(P.G. DEPARTMENT OF COMPUTER SCIENCE)

OUTLINES OF TESTS,
SYLLABI AND COURSES OF READING

FOR

BACHELOR OF VOCATION SOFTWARE DEVELOPMENT

(SEMESTER SYSTEM)

SECOND YEAR (Semester III & IV)

(2020-21, 2021-22 and 2022-23 Sessions)

FACULTY OF COMPUTING SCIENCES

SRI GURU TEG BAHADUR KHALSA COLLEGE

Sri Anandpur Sahib

An Autonomous College

Affiliated to Punjabi University, Patiala

APPROVED
Board of Studies Meeting held on 29th June 2020

PROGRAMME OF STUDY

BACHELOR OF VOCATION SOFTWARE DEVELOPMENT

PART II (SEMESTER III)

Sessions: 2020-2021, 2021-2022 and 2022-23

Code	Title of Paper	Credits	University Examination	Internal Assessment	Max. Marks	Exam. Duration Hours
BVSD-211	Programming using Java	4.5	70	30	100	3
BVSD-212	Fundamentals of DBMS	4.5	70	30	100	3
BVSD-213	Operating System	4.5	70	30	100	3
BVSD-214	Management Information System	4.5	70	30	100	3
BVSD-215	Software Lab – IV(Based on BVSD-211)	4	70	30	100	3
BVSD-216	Software Lab – V(Based on BVSD-212)	4	70	30	100	3
BVSD-217	Workshop On Adobe Photoshop	4		50	50	3
Total		**30**	**420**	**230**	**650**	

1. **The breakup of marks for the practical will be as under:**

   i. Internal Assessment 30 Marks

   ii. Viva Voce (External Evaluation) 40 Marks

   iii. Practical Performance & write up (External Evaluation) 30 Marks

2. **The breakup of marks for the internal assessment for theory Subjects will be as under:**

   Mid semester test – I 10 Marks
   Mid semester test – II 10 Marks
   Attendance 5 Marks
   Assignment 5 Marks

B. Voc. Programme has been designed as per National Skill Qualification Framework (NSQF) emphasizing on skill based education.

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PART II (SEMESTER IV)

Sessions: 2020-2021, 2021-2022 and 2022-23

Code	Title of Paper	Credits	University Examination	Internal Assessment	Max. Marks	Exam. Duration Hours
BVSD-221	Web Development using PHP And MYSQL	4.5	70	30	100	3
BVSD-222	Content Management System	4.5	70	30	100	3
BVSD-223	Computer Networks	4.5	70	30	100	3
BVSD-224	Relational Database Management System	4.5	70	30	100	3
BVSD-225	Software Lab – VI(Based on BVSD-221 & BVSD-222)	4	70	30	100	3
BVSD-226	Software Lab – VII(Based on BVSD-224)	4	70	30	100	3
BVSD-227	Project-I(In house Industrial Training)	4	50	50	100	3
Total		**30**	**470**	**230**	**700**	

1. **The breakup of marks for the practical will be as under:**

   i. Internal Assessment 30 Marks

   ii. Viva Voce (External Evaluation) 40 Marks

   iii. Practical Performance & write up (External Evaluation) 30 Marks

2. **The breakup of marks for the internal assessment for theory Subjects will be as under:**

   Mid semester test – I 10 Marks
   Mid semester test – II 10 Marks
   Attendance 5 Marks
   Assignment 5 Marks

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BVSD-211 PROGRAMMING USING JAVA

Time allowed: 3 hours **Max Marks: 100**
Number of Lectures: 60 **External Marks : 70 marks**
Pass Marks: 35% **Internal Assessment: 30 marks**
(CREDITS: 4.5)

Instructions for the paper setter

The question paper will consist of ***three sections A, B and C.*** Section A and B will have four questions from the respective section of the syllabus carrying 10.5 marks for each question. Section C will consist of 5-10 short answer type questions carrying a total of 28 marks , which will cover the entire syllabus uniformly. Candidates are required to ***attempt five questions in all by selecting at least two questions each from the section A and B. Section C is compulsory.***

Instructions for the candidates

Candidates are required to attempt five questions in all by selecting at least two questions each from the section A and B. Section C is compulsory.

