Lesson Plan for Even semester

Govt. Polytechnic, Jhajjar

Name of the Faculty: Vivek Dahiya

Discipline: Computer Engineering

Semester: 4th

Subject: Microprocessors and Peripheral Devices

Lesson Plan Duration: 15 weeks

Work Load (Lecture/ Practical) per week (in hours): Lect- 03 Pract-06

Week	Theory		Practical	
	Lecture day	**Topic (including assignment/ test)**	**Practical day**	**Topic**
1st	1st	Typical organization of a microcomputer system.	1st	A brief history of Microprocessor. How Microprocessor works and its various features.
	2nd	Functions of its various blocks.		
	3rd	Microprocessor and its evolution.		
	4th	Function and impact of microprocessor on modern society.		
2nd	5th	Concept of Bus.	2nd	Familiarization of different keys of 8085 microprocessor kit.
	6th	Bus organization of 8085.		
	7th	Functional block diagram of 8085 and function of each block.		
	8th	Pin details of 8085 and related signals.		
3rd	9th	Demultiplexing of address/data bus generation of read/write control signals.	3rd	Familiarization of memory map of 8085.

	10th	Steps to execute a stored Programme.		
	11th	Instruction cycle, machine cycle and T-states.		
	12th	Fetch and execute cycle.		
4th	13th	Revision and assignments	4th	Steps to enter data/program on 8085 kit.
	14th	TEST		
	15th	Brief idea of machine and assembly languages, Machines and Mnemonic codes, Instruction format and Addressing mode.		
	16th	Identification of instructions as to which addressing mode they belong.		
5th	17th	Concept of Instruction set and Explanation of the instructions of the following groups of instruction set.	5th	Steps to modify data/program on 8085 kit
	18th	Data transfer group		
	19th	Revision and assignments		
	20th	TEST		
6th	21st	Arithmetic Group, Logic Group	6th	Steps to execute a programme on 8085 kit.
	22nd	Stack, I/O and Machine Control Group		
	23th	Revision and assignments		
	24th	TEST		

7th	25th	Programming exercises in assembly language	7th	Writing and execution of ALP for addition of two 8 bit numbers.
	26th	Concept of memory mapping		
	27th	Partitioning of total memory space		
	28th	Revision and assignments		
8th	29th	Revision and assignments	8th	Writing and execution of ALP for subtraction of two 8 bit numbers.
	30th	TEST		
	31st	Address decoding		
	32nd	Concept of peripheral mapped I/O		
9th	33rd	Concept of memory mapped I/O	9th	Writing and execution of ALP for multiplication and division of two 8 bit numbers.
	34th	Interfacing of memory mapped I/O devices		
	35th	Revision and assignments		
	36th	TEST		
10th	37th	Concept of interrupt	10th	Writing and execution of ALP for arranging 10 numbers in ascending/descending order.
	38th	Maskable and non-maskable		
	39th	Edge triggered and level triggered interrupts		
	40th	Software interrupt		
11th	41st	Restart interrupts and its use	11th	Writing and execution of ALP for 0 to 9 BCD counters (up/down counter according to choice stored in memory).
	42nd	Various hardware interrupts of 8085		
	43rd	Servicing interrupts		
	44th	Revision and assignments		
	45th	extending interrupt		

		system		
12th	46th	Concept of programmed I/O operations	12th	Interfacing exercise on 8255 like LED display control and 8253 programmable interval timer.
	47th	synchronous data transfer, asynchronous data		
		transfer (hand shaking)		
	48th	Interrupt driven data transfer		
13th	49th	DMA	13th	Interfacing exercise on 8279 programmable KB/display interface like to display the hex code of key pressed on display.
	50th	Serial output data, Serial input data		
	51st	8255 PPI		
	52nd	8253 PIT		
14th	53rd	8257 / 8237 DMA controller,	14th	Use of 8085 emulator for hardware testing.
	54th 55th	Programmable KB/Display Interface,		
		8251 Communication Interface Adapter.		
	56th	Revision and assignments		
15th	57th	Revision and assignments	15th	Revision and Problem Solving.
	58th	Revision and assignments		
	59th	Revision and assignments		
	60th	Revision and assignments		

