Management [MAN]

T.Y. Diploma : Sem VI

[EJ/EN/ET/EX/EV/IC/IE/IS/MU/DE/ME/PG/PT/AE/CE/CS/CR/CO/CM/IF/EE/EP/CH/CT/PS/CD/EDEI/CV/FE/IU]

EVALUATION SYSTEM

	Time	Marks
Theory Exam	3 Hrs.	100
Practical Exam	–	–
Oral Exam	–	–
Term Work	–	–
Class Test (Two Test)	–	25 (each)

SYLLABUS

1. **Overview of Business**
   - Types of Business
     - Service
     - Manufacturing
     - Trade
   - Industrial sectors
     - Introduction to
     - Engineering Industry
     - Process Industry
     - Textile Industry
     - Chemical Industry
     - Agro Industry
   - Globalization
     - Introduction
     - Advantages & disadvantages w.r.t India
   - Intellectual Property Rights I(I P R)
     - Concept
     - Types of IPR

2. **Management Process**
   - What is Management?
     - Evolution
     - Various Definitions
     - concept of Management
     - Levels of Management
     - Administration and Management
     - Scientific Management by F W Taylor
   - Principles of Management (14 principles of Henry Fayol)
   - Functions of Management:
     - Planning
     - Organizing
     - Coordinating
     - Directing
     - Controlling
     - Decision Making

3. **Organizational Management**
   - Organization
     - Definition
     - Steps in forming organization
   - Types of Organization
     - Line
     - Line & Staff
     - Functional
     - Project type
   - Departmentation
     - Centralized & Decentralized
     - Authority & Responsibility
     - Span of Control (Management)
   - Forms of ownerships
     - Proprietorship
     - Partnership
     - Joint stock company
     - Co-operative society
     - Govt. Sector

4. **Human Resource Management**
   - Personnel Management
     - Introduction
     - Definition
     - Function
   - Staffing
     - Introduction to HR
     - Introduction to HR Planning
     - Recruitment procedure
   - Personnel - Training & Development
     - Types of training
       - Induction
       - Skill enhancement
   - Leadership & Motivation
     - Leadership- Styles & types
     - Motivation -Definition , Intrinsic & Extrinsic
     - Moslow's theory of Motivation and its significance
   - Safety Management
     - Causes of Accidents
     - Safety Procedures
   - Introduction, Objectives & feature of Industrial Legislation such as
     - Factory Act
     - ESI Act,
     - Workman Compensation Act,
     - Industrial Dispute Act

5. **Financial Management (No Numericals)**
   - Financial Management- Objectives & Functions
   - Capital Generation & Management
     - Types of capitals
     - Sources of finance
   - Budgets and Accounts

- Types of Budgets
- Production Budget (including Varience Report)
- Labour Budget
- Introduction to Profit & Loss Account (Only concept)
- Balance sheet etc.

- Introduction to Various Taxes
  - Excise Service Tax,
  - Income Tax
  - VAT
  - Custom Duty

6. Materials Management

- Inventory Management (No Numericals)
  - Meaning & Objectives
- ABC Analysis
- Economic Order Quantity:
  - Introduction & Graphical Representation
- Purchase Procedure
  - Objectives of Purchasing
  - Functions of Purchasing Department
  - Steps in Purchasing
- Modern Techniques of Material Management
  - Introductory treatment to Just inTime(JIT)/ System Applications & Products (SAP) /Enterprise Resource Planning (ERP)

7. Project Management (Simple /Elementary Numericals)

- Project Management
  - Introduction & Meaning
  - Introduction to CPM/PERT Techniques (simple network problems)
  - Concept of Break Even Analysis and its significance
- Quality Management
  - Definition of Quality, Concept of Quality, Quality Circle, Quality Assurance
  - Introduction to TQM, Kaizen, 5 'S' & Six Sigma

Reference :

1. Industrial Engg & Management (Dr. O.P. Khanna) Dhanpal Rai & sons New Delhi
2. Business Administration & Management (Dr. S.C. Saksena) Sahitya Bhavan Agra
3. The process of Management (W.H. Newman E.Kirby Warren Andrew R. McGill) Prentice- Hall of India Pvt. Ltd. New Delhi - 110001

Advanced Java Programming [AJP]

T.Y. Diploma : Sem VI

[CO/CM/IF]