SECTION A

Introduction: Features of Java, Java Development Kit, Java Virtual Machine, tokens, keywords, constants, variables, data types.

Operators and Expressions: arithmetic, relational, logical, assignment, increment, decrement, conditional and bitwise.

Control statements: if else, switch case, for, while, do while, break, continue.

Class: Concepts of Classes and Objects, Constructors, Constructor Overloading, destructor.

Inheritance: Types of Inheritance, Use of Super keyword, Method Overriding, Function Overloading, abstract class, wrapper classes.

Interfaces and Packages: Interfaces and implementing multiple inheritance through interfaces, Packages.

Multithreaded Programming: Creating Threads, Life cycle of thread, Thread priority, Thread synchronization, Inter-thread communication.

SECTION B

Exception Handling: Types of errors, Exception classes, Exception handling in java, use of try, catch, finally, throw and throws.

Event Handling: Event Classes, Event Sources, Event Listener Interfaces, Adapter Classes.

Swing: Features, Swing Packages, Components and containers, Working with Swings, User Interface **Components:** JApplet, Label, Button, CheckBox, TextField, TextArea, adioButton, Panel, ScrollPane, List. Types of Layouts : FlowLayout, BorderLayout, GridLayout, CardLayout, Gridbag Layout. Using Dailogs, JOptionPane.

JDBC: JDBC Fundamentals, Establishing Connectivity and working with connection interface.

Reference Books:

1. Patrick Naughton and Herbert Schildt, The Complete Reference Java 2, Tata McGraw Hill.
2. Gilbert, Stephan D. and William B. Hccarthy, Object Oriented Programming in Java , The Waite Group Press.
3. Mary Campione and Kathy Walrath, The Java Tutorial, Addison – Wesley.
4. Cay S. Horstmann, and Gary Cornell, Core Java 2 : Fundamentals Vol. 1, Pearson Education.
5. Balagurusamy, Programming with Java : A Primer, Tata McGraw Hill.
6. Jeffry A. Borror, Object Oriented Programming with Java-An Ultimate Tutorial, Dream Tech Press.

BVSD-212 FUNDAMENTALS OF DBMS

Time allowed: 3 hours | **Max Marks: 100**
Number of Lectures: 60 | **External Marks : 70 marks**
Pass Marks: 35% | **Internal Assessment: 30 marks**
(CREDITS: 4.5)

Instructions for the paper setter

The question paper will consist of ***three sections A, B and C.*** Section A and B will have four questions from the respective section of the syllabus carrying 10.5 marks for each question. Section C will consist of 5-10 short answer type qestions carrying a total of 28 marks , which will cover the entire syllabus uniformly. Candidates are required to ***attempt five questions in all by selecting at least two questions each from the section A and B. Section C is compulsory.***

Instructions for the candidates

Candidates are required to attempt five questions in all by selecting at least two questions each from the section A and B. Section C is compulsory.

SECTION A

Introduction to DBMS: Definition of Database, Components of DBMS Environment, Database Schema and Instance. Three Level architecture of DBMS, Mapping between different levels, Data Independence.

Keys : Super, candidate, primary, unique, foreign, composite, alternate

E-R model: Definition, Entity and Relationship, cardinality of a relationship, E-R Diagram Notations, Modeling using E-R Diagrams, Aggregation, Generalization, Specialization, Transforming E-R Model into Physical database Design, merits and demerits of E-R Modeling.