LESSON PLAN

Name of faculty :Shakti Raj
Discipline :Computer Engineering

Subject : OOPJ (4thsem)

Lesson plan duration :15 weeks (lecture/practical) per

week:Lectures- 03,practicals-06

week	Theory		Practical	
	Lecture Day	Topic(including assignment/test)	Practi-cal	Topic
1st	1st	Introduction and Features :Fundamentals of Object oriented programming – procedure oriented programming Vs. object Oriented programming (OOP.) Object oriented programming concepts– Classes, object, object reference	1st	Program of basic OOP in java.
	2nd	*Abstraction ,encapsulation Inheritance,*		
	3rd	*Inheritance, polymorphism, Introduction of eclipse(IDE)for developing programs in Java*	2nd	Program of basic OOP in java.
2nd	1ST	**Language Constructs :**Review of constructs of C used in JAVA :	1st	ConsiderwehaveaClassofCars underwhichSantroXing,AltoandWagonRrepresentsindividualObjects.InthiscontexteachCarObjectwillhaveitsown,Model,Year ofManufact.,Color,TopSpeed, etc.whichformPropertiesofthe Carclassand the associated actions i.e., object Functions like Create(),Sold(),display()formtheMethodsofCarClass.Usethisclasstocreateanotherclass Companythattracksthemodelist create.
	2ND	data types, increment and decrement operators		
	3RD	Relational and logical operators, if else then clause	2nd	SoftwareEngineers,ModuleLead,TechnicalLead,ProjectLead,ProjectManager,

				Program Manager, Directors all are the employees of the company but their work, perks, roles, responsibilitiesdiffers.Create theEmployeebaseclasswould providethecommonbehavior sof alltypesofemployeeandalsos omebehaviorspropertiesthat allemployeemusthaveforthat company.Alsoinclude search method
3rd	1st	Conditional expressions ,input using scanner class	1st	SupposetheAirportperson alswanttomaintainrecordsf orthearrivalanddepartureo ftheplanes. Create a class Airport that has data like name, id, and address.
	2nd	Input using scanner class and output statement,		
	3rd	Output statement Loops,	2nd	Practice of practical's.
4th	1st	Switch case	1st	.Createawholemenudrivenho spitalmanagementsystemusin gconceptofOOPlikeclasses,in heritance.Includeinformation aboutthefollowing:a.Patient - name,registrationid,age,dise ase,etc.b.Staff– id,name,designation,salary,et c.
	2nd	Arrays		
	3rd	Methods	2nd	Practice of practical.
5TH	1st	**Classes and Objects:** Creation, accessing class members	1st	CreateaclasscalledMusicianst ocontainthreemethodsstring( ),wind()andperc().Eachofthes emethods should initialize astringarraytocontainthefollo winginstruments:veena,guita r,sitar,sarodandmandolinund erstring() - flute,clarinetsaxophone,na dhaswaramand piccolound erwind()- tabla,mridangam,bangos,d rumsandtambourunderper
	2nd	Private Vs Public Vs Protected Vs Default		
	3rd	Revision /Test	2nd	Practice of practical.
6TH	1st	**Constructors**	1st	Write three derived classes inheriting functionality of

