PA-1245

[5925]-268

S.E. (Information Technology)
OBJECT ORIENTED PROGRAMMING
(2019 Pattern) (Semester - III) (214444)

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*
2) *Neat diagrams must be drawn wherever necessary.*
3) *Figurest to the right side indicate full marks.*
4) *Assume suitable data if necessary.*

Q1) a) What is Constructor? What are the characteristics of the Constructor? Explain Constructor Overloading with an example? **[9]**

b) Write a short note on : **[9]**

   i) Garbage collection in Java

   ii) Destructor in C++

OR

Q2) a) Design a class 'Complex' with data members for real and imaginary part. Provide default and Parameterized constructors. Write a program in JAVA to perform **a Subtraction** of two complex numbers. **[9]**

b) Discuss with example Dynamic initialization of object in Java. **[9]**

Q3) a) Define Inheritance. What are the types of Inheritance? How can you inherit a class in Java? **[9]**

b) What is polymorphism? Explain compile time and run time polymorphism. **[8]**

OR

Q4) a) Differentiate between method overriding and method overloading. Explain method overriding concept with an example. **[9]**

b) What is interface in java? How to declare an interface, write a syntax? Can we achieve multiple inheritance by using interface? Justify with an example. **[8]**

P.T.O.

Q5) a) What is an exception? Explain the following terms with respect to exception handling: **[9]**

    i) try

    ii) catch

    iii) throw

    iv) finally

    b) Write a generic method to count the number of elements in a collection that have a specific properties like odd integers, prime numbers and palindrome. **[9]**

OR

Q6) a) Explain ArrayList class with an example. **[9]**

    b) Write a java program to accept and display the month number. Throw number format exception if improper month number is entered. **[9]**

Q7) a) Explain FileinputStream class. Write any four methods of File Input stream class with their syntax. **[9]**

    b) Explain following File operations using File class : **[8]**

    i) Create a File

    ii) Read from a File

    iii) Write to a File

    iv) Close a File

OR

Q8) a) Write a short note on : **[8]**

    i) Iterator

    ii) Singleton

    b) Implement a program for maintaining a database of student records using Files. Student has Student-id, name, Roll_no, Class, marks and address. Display the data for few students. **[9]**

    i) Create Database

    ii) Display Database

    iii) Delete Records

    iv) Update Record

    v) Search Record

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