Record Based Logical Models: Hierarchical Model - Operations, Implementation, Advantages and Disadvantages. Network Model - Operations, Implementation, Advantages and Disadvantages, Relational Model - Operations, Implementation, Advantages and Disadvantages. Comparison between Hierarchical, Network and Relational Model

SECTION B

Normalization: Definition, Need, Process: Determinant, Functional Dependency, Full Functional Dependency, Partial Dependency, Transitive dependency, Multivalued Dependency, Join Dependency, Types of Normal Forms, Merits and Demerits of Normalization.

Database languages: DDL, DML, DCL.

Transaction & Concurrency Control: Concept of transaction, ACID properties, Serializibility, States of transaction, Concurrency Control – Locking techniques, time-stamp based protocols.

Database Security: Security requirements, database integrity, Granting & revoking privileges.

Working with SQL: Implementing DDL, DML, DCL statements and integrity constraints in Oracle

Reference Books:

1. JD Ullman, Garcia Molina, Database System: The Complete Book, Pearson Education.
2. Ramez Elmasri, Fundamentals of Database Systems, Pearson Education.
3. C.J Date, An Introduction to Database System, Pearson Education.
4. Parteek Bhatia, Database Management System.
5. Henry F. Korth, Database System Concepts, Tata McGraw-Hill.

BVSD-213 Operating System

Time allowed: 3 hours | **Max Marks: 100**
Number of Lectures: 60 | **External Marks : 70 marks**
Pass Marks: 35% | **Internal Assessment: 30 marks**
(CREDITS: 4.5)

Instructions for the paper setter

The question paper will consist of ***three sections A, B and C.*** Section A and B will have four questions from the respective section of the syllabus carrying 10.5 marks for each question. Section C will consist of 5-10 short answer type questions carrying a total of 28 marks , which will cover the entire syllabus uniformly. Candidates are required to ***attempt five questions in all by selecting at least two questions each from the section A and B. Section C is compulsory.***

Instructions for the candidates

Candidates are required to attempt five questions in all by selecting at least two questions each from the section A and B. Section C is compulsory.

SECTION-A

Operating System – Definition, Need, Services, Types of operating systems: simple batch system, multi programmed batch system, time sharing system, parallel system, multitasking system, distributed system, real time system. Operating system components, system calls.

Process Management – process definition, process state, process scheduling, operations on processes, Basic concepts of thread, Difference between process and thread.

CPU Scheduling – Basic concepts, scheduling criteria, scheduling algorithms – FCFS, SJF, Round Robin, Multilevel queue scheduling and Multilevel feedback queue scheduling.

SECTION-B

Deadlocks – Characteristics of deadlocks, methods for handling deadlocks, deadlock prevention, deadlock avoidance

Memory Management – Logical versus Physical address space, swapping, contiguous allocation, Paging, Concept of Virtual memory, Implementation by Demand Paging, Page replacement algorithms – FIFO, Optimal, LRU, Concept of thrashing .

File Management – Allocation methods: contiguous allocation, linked allocation and indexed allocation;

Device Management – Disk Scheduling: FCFS, SSTF, SCAN, C-SCAN, LOOK, C-LOOK.

Text Book:

1. Abraham Silberschatz, Peter B. Galvin, Operating Sytem Concepts, Addison –Wesley Publishing Co. Engineering, Third Edition 2005 ,PankajJalote, Narosa Publications. 5th Edition

BVSD-214 MANAGEMENT INFORMATION SYSTEM

Time allowed: 3 hours **Max Marks: 100**
Number of Lectures: 60 **External Marks : 70 marks**
Pass Marks: 35% **Internal Assessment: 30 marks**
(Credits: 4.5)

Instructions for the paper setter
The question paper will consist of ***three sections A, B and C.*** Section A and B will have four questions from the respective section of the syllabus carrying 10.5 marks for each question. Section C will consist of 5-10 short answer type questions carrying a total of 28 marks , which will cover the entire syllabus uniformly. Candidates are required to ***attempt five questions in all by selecting at least two questions each from the section A and B. Section C is compulsory.***

Instructions for the candidates
Candidates are required to attempt five questions in all by selecting at least two questions each from the section A and B. Section C is compulsory.