	2nd	Object & Object Reference		baseclassperson(shouldhaveamemberfunctionthatasktoenternameandage)andwithaddeduniquefeaturesofstudent,andemployee,andfunctionalitytoassign,changeanddeleterecordsofstudentandemployee.
	3rd	Object & Object Reference	2nd	Practice of practical's.
7th	1st	Inheritance: Definition of inheritance, protected data,	1st	Usingtheconceptofmultipleinheritancecreateclasses:Shape,Circle,Square,Cube,Sphere,Cylinder. Yourclassesmayonlyhavetheclassvariablespecifiedinthetablebelowandthemethods Areaand/or Volumetooutputtheirareaand/orvolume.
	2nd	Private data, public data,		
	3rd	Constructor chaining, order of invocation	2nd	Write a program to create Class Person.
8th	1st	Order of invocation, types of inheritance,	1st	To create class STUDENT inherit from Person
	2nd	Single inheritance Multilevel inheritance,	2nd	To create class Instructor inherits from Person.
	3rd	Hierarchical inheritance		
9th	1st	Hierarchical inheritance Hybrid inheritance	1st	To create class Instructor inherit from Person.
	2nd	Hybrid inheritance		
	3rd	Polymorphism: Method & constructor overloading,	2nd	Writetheclassdefinitions,theconstructors,setmethods,getmethodsandforallclasses.
10th	1st	Method overriding	1st	Writetheclassdefinitions,theconstructors,setmethods,getmethodsandforallclasses.
	2nd	up-casting, down-casting		
	3rd	Revision /Test	2nd	
11th	1st	Abstract class& Interface	1st	Write the classdefinitions,theconstructors,setmethods,getmethodsandforallclasses.
	2nd	Abstract class &Interface		
	3rd	Implementation of multiple inheritance through	2nd	Write the class definitions, the constructors ,set

		interface		Methods, get methods and for all classes.
12th	1st	Implementation of multiple inheritance through interface	1st	Write the class definitions ,the constructors ,set methods, get Methods and for all classes.
	2nd	Implementation of multiple inheritance through interface	2nd	9.OldMacDonaldhadafarmandseveraltypesofanimals.Everyanimalsharedcertaincharacteristics:theyhadatype(suchascow,chickorpig)andeachmadeasound(moo,cluck).AnInterfacedefinesthosethingsrequireddtobeananimalonthefarm.DefinenewclassesfortheOldMacDonald that implement the Animal and Farm class. Create array of object of animal to define the different types of animalinthefarm.Alsocreateappropriatemethodstogetandsettheproperties
	3rd	Revision of Abstract class & Interface and discuss problems		
13th	1st	Exception Handling:	1st	10.WriteaprogramwithStudentasabstractclassandcreatederiveclassesEngineering,MedicineandSciencefrombaseclassStudent.Createtheobjectsofthederivedclassesandprocessthemandaccessthemusing arrayofpointeroftypebaseclassStudent.
	2nd	Implementation of keywords like try and catch		
	3rd	Implementation of keywords like finally, throw &throws.		Practice of practical..
14th	1st	Importance of exception handling in practical implementation of live projects	1st	Revision of practical.
	2nd	Importance of exception handling in practical implementation of live projects		
	3rd	Revision and problems	2nd	Revision of practical.
15th	1st	Revision and problems	1st	Revision of practical.
	2nd	Revision and problems		
	3rd	Revision /Test	2nd	Revision of practical.

Lesson Plan

Name of the Faculty : Reenu Sharma

Discipline : Computer Engg.
Semester : 4th
Subject : Data Structure using C
Lesson plan duration : 15 weeks Theory-3hr, Practical-6hrs

Week	The		Practical	
	Lecture Day	Topic (including assignments /tests)	Practical Day	Topic
1st Week	1st	Problem solving concept , Top-down and bottom-up design, structured programming	1st	Exercise of C Program
			2nd	Exercise of C Program
	2nd	Concept of data type, variables and constants	1st	Exercise of C Program /Revision/Practice Session
	3rd	Introduction to data Structure(Linear, Non Linear, Primitive, Non Primitive))	2nd	Exercise of C Program /Revision/Practice Session
Week 2	1st	Concept of Data Structure (Array, Linked List, Stack, Queue, Trees, Graphs)	1st	Exercise of C Program
			2nd	Exercise of C Program
	2nd	Concept of Arrays	1st	Program regarding Array/Revision/Practice Session
	3rd	One dimensional Array, Two Dimensional Array: Representation of Two dimensional Array (Base address, LB, UB)	2nd	Program regarding Array/Revision/Practice Session
Week 3	1st	Operational on Arrays with Algorithms (inserting, deleting)	1st	Program regarding Array
	2nd	Operational on Arrays with Algorithms (Searching, Traversing	2nd	Program regarding Array
	3rd	Introduction to linked list and double linked list, Representation of Linked list in Memory	1st	Program regarding Array/Revision/Practice Session
			2nd	Program regarding Array/Revision/Practice Session
Week 4	1st	Describe and Comparison between Linked list and Array	1st	Program of Matrices
	2nd	Traversing and Searching Linked List	2nd	Program of Matrices
	3rd	Insertion and deletion into Linked list	1st	Program ofMatrices/ Revision/ Practice Session
			2nd	Program of Matrices/Revision/Practice Session
Week 5	1st	Application of Linked List and Explain Doubly Linked List	1st	Program of addition of two Matrices using function
	2nd	Traversing, Insertion and deletion into doubly Linked List	2nd	Program of addition of two Matrices using function
	3rd	Introduction to Stack, Representation of Stacks With Array and Linked list	1st	Program of addition of two Matrices using function/Revision/PracticeSession
			2nd	Program of addition of two Matrices using function/Revision/PracticeSession
Week	1st	Implementation of Stacks	1st	Program of inserting and deleting

