

No. of Printed Pages : 4
Roll No.

170841

4th Sem. / Computer

Subject : Object oriented programming using JAVA

Time : 3 Hrs.

M.M. : 100

SECTION-A

Note:Objective type questions. All questions are compulsory. (10x1=10)

- Q.1 Write one advantage of object oriented program. (CO-1)
- Q.2 Is polymorphism supported in java (true /false). (CO-7)
- Q.3 What is a scope of a variable. (CO-5)
- Q.4 Use of ?: operator in java _____. (CO-2)
- Q.5 Distinguish between class and object. (CO-1)
- Q.6 In what way a switch statement differ from an if statement. (CO-2)
- Q.7 Do while is entry controller loop? (True/False) (CO-2)

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- Q.8 A collection of similar items is called _____. (CO-3)
- Q.9 Write down the purpose of scanner class. (CO-4)
- Q.10 Multiple inheritance can be achieved using _____ in java. (CO-6)

SECTION-B

Note:Very Short answer type questions. Attempt any ten questions out of twelve questions(10x2=20)

- Q.11 Define a class. (CO-1)
- Q.12 What is meant by precedence of operators. (CO-2)
- Q.13 List the different forms of inheritance . (CO-6)
- Q.14 Differentiate the usage of throw and throws. (CO-10)
- Q.15 How abstract class different from interface. (CO-9)
- Q.16 What is the use of finally block. (CO-10)
- Q.17 What are access specifiers. (CO-5)
- Q.18 State the uses of keyword final. (CO-10)

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- Q.19 What is the importance of exception handling. (CO-10)
- Q.20 Define the terms abstraction. (CO-1)
- Q.21 What are methods. (CO-3)
- Q.22 What is meant by constructor chaining. (CO-1)

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x5=40)

- Q.23 What is an array? How is it declared? Explain with example. (CO-3)
- Q.24 Define an object. How object is created. (CO-4)
- Q.25 Explain the concept of method overriding with suitable example. (CO-7)
- Q.26 Write a short note on try-catch. (CO-10)
- Q.27 What do you mean by method overloading. Give an example. (CO-7)
- Q.28 Write a short note on data types of java. (CO-3)
- Q.29 Differentiate between procedure oriented programming vs object oriented programming. (CO-1)

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- Q.30 Explain in brief:
- (a) polymorphism
- (b) encapsulation. (CO-1)
- Q.31 Write a short note on object and object reference. (CO-5)
- Q.32 Discuss in brief implementation of multiple inheritance through interface. (CO-9)

SECTION-D

Note: Long answer type questions. Attempt any three questions out of four questions. (3x10=30)

- Q.33 Discuss the various types of operators in java. (CO-2)
- Q.34 What is abstract class? Explain with an example program. (CO-9)
- Q.35 Write a program in java to find sum and average of N given numbers. (CO-3)
- Q.36 Write a java program to implement inheritance. (CO-6)

(**Note:** Course outcome/CO is for office use only)

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4th Sem. / Trade : Computer Engg.

Subject : Data Structure using C

Time : 3 Hrs.

M.M. : 100

SECTION-A

Note: Objectives questions. All questions are compulsory (10x1=10)

- Q.1 The identifier whose value does not change during execution of program is called _____ (CO-1)
- Q.2 For a linear array A [15, 16, 27,, 25], Find the total number of elements. (CO-2)
- Q.3 When the function calls itself it is called _____ (CO-4)
- Q.4 Linked list is a _____ data Structure. (CO-3)
- Q.5 Node of a linked list contains _____ and _____ parts. (CO-3)
- Q.6 Expand the term LIFO _____ (CO-4)
- Q.7 Deletion operation in a Stack is called _____ (CO-4)
- Q.8 Give an example of sorting method which uses partitioning. (CO-6)

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Q.9 Give the post fix notation of the given infix notation. $A+B / C - D$ (CO-4)

Q.10 Each node of a binary tree can have at most _____ children. (CO-5)