SECTION-A

Management Information system: Meaning and definition, Role of information system, Nature and scope of MIS.

Information and system concepts: Definition and types of information, Information quality, dimensions of information, value of information, general model of human as an information processor. System related concepts, elements of a system, and types of system.

Role and importance of Management: Introduction, levels and functions of management. Structure and classification of MIS, Components of MIS, Framework for understanding MIS: Robert Anthony's hierarchy of management activity, Information requirements.

SECTION-B

Decision making concept, types of decisions, methods of choosing among alternatives, Role of MIS in decision making. Simon's model of decision making, Structured and unstructured decisions.

Development of MIS: Stages in the development of MIS, System development approaches: Waterfall model, Prototyping, Iterative enhancement model, Spiral model. Applications of information systems in Functional areas: Marketing MIS, Financial MIS, Production MIS, Personnel MIS.

Decision Support Systems: Definition and characteristics, MIS versus DSS, Tools and Models for decision support.

Text Book:

1. D.P. Goyal, Management Information Systems: Managerial Perspectives, Macmillan India Ltd.

Reference Books:

1. Robert G. Murdick, Joel E. Ross, James R. Claggett, Information Systems for Modern Management, Prentice Hall of India Pvt. Ltd.
2. Gordon B. Davis, M.H. Olson, Management Information Systems: Conceptual Foundations, Structure & Development, McGraw-Hill Book Co.
3. W.S. Jawadekar, Management Information Systems, Tata McGraw-Hill Publishing Co.

BVSD – 215 SOFTWARE LAB – IV (Based on BVSD- 211)

Time allowed: 3 hours **Max Marks: 100**
Number of Lectures: 30 **External Marks : 70 marks**
Pass Marks: 35% **Internal Assessment: 30 marks**
Credits: 4

This laboratory course will comprise as exercises to supplement what is learnt under paper BVSD-211: Programming Using Java. Students are required to develop the following programs with internal documentation:

1. WAP to demonstrate the concept of class.
2. WAP that illustrates the use of constructor.
3. WAP for constructor overloading.
4. WAP for single inheritance using super keyword.
5. WAP for multilevel inheritance.
6. WAP to demonstrate method overriding.
7. WAP that implements multiple inheritance through interface.
8. WAP to demonstrate importing multiple packages.
9. WAP to demonstrate creating threads by extending Thread class.
10. WAP to demonstrate creating threads by implementing Runnable interface.
11. WAP that illustrates the use of exception handling.
12. WAP to implement Flow Layout.
13. WAP to implement Grid Layout.

Activity
Write code for event handling, database connectivity and report generation.

BVSD – 216 SOFTWARE LAB – V (Based on BVSD- 212)

Time allowed: 3 hours **Max Marks: 100**
Number of Lectures: 60 **External Marks : 70 marks**
Pass Marks: 35% **Internal Assessment: 30 marks**
Credits: 4

This laboratory course will comprise as exercises to supplement what is learnt under paper BVSD-212: Fundamentals of DBMS.

Students are required to practices writing SQL statements for

1. Creating a table
2. Specifying relational data types.
3. Specifying constraints (Primary, Foreign and Not Null).
4. DML statements.
5. TCL statements.
6. Creating a table from existing table.
7. DROP, ALTER and RENAME statement.
8. The SELECT statement using the WHERE clause.
9. The SELECT statement using logical Operators in the WHERE clause.
10. The SELECT statement using IN, BETWEEN, LIKE, ORDER BY clause and GROUP BY clause.

