CDOE
MASTER OF COