BPS Mahila Polytchnic, Khanpur Kalan

Lesson Plan

Name of the Faculty : Ms. Sunita
Discipline
Semester 4th
Subject English
Lesson Plan Duration : 15 Weeks (From Feb to June 2024)
Work Load per week : Th (02) Pr (02)

Week	Theory		Practical	
	Lecture Day	Topic	Practical Day	Topic
1st	1st	All the World's A Stage – W. Shakespeare	1st	Reading Practice of the above lessons in the Lab Activity classes.
	2nd	Life Sketch of Dr. Abdul Kalam	2nd	Comprehension exercises of unseen passages along with the given lessons.
2nd	3rd	The Portrait of a Lady - Khushwant Singh	3rd	Speech by Dr Kiran Bedi at IIM Indore2007 Leadership Concepts
	4th	The Doctor's Word by R K Narayan	4th	The Bet - by Anton Chekov
3rd	5th	Modern means of Communication (Video Conferencing, e- mail, Teleconferencing	5th	Vocabulary enrichment and grammar exercises based on the above selective readings
	6th	Effective Communication Skills: 7 C's of Communication	6th	Situational Conversation: Requesting and responding to requests;
4th	7th	Non-verbal Communication – Significance, Types and Techniques for Effective	7th	Expressing sympathy and condolence.
	8th	Communication	8th	Warning; Asking and giving information.
5th	9th	Sessional	9th	Sessional
	10th	Sessional	10th	Sessional
6th	11th	Barriers and Effectiveness in Listening Skills	11th	Getting and giving permission.
	12th	Barriers and Effectiveness in Speaking Skills	12th	Asking for and giving opinions.
7th	13th	Correspondence: Enquiry letters, placing orders, complaint letters	13th	A small formal and informal speech
	14th	Report Writing	14th	A small formal and informal speech
8th	15th	Memos	15th	Seminar
	16th	Circulars	16th	Seminar
9th	17th	Press Release	17th	Debate.
	18th	Inspection Notes and tips for Note-taking	18th	Debate.

10th	19th	Sessional	19th	Sessional
	20th	Sessional	20th	Sessional
11th	21st	Corrigendum writing	21st	Unseen Comprehension Passages and vocabulary enhancement.
	22nd	Cover Letter	22nd	Interview Skills: Preparing for the Interview and guidelines for success in the Interview and significance of acceptable body-language during the Interview
12th	23rd	Drawing inferences	23rd	Written and Oral Drills will be undertaken in the class to facilitate a holistic linguistic competency among learners
	24th	Prepositions	24th	Participation in a GD, Functional and Non-functional roles in GD, Case Studies and Role Plays
13th	25th	Conjunctions	25th	Participation in a GD, Functional and Non-functional roles in GD, Case Studies and Role Plays
	26th	Punctuation	26th	Presentations, using audio-visual aids (including power-point).
14th	27th	words (Words commonly misused and confused)	27th	Telephonic interviews, face to face interviews
	28th	Translation of Administrative and Technical Terms in Hindi or Mother tongue	28th	Presentations as Mode of Communication: Persuasive Presentations using multi-media Aids
15th	29th	Importance of developing employable and soft skills	29th	Group discussions: Concept and fundamentals of GD, and learning Group Dynamics
	30th	Resume Writing: Definition, Kinds of Resume, Difference between Bio-data and Curriculum Vitae and Preparing a Resume for Job/ Internship	30th	Case Studies and Role Plays
16th	31st	Sessional	31st	Sessional
	32nd	Sessional	32nd	Sessional

B.P.S.Mahila Polytechnic, Khanpur Kalan

Lesson Plan

Name of the Faculty : **Ms. Geeta Dahiya**

Discipline : Computer Engineering

Semester : 4th

Subject : COMPUTER ORGANISATION & ARCHITECTURE

Lesson plan duration: 15 weeks (from February 2024 to June 2024)

** Work load(Lecture/Practical) per week (in hours) : **lectures-04**

Week	Theory	
	Lecture day	Topic
1st	1st	Introduction of the subject, its need and significance in their branch, overview of whole syllabus and books to be refered
	2nd	General register organisation
	3rd	Stack organisation
	4th	Revision
2nd	5th	Instruction formats(three address, two address)
	6th	Instruction formats (one address, zero address and RISC instruction)
	7th	Revision
	8th	Addressing modes: Immediate, register, direct,in direct, relative, indexed.
3rd	9th	Addressing modes
	10th	Revision of whole unit and assignments
	11th	Unit Test
	12th	Memory Hierarchy, RAM and ROM chips
4th	13th	Memory address map, Memory connections to CPU
	14th	Auxiliary memory: Magnetic disks and magnetic tapes.
	15th	Revision
	16th	Associative memory
5th	17th	Cache memory
	18th	Virtual memory
	19th	Revision

	20th	Memory management hardware
6th	21st	Read and Write operation
	22nd	Revision of whole unit and assignments
	23rd	Unit Test
	24th	Basis Input output system (BIOS) - Function of BIOS
7th	25th	Testing and initialization
	26th	Configuring the system
	27th	Modes of Data Transfer
	28th	Revision
8th	29th	Programmed I/O: Synchronous, asynchronous and interrupt initiated.
	30th	Programmed I/O: Synchronous, asynchronous and interrupt initiated.
	31st	DMA data transfer
	32nd	Revision of whole unit and assignments
9th	33rd	Unit Test
	34th	Forms of parallel processing
	35th	Parallel processing and pipelines
	36th	Basic characteristics of multiprocessor
10th	37th	General purpose multiprocessors
	38th	Revision
	39th	Interconnection networks: time shared common bus
	40th	Multi-port memory, cross bar switch
11th	41st	Multi stage switching networks
	42nd	Hyper cube structures.
	43rd	Revision of whole unit and assignments
	44th	Unit Test
12th	45th	Define I/O interface
	46th	Input-Output Interface
	47th	Explain methods of Asynchronous Data transfer.

	48th	Explain methods of Asynchronous Data transfer.
13th	49th	Synchronous Data Transfer
	50th	Revision
	51st	Strobe Control
	52nd	Handshaking
14th	53rd	Describe Asynchronous Serial Transfer.
	54th	Revision of whole unit and assignments
	55th	Unit Test
	56th	Revision
15th	57th	Revision of whole syllabus and100 marks paper to be given to students
	58th	Revision
	59th	Revision
	60th	Revision

LESSON PLAN

Name of Faculty : RAJESH MALIK

Semester : 4th
Subject : Object Oriented Programming Using Java
Department : Computer Engg.
Lesson Plan Duration : 15 Weeks
**Work load (Lecture / Practical) per week : Lectures-03, Practicals -06

Week	**Theory**		**Practical**	
	Lecture Day	**Topic (including assignment / test)**	**Practical Day**	**Topic**
1	1st Day	Fundamentals of object oriented programming – procedure oriented programming Vs. object oriented programming (OOP)	1st	Installation of Java and Java IDEss
	2nd Day	Object oriented programming concepts – Classes, object, object reference, abstraction, encapsulation, inheritance, polymorphism		Installation of Java and Java IDEss
	3rd Day	Introduction of eclipse (IDE) for developing programs in Java		
2	4th Day	Review of constructs of C used in JAVA : variables, types and type declarations	2nd	Simple programs on Java platforms
	5th Day	data types, increment and decrement operators, relational and logical operators;		Simple programs on Java platforms
	6th Day	if then else clause; conditional expressions		
3	7th Day	input using scanner class and output statement, loops	3rd	Consider we have a Class of Cars under which Santro Xing, Alto and Wagon R represents individual Objects. In this context each Car Object will have its own, Model, Year of Manufacture, Colour, Top Speed, etc. which form Properties of the Car class and the associated actions i.e., object functions like Create(), Sold(), display() form the Methods of Car Class. Use this class to create another class Company that tracks the models it create.
	8th Day	switch case,		Consider we have a Class of Cars under which Santro Xing, Alto and Wagon R represents individual Objects. In this context each Car Object will have its own, Model, Year of Manufacture, Colour, Top Speed, etc. which form Properties of the Car class and the associated actions i.e., object functions like Create(), Sold(), display() form the Methods of Car Class. Use this class to create another class Company that tracks the models it create.
	9th Day	arrays, methods.		
4	10th Day	Revision / Question and Answers	4th	In a software company Software Engineers, Sr. Software Engineers, Module Lead, Technical Lead, Project Lead, Project Manager, Program Manager, Directors all are the employees of the company but their work, perks, roles, responsibilities differs. Create the Employee base class would provide the common behaviors of all types of employee and also some