BVSD - 217 WORKSHOP ON ADOBE PHOTOSHOP

Time allowed: 3 hours **Max Marks: 50**
Number of Lectures: 30 **Internal Assessment: 50 marks**
Pass Marks: 35%
Credits: 4

Introduction to Photoshop: Basics of Adobe Photoshop. Understanding pixels & resolution. Exploring menus, panels and toolbox. Creating new image files and opening existing files in Photoshop. Understanding and handling different image file formats, changing the resolution, color, greyscales and size of the images. Zooming & panning an image. Working with multiple images, rulers, guides & grids. Creating multicolor images and using brushes, adjusting color using the panel. Cropping, rotating, overlapping and superimposing photos on a page. Undoing Steps with History

Working with selections, layers and channels: Understanding selection tools, refining the selection and edges. Understanding layers, creating, selecting, editing, locking and grouping layers. Layer styles, consolidating layers. Manipulating layer mask. Understanding color channels, working with channels panel.
Working with filters: Basics of Filters, constructive filters, blur filters, destructive filters, effects filters, render filters, liquify filter and other filters required for artistic effects.
Creating images for the web: understanding web image formats, preparing and slicing images for the web use. Adding transparency to the web, previewing images in a browser.

References:

1. Adobe Photoshop CS6, Bible the comprehensive, tutorial resource – Lisa Danae Dayley, Brad Dayley - Wiley India
2. Photoshop 7 Savvy – Steve Romaniello – BPB Publications.

SEMESTER - IV

BVSD-221 Web Development Using PHP and MYSQL

Time allowed: 3 hours **Max Marks: 100**
Number of Lectures: 60 **External Marks : 70 marks**
Pass Marks: 35% **Internal Assessment: 30 marks**
(Credits: 4.5)

Instructions for the paper setter

The question paper will consist of ***three sections A, B and C.*** Section A and B will have four questions from the respective section of the syllabus carrying 10.5 marks for each question. Section C will consist of 5-10 short answer type questions carrying a total of 28 marks , which will cover the entire syllabus uniformly. Candidates are required to ***attempt five questions in all by selecting at least two questions each from the section A and B. Section C is compulsory.***

Instructions for the candidates

Candidates are required to attempt five questions in all by selecting at least two questions each from the section A and B. Section C is compulsory.

SECTION A

PHP: A Brief History of PHP, Introduction to PHP, Client Server Environment, Install & Configure Server on windows. Syntax of php, Scope of Variables: Global and Local Variables, Super Global Variables, Data types, Operators- Arithmetic, Logical, Relational and Bit-Wise operators. Control Statements.

Functions: Defining a Function, Calling Functions, Built -in Functions.

Array: Numeric Array, Associative array, Multidimensional Arrays.

String: Quoting String Constants, Printing Strings, Accessing Individual Characters, Cleaning Strings, Encoding and Escaping, Comparing Strings, Manipulating and Searching Strings.

SECTION B

Scripting Languages: Server side Scripting, Client Side Scripting, HTML Form Fields (Controls), PHP Form Handling, Form Validations.

Class Object: Declaring a Class, Creating an Object, Accessing Properties and Methods.

File Handling: Opening File, Reading File, Writing File, Closing File, Appending File.

Connecting to MYSQL from PHP: Database Connection, Execute Queries.

Introduction to MySql: Data Types, Sql Queries: Creating Database, Creating Table, Dropping Database, Inserting, Updating, Deleting Data, Altering table, Dropping Table.

Reference Books:

1. Robin Nixon, Learning PHP, MySQL, and JavaScript, Shroff/O'Reilly.
2. Raj Kamal, Internet and Web Technologies, Tata McGraw-Hill.
3. Matt Zandstra, Sams Teach Yourself PHP in 24 Hours, Sams Publishing.
4. Steven M. Schafer, HTML, CSS, JavaScript, Perl, Python and PHP, Wiley India

BVSD -222 Content Management System

Time allowed: 3 hours **Max Marks: 100**
Number of Lectures: 60 **External Marks : 70 marks**
Pass Marks: 35% **Internal Assessment: 30 marks**
(CREDITS: 4.5)

Instructions for the paper setter

The question paper will consist of ***three sections A, B and C.*** Section A and B will have four questions from the respective section of the syllabus carrying 10.5 marks for each question. Section C will consist of 5-10 short answer type questions carrying a total of 28 marks , which will cover the entire syllabus uniformly. Candidates are required to ***attempt five questions in all by selecting at least two questions each from the section A and B. Section C is compulsory.***

Instructions for the candidates

Candidates are required to attempt five questions in all by selecting at least two questions each from the section A and B. Section C is compulsory.

