Sardar Patel University
S.Y.B.Sc (Information Science)
IS-201 : Introduction to Information Systems
Effective from June – 2003

Number of Credits/Lect. per week: 03 **External marks: 80**
University Examination duration: 3 hrs **Internal marks : 40**
Course Credit: 03 **Total Marks :120**

Unit-I	**Introduction to Information** - Definition of Information. - Data, Information, Knowledge. - Need for information. - Qualities of Information - Value of information. - Information Presentation - Bias in Information - Categories of Information in Business Organization - Comparision between Traditional and Modern System
Unit-II	**Information System** - Level of information - Logical and Physical concept of data - Information System Resources - Information System Activities - Concept of various Data structures like field, record and key, file a document with example (eg. Invoice) - Data Processing Systems : Batch Processing, Online Processing, Real time Processing
Unit-III	**Records and Audit of Information** (Taking Human Resource System as an example) - Records - Introduction - Meaning and types of records - Types of information - Types of File/ Records : Master file, transactrion File, Table file - Importance of records - Essential of good Records - Priciple of Record Keeping - Reports - Information System Audit - Concept - Advantages of audit
Unit-IV	**Office Organization & Management** - Basic concept - Functions of a Modern Office - Centralized V/S Decentralized office work - Office system and Procedures - Office Manual - Office Forms - Handling of Correspondence - Central V/S Non Central Filing System - Office appliances - Benefits of Time and labor saving devices in office - Important office appliances.

Unit-V	**System Concepts** - What is System? - Characteristics of system - Elements of System - Major System Concepts - Types of Systems - What is System Analysis - History of System Analysis - System Analyst - Overview of DFD, DD
Unit-VI	**System Development Life Cycle (SDLC)** - What is SDLC? - Stages of System Analysis - Problem Identification - Feasibility study and cost benefit analysis - System requirement analysis - Stages of System Design - System Design Specifications and programming - System implementation, follow up and maintenance - Evaluation of the system

Books

1. System Analysis & Design by Hussain & Hussain
2. Analysis & Design of Information Systems by James A. Senn
3. Human Resource Management by P. Subha Rao
4. Management By Sherlekar & Sherlekar

Sardar Patel University
S.Y.B.Sc (Information Science)
IS-202 : Introduction to Communication Systems
Effective from June – 2003

Number of Credits/Lect. per week: 03 **External marks: 80**
University Examination duration: 3 hrs **Internal marks : 40**
Course Credit: 03 **Total Marks :120**

Unit-I	**Basic of Communication System** - Definition of Communication Systems - Importance of Communication Systems - Simple model of Communication System - Types of Communication Systems - Parellel & Serial Communication - Asynchronous & Synchronous - Analog & Digital - Concept of Bandwidth, Band, Baud rate, frequency signal, spectrum, Analog-digital, Halt – Display, Full-display, Simpler, Band Amplitude Periodic & Aperiodic Signal - Transmission Impairments - Attenuation - Distortion - Noise - Thermal noise - Impulse noise - Induce noise - Broad cast & point to point communication
Unit-II	**Communication System** - Types of Communication System - What is Switching? - Switching Techniques - Circuit Switching - Packet Switching - Message Switching - Telephone networks - Structure of Telephone Network - The politics of Telephone Network - The local loop - The trunks - PSTN - Radio System - Radio Frequency Allocation - Propagation of Radio Waves - Television System - Analog System - Digital System
Unit-III	**Transmission Media** - Media - Guided - Unguided - Guided Media - Magnetic Media - Twisted Pair - Coaxial Cable : Base, Broad

	- Fiber Optics - Comparison between Copper wire and Fiber - Unguided Media - Wireless Communication - Microwave - Satellite - Cellular Phone
Unit-IV	**Computer Networks** - Introduction to Computer Networks - Advantage & Disadvantage of Computer Network - Components of Computer Network : Server, Client, Media, Workstation, Host, NIC, Network Resources - Introduction to types of Networks (LAN, MAN, WAN) - LAN - What is LAN? Characteristics of LAN - Difference between LAN and Multiuser System - LAN V/S Single User - LAN Topologies : Bus, Star, View, Mesh, Tree - Function and Benefits of NOS (Network Operation System)
Unit-V	**WAN (Wide Area Network)** - Introduction to WAN - Characteristics of WAN - Types if WAN (Public & Private Area Network) - Topologies in WAN (Irregular) - Host, Subnet - Modem - DTE – DCE Interface - Functions of Modem - Modem Trouble Shooting
Unit-VI	**Application of Computer Network** - E-mail - Newsgroup (USENET etc) - File Transfer - Remote Login (TELNET etc) - Client Server Technology - Two Tier Architecture - Three Tier Architecture

Books

1. Computer Network by Andrew S. Tanenbaum
2. Data Communication & Networking By Behrouz A. Forouzan
3. Data Communication by William Stalling
4. Local Area Network By S. K. Basandra

Sardar Patel University
S.Y.B.Sc (Information Science)
IS-203 : Practical Based on IS-201 & IS-202
Effective from June – 2003

Number of Credits/Lect. per week: 03 **External marks: 80**
University Examination duration: 3 hrs **Internal marks : 40**
Course Credit: 03 **Total Marks :120**

System Analyst and Design

- Overview of System and SDLC
- Data Flow Diagram
- Data Dictionary
- Study and report of different Information system selected from various application areas like:
  - Payroll System
  - Purchase, Sales & Inventory System
  -Account System
  - Reservation System (Railway & Airbus)
  - Hospital management System
  - Library System
  - Education Institute
  - ATM
  - Call Centre
  - CRM

- Preperation of report containing
  - Sample Input/Output documents
  - Design of I/O Screens
  - Data Flow Diagrams
  - Data Dictionary and File Design
  - Load Calculation (Transaction Processing Volume)
  - Determining the I/O Device requirement, Space requirement, Processing Power requirement etc

Operating System, Network Operating System and Network

- DOS
  - Basic Concept
  - Booting Process
  - Internal & External DOS Commands
  - Commands with basic syntax : DIR, COPY, RENAME, MD, CD, RD, FORMAT, XCOPY, COPYCON, DEL, DELTREE, UNDELETE, ATTRIB, TIME, DATE, TYPE, PROMPT, EDIT, CLS
  - Concept of Batch file
- Novell
  - Introduction to NOS & LAN Setup
  - Commands with Basic syntax: LOGIN, LOGOUT, SETPASS, NDIR, NLIST, RIGHTS, NCOPY, FLAG, FILER, MAP, DRIVE, PURGE, NPRINT, NPRINTER
  - Concept of Login Script and related commands
  - User Management
  - Study of Network Facility for different Organization and preparing reports
- UNIX
  - Introduction to Unix Operating System
  - Commands with Basic syntax: ls, ps, cat, rm, mkdir, mv, pwd, chmod, man, grep, who, chdir, cut, login, kill, mail, more, rmdir, rpm, date, mount, umount, cd, touch, in, bc, passwd, cal, banner
- Internet
  - Browser
  - E-mail
  - Search Engine
  - Searching Information about given topic and preparing report