

Name of Institution: Seth Jai ParkashMukandLal Institute of Engg. & Tech.Radaur

Name of the Faculty: Ms. Priyanka Chauhan

Discipline: BCA

Semester: 4th

Subject: E-Commerce (BCA -243)

Lesson Plan Duration: 13 weeks (From Jan, 2023 to May, 2023)

Week	Theory	
	Lecture Day	Topic (including assignment/test)
1st	Introduction to E-Commerce	Teaching
	Business operations, E-commerce practices vs. traditional business practices	Teaching
	Concepts of b2b, b2c,c2c,b2g,g2h,g2c	Teaching
	Features of E-Commerce	Teaching
2nd	Types of Ecommerce Systems	Teaching
	Elements of E-Commerce	Teaching
	Principles of E-Commerce,	Teaching
	Benefits and Limitations of E-Commerce	Teaching
3rd	Management Issues relating to e-commerce	Teaching/Assignment
	Operations of E-commerce	Teaching
	Credit card transaction	Teaching
	Secure Hypertext Transfer Protocol (SHTTP)	Teaching/Quiz
4th	Electronic payment systems	Teaching
	Secure electronic transaction (SET)	Teaching
	SET's encryption; Process; Cyber cash; Smart cards, Indian payment models.	Teaching
	Applications in governance: EDI in Governance	Teaching

5th	E-government; E-Governance applications of Internet	Teaching
	Concept of government –to- business,	Teaching
	Business-to-governmentand citizen-to Government	Teaching
	E-governance models	Teaching
6th	Private sector interface in E governance	Teaching/Assignment
	Applications in B2C: Consumers shopping procedure on the Internet	Teaching
	Impacton disinter mediation and re-intermediation	Teaching/Quiz
	Global market; Strategy of traditionaldepartment stores.	Teaching
7th	Products in b2c mode	Teaching
	Success factors of e-brokers	Teaching
	Broker-based services on-line	Teaching
	Online travel tourism services	Teaching
8th	Benefits and impact of e-commerce on travel industry	Teaching/Assignment
	Dealestate market; online stock trading and its benefits	Teaching
	Online banking and its benefits	Teaching
	Online financial services and their future	Teaching
9th	E-auctions – benefits, implementation and impact	Teaching
	Applications in B2B	Teaching
	Key technologies for b2b	Teaching
	Architectural models of b2b	Teaching
10th	Characteristics of the supplier	Teaching
	Oriented marketplace	Teaching
	Buyer-oriented marketplace	Teaching/Quiz

	andintermediary-oriented marketplace	
	Just In Time delivery in b2b	Teaching
11th	Internet-based EDIfrom traditional EDI	Teaching
	Marketing Issues in b2b	Teaching/ Assignment
	Emerging Business models: Retail model; Media model	Teaching
	Advisory model, made-to- ordermanufacturing model	Teaching
12th	Do-it- yourself model	Teaching
	Information service model; Emerging hybrid models	Teaching
	Emerging models in India, Internet & E- Commerce scenario in India	Teaching
	Internet security Issues	Teaching/Quiz
13th	Legal aspects of E-commerce	Teaching
	Revision	
	Revision	

Name of Institution: Seth Jai ParkashMukandLal Institute of Engg. & Tech.Radaur

Name of the Faculty: Ms. Rakshita Behl

Discipline: BCA

Semester: 4th

Subject: Computer Oriented Statistical Method (BCA -245)

Lesson Plan Duration: 13 weeks (From Jan, 2023 to May, 2023)

Week	Theory	
	Lecture Day	Topic (including assignment/test)
1 st	Basic Statistics: Preparing Frequency Distribution Table and Cumulative frequency	Teaching
	Basic Statistics: Preparing Frequency Distribution Table and Cumulative frequency	Teaching
	Measure of Central Tendency	Teaching
	Types: Arithmetic mean, Geometric Mean, Harmonic Mean, Median, Mode.	Teaching
2 nd	Class Test	Teaching/ Test
	Measure of Dispersion: Range, Quartile Deviation, mean deviation	Teaching
	Coefficient of mean Deviation	Teaching
	Standard Deviation Moments : Moments About mean	Teaching
3 rd	Moment about mean in terms of moment about any point	Teaching
	Moment about any point in terms of Moment about Mean	Teaching
	-----DO-----	Teaching
	UNIT-1	Teaching/ Doubt Session/ Oral Revision
4 th	Probability Distribution: Random Variable	Teaching
	Discrete Random and Continuous Random variable	Teaching