				behaviors properties that all employee must have for that company. Also include search method to search an employee by name.
	11th Day	Classes and Objects-Creation, accessing class members		In a software company Software Engineers, Sr. Software Engineers, Module Lead, Technical Lead, Project Lead, Project Manager, Program Manager, Directors all are the employees of the company but their work, perks, roles, responsibilities differs. Create the Employee base class would provide the common behaviors of all types of employee and also some behaviors properties that all employee must have for that company. Also include search method to search an employee by name.
	12th Day	Private Vs Public Vs Protected Vs Default		
5	13th Day	Constructors	5th	Suppose the Airport personals want to maintain records for the arrival and departure of the planes. Create a class Airport that has data like name, id, and address. Create two more classes for Arrival and Departure implementing Airport that will have track of planes (their name, id, arrival time or departure time and a counter to count the number of arrivals) also include the necessary methods to access the information. Also try to keep record of passengers by creating a new class Passenger. Also include a method search() in Airport class to search any passenger by name.
	14th Day	Object & Object Reference		Suppose the Airport personals want to maintain records for the arrival and departure of the planes. Create a class Airport that has data like name, id, and address. Create two more classes for Arrival and Departure implementing Airport that will have track of planes (their name, id, arrival time or departure time and a counter to count the number of arrivals) also include the necessary methods to access the information. Also try to keep record of passengers by creating a new class Passenger. Also include a method search() in Airport class to search any passenger by name.
	15th Day	**Revision of Chapter-3 (Assignment-1)**		
6	16th Day	**Seminar-1**	6th	Create a whole menu driven hospital management system using concept of OOP like classes, inheritance. Include information about the following: a. Patient -name, registration id, age, disease, etc. b. Staff – id, name, designation, salary, etc.
	17th Day	Definition of inheritance, protected data, private data, public data,		Create a whole menu driven hospital management system using concept of OOP like classes, inheritance. Include information about the following: a. Patient -name, registration id, age, disease, etc. b. Staff – id, name, designation, salary, etc.
	18th Day	constructor chaining, order of invocation		
7	19th Day	types of inheritance, single inheritance, multilevel inheritance	7th	Create a class called Musicians to contain three methods string ( ), wind ( ) and perc ( ). Each of these methods should initialize a string array to contain the following instruments: - veena, guitar, sitar, sarod and mandolin under string ( ) - flute, clarinet saxophone, nadhaswaram and piccolo under wind ( ) - tabla, mridangam, bangos, drums and tambour under perc ( ) It should also display the contents of the arrays that are initialized. Create a derived class called TypeInsto contain a method called get ( ) and show ( ). The get ( ) method must display a means as follows. Type of instruments to be displayed: a. String instruments b. wind instruments c. Percussion instruments The show ( ) method should display the relevant detail according to our choice. The base class variables must be accessible only to its derived classes.
	20th Day	hierarchical inheritance, hybrid inheritance		Create a class called Musicians to contain three methods string ( ), wind ( ) and perc ( ). Each of these methods should initialize a string array to contain the following instruments:

