

**PS01CDCA26:PRACTICALS BASED ON PS01CDCA21 TO PS01CDCA25**

**Internal Marks :30**

*External Marks :70*

**Total Marks 100**

*University Examination duration Minimum 3 hrs.*

<b>Practicals on</b>	<b>Weightage</b>
a. C Programming	50%
b. Foxpro	30%
c. MS Excel 2000	20%

**SARDAR PATEL UNIVERSITY**  
**Programme – PGDCA**  
**(Under Choice Based Credit Scheme)**  
**Semester – II**  
**Syllabus with effect from : 2017-18**  
**PGDCA**



**PS02CDCA21: OPERATING SYSTEMS**

*Three hours + 1 tutorial per week*

*Internal Marks :30*

*External Marks :70*

*Total Marks 100*

*University Examination duration 3 hrs.*

**All units carry equal weightage**

<b>Unit No.</b>	<b>Topics</b>
<b>1.</b>	<b><i>Introduction of OS &amp; Process Management</i></b> <ul style="list-style-type: none"><li>– Background – What is operating system, History, evolution and Introduction to UNIX &amp; MSDOS.</li><li>– Overview of Operating system, Process concept, Hardware features, Introduction Object Orientation.</li><li>– Process management – Basic concepts, Process life cycle, Scheduling,</li><li>– Scheduling Algo : FCFS , SJF ,RR , Priority</li></ul>
<b>2.</b>	<b><i>Memory management</i></b> <ul style="list-style-type: none"><li>– Memory management Introduction,</li><li>– Memory allocation methods</li><li>– Virtual memory</li><li>– Virtual Segmented Systems</li></ul>
<b>3.</b>	<b><i>I/O Systems &amp; File Management</i></b> <ul style="list-style-type: none"><li>– Input, Output, Organization of I/O SW and HW</li><li>– File Management – General principles, System services, File Management Techniques.</li><li>– Introduction to Directory system</li></ul>
<b>4.</b>	<b><i>UNIX and Concurrent Processes</i></b> <ul style="list-style-type: none"><li>– Concurrent Processes- Basic Principle, Competing processes,</li><li>– UNIX: Features</li><li>– Interprocess communication</li><li>– Deadlock</li></ul>

**MAIN REFERENCE BOOK:**

1. Peterson J and Silberchetz A: Operating System Concepts, Addison 1985.
2. Colin Ritchie: Operating Systems incorporating UNIX & Windows,BPB Publ. NewDelhi, 3<sup>rd</sup> Edn. 1998

## PS02CDCA22: DATABASE MANAGEMENT SYSTEMS

*Three hours + 1 tutorial per week*

**Internal Marks :30**

*External Marks :70*

**Total Marks 100**

*University Examination duration 3 hrs.*

*All units carry equal weightage*

### **Unit No.    Topics**

1.        – *Relational model*  
          – Relational model concept  
          – E-R diagram and its conversion to relations  
          – Normalization  
          – Introduction to transactions  
          – Concurrent access to database and related problems  
          – Introduction of Locking techniques
2.        **SQL**  
          – Data definition, queries, grouping and ordering  
          – Insert,delete,update  
          – Constraints: Primary key and Foreign key  
          – Built in functions
3.        **Procedural Language I**  
          – Data types, variables and constants, assignment  
          – Conditional control, iterative control and display messages
4.        **Procedural Language II**  
          – Introduction of Implicit and explicit cursors and its attributes  
          – exception handling  
          – Procedures    -- Functions    -- Introduction of triggers

### **MAIN REFERENCE BOOKS:**

1. Elmasri And Navathe :Fundamentals of Database Systems, Addison-Wesley Publishing Co. 1994
2. John G. Hughes: Database Technology A Software Engineering Approach, Prentice Hall International Series 1993

### **BOOK FOR ADDITIONAL READING**

1. Ivan Bayross: SQL , PL/SQL BPB Publications
2. System Manuals

## **PS02CDCA23: OBJECT TECHNOLOGY**

*Three hours + 1 tutorial per week*

*Internal Marks :30*

*External Marks :70*

*Total Marks 100*

*University Examination duration 3 hrs.*

*All units carry equal weightage*

### **1. Introduction:**

Key Concepts: object, messages, classes

Key Mechanism: encapsulation, inheritance, polymorphism

Key Advantages: productivity, quality, adoptability

Key Success Factors: motivation, education, determination.

### **2. Object Modeling:**

Models: Concepts and Advantages,

Objects and Classes, Links and Associations, Ternary Links,

Aggregation and Generalization,

Multiple Inheritance and Metadata.