	-----DO-----	Teaching
	ASSIGNMENT	Teaching/ Assignment
5th	Probability Distribution of a Random Variable	Teaching
	Mathematical Expectation	Teaching
	Binomial Distribution	Teaching
	Poisson Distribution	Teaching
6th	Normal Distribution	Teaching
	Correlation: Introduction, Types, Properties	Teaching
	Methods of Correlation: Karl Pearson's Coefficient of Correlation	Teaching
	Rank Correlation	Teaching
7th	CLASS TEST	Teaching/ Test
	Concurrent Deviation method	Teaching
	Probable error	Teaching
	Unit-2	Teaching
8th	Regression: Introduction, Aim of Regression Analysis	Teaching
	Types of Regression Analysis	Teaching
	Lines of Regression	Teaching
	Properties of Regression Coefficient and Regression Lines	Teaching
9th	Comparison with Correlation	Teaching
	-----DO-----	Teaching/ Doubt Session/ Oral Revision
	Curve Fitting: Straight Line, Parabolic curve	Teaching
	Geometric Curve, Exponential Curve	Teaching
10th	Baye's Theorem in Decision Making	Teaching
	Forecasting Techniques	Teaching
	CLASS TEST	Teaching/ Test
	UNIT-3	Teaching
11th	Sample introduction, Sampling: Meaning	Teaching
	ASSIGNMENT	Teaching/ Assignment
	Methods of Sampling	Teaching
	Statistical Inference: Test of Hypothesis	Teaching
12th	Procedure of hypothesis Testing, Type I and Type II error	Teaching/ Doubt Session/ Oral Revision
	One Tailed and two tailed Test	Teaching
	Types of test of Significance: Test of significance for	Teaching

	Attribute-Test of No. of success and test of proportion of success	
	ASSIGNMENT	Teaching/ Assignment
13th	Test of significance for small samples(t-test)- between the mean of two independent samples Chi square Test	Teaching
	ANOVA: Meaning, Assumptions	Teaching
	One way classification ANOVA Table for One-Way Classified Data	Teaching
	UNIT-4	Teaching/ Doubt Session/ Oral Revision

Name of Institution: Seth Jai Parkash Mukand Lal Institute of Engg. & Tech. Radaur

Name of the Faculty: Ms. Gaganpreet Kaur (Theory) and Ms. Savedna (Practical)

Discipline: BCA

Semester: 4th

Subject: Advanced Data Structures (BCA-241)

Lesson Plan Duration: 13 weeks (From Jan, 2023 to May, 2023)

Week	Theory		Practical	
	Lecture Day	Topic (including assignment/test)	Practical Day	Topic
1st	Tree: Introduction, Definition	Teaching	1	1. Implement Inorder Traversal Using C. 2. Implement Preorder Traversal Using C.
	Representing Binary tree in Memory	Teaching		
	Traversing binary trees(Inorder, Preorder)	Teaching		
	Traversing binary trees(Postorder)	Teaching		
2nd	Traversal algorithms using stacks(Preorder Traversal)	Teaching	2	3. Implement Postorder Traversal Using C. 4. Evaluate Infix Expression using C.
	Traversal algorithms using stacks(Postorder Traversal)	Teaching		
	Traversal algorithms using stacks(Inorder Traversal)	Teaching		
	Binary search trees: introduction	Teaching/ Doubt session		
3rd	Test	Assessment	3	5. Convert infix expression to postfix using stack
	Binary search trees: storage	Teaching		
	Binary search trees: Searching	Teaching		
	Insertion in a Binary search tree(Case A,B)	Teaching		
4th	Insertion in a Binary search	Teaching	4	6. Implement searching in Binary Search Tree