6				elements in array

		Converting Infix to Post Fix Notation)	2nd	Program of addition of two Matrices using function/Revision/PracticeSession
	3rd	Evaluation of Post fix Notation and Tower of Hanoi	1st	Program of inserting and deleting elements in array /Revision/Practice Session
			2nd	Program of inserting and deleting elements in array /Revision/Practice Session
Week 7	1st	Recursion : Concept and Comparison between recursion and Iteration	1st	Program of Push and POP Operation in stack
	2nd	Introduction of Queues and Implementation of queues (array and Linked list with algorithm)	2nd	Program of Push and POP Operation in stack
	3rd	Introduction of Queues and Implementation of queues (array and Linked list with algorithm)	1st	Program of Push and POP Operation in stack /Revision/Practice Session
			2nd	Program of Push and POP Operation in stack /Revision/Practice Session
Week 8	1st	Explain Circular Queues and De-Queues	1st	Program of Conversion from in-fix notation
	2nd	Introduction of Trees and Concept of Binary Trees	2nd	Program of Conversion from in-fix notation
	3rd	Explain Complete and Extended Binary Tree	1st	Program of Conversion from in-fix notation/Revision/PracticeSession
			2nd	Program of Conversion from in-fix notation/Revision/Practice Session
Week 9	1st	Concept of representation of Binary Tree	1st	Program of the Factorial of given number using recursion
	2nd	Concept of representation of balanced Binary Tree	2nd	Program of the Factorial of given number using recursion
	3rd	Explain Traversing Binary Trees (Pre Order, Post Order and In Order)	1st	Program of the Factorial of given number using recursion /Revision/Practice Session
			2nd	Program of the Factorial of given number using recursion /Revision/Practice Session
Week 10	1st	Explain Searching, inserting and deleting in binary seary trees	1st	Insertion and Deletion of elements in Queue and Circular Queue using Pointer
	2nd	Explain Searching, inserting and deleting in binary seary trees	2nd	Insertion and Deletion of elements in Queue and Circular Queue using Pointer
	3rd	Problems Solution	1st	Insertion and Deletion of elements in Queue and Circular Queue using Pointer /Revision/Practice Session
			2nd	Insertion and Deletion of elements in Queue and Circular Queue using Pointer /Revision/Practice Session
	1st	Test	1st	Insertion and Deletion of elements