### **3. Basic Java Programming Concepts:**

Primitive Data Types, Variable Names, Scope, Operators, Expressions,

Control Flow Statements, Arrays,

Anatomy of Java Applications and Applets.

### **4. Objects and Classes in Java:**

Creation, Use and Destruction of Objects in Java, Referencing an Object's Variables,

Calling an Object's Methods, Creating Classes, Class Declaration Components,

Providing Constructors for a given Class, Method Overriding,

Introduction to Java's Access Levels – private, protected, public, package,

Inheritance Basics, Packages, and Interfaces,

Introduction to the Concept of Exception Handling, Multithreading and I/O.

### **Reference Books :**

1. Saba Zame, Handbook of Object Technology, CRC Press< Washington DC, 1999.
2. Ram Baugh J., etc., Object Oriented Modeling and Design, Prentice Hall of India, 1996.
3. Patrick Naughton and Herbert Schildt, The Complete Reference Java 2, Seventh, Tata McGraw Hill Pub., 2007
4. Mary Campione, Kathy Walrath and Alison Huml, Java Tutorial, third edition, Addison Wesley Pub., 1998.

## **PS02CDCA24: VISUAL PROGRAMMING**

*Three hours + 1 tutorial per week*

**Internal Marks :30**

*External Marks :70*

**Total Marks 100**

*University Examination duration 3 hrs.*

*All units carry equal weightage*

### **Unit Topics**

#### **No.**

#### **1. Introduction**

- Introduction, Graphical Development Environment
- Basic elements of VP, Event Driven programming
- Applications of VP, Pros and Cons of VP

#### **2. Visual Basic - Overview**

- Introduction, Integrated Development Environment
- Elements of Programming
- Flow Control statements

#### **3. Advanced Concepts of Visual Basic - I**

- VB Project – Components, Development and types
- VB project Elements – Forms, Menus, etc.
- Event Driven Programming using VB

#### **4. Advanced Concepts of Visual Basic - II**

- Database programming (DAO,RDO,ADO)
- Generating Reports
- Error-Handling, Debugging and Deploying Applications

### **MAIN REFERENCE BOOKS:**

1. Noel Jarke : The Complete Reference Visual Basic 6 – Tata McGraw-Hill Publishing Company Ltd., New Delhi, Edition 1999.
2. Evangelos P.: Mastering Visual Basic 6, BPB Publications, 1998

### **BOOKS FOR ADDITIONAL READING:**

1. Eric Winemiller, Jason Roff, Bill Heyman, Ryan Groom: VB6 Database, Techmedia, Indian First Edition 1999.

## ***PS02CDCA25: INTERNET AND WEB DESIGNING***

*Three hours + 1 tutorial per week*

*Internal Marks :30*

*External Marks :70*

**Total Marks 100**

*University Examination duration 3 hrs.*

*All units carry equal weightage*

### **Unit No.**

#### **Topics**

##### **1. Intranet**

- The world of Internet
- Packet Switching
- TCP/IP and its Importance

##### **2. Internet Browsers**

- Browsing Vs. Information Retrieval, Browsing Software, Hypermedia Display, Uses or URL, Automatic Web Searching, Audio and Video Communication

##### **3. Web Page Designing-I**

- HTML Generator,
- HTML Documentation, Tag, Links and Examples
- Manipulating Header, footer, Colours, Comments, Alignment, Paragraph, Tab, Images and Pictures
- Order and Unordered Lists, Nested Lists

##### **4. Web Page Designing-II**

- Tables Formatting and Editing Features
- Defining different Styles, In-line, Internal, External Style Sheets, Linking of Sheets in HTML Documents, Working with Multiple Styles.
- Definition of Frames, Framesets, Nested Framesets
- Action, Method, Enctype attributes of Forms, Drop down lists and examples.

#### **MAIN REFERENCE BOOKS:**

1. Douglas E Commer: The Internet, PHI, Second Edition, May 2000
2. Xavier C : World Wide Web Design With HTML, Tata McGraw Hill Publication, 2000

#### **BOOKS FOR ADDITIONAL READING:**

1. Manuals of Suitable Packages

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**Internal Marks :30**

*External Marks :70*

**Total Marks 100**

*University Examination duration Minimum 3 hrs.*

<b>Practical on</b>	<b>Weightage</b>
a. RDBMS (SQL & PL/SQL)	30%
b. Java Programming	30%
c. Programming in Visual Basic	20%
d. Web designing	20%