	21st Day	Polymorphism –Introduction		- veena, guitar, sitar, sarod and mandolin under string ( ) - flute, clarinet saxophone, nadhaswaram and piccolo under wind ( ) - tabla, mridangam, bangos, drums and tambour under perc ( ) It should also display the contents of the arrays that are initialized. Create a derived class called TypeInsto contain a method called get ( ) and show ( ). The get ( ) method must display a means as follows. Type of instruments to be displayed: a. String instruments b. wind instruments c. Percussion instruments The show ( ) method should display the relevant detail according to our choice. The base class variables must be accessible only to its derived classes.
8	22nd Day	Method & constructor overloading	8th	Write three derived classes inheriting functionality of base class person (should have a member function that ask to enter name and age) and with added unique features of student, and employee, and functionality to assign, change and delete records of student and employee.
	23rd Day	method overriding, up-casting and down-casting.		Write three derived classes inheriting functionality of base class person (should have a member function that ask to enter name and age) and with added unique features of student, and employee, and functionality to assign, change and delete records of student and employee.
	24th Day	**Revision of Inheritance and Polymorphism (Assignment-2)**		
9	25th Day	**Seminar-2**	9th	Using the concept of multiple inheritance create classes: Shape, Circle, Square, Cube, Sphere, Cylinder. Your classes may only have the class variable specified in the table below and the methods Area and/or Volume to output their area and/or volume. **Class Class Variable Constructor Base Class** Shape String name Shape() Circle double radius Circle(double r, String n) Shape Square double side Square(double s, String n) Shape Cylinder double height Cylinder(double h, double r, String n) Circle Sphere None Sphere(double r, String n) Circle Cube None Cube(double s, String n) Square
	26th Day	Key points of Abstract class & interface		Using the concept of multiple inheritance create classes: Shape, Circle, Square, Cube, Sphere, Cylinder. Your classes may only have the class variable specified in the table below and the methods Area and/or Volume to output their area and/or volume. **Class Class Variable Constructor Base Class** Shape String name Shape() Circle double radius Circle(double r, String n) Shape Square double side Square(double s, String n) Shape Cylinder double height Cylinder(double h, double r, String n) Circle Sphere None Sphere(double r, String n) Circle Cube None Cube(double s, String n) Square
	27th Day	difference between an abstract class & interface		

10	28th Day	implementation of multiple inheritance through interface.	10th	Write a program to create class Person. a. Make two classes, Student and Instructor, inherit from Person. A person has a name and year of birth. b. A student has a major, student id. c. An instructor has salary, subject. Write the class definitions, the constructors, set methods, get methods and for all classes.
	29th Day	**Revision of interface and its implementation**		Write a program to create class Person. a. Make two classes, Student and Instructor, inherit from Person. A person has a name and year of birth. b. A student has a major, student id. c. An instructor has salary, subject. Write the class definitions, the constructors, set methods, get methods and for all classes.
	30th Day	Definition of exception handling,		
11	31st Day	Method to use exception handling	11th	Old MacDonald had a farm and several types of animals. Every animal shared certain characteristics: they had a type (such as cow, chick or pig) and each made a sound (moo, cluck or oink). An Interface defines those things required to be an animal on the farm. Define new classes for the Old MacDonald that implement the Animal and Farm class. Create array of object of animal to define the different types of animal in the farm. Also create appropriate methods to get and set the properties.
	32nd Day	implementation of keywords like try, catch, finally		Old MacDonald had a farm and several types of animals. Every animal shared certain characteristics: they had a type (such as cow, chick or pig) and each made a sound (moo, cluck or oink). An Interface defines those things required to be an animal on the farm. Define new classes for the Old MacDonald that implement the Animal and Farm class. Create array of object of animal to define the different types of animal in the farm. Also create appropriate methods to get and set the properties.
	33rd Day	Use of throw & Throws		
12	34th Day	Creating your own exception classes	12th	Write a program with Student as abstract class and create derive classes Engineering, Medicine and Science from base class Student. Create the objects of the derived classes and process them and access them using array of pointer of type base class Student.
	35th Day	Revision of Exceptions		Write a program with Student as abstract class and create derive classes Engineering, Medicine and Science from base class Student. Create the objects of the derived classes and process them and access them using array of pointer of type base class Student.
	36th Day	Importance of exception handling in practical implementation of live projects.		
13	37th Day	**Revision of Exceptions (Assignment-3)**	13th	Running of other sample Java programs
	38th Day	**Seminar-3 (Final Conclusion)**		Running of other sample Java programs

Name of Faculty:	**SANYUKTA GIRDHAR**
Discipline:	**COMPUTER ENGG.**
Subject:	**Data Structures using 'C'**
Semester	**4th**
Lesson Plan :	**15 weeks (15th February to June 2024)**
Work load (Lecture/ Practical) per week (in hours):	**3 Lectures, 4 Practicals**

