategic Applications and Issues in It; Managing IT : Enterprise and Global Management.

Business applications of Information Technology: The Internet and Electronic Commerce – Fundamentals of Electronic Commerce – Information System for Business Operations: Business Information System – Transaction – processing Systems. Information systems for Managerial Decision Support : Decision Support Systems – Artificial Intelligence technology in Business – Managing IT – Planning for Business change with IT – Implementing business change with IT – Security & Control Issues in I/S – Ethical and societal challenges of Information Technology.

UNIT - V: COMPUTER NETWORKS

Introduction to Computer Networks and Data Communication: Need for computer networks - evolution - Data Communication - Data Transmission - Transmission media - Classification of Networks - Switching and Routing - Routing - Multiplexing and Concentration Concentrator - Terminal Handling - Components of a Computer Network. Network Standards and OSI - Need for network standard - OSI reference model - Physical layer - Data link layer - Network layer - Transport layer - Session layer - Application layer.

UNIT - VI: FUNDAMENTALS OF DATABASES

Early Information Systems - Problems with Early Information Systems - Organization of Data Base - Components of Data Base Management System-Data Models - Entity - Relationship Model - Network Data Model, Hierarchical Data Model - Semantic Data Modelling. File Organization - Sequential file organization - The indexed sequential file organization -Creation and manipulating of indexed sequential file - Hashing - Key-to-address transformation. Relational Data Model: Introduction - Basic definition and terminology - Relational algebra.

UNIT - VII: OFFICE AUTOMATION

Features of MS – Windows, Control Panel, Taskbar, Desktop, Windows Application, Icons, Windows Accessories, Notepad, Paintbrush.

Editors and Word Processors: Basic Concepts, Examples: MS-Word, Introduction to desktop publishing.

Spreadsheets and Database packages : Purpose, usage, command, MS-Excel, Creation of files in MS-Access, Switching between application, MS-Power Point.

UNIT - VIII: MULTIMEDIA AND APPLICATIONS

Uses of Multimedia – Introduction to making multimedia – Multimedia skills. Multimedia hardware and software – Connections – Memory and storage devices – Input devices – Output devices – Communication devices. Basic software tools – Text editing and word processing tools – Painting and drawing tools – 3-D modelling and animation tools – Image editing tools – Animation, video and digital movie tools. Making instant multimedia – Multimedia authoring tools. Multimedia Building Blocks – Text – Sound – Multimedia System Sounds – MIDI versus Digital Audio – Digital Audio – Making MIDI Audio – Audio File Formats – Production tips - Images – Animation - Video.

UNIT - IX: WEB TECHNOLOGIES

The world wide web: Browsing the Web - Web address - Web browser basics - Strong and managing(book marks) - Surfing the web with web browser - Searching the web directory - Search engines - Navigation tools.

Email: Sending - Reading - Replying - Deleting - Exiting - Sending Mail to more than one person sending folder - Forwarding a mail - Checking the spelling - Attachments.

HTML: Overview of HTML - Adding structure to a page formatting text and pages - Linking page to the world - Including picture - Clearing lists - Arranging items within tables - Getting feedback from form - Splitting a page into frames.

UNIT - X: ORGANIZATIONAL BEHAVIOR

Organizational Behaviour models, Foundation of individual Behaviour, Concept of Attitude, Concept of value, concept of JOB Satisfaction learning theories, Foundation of GROUP BEHAVIOUR – reasons for GROUP formation by people, Leadership concept.

Dated 14.07.2017