BS 240/BSP 240/ BEC 240/ BF 240: INTRODUCTION TO DATA PROCESSING/ MANAGEMENT OF INFORMATION TECHNOLOGY

Objectives

- To give a thorough and up-to-date grounding in the realities of commercial applications of Information and Communication Technologies (ICT's).
- To Examine the roles of data, information and knowledge within modern business organisations, and the roles that information and communication technologies (ICT's) play in supporting people and groups within organisations.
- To provide students a thorough understanding of how the various information and communication technologies work, the basic principles on which they are built and their role in computer based systems in the business community.
- To give an insight into the historic development of computer technology and its impact on business management.
- To categorise of the types of computer system that a business uses and recognise the different components of a computer;
- To explain the purpose of software applications in different categories;describe some of the ways in which applications software supports the activities of a business organisation.

Contents

1. **DATA AND INFORMATION**
   Introductory concepts of Data and Information (definition, representation, storage).
   General characteristics or attributes that add value to information.Value ofinformation in the modern business enterprise.Role of data and information in business. Information uses and flows in management. The Information and Communication Technology (ICT) Paradigm. Integration ofICT's into modern business practices.The Data processing cycle.

2. **COMPUTERS AND ASSOCIATED PERIPHERALS**
   Introduction to key ICT technologies.Brief history of the computer.
   Computer systems: Types and general categories (micro-computer, supercomputer, minicomputer, mainframe). Other categories and mobile business productivity.
   (PDA's, Palmtops, Handhelds, Smart phones etc..)
   Architecture and structure of computer systems.Computer data representation. Data, fields, records, files and databases. Data and Information handling Importance (Entry, validation, verification)
   Input Devices: General Categories, VDU (touch and non touch sensitive), keyboard, Mouse, Optical Character Recognition (OCR), Image Recognition Systems, Magnetic Ink Character Recognition (MICR), card and badge readers, Radio Frequency Identification (RFID), Point-Of Sale (POS) system, voice and sound data input, motion sensor input, Optical/Image Scanners etc.
   Computer Data Storage Devices: Magnetic tape, Magnetic disks, Optical Disks, USB Drives, Memory cards, Hard Drives, Floppy Disks etc..
   Output Devices: Printers types and usage (Dot Matrix, daisy wheel, laser printer, Thermal printers, ink-jet printers, graph plotter, computer output on microfilm (COM), fax, VDU, voice data output.
   Computer Memory: RAM, Processor Registers, Cache Memory, Virtual Processing and the execution cycle. Batch, On-line, Real-time processing.

3. **SOFTWARE**
Definition of software. Need for software. Software types: Systems Software(Operating systems, Communications software) Utility Software (DatabaseManagement Systems) Application Software (General purpose, SpecialisedSoftware).
Shareware, Open Source Software (OSS), Freeware.Webware, Groupware. Productivity and Software.
Operating Systems (OS): OS enabled functions. OS Features. Choosing an OS(advantages, specifications, purpose).
Applications Software: Spreadsheet applications, Word Processors and otherproductivity applications).
Acquisition of software (Off the Shelf, Tailored software, in-house developed,outsourced development).
Licensing, Purchase and Use of Software, End User Licensing Agreement (EULA).
Copyright, Trade Marks, Intellectual Property.

4. **COMMUNICATIONS SYSTEMS**
The Communications Model: General Layout, Need for communication, the businessenterprise and communication. Distributed and centralised processing.
Data Transmission: Data transmission systems, Data Switching; Simplex, Duplex and
Half Duplex transmission; data transmission equipment (Modems, Acoustic couplers,multiplexers).
Computer Networks: Role of networks, distributed and centralised networks (andexamples), Network topologies (Physical and logical), their characteristics and advantages (Ring, Star,Hierarchical, multi-drop, etc). Computer Network Types: wired and non-wired.
Network protocols (OSI and TCP/IP)
Types of networks: PANs, LANs (WiFi, Ethernet, Intranet, Extranet), WANs, LHNs, the Internet.

5. **COMPUTER APPRECIATION**
Practical Orientation to applications software: Basic Computer Operation and File management, Word Processors, spreadsheets, Presentation tools, Accounting packages, Database Management Systems, Internet Browsers.

6. **THE ORGANISATIONS, CONTROLS AND INFORMATION TECHNOLOGY DEPARTMENT**
The digital firm: Organisation structure and IT departments. Roles of an ITdepartment in the organisation.
IT department organisation structure: Staff Specialisations, Staff roles and responsibilities in an IT department.
Control (Logical, physical and administrative controls)& Security in IT Departments for Safeguarding organisational data/Information.

7. **INTRODUCTION TO SYSTEMS CONCEPTS AND SYSTEMS ANALYSIS**
Definition of Systems.Introduction to Information Systems.IT and IS.
Systems Analysis, Systems Design, Implementation of Design.

8. **INTRODUCTION TO E-COMMERCE**
Business conversion to electronic device usage (advances ICT). Channels of eCommerce. Types of eCommerce, The Internet and eCommerce.
The emergence of new business models and evolution of traditional ones.

9. **PROFESSIONAL ISSUES**
Acquisition of Software, hardware considerations and ICT performance. Ethics and the use of ICT's. Piracy, Fraud and Computer Misuse.

Reading list:
Information Technology: Inside and Outside by David Cyganski, John A. Orr, and Richard F. Vaz.
Schaum's Outline of Introduction to Computer Science by Pauline Cushman and Ramon Mata-Toledo

Computer Science Made Simple: Learn how hardware and software work-- and how to make them work for you! (Made Simple) by V. Anton Spraul.
Business Information: Technology, Systems and Management by Paul Bocij, Dave Chaffey, Andrew Greasley, and Simon Hickie.
Computer Science: An Overview by J. Glenn Brookshear.
Computer Science by Carl French.
Using Information Technology by Brian K. Williams and Stacey Sawyer.
Management Information Systems by Kenneth C Laudon and Jane P Laudon.
Business Information Systems by Dave Chaffey.

Assessment

- Examination : 60%
- Continuous assessment : 40%