SECTION A

Introduction: Open Source vs Closed Source , Examples of OSS. What is Joomla? Features of Joomla Understanding WAMP Installing & Configuring Joomla:Installing WampServer ,Creating a Website Folder , Copy the Joomla Files ,Configuring the Joomla Web Installer Understanding The Frontend and Backend of Joomla, Login as a Super User,The Joomla Control Panel Creating Content: Creating Categories , Creating Categorized or Uncategorized Articles , Inserting Images/Graphics Into Articles , Inserting the Read More Option into Articles , Filtering & Sorting Articles, Featuring Articles on the Home Page ,Viewing Your Website , Setting the Options for Articles

SECTION B

Adding Menu Items: Adding a Single Article Menu Item, Adding a List All Categories Menu Item , Changing the Layout From Blog Layout , Adding a Category List Menu Item ,Changing the Menu Order, Joomla Extension Types: What is a Component? What is a Module? What is a Plugin? What is a Template? What is Language? Adding Modules:Enabling Module Position Viewing, Viewing the Module Positions, Changing Module Positions ,Logging in From the Frontend to Edit Content , Adding the Search Module, Creating an HTML Module Joomla Templates: Viewing Joomla Templates, Types of Templates, Default Joomla Templates, Changing the Default Template for a Website, Previewing a Joomla Template, Installing a Template, Changing the Logo/Header, Installing a Photo Gallery Component Creating Folders for the Photos Uploading the Photos, Adding a Gallery Menu Item About Akeeba Backup Installing, Akeeba Backup Configuring Akeeba Backup Creating a Backup, Copy of Your Website, Downloading Your Backup Archives

Reference Books:

1. Jennifer Marriott and Elin Waring, The Official Joomla! Book Addison-Wesley Professional.
2. Ric Shreves, Joomla! Bible, Wiley.

BVSD-223 COMPUTER NETWORKS

Time allowed: 3 hours **Max Marks: 100**
Number of Lectures: 60 **External Marks : 70 marks**
Pass Marks: 35% **Internal Assessment: 30 marks**
(CREDITS: 4.5)

Instructions for the paper setter

The question paper will consist of ***three sections A, B and C.*** Section A and B will have four questions from the respective section of the syllabus carrying 10.5 marks for each question. Section C will consist of 5-10 short answer type questions carrying a total of 28 marks , which will cover the entire syllabus uniformly. Candidates are required to ***attempt five questions in all by selecting at least two questions each from the section A and B. Section C is compulsory.***

Instructions for the candidates

Candidates are required to attempt five questions in all by selecting at least two questions each from the section A and B. Section C is compulsory.

SECTION A

Computer Networks: Uses of Computer Network, Structure of Computer Network: Point-to-point structure, Broadcast structure. Classification of networks-LAN, MAN and WAN, Line Configuration: Topologies, full Duplex, and Half Duplex. **Reference models:** OSI model, Layers of OSI Model, TCP/IP model, Comparison of TCP/IP and OSI models **Medium Access Sub layer:** Static and dynamic channel allocation, Multiple access protocols-ALOHA, CSMA,CSMA/CD, Collision Free protocol, **Internet protocols:** How networks differ, internetworking devices, concatenated virtual circuits, connectionless inter-networking.