EVALUATION SYSTEM

	Time	Marks
Theory Exam	3 Hrs.	100
Practical Exam	–	50#
Oral Exam	–	–
Term Work	–	25@
Class Test (Two Test)	–	25 (each)

External Assessment, @ Internal Assessment

SYLLABUS

1. **Introduction the Abstract Window Toolkit: (AWT)**
   - Working with Windows and AWT, AWT classes, Windows Fundamentals, Working with frame windows, Creating a frame window in applet, Creating windowed program, Display information within with in a window
   - Working with graphics, Working with color, Setting the paint mode, Working with Fonts, Managing text output using Font Metrics, Exploring text & graphics
   - **Using AWT Controls, Layout Managers and Menus Control Fundamentals**
     Labels, Using Buttons, Applying Check Boxes, Checkbox Group, Choice Controls, Using Lists, Managing scroll Bars, Using a Text Field, Using a Text Area, Understanding Layout Managers, Menu Bars and Menu, Dialog Boxes, File Dialog, Handling events by Extending AWT Components, Exploring the Controls, Menus, and Layout Managers

2. **Networking:**
   - Basics
     - Socket overview, client/server, reserved sockets, proxy servers, internet addressing.
   - Java & the Net
     - The networking classes & interfaces
   - Inet address
     - Factory methods, instance method
   - What is URL
     - Format
   - URL connection
   - Creating TCP Client, Creating TCP Server, Reading and Writing from TCP Sockets, Accepting and processing request from TCP Client
   - Data grams
     Data gram packets, Data gram server & client

3. **Java Data Base Client/ Server**
   - Java as a Database front end, Database client/server methodology, Two-Tier Database Design, Three-Tier Database Design
   - The JDBC API
     - Connection, DatabaseMetaData, PreparedStatement, ResultSet, ResultSetMetaData, Statement
     - The API Components, Limitations Using JDBC (Applications vs. Applets), Security Considerations, A JDBC Database Example JDBC Drivers, JDBC-ODBC Bridge, Current JDBC Drivers

4. **The Tour of Swing**
   - J applet, Icons and Labels, Text Fields, Buttons Combo Boxes, Tabbed Panes, Scroll Panes.
   - Trees, Tables, Exploring the Swings

5. **Servlets**
   - Background, The Life Cycle Of a Servlet, The Java Servlet Development Kit, The Simple Servlet, Using Tomcat for Servlet development, The Servlet API
   - The Javax Servlet Package, Reading Servlet Parameters Reading Initialization Parameters, The Javax. Servlet. http package, Handling HTTP Requests and responses
   - Using Cookies, Session Tracking, Security Issues

Reference :

1. The Complete Reference Java 2 (Third Edition) (Patrick Naughton-Herbert Schildt) Tata McGraw hill
2. The Complete IDIOT's Guide To JAVA 2 (Michael Morrison) Prentice Hall of India
3. Java2 Unleased (Jawroski) Techmedia
4. Keyur Shah (Java 2 Programming) Tata McGraw hill

Data Communication and Networking [DCN]

T.Y. Diploma : Sem VI

[IF/IE/IU]

EVALUATION SYSTEM

	Time	Marks
Theory Exam	3 Hrs.	100
Practical Exam	–	–
Oral Exam	–	25@
Term Work	–	–
Class Test (Two Test)	–	25 (each)

External Assessment, @ Internal Assessment

SYLLABUS

1. **Concept of Data Communication & Networking**
   - Data Communication - Protocols; Standards; Standards Organizations;
   - Signal Propagation - Analog & Digital Signals; Bandwidth of signal & a medium; Data transmission rate and the bandwidth.

2. **WAN**
   - Switching Basics - Circuit Switching; Packet Switching -Datagram approach, Virtual circuit approach; Message Switching
   - Frame Relay - Introduction; The need for Frame Relay; How Frame Relay works; Frame Relay frame format
   - Asynchronous Transfer Mode (ATM) - Introduction, Overview of ATM, Packet Size, ATM Cells, Switching, ATM layers

3. **Fiber Optic Communication**
   - Light Propagation - Basic Concepts, Reflection & Refraction, light into the cable;
   - Fiber Cables - Construction, Preposition effect, Fiber optic cable modes, Refractive indexes in fiber cores;
   - Light Sources - Light connecting diodes, lasers;
   - Optical detections
   - Fiber Cable Losses - Connector and cable misalignment, Effects of bands in the cable, Absorption losses & scattering

4. **Transmission Errors-Detection & Correction**
   - Error classification - Delay distortion, Attenuation, Noise; Types of Errors;
   - Error detection -Vertical redundancy check; longitudinal redundancy check; Cyclic redundancy check;
   - Error Correction- Methods of error correction, BEC, FEC
   - Recovery from errors - Stop & Wait, Go-back-in, Sliding Windows

5. **Distributed Application**
   - Application - Simple Network Management Protocol (SNMP); Simple Mail Transfer Protocol (SMTP); Multipurpose Internet Mail Extension (MIME); Hyper Text Transfer Protocol (HTTP); File Transfer Protocol (FTP), Uniform Resource Locator (URL) 10 20

6. Wireless LAN

- IEEE 802.11 - Architecture- BSS, ESS; Physical layer -FHSS, DSSS, OFDM; MAC layer - DCF, PCF
- Bluetooth - Architecture; Bluetooth layers - Media layer, base band layer, physical links, L2 CAP.

Reference :

1. Data Communication & Networking (Achyut S. Godbole) Tata McGraw-Hill Edition
2. Data Communication & Networking (B.A. Forouzan) Tata McGraw-Hill Edition (4^{th} Edition)
3. Data & Network Communication (Michal Miller) Thomson Delmar Learning

Object Oriented Modelling and Design [OMD]

T.Y. Diploma : Sem V

[CM/IF] (Elective - II)

EVALUATION SYSTEM

	Time	Marks
Theory Exam	3 Hrs.	100
Practical Exam	–	–
Oral Exam	–	25#
Term Work	–	25@
Class Test (Two Test)	–	25 (each)

External Assessment, @ Internal Assessment

SYLLABUS

1. **Importance of Modeling**
   - Brief overview of Object Modeling Technology (OMT) by Ram Baugh, Booch Methodology, Use Case driven approach (OOSE) by Jacobson, Overview of CRC card method by Cunningham.
   - Importance of Modeling, Four principles of Modeling

2. **Object Modeling**
   - Objects and Classes (Object Diagrams, Attributes, Operations and Methods), Links, Associations and Advanced Concepts (General Concepts, Multiplicity, Link Attributes, Association as a Class, Roll names, Ordering, Qualification, Aggregation).
   - Generalizations and Inheritance, Grouping Constructs.
   - Aggregation verses Association And Generalization, Recursive Aggregates, and Propagation of Operations.
   - Abstract Classes, Multiple Inheritance, Metadata, Candidate Keys, Constraints
   - Introduction to Dynamic and Functional Modeling

3. **Overview of UML**
   - Overview of UML, Scope of UML, Conceptual model of UML, Architectural - Metamodel, Unified Software Development Lifecycle.
   - Introduction to UML Diagram

4. **UML - Structural Modeling and Use Cases**
   - Class Diagram and Advanced Class Diagrams: - Advanced Classes and Relationships, Interfaces, Types and Roles, Packages, Instances. Object Diagram.
   - Use case diagram: Terms and Concepts, Modeling techniques

5. **UML Behavioral Modeling**
   - Interaction diagram-Sequence and collaboration diagram: Terms and Concepts, Modeling techniques.
   - State chart diagram: Terms and Concepts, Modeling techniques.
   - Activity diagram: Terms and Concepts, Modeling techniques.
   - Component Diagrams: Terms and Concepts, Common modeling techniques.
   - Deployment Diagrams: Terms and Concepts, Common modeling techniques

Reference :

1. Object Oriented Modelling and Designing (Refer for First and Second Chapter) (Rumbaugh, Blaha)
2. The UML User Guide(Addison Wesley) (Refer for Third, Fourth and fifth Chapter) (Booch, Jacobson, Rumbaugh)
3. Practical OOD with UML-.(Refer for Fourth and Fifth Chapter) (Mark Paiestly)
4. Web Sites
    - http://uml.tutorials.trireme.com/
    - http://pigseye.kennesaw.edu/~dbraun/csis4650/A&D/UML tutorial/
    - http ://www.smartdraw.com/tutorials/software-uml/uml.htm
    - http://www-db.stanford.edu/~burback/watersluice/node55.html

