Total No. of Questions : 10]

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PF-15133

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S.E. (Electronics/E&TC/E.E-VLSI Design and Technology/IOT/ECE-ACT)

MDM-271-ETC : OBJECT - ORIENTED PROGRAMMING

(2024 Pattern) (Semester - IV)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.Q.9 or Q.10.***
2) ***Figures to the right side indicate full marks.***
3) ***Assume suitable data, if necessary.***
4) ***Neat diagrams must be drawn wherever necessary.***

Q1) a) Differentiate POP and OOP. **[7]**

b) What is call by value, call by address and call by reference? Explain with Example. **[7]**

OR

Q2) a) Define Object-Oriented Programming. Explain its features. **[7]**

b) Compare member function and inline function. Give example of each. **[7]**

Q3) a) What is JDK? How is it different from JRE and JVM? Enlist different tools of JDK. **[6]**

b) Create a JAVA class Employee with employee ID,name and basic salary. **[8]**

i) Use a constructor to initialize values.

ii) Create a method to calculate total salary including HRA and DA.

iii) Display salary details.

OR

Q4) a) What is the use of 'this keyword' in Java? Explain with suitable examples. **[6]**

b) Design a JAVA class Student with attributes like roll number, name and marks. **[8]**

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i) Initialize values using a constructor.

ii) Create a method to calculate grade.

iii) Display student details.

Q5) a) Explain types of inheritance with example. **[6]**

b) Write a Java program for single inheritance and explain. **[8]**

OR

Q6) a) Differentiate method overloading and overriding. **[6]**

b) Write a Java program for method overriding and explain output with assuming some data. **[8]**

Q7) a) What is an interface? Explain advantages with example. **[7]**

b) Explain Java API packages. **[7]**

OR

Q8) a) What are packages? Explain benefits. **[7]**

b) Explain lambda expressions. **[7]**

Q9) a) Explain thread life cycle in detail with neat diagram. **[7]**

b) What is exception? Explain checked and unchecked exceptions. **[7]**

OR

Q10) a) Explain try-catch-finally with syntax. **[7]**

b) Explain thread creation using Thread class with example. **[7]**

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