Associate Degree in Arts / Science Computer Studies-II **Total Mark: 100**

Appendix 'A'

(Outlines of Tests)

Paper-A:	Data Base Management Systems & System and Network Administration (Written)	:	70 Marks
Paper-B:	Practical	:	30 Marks

Appendix 'B'

(Syllabi and Courses of Reading)

Paper-A: Data Base Management Systems & System and Network Administration **70 Marks**

Section-I: Database Management System **35 Marks**

Theory:

Introduction to Database Processing: relationship of application programs and the DBMS, file-processing systems, database processing systems, history of database processing. Database Development: database and DBMS, creating a database, components of database applications, database development processes. Entity Relationship modeling. Semantic Object Model. Relational Model and Normalization: relational model, normalization —l to 5th normal forms, domain/key normal form, synthesis of relations, multivalued dependencies, Iteration 2. Database Design Using Entity- Relationship Models: transformation of entity-relationship models into relational database designs. Database Design with Semantic Object Models: transformation of database designs. Database Design with Semantic Object Models: transformation of semantic objects into relational database designs. Database Application Design: characteristics of database applications, form design, report design, application program design. Foundations of Relational Implementation: defining relational data, relational data manipulation. Structured Query Language: querying a single table, querying multiple tables, exists and not exists, changing data. Relational Implementation for Personal Databases: creating the database schema, creating forms, creating reports. Client-Server database systems : client-server architecture, reliability and security, open database connectivity (ODBC) standards, applications of ODBC in client-server systems.

Recommended Books:

1. "Data Base Processing", Sixth Edition by David M. Kroenke (1998).
2. "Database Systems" by C.M. Ricardo.
3. "Fundamental of Database Management Systems", by R. Elmarsi and S.B. Navathe.
4. "Fundamental of Database Systems" by C. J. Date

Section-II: **Operating Systems and Networks** **35 Marks**

Introduction to Operating Systems: Types of operating systems, operating systems modes. Process Management: process scheduling, process state, scheduling criteria, process supervisor calls. Inter-process Communication and Synchronization : inter process communication, deadlock, deadlock presentation, deadlock avoidance, deadlock detection recovery from deadlock. Memory Management : simple absolute partition, single relocate able partition, multiprogramming, multi partitions, simple paging, simple segmentation. segmentation with paging, page and segment table, swapping, overlaying. Virtual Memory: demand paging, segmentation. File Systems Management: directories and names, types of file systems objects, file system functions, information types, file system architecture. Device Management: hardware I/O organization, software organization, devices. Security: authentication, preventation. detection, correction, identification, threat categories, program threats.

Networking Basic Concepts: line configuration, topologies, transmission modes, categories of network, internetwork. The OSI Model: layered architecture, functions of the layers. TCP IP protocols suite. Transmission Media: twisted-pair, coaxial cable optical fiber:

Recommended Books:

1. "Operating Systems" by J.A. Harris (Schaum's outlines) 2002.
2. "Data Communications and Networking" by B.A. Forouzan. 2nd edition.

Paper-B: **(Practical)** **30 Marks**

Section-I **15 Marks**

1. Exploring Access 2000 work place: opening access applications, menus, toll bars other components.
2. Designing and creating a database.
3. Entering and editing data into tables.
4. Designing and using basic forms.
5. Integrating Access with other Microsoft Office applications and Internet.
6. Establishing Relationships between tables.
7. Finding sorting and filtering information.
8. Creating basic queries.
9. Designing and using basic reports.

10. Creating and using data access Pages.

11. Creating action queries.nine advanced queries.

Recommended Books:

1. "Microsoft Access 2000: Comprehensive Course" by H.A. Napier & P. J. J. (2001)

Section-II **15 Marks**

1. Installation of Windows 2000 Professional: Installation from CD, Installation from Network.
2. Configuring the Windows 2000 Environment: Control Panel, Management Console. Installing New Hardware.
3. Managing the Desktop: Desktop Settings, Accessibility Features, Local Settings.
4. Managing Users: Creating Users. Disabling User Account, Deleting User Account. Renaming User, Changing Password. Managing User Properties.
5. Managing Groups: Creating Groups, Group Membership, Renaming Group, Deleting Group, Local Group Policies.
6. User Profiles and Hardware Profiles: Local User Profiles, Roaming Profiles. Mandatory Profiles, Managing Hardware Profiles.
7. Managing Disks: File Systems. File System Conversions. Disk Storage, Disk Management Utilities.
8. Files and Printing Management: File and Folder Basic Management, Creating Shares, Share Permissions. Managing Printer Properties. Sharing Printer, Printer Permissions.
9. Managing Network Connections: Network Dataflow, OSI Model Layer, Installation and Configuration of Network Adaptor. Installing and Configuring Network Protocols.
10. Dialup Networking and Internet Connectivity: Configuring General Modem Properties. Running Modem Diagnostics, Configuring Advanced Modem Properties
11. Managing System Recovery Functions: Recovery and Backup, Using Backup Utility. Using Restore Wizard.

Recommended Books:

1. "Windows 2000 Professionals Study Guide" by L, Donaisald (2001).