Week 11	2nd	Problems Solution		in Linked List and doubly Linked list
			2nd	Insertion and Deletion of elements in Linked List and doubly Linked list
	3rd	Previous topic Explain	1st	Insertion and Deletion of elements in Linked List and doubly Linked list/Revision/Practice Session
			2nd	Insertion and Deletion of elements in Linked List and doubly Linked list/Revision/Practice Session
Week 12	1st	Introduction of Sorting and Searching	1st	Program of Linear Search procedures to search an element in given list
	2nd	Search algorithm(Linear and Binary)		
			2nd	Program of Linear Search procedures to search an element in given list
	3rd	Search algorithm(Linear and Binary)	1st	Program of Binary Search procedures to search an element in given list/Revision/Practice Session
			2nd	Program of Binary Search procedures to search an element in given list/Revision/Practice Session
Week 13	1st	Concept and uses of Sorting	1st	Previous Problems solution
			2nd	Previous Problems solution
	2nd	Sorting Algorithm (Bubble sort)		
	3rd	Sorting Algorithm (Insertion sort)	1st	Previous Problems solution /Revision/Practice Session
			2nd	Previous Problems solution /Revision/Practice Session
Week 14	1st	Sorting Algorithm (Selection sort)	1st	Program of Bubble Sort
	2nd	Sorting Algorithm (Merge Sort)	2nd	Program of Bubble Sort
	3rd	Sorting Algorithm (Radix sort) & Sorting Algorithm (Heap Sort)	1st	Program of Bubble Sort/Revision/Practice Session
			2nd	Program of Bubble Sort/Revision/Practice Session
Week 15	1st	Problems Solution	1st	Program of Selection Sort
	2nd	Problems solution	2nd	Program of Selection Sort
	3rd	Test	1st	Program of Selection Sort /Revision/Practice Session
			2nd	Program of Selection Sort /Revision/Practice Session

LESSON PLAN

Name of the Fauclty:- Vivek Dahiya
Subject Computer organization
Semester 4th
Session

WEEK NO.	THEORY DAY	TOPICS COVERED	PRACTICAL
1	1	Introduction of computer hardware	N/A
	2	CPU organization	N/A
	3	Three address,two address,one address zero	N/A
2	1	RISC Instruction	N/A
	2	Addressing modes: Immediate,register,direct	N/A
	3	CPU Design: Microprog.vs hard wired	N/A
3	1	Reduced instruction set computer	N/A
	2	CISC characteristics	N/A
	3	Revision & class test	N/A
4	1	Introduction to memory	N/A
	2	Memory Hirerachy	N/A
	3	RAM and ROM chips	N/A
5	1	Memory connection to CPU	N/A
	2	Auxillary Memory	N/A
	3	Cache memory	N/A
6	1	Virtual memory	N/A
	2	Memory Management hardware	N/A
	3	Revision calss test	N/A
7	1	Introduction to O/I organization	N/A
	2	Functions of BIOS and test	N/A
	3	Test and Initialization, configuring the system	N/A
8	1	Introduction to modes of data transfer	N/A
	2	Explain Programmed I/O	N/A
	3	Assignment questions revision	N/A
9	1	Various types of interrupts	N/A
	2	DMA data transfer	N/A
	3	Revision & class test	N/A
10	1	Introduction to Architecture of Computer	N/A
	2	Multi processor systems	N/A
	3	Forms of parallel processing	N/A
11	1	introduction to Multiprocessor	N/A
	2	Multi processor systems in detail	N/A
	3	revision -class test	N/A
12	1	Forms of parallel processing	N/A
	2	Parallel processing and pipelines,	N/A
	3	Basic charactersteristics	N/A
13	1	Interconnection network	N/A
	2	Time shared bus	N/A
	3	System bus	N/A
14	1	Multi ports	N/A
	2	Cross bar switch	N/A
	3	Multi stage	N/A
15	1	Switching networks	N/A
	2	Hyper cube structures.	N/A
	3	Revision & class test	N/A

Lesson Plan

Name of the Faculty : Rekha Jangir
Discipline : Computer Engg.
Semester : 4th
Subject : DBMS
Lesson plan duration : 15 weeks (from March, 2023 to June, 2023) Theory-3hr, Practical-3hrs