SECTION B

Data Link Layer: Design issues, Services to network layer, Framing, Error control, Flow control, Elementary data link protocols-unrestricted simplex protocol, simplex stop and wait protocol, simplex protocol for a noisy channel. **Network layer:** Design issues, Services to the transport layer, Routing algorithms-Static/ non-adaptive and dynamic/adaptive algorithms. Congestion control algorithms –the leaky bucket algorithm, the token bucket algorithm. **Transport layer:** design issues, connection management-addressing, establishing and releasing connection, transport layer protocols-TCP, UDP. **Application layer:** The DNS Name Space, Electronic Mail, The World Wide Web, **Network security:** Introduction to cryptography, substitution cipers, transposition cipers, one-time pads, two fundamental cryptographic principles, public-key algorithms (RSA), digital signatures, message digests.

TextBook:

1.Andrew S. Tanenbaum, “Computer Networks”, Third Edition, PHI Publications.

References:

1.Data & Computer Communications by William Stallings, Pearson Education.
2.D.E. Corner, "Computer Networks and Internets', Second Edition, Addison-Wesley Publication
3.Computer Networks by Forouzan, Tata McGrawhill Publications.

BVSD-224 Relational Database Management System

Time allowed: 3 hours | **Max Marks: 100**
Number of Lectures: 60 | **External Marks : 70 marks**
Pass Marks: 35% | **Internal Assessment: 30 marks**
(CREDITS: 4.5)

Instructions for the paper setter

The question paper will consist of ***three sections A, B and C.*** Section A and B will have four questions from the respective section of the syllabus carrying 10.5 marks for each question. Section C will consist of 5-10 short answer type questions carrying a total of 28 marks , which will cover the entire syllabus uniformly. Candidates are required to ***attempt five questions in all by selecting at least two questions each from the section A and B. Section C is compulsory.***

Instructions for the candidates

Candidates are required to attempt five questions in all by selecting at least two questions each from the section A and B. Section C is compulsory.

SECTION-A

Introduction to RDBMS Product and their Features, Difference between DBMS and RDBMS, Relationship among application programs, RDBMS, Basic File Operations: Opening Files, Closing Files, Reading and Writing, Seeking
File Organization: Field and Record structure in file, Record Types, Types of file organization, Sequential, Indexed, and Hashed.
Transaction Management: Transaction Concept, Properties, Transaction States, Concurrent Execution, Serializability, Conflict Serializability, View Serializability, Recoverability, Recoverable Schedule, Cascadless Schedule
Concurrency Control: Lock Based Protocol, Locks, Granting of Locks, Two Phase Locking Protocol, Timestamp Based Protocol, Timestamp, Timestamp ordering protocol, Thomas's Write Rule, Validation Based Protocol, Deadlock Handling, Deadlock Prevention, Deadlock Detection, Deadlock Recovery

SECTION-B

Recovery System: Failure Classification, Transaction Failure, System Crash, Disk Failure, Storage Structures, Storage Types, Data Access, Recovery & Atomicity, Log based Recovery, Deferred Database Modification, Immediate Database Modification, Checkpoints, Recovery with Concurrent Transaction, Transaction Rollback, Restart Recovery, Remote Backup System
Relational Query Language: DDL, DML, DCL.
Introduction to Oracle: Oracle as client/server architecture, getting started, creating, modifying, dropping databases. Inserting, updating, deleting data from databases, SELECT statement, Data constraints (Null values, Default values, primary, unique and foreign key concepts)
Computing expressions, renaming columns, logical operators, range searching, pattern matching, Oracle functions, grouping data from tables in SQL, manipulating dates.

Working with SQL: triggers, use of data base triggers, database triggers Vs. SQL*forms, types of triggers, how to apply database triggers, BEFORE vs. AFTER triggers, combinations, syntax for creating and dropping triggers.