SECTION-B

Note: Very Short answer type questions. Attempt any ten parts 10x2=20

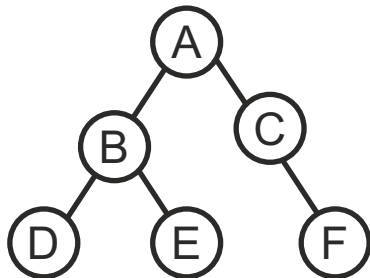
- Q.11 Define Algorithm (CO-1)
- Q.12 Name any four linear data Structures (CO-1)
- Q.13 Define linked list. (CO-3)
- Q.14 What are the various operations that can be performed on an Array. (CO-2)
- Q.15 Give the formula for calculating the address of an element in column Major form representation of array. (CO-2)
- Q.16 Give the node structure of a linked list. (CO-3)
- Q.17 Define Queue. (CO-4)
- Q.18 Give two applications of a stack. (CO-4)
- Q.19 Define Complete Binary Tree. (CO-5)
- Q.20 Define Degree of a Tree (CO-5)
- Q.21 What is the precondition for performing binary search operation on a given list of elements. (CO-6)
- Q.22 What are the advantages of Doubly Linked List. (CO-3)

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SECTION-C

Note: Short answer type questions. Attempt any eight questions. $8 \times 5 = 40$

- Q.23 Explain the various types of data structures. (CO-1)
- Q.24 Give five differences between a Array and a Linked List. (CO-2)
- Q.25 Explain linear and non linear data structures. (CO-1)
- Q.26 Give algorithm for adding a element in the beginning of the linked list. (CO-3)
- Q.27 Define Array. Give algorithm for traversing an array. (CO-2)
- Q.28 Give algorithm for deleting an element form the stack. (CO-4)
- Q.29 What is the limitation of a linear queue. How is it removed. (CO-4)
- Q.30 Give inorder, postorder and preorder traversal of the following tree. (CO-5)



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Q.31 Give differences between sequential search and binary search. (CO-6)

Q.32 Sort the following list of elements using bubble sort. Show result after each step. (CO-6)

6 10 2 9 1 5 7

SECTION-D

Note: Long answer type questions. Attempt any three questions. $3 \times 10 = 30$

- Q.33 What are different types of Arrays? Explain how element of arrays are stored in memory? (CO-2)
- Q.34 Explain Sequential search technique with suitable example? Give algorithm. (CO-6)
- Q.35 Convert the following expressions into postfix notation using Stack (CO-4)
- $A + B * C + D / E - F$
- Q.36 Write short note on (CO-1)
- a) Structured programming
 - b) Tower of Hanoi

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4th Sem. / Comp./IT/CNC/CAD/CAM

Subject : DATABASE MANAGEMENT SYSTEM

/RDBMS

Time : 3 Hrs.

M.M. : 100

SECTION-A

Note:Objective type questions. All questions are compulsory. (10x1=10)

(Course Outcome/CO)

- Q.1 What is database?. (CO-1)
- Q.2 Tool developers are _____. (CO-1)
- Q.3 The three levels of DBMS architecture are _____. (CO-2)
- Q.4 What do you mean by data model? (CO-3)
- Q.5 Create table and create view are _____.(CO-7)
- Q.6 The number of tuples in a relation is called _____. (CO-4)
- Q.7 The constraints imposed due to existence of foreign keys are called _____. (CO-4)
- Q.8 If every constraints on the relation is a logical consequences of the definition of keys and domains then the relation is in _____. (CO-5)
- Q.9 DCL Stands for _____. (CO-7)
- Q.10 UPDATE is a command of _____. (CO-7)

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SECTION-B

Note:Very Short answer type questions. Attempt any ten questions out of twelve questions. 10x2=20