Week	Theory		Practical	
	Lecture Day	Topic (including assignments /tests)	Practical Day	Topic
1st Week	1st	**Database Systems** : Introduction to Database and its purpose & Database System	1st (G1)	Overview, Features and functionality
	2nd	Why Database & History of Database System	2nd (G2)	Overview, Features and functionality
	3rd	Characteristics of the database approach & Advantages and disadvantages of database systems		
Week 2	1st	Introduction to Conventional File System & Concept of files, record, data, information retrieval Comparison between Conventional System and DataBase System	1st (G1)	Application development in MS-Access
	2nd	**Classification of DBMS Users** - Actors on the scene & Database Administrators, Database Designers, End Users, System Analysts and Application Programrs	2nd (G2)	Application development in MS-Access
	3rd	Workers behind the scene (DBMS system designers and implementers, tool developers, operator and maintenance personnel) History of data base System		
Week 3	1st	Assignment on Database system		Exercises on different forms of select statement
	2nd	Test		
	3rd	**Data models**: (Physical Model, Object based Model, Record based Model Network Model, Heirachical Model)	2nd (G2)	Exercises on different forms of select statement

Week 4	1st	Schemas, sub schemas instances, data base state. Case Study of models and schemas (examples student information System)	1st (G1)	Exercises on altering of Tables
	2nd	**DBMS Architecture**: Three Level of Architecures		
	3rd	Data base Administrator and Administration, Database Management System – Advantage and Disadvantage, Classification of DBMS, DBMS Interfaces	2nd (G2)	Exercises on altering of Tables
Week 5	1st	Concept of centralized and Client /Server Architecture for DBMS: Single Tier, Two Tier and Three Tier	1st (G1)	Exercises on dropping of Tables
	2nd	**Data Independence** Logical data Independence , Physical data Independence		
	3rd	**Database Languages and Interfaces** DBMS Language & DBMS Interfaces	2nd (G2)	Exercises on dropping of Tables
Week 6	1st	**Classification of Database Management Systems**: Centralized, Distributed, parallel and Object based	1st (G1)	Exercises on creation of tables
	2nd	Assignment on Database Architecture		
	3rd	Test	2nd (G2)	Exercises on creation of tables
Week 7	1st	**Data Modeling using E.R. Model:** Data Modeling using E.R. Model (Entity Relationship Model	1st (G1)	Exercises on insertion of data into tables
	2nd	Data Models Classification : File based or primitive models, traditional data models, semantic data models		
	3rd	Entities and Attributes	2nd (G2)	Exercises on insertion of data into tables
Week 8	1st	Entity types and Entity sets	1st (G1)	Exercises on deletion of data
	2nd	Key attribute and domain of attributes		

	3rd	Relationship among entities	2nd (G2)	Exercises on deletion of data
Week 9	1st	Database design with E/R model	1st (G1)	Exercises on deletion of data using different conditions
	2nd	ER Design Issues		
	3rd	Mapping Constraints	2nd (G2)	Exercises on deletion of data using different conditions
Week 10	1st	Assignment on Entity Relationship Model	1st (G1)	Exercises on UPDATE statement
	2nd	Test		
	3rd	**Relational Model Concepts**: Domain, Attributes, Tuples	2nd (G2)	Exercises on UPDATE statement
Week 11	1st	Cardinality Keys- Primary, Secondary	1st (G1)	Exercise on structured query Language
	2nd	foreign, Alternative Keys etc and Relations		
	3rd	Assignment on Relational Model	2nd (G2)	Exercise on structured query Language
Week 12	1st	Test	1st (G1)	Exercise on Select Command with where clause
	2nd	**Structured Query Language** – Data definition language : Create Command		
	3rd	Data definition language : Alter & Drop commands	2nd (G2)	Exercise on Select Command with where clause
Week 13	1st	Data Manipulation Language (DML)	1st (G1)	Exercise on Select Command using conditional expressions and Boolean operator
	2nd	Select command with where clause using conditional expressions		
	3rd	Boolean operators	2nd (G2)	Exercise on Select Command using conditional expressions and Boolean operator
Week 14	1st	Group by clause & like operator	1st (G1)	Exercise on Select Command with group by clause and Like operator
	2nd	Insert Command		

	3rd	Update and Delete commands	2nd (G2)	Exercise on Select Command with group by clause and Like operator
Week 15	1st	Assignment on DDL	1st (G1)	**Practice exercises on MS Access and SQL**
	2nd	Assignment on DML		
	3rd	Test	2nd (G2)	**Practice exercises on MS Access and SQL**