Advanced Web Technology [AWT]

T.Y. Diploma : Sem VI

[CM/CO/IF/CD] (Elective - II)

EVALUATION SYSTEM

	Time	Marks
Theory Exam	3 Hrs.	100
Practical Exam	–	–
Oral Exam	–	25#
Term Work	–	25@
Class Test (Two Test)	–	25 (each)

@ Internal Assessment

SYLLABUS

1. Introduction

- Why dot Net
  - Introduction to Microsoft .Net Framework.
  - Building blocks in .Net
  - Drawback of previous languages.
  - Understand what is .Net
- Introduction to .Net
  - Types of application architecture.
  - Net initiative.
  - .Net framework: components of .Net framework, Advantages, requirement of .Net.

2. Introduction and implementation of VB.Net

- Introduction to VB.Net
  - VB.Net overview.
  - Difference between VB and VB.Net
- Implementation of VB.Net
  - Features
  - VB.Net IDE.
  - Data Types, Loops, Control structures, Cases, Operators
  - Creating forms
  - Procedures and functions
  - Form controls
  - Error Provider
  - ComboBox
  - MonthCalendar
  - RadioButton
  - TextBox
  - CheckBox
  - CheckedListBox
  - DateTimePicker
- Implementation of OOP
  - Creation of class and objects
  - Inheritance
  - Constructors
  - Exception handling

- Component based programming
  - Working with Private assembly, shared assembly
  - Using COM components developed in VB or other language

3. Introduction to ADO.Net and data manipulation

- Introduction to ADO.Net
  - What is database?
  - Writing XML file
  - ADO.Net architecture
  - Creating connection
  - Dataset and Data reader
  - Types of Data adapter and ADO controls
  - Reading data into dataset and data adapter
  - Binding data to controls
  - Data table and Data row
- Accessing and manipulating data
  - Selecting data.
  - Insertion, deletion, updation, sorting.
  - How to fill dataset with multiple tables.
- Multi-threading
  - Working with multithreading.
  - Synchronization of Threads.
- Migrating from VB 6.0 to VB.Net
  - Updating the applications developed in VB to VB.Net

4. Introduction and implementation of ASP.Net

- Introduction to ASP.Net
  - Difference between ASP and ASP.Net
  - Introduction to IIS.
  - What is web application? Why it is used?
- Implementation of ASP.Net
  - ASP.Net IDE.
  - Creation of web forms.
  - Using web form controls.

5. ASP.Net objects and components

- ASP.Net Objects
  - Response.
  - Server.
  - Application.
  - Session.
  - Request
  - ASP.Net scope, state, view state, post back and configuration.
- How to use objects?
  - Object creation: Scripting, Drive, folder, file.
  - How to use Application object.
    - Events
    - Methods and collection.
    - Example.
  - How to use session object : enabling and disabling of session,
  - Event, properties, methods, collection.
  - Example.

- Server components :
  - Ad rotator, Content linker, Browser capabilities.
  - Use and creation of global.asax file.

6. ADO.Net and Data Manipulation

- ADO.Net in ASP.Net
  - Connection.
  - Dataset and data reader.
  - Data table and Data row.
  - Web.config introduction.
  - Binding data with data grid.
  - Accessing and manipulating data.
- ADO.Net : Server control templates and Data binding techniques
  - Understand data access in .Net using ADO.Net
  - Understand various Server Control Templates available for Data Binding using Repeater Control, Data List control, Data
  - Grid Controls, FormView Control, DetailView Control.

7. ASP transactions and e-mail

- Transactions.
- Transaction db design.
- CDONTS object, CDOSYS object.
- Email sending web page creation.

Reference :

1. Prog. In VB.Net (Anita & Bradely) TATA Mc Grow Hill
2. ASP.net (Dave Mercer) TATA Mc Grow Hill
3. Beginning VB.Net 2003, Wrox Publication
4. Designing Application with Microsoft VB.net (Robert LandLizer) TATA Mc Grow Hill
5. Beginning ASP.Net, Wrox Publication
6. Prog. In VB.net (Grun grundgier) Oerilly
7. .Net Frame Work Essential (Thwan ThAI , Hoang Lan) Oreilly
8. Websites
   www.startvbdotnet.com
   www.w3schools.com