- Q.11 What do you mean by sophisticated users. (CO-1)
- Q.12 What is conventional file system? (CO-1)
- Q.13 What do you mean by DBMS? (CO-2)
- Q.14 What is the role of Application programmers. (CO-1)
- Q.15 What do you mean by Entity? (CO-3)
- Q.16 What is super key? (CO-4)
- Q.17 Differentiate between Relation and domain. (CO-4)
- Q.18 What do you mean by functional Dependencies? (CO-5)
- Q.19 What are the benefits of Normalization? (CO-5)
- Q.20 Write syntax of GRANT Command. (CO-7)
- Q.21 Write the syntax of two Aggregate function. (CO-7)
- Q.22 What do you mean by Mapping constraints? (CO-4)

SECTION-C

Note:Short answer type questions. Attempt any eight questions out of ten questions. 8x5=40

- Q.23 Define DBS. Explain various characteristics and applications of DBS in detail. (CO-1)

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- Q.24 write short note on following.
 (a) Naive user (b) Data Base Designing
 (c) Specialized user (CO-1)
- Q.25 What do you understand by DBMS architecture? How it is related to three levels of data abstraction?. (CO-2)
- Q.26 What do you mean by ER model? Explain various components of E-R model in detail. (CO-3)
- Q.27 What are mapping constraints? Explain various types of mapping constraints with example. (CO-4)
- Q.28 What do you mean by Data Base Anomalies? Explain updation, delete and Insertion anomalise with example. (CO-5)
- Q.29 What do you mean by Normalization? Explain various types of Normal Forms. (CO-5)
- Q.30 Explain different DCL Commands with syntax in SQL. (CO-7)
- Q.31 Write short note on following:
 (a) Data Base Access
 (b) Data Base Security. (CO-6)
- Q.32 (i) Differentiate between super key and Foreign key. (CO-4)
 (ii) Differentiate between DBMS and RDBMS? (CO-4)

SECTION-D

- Note:** Long answer type questions. Attempt any three questions out of four question. 3x10=30
- Q.33 (i) Write short note on Data Base controllers. (CO-1)
 (ii) What do you mean by DBMS ? Explain advantage & disadvantages of DBMS? (CO-1)
- Q.34 Write short note on following.
 (I) Keys (ii) RDBMS
 (II) Integrity Rules (iv) Relational Constraints (CO-4)
- Q.35 What are the three elements of SQL? Explain various DDL commands with syntax. (CO-7)
- Q.36 (I) Define Associations. Explain the types of Associations with example.
 (ii) Differentiate between Trivial and Non - trivial functional dependencies. (CO-5)

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4th Sem. / Computer Engg.

**Subject : Microprocessors and
Peripherals Devices/ Microp.& App**

Time : 3 Hrs.

M.M. : 100

SECTION-A

Note:Objective questions. All questions are compulsory. (10x1=10)

(Course Outcome/CO)

- Q.1 Word size of 8085 is _____ bits. (CO-1)
- Q.2 What is the function of address bus?. (CO-1)
- Q.3 Name the format of instruction DADD. (CO-2)
- Q.4 Write two instructions used for subroutine operation. (CO-3)
- Q.5 Name the data transfer techniques. (CO-5)
- Q.6 Name two functional units of 8086. (CO-6)
- Q.7 RST 7.5 is mask able interrupt (T/F). (CO-4)

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Q.8 Define stack. (CO-2)

Q.9 Define ALE. (CO-3)

Q.10 What is S/W interrupt. (CO-6)

SECTION-B

Note:Very Short answer type questions. Attempt any ten questions out of ten questions. 10x2=20

Q.11 Name the interrupt pins of 8085. (CO-1)

Q.12 List four function of ALU. (CO-1)

Q.13 Write the arithmetic equation of the instruction ADD D. (CO-2)

Q.14 Explain peripheral I/O & memory mapped I/O. (CO-4)

Q.15 Define DMA operation. (CO-5)

Q.16 What is the function of Accumulator? (CO-3)

Q.17 What is NOP? (CO-4)

Q.18 What is handshaking (CO-4)

Q.19 Explain DMA. (CO-5)

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- Q.20 What is a buffer?. (CO-2)
Q.21 What is assembler?. (CO-6)
Q.22 What is the function of O/P devices? (CO-6)