Week	Theory		Practicals	
	Lecture Day	Topic	Practical Day	Topic
1	1	Problem solving concept.	1	C language revisit
	2	Top-down & Bottom-up design strategy	2	C language revisit
	3	Structured & Modular Programming	3	Basic C programs practice
	4	Concept of Data Types, variables, constants	4	use of data type variables, contants in c programs
2	5	Concept of Pointers	5	use of pointers
	6	Introduction to Data Structures, Linear,Non-Linear, Primitive and Non-Primitive	6	C programs practice
	7	Concept of DS, Array, link list, stacks, queues, trees, graphs	7	C programs practice
	8	Revision	8	C programs practice
3	9	Concept of array, 1-D array, memory representation	9	implementation of 1-D array
	10	Traversing , Searching algorithm in 1-D array	10	implementation of traversal, searching in 1-D array
	11	Insertion algorithm in 1-D array	11	implementation of insertion in 1-D array
	12	Deletion algorithm of 1-D array. Class Test	12	Implementation of deletion algorithm

Week	Theory		Practicals	
	Lecture Day	Topic	Practical Day	Topic
4	13	Concept of 2-D array , its memory representaion, address calculation	13	implementation of 2-D array
	14	Introduction to link list,memory representation	14	link list revision , previous practice
	15	Algorithm for traversing link list	15	implementation of link list, traversal
	16	Comparison b/w array and link list, search algorithm	16	implementation of search algorithm
5	17	Algorithm for insertion at first node in link list	17	implementation of link list insertion at first node
	18	Algorithm for insertion at given location in link list	18	implementation of link list insertion at given location
	19	Algorithm for insertion at last node in link list	19	implementation of link list insertion as last node
	20	Algorithm for deletion of node in link list	20	implementation of link list deletion of node
6	21	Application of link list	21	Practice
	22	Test/ Revision	22	Program test
	23	2-way link list, insertion, deletion	23	2-way list implementation
	24	Introduction to stacks, push, pop operation	24	File evaluation, memory representation of stacks
7	25	Polish notation	25	stack implementation
	26	Infix to post fix conversion algorithm	26	implementation of infix to postfix conversion
	27	Postfix evaluation algorithm	27	implementation of postfix evaluation algorithm
	28	Recursion ,comparison b/w iteration & recursion, tower of hanoi	28	implementation of recusrion
	29	Revision/ Test	29	Test programs
	30	Introduction to queues	30	Implementation of queues

Week	Theory		Practicals	
	Lecture Day	Topic	Practical Day	Topic
8	31	Circular Queues	31	implementing circular queues
	32	De-queues, Assignment, Problems discussion	32	implementaion work
9	33	Test	33	File evaluation, test
	34	Concept of binary trees	34	implementaion work
	35	Memory representation of binary trees.	35	implementing binary trees
	36	Balanced, Binary search trees	36	implementing binary trees contd.
10	37	Preorder traversing of binary trees	37	implementing preorder traversal
	38	Revision	38	implementing preorder traversal contd.
	39	Post order traversal of binary trees	39	implementing postorder traversal
	40	Practice	40	implementing postorder traversal contd.
11	41	Inorder traversal of binary trees	41	implementing inorder traversal
	42	practice/ test	42	implementing inorder traversal contd.
	43	Search algorithm for BST	43	implementing Search in BST
	44	Insertion algorithm for BST	44	implementation work for insertion
12	45	Deletion algorithm for BST	45	implementation work for deletion
	46	Deletion algorithm for BST contd.,	46	implementation work deletion
	47	Introductio to heap	47	implementation work contd.
	48	Linear search algorithm with example	48	implementation of linear search
	49	Binary search algorithm with example	49	implementation of binary search

Week	Theory		Practicals	
	Lecture Day	Topic	Practical Day	Topic
13	50	Introduction to sorting, bubble sort algorithm with example	50	implementation of bubble sort
	51	Insertion sort algorithm with example	51	implementation of insertion sort
	52	Test of bubble and insertion sort algorithms	52	Test programs
14	53	Selection sort algorithm with example	53	implementation of selection sort
	54	Merge sort algorithm with example	54	implementation of merge sort
	55	Radix sort with example	55	implementation of radix sort
	56	Test	56	Test programs
15	57	Heap sort with example	57	implementation of heap sort
	58	Quick sort with example	58	implementation of quick sort
	59	Problems/ Revision	59	implementation work contd./ problems
	60	TEST	60	File evaluation