Text Book :

1. B.P. Desai, “Database management system” BPB publications, New Delhi.

Reference Books:

1. C.J. Date, "An Introduction to Data Base Systems”, Narosa Publishers
2. Jeffrey D. Ullman, "Principles of Database Systems", Galgotia Pub.
3. D. Kroenke., "Database Processing", Galgotia Publications.
4. Henry F. Korth, “Database System Concepts”, McGraw Hill. Inc.
5. Naveen Prakash, “Introduction to Database Management”, TMH

BVSD -225 SOFTWARE LAB – VI(Based on BVSD-221 & BVSD-222)

Time allowed: 3 hours **Max Marks: 100**
Number of Lectures: 30 **External Marks : 70 marks**
Pass Marks: 35% **Internal Assessment: 30 marks**
Credits: 4

This laboratory course will comprise as exercises to supplement what is learnt under paper BVSD-221: Web Development using PHP and MYSQL and BVSD-222: Content Management System. Students are required to do followings:

Lab Assignments - Installing and Configuring PHP on Windows, Installing web site on web server-Apache, WAMP. HTML tag based, Advanced HTML based, Database, Simple PHP, Advanced PHP, HTML-DBMS-PHP, Dynamic Web Pages/Sites.
Creation of Web pages using HTML, DHTML.
Creation of Web pages using JavaScript.
Creating web pages using PHP.

Programs:

1. Write a program to print any text in PHP.
2. Write a program to print the data types of PHP i.e. using String, Integer, Floating point numbers, Boolean, Array, Object, NULL.
3. Write a program of arithmetic operators.
4. Write any program of using conditional Statements.
5. Write a program to implement switch case in PHP.
6. Write a program to add two numbers using functions.
7. Write a program to implement while loop .
8. Print different values using for each loop.
9. Create a Date From a String With PHP strtotime() function
10. Write a program to open, read and close file in PHP.
11. Write a function to connect and create database using PHP.
12. Write a program to implement mail function.
13. Write a program to implement WHERE clause in php MySQL?
14. Write a program to implement file upload using PHP.
15. Write a program to start, store and delete session variable.

Reference Books:

1. WAMP Tools, LAMP Tools,
2. Apache Web Server, PHP compiler

BVSD -226 SOFTWARE LAB – VII (Based on BVSD-224)

Time allowed: 3 hours **Max Marks: 100**
Number of Lectures: 60 **External Marks : 70 marks**
Pass Marks: 35% **Internal Assessment: 30 marks**
Credits: 4

This laboratory course will comprise as exercises to supplement what is learnt under paper BVSD-224: Relational Database Management System.
Students are required to practices writing SQL statements for

1. Creating the Table
2. Querying the record using order by clause
3. Querying the record using group by clause
4. Querying the record using multiple conditions
5. Create Synonyms
6. Create Sequences
7. Create Views
8. Create Indexes
9. Create triggers
10. Create cursors for procedures

BVSD -227 PROJECT -I(IN HOUSE INDUSTRIAL TRAINING)

Max Marks: 100 **Maximum Time: 3 Hrs.**
External Marks : 50 marks **Internal Assessment: 50 marks**
Min Pass Marks: 35%
Credits: 4

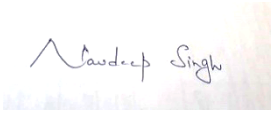
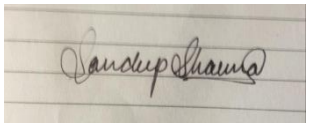
In This course student will have to do Industrial training on live project for 3 Months. The Industry should be ISO certified. In Last Student have to Submit Project Report of their training to the supervisor.

a. Project Report 25 Marks

b. Viva Voce 25 Marks

Members of Board of Studies


1. Dr. Surender Kumar **2. Dr. Dharamveer Sharma** **3. Dr. Major Singh Goraya**

4. Dr. Navdeep Singh **5. Mr. Sandeep Sharma** **6. Mr. Rakesh Kumar**

7. Prof. Tajinder Kaur **8. Prof. Paramjit Kaur** **9. Prof. Amandeep Kaur**

APPROVED