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. 8x5=40

- Q.23 Explain the evolution of microprocessor & its impacts on society. (CO-1)
Q.24 Describe arithmetic group of instruction with suitable example referring to 8085. (CO-2)
Q.25 Classify the interrupts of 8085 in detail (CO-4)
Q.26 Differentiate minimum & maximum mode of configuration of 8086. (CO-6)
Q.27 Discuss various flags of 8085. (CO-4)
Q.28 Write the various application of microprocessor. (CO-6)
Q.29 Write down various addressing modes of 8085. (CO-5)

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- Q.30 What is memory interfacing?. (CO-6)
Q.31 Draw timing diagram of memory read cycle. (CO-4)
Q.32 Differentiate between Hardware & Software interrupt. (CO-5)

SECTION-D

Note: Long answer type questions. Attempt any three questions out of four questions. 3x10=30

- Q.33 Draw and discuss the pin diagram of 8085 in details. (CO-1)
Q.34 Explain programmed data transfer techniques with suitable diagrams. (CO-3)
Q.35 Discuss and draw the block diagram of 8086 in details. (CO-6)
Q.36 Write short note on the following:- (CO-4)
a) stack
b) Non-mask able interrupt.

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No. of Printed Pages : 4

Roll No.

170845/120845/
30845/31065B

4th Sem. / COMPUTER ENGINEERING /IT

Subject : COMPUTER ORGANIZATION

Time : 3 Hrs.

M.M. : 100

SECTION-A

Note:Objective type questions. All questions are compulsory (10x1=10)

- Q.1 RISC stands for _____. [CO1]
- Q.2 One byte is equivalent to _____bits. [CO1]
- Q.3 ANSI stands for _____. [CO1]
- Q.4 Classify computer according to Flynn 'classification. [CO4]
- Q.5 The full form of WORM is _____. [CO2]
- Q.6 BIOS means _____. [CO2]
- Q.7 Full form of DMA is _____. {CO3}
- Q.8 CMOS stands for _____. [CO3]
- Q.9 Hard wired control units is a rigid application.[T/F]
- Q.10 SISD stands for _____. [CO4]

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SECTION-B

Note:Very Short answer type questions. Attempt any ten questions. 10x2=20

- Q.11 What is the function of control Unite? [CO3]
- Q.12 Explain Boot Strap Loader. [CO3]
- Q.13 Name various types of parallel processors. [CO4]
- Q.14 Explain DMA Transfer. [CO3]
- Q.15 Define POST. [CO3]
- Q.16 Make a Block Diagram of Associative Memory. [CO2]
- Q.17 Define RAM and ROM. [CO2]
- Q.18 Write short note on Register indirect mode [CO2]
- Q.19 Make block diagram of segmentation with Paging. [CO3]
- Q.20 State single Accumulator Organization. [CO1]
- Q.21 Define three address instructions. [CO1]
- Q.22 Define Auto Increment Mode. [CO1]

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SECTION-C

Note: Short answer type questions. Attempt any eight questions. 8x5=40

Q.23 Write short note on direct memory access. [CO3]

Q.24 Explain Arithmetic pipeline. [CO4]

Q.25 Differentiate between RISC and CISC. [CO1]

Q.26 What is priority interrupts? [CO3]

Q.27 Explain memory hierarchy. [CO2]

Q.28 State and Explain BIOS. [CO3]

Q.29 Write note on Cross-Bar Switches. [CO4]

Q.30 What is the concept of Virtual and Cache Memory. [CO2]

Q.31 Write short note on- [CO2]

a) Hit rate

b) DVD

Q.32 Differentiate between Access time and Latency Time. [CO2]

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SECTION-D

Note: Long answer type questions. Attempt any three questions. 3x10=30

Q.33 What is addressing mode? Explain the type of addressing mode. [CO1]

Q.34 Explain Pipelining and its techniques with diagram. [CO4]

Q.35 Differentiate Direct Mapping, Associative Mapping and set Associative mapping. [CO2]

Q.36 Write short note one :-

a) Multi Processing [Co4]

b) Functions of BIOS. [CO3]

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