	tree(Case C)			
	Huffman's algorithm	Teaching		
	General trees	Teaching/ Assignment		
	Assignment: Binary Search Tree	Teaching		
5th	Graph: Introduction	Teaching	5	7. Implement Insertion in a binary Search Tree 8. Implement Deletion in a Binary search tree
	Graph theory terminology	Teaching		
	Sequential and linked representation of graphs	Teaching		
	Test	Assessment		
6th	operations on graphs(Insertion)	Teaching	6	9. Implement Breadth First Search in a graph
	operations on graphs(Deletion)	Teaching/ Assignment		
	Traversal algorithms in graphs(BFS)	Teaching		
	Traversal algorithms in graphs (DFS)	Teaching		
7th	Implementation of DFS and BFS	Teaching	7	10. Implement Depth first search in Graph
	Warshall's algorithm for shortest Path	Teaching		
	Dijkstra algorithm for shortest path	Teaching		
	Test	Assessment		
8th	Doubt Session	Teaching	8	11. Implement Dijkstra algorithm to find the shortest path in graph
	Sorting: Internal & external Sorting	Teaching		
	Radix sort	Teaching		
	Quick sort	Teaching		
9th	Heap sort	Teaching	9	12. Implement Warshall's algorithm to find the shortest path in graph
	Merge sort	Teaching		

	Tournament sort	Teaching		
	Comparison of various sorting and searching algorithms on the basis of their complexity	Teaching/ Assignment		
10th	Discussion on assignment	Teaching	10	13. Implementation Quick Sort 14. Implement Mergesort
	Files: Introduction Attributes of a file	Teaching		
	Classification of files	Teaching		
	File Operations	Teaching		
11th	Comparison of various types of files	Teaching	11	15. Implement Heap sort
	-----do-----	Teaching		
	File organization: Sequential	Teaching/ Assignment		
	File organization: Indexed-sequential	Teaching		
12th	File organization: Random-access file	Teaching	12	16. To implement Huffman Algorithm
	Hashing: Introduction	Teaching		
	Test	Assessment		
	Types of hashing	Teaching		
13th	-----do-----	Teaching	13	17. Implement Tournament sort
	Collision resolution	Teaching		
	Revision	Teaching		
	Test	Assessment		

Name of Institution: Seth Jai ParkashMukandLal Institute of Engg. & Tech.Radaur

Name of the Faculty: Ms. Rooz Munjal (Theory) and Ms. Rooz Munjal (Practical)

Discipline: BCA

Semester: 4th

Subject: Advanced Programming using C++ (BCA-242)

Lesson Plan Duration: 13 weeks (From Jan, 2023 to May, 2023)

Week	Theory		Practical	
	Lecture Day	Topic (including assignment/test)	Practical Day	Topic
1st	Brief: static data member and member functions	Teaching	1	1. Create a class to represent a bank account, include the data members: name, accountno, balance. And member function I) To deposit an amount. II) To withdraw an amount offer checking the balance. III) To display name and balance. 2. WAP to obtain the largest of three numbers using inline functions.
	Friend function and function overloading	Teaching		
	Inline functions	Teaching		
	Operator overloading	Teaching		
2nd	Polymorphism, Types	Teaching	2	3. WAP using operator overloading to overload Unary and binary operator 4. WAP to implement the concept of overriding in functions in C++.
	Static and dynamic polymorphism	Teaching		
	Do-----	Teaching		
	Function overriding	Teaching		
3rd	Do-----	Teaching/	3	5. WAP to illustrate the applications of virtual

	Virtual function and its need	Teaching		functions in c++
	Pure virtual function	Teaching		
4th	Abstract Class	Teaching/Quiz on sorting	4	6. Create a abstract class named figure having data member are, colour and member function i) Void area(): to calculate the area of given figure. ii) Void volume(): to calculate the volume of given figure.
	Virtual derivation	Teaching/		
	Destructor	Teaching		
	Virtual destructors	Teaching		
5th	function overloading	Teaching	5	7. Write a function power() to raise a number m to a power n. use default value of 2 for n to make the function to calculate squares. Consider two cases, the function takes i) Double value for m, Int value for n. ii) Int value for both m and n Both the function should have same name. Write a main that gets the values of m and n from the user to test the function. Use the concept of function overloading.
	Basic type conversion	Teaching		
	Conversion between objects and basic types	Teaching		
	Conversion between Objects of different classes	Teaching		
6th	Inheritance rules of derivation: private, public and protected	Teaching	6	8. Create a class employee extends from person class of question 3 having data members employeeID, department, salary, tax and the following member functions: I) Void data() to collect the details of the employee. II) Void display() to display the details of the employee III) Void calculate() to calculate the tax of employee depending upon the annual salary, if the salary is below 1 lakh, then tax to be paid a) Between 1-2 lakh, tax paid is 5% b) Above 2 lakh, tax paid is 10%
	TEST	Teaching/Assignment		
	Inheritance: Base and Derived Classes	Teaching		
	Inheritance and Types of Inheritance	Teaching		
7th	Single Inheritance	Teaching/Quiz	7	9. WAP to override base class members in a derived class.
	Multiple Inheritance	Teaching		
	Multilevel Inheritance			
	Hierarchical Inheritance	Assessment		
8th	Multipath Inheritance	Teaching/Assignment	8	10. WAP to implement constructor and

	TEST	Teaching		destructor in inheritance.
	Role of constructors in inheritance	Teaching		
	Role of destructors in inheritance	Teaching		
9th	Genericity in C++	Teaching	9	11. Write a function template to perform selection sorting in an array. 12. WAP to overload template functions.
	Function Templates	Teaching		
	Class Template	Teaching		
	Overloading Template Functions	Teaching		
10th	Exception Handling: Try, Throw, Catch	Teaching	10	13. WAP to illustrate exception handling in C++ by making use of functions try(), throw() and catch(). 14. WAP for exception handling divide by zero. 15. WAP for rethrowing exception handling in function. 16. WAP that illustrates the application of multiple catch statements.
	Throwing an Exception,	Teaching		
	TEST	Teaching/Quiz		
	Catching an Exception, Re-throwing an Exception	Teaching		
11th	File Handling	Teaching	11	17. WAP to read and display contents of file and creates another file that is identical except that every sequence of consecutive blank spaces is replaced by single space.
	Hierarchy of File Stream classes	Teaching/ Assignment		
	Opening and Closing files	Teaching		
	File modes, testing for errors	Teaching		
12th	TEST	Teaching	12	18. Write a program to maintain telephone directory system using files.
	File pointers and their manipulations	Teaching		
	Operation on files	Teaching		
		Teaching/Quiz		
13th	Text versus binary files	Teaching	13	19. WAP that uses STOCK.DAT file containing item name, code and cost. Perform the following operations on the file using random access. <ul style="list-style-type: none"> i) Adds a new item to the file ii) Modifies the details of an item. iii) Display the contents of the file.
	Revision of syllabus	Teaching		
	Revision of syllabus			
	Revision of syllabus	Teaching		

Name of Institution: Seth Jai ParkashMukandLal Institute of Engg. & Tech. Radaur

Name of the Faculty: Ms. Nishi Midha

Discipline: BCA

Semester: 4th

Subject: Relational Database Management System (BCA – 244)

Lesson Plan Duration: 13 weeks (From Jan, 2023 to May, 2023)

Week	Theory	
	Lecture Day	Topic (including assignment/test)
1st	Relational Model Concepts	Teaching
	Codd's Rules for Relational Model	Teaching
	Selection Operations	Teaching
	Set Operation	Teaching
2nd	Join and Division	Teaching
	Renaming	Teaching
	Tuple Relational Calculus	Teaching/ Assignment
	Projection Operations	Teaching
3rd	Domain Relational Calculus	Assessment
	Functional Dependencies	Teaching
	Normalization Purpose, Data	Teaching
	NormalizationRedundancy	Teaching/ Assignment
4th	Insertion, deletion and Update Anomalies	Teaching
	Full Functional Dependencies	Teaching/
	Transitive Functional Dependencies	Assessment
	Characteristics of Functional Dependencies	Teaching
5th	Decomposition	
	Normalization Forms (1NF, 2NF)	Teaching
	3NF, BCNF	Teaching
	Join Dependency	Teaching
6th	4 NF and 5 NF	Teaching
	SQL: Data Definition and data types	Assessment
	SQL Operators	Teaching
	Basic DDL, DML and DCL commands in SQL	Teaching
7th	Simple Queries and Specifying Constraints in SQL	Teaching
	Nested Queries	Teaching
	Tables	Teaching
	Views	Assessment

8th	Indexes	Teaching/ Assignment
	Aggregate Functions	Teaching
	Clauses	Teaching
	PL/SQL architecture	Teaching
9th	PL/SQL and SQL*Plus.	Teaching
	PL/SQL Basics	Teaching
	The Generic PL/SQL Block	Teaching
	PL/SQL Character set	Teaching
10th	PL/SQL Execution Environment	Assessment
	Data Types	Teaching
	Control Structure in PL/SQL	Teaching
	-----Do-----	Teaching
11th	Cursors in PL/SQL	Technical activity
	Examples of Cursors	Teaching/ Assignment
	Triggers in PL/SQL	Teaching
	Programs of Triggers	Assessment
12th	Programming using PL/SQL.	Teaching
	Priocedures	Teaching
	Examples of Procedures	Teaching
	Advantages of PL/SQL	Teaching
13th	Queries	Assessment
	Revision	Teaching
	Revision	Assessment
	Revision	Teaching

Name of Institution: Seth Jai ParkashMukandLal Institute of Engg. & Tech.Radaur

Name of the Faculty: Ms. Savedna

Discipline: BCA

Semester: 4th

Subject: Management Information System (BCA-246)

Lesson Plan Duration: 13 weeks (From Jan, 2023 to May, 2023)

Week	Theory	
	Lecture Day	Topic (including assignment/test)
1st	Introduction to system and Basic System Concepts	Teaching
	Types of Systems	Teaching
	The Systems Approach	Teaching
	Information System: Definition	Teaching
2nd	Information System: Characteristics	Teaching
	Types of information	Teaching
	Revision	Teaching
	Class test	Teaching
3rd	Role of Information in Decision-Making,	Teaching/ Assignment
	Sub-Systems of an Information system: EDP and MIS	Teaching
	management levels	Teaching
	EDP/MIS/DSS.	Teaching/Quiz
4th	An overview of Management Information System	Teaching
	Characteristics	Teaching
	Components of MIS	Teaching
	Frame Work for Understanding MIS	Teaching
5th	Assignment viva	Teaching
	Information requirements	Teaching
	& Levels of Management	Teaching
	Simon's Model of decision-Making	Teaching
6th	Structured Vs Un-structured decisions	Teaching/ Assignment
	Formal vs.Informal systems.	Teaching

	Class test	Teaching/Quiz
	Developing Information Systems	Teaching
7th	Developing Information Systems: Analysis	Teaching
	Design of Information Systems	Teaching
	Implementation	Teaching
	Revision	Teaching
8th	Doubt session and viva	Teaching/Assignment
	Class test	Teaching
	Evaluation	Teaching
	Pitfalls in MIS Development	Teaching
9th	Functional MIS	Teaching
	A Study of Personnel system	Teaching
	Financial MIS	Teaching
	Subject viva	Teaching
10th	production MIS,	Teaching
	Introduction to e-business systems	Teaching
	ecommerce – technologies	Teaching/Quiz
	ecommerce – applications	Teaching
11th	Revision	Teaching
	Revision	Teaching/Assignment
	Decision support systems	Teaching
	support systems for planning,	Teaching
12th	Class test	Teaching
	Revision	Teaching
	support systems for planning, control	Teaching
	decision-making	Teaching/Quiz
13th	Subject viva	Teaching
	Structured Vs Un-structured decisions	Teaching
	Sub-Systems of an Information system: EDP and MIS	Teaching
	Revision	Teaching
	Class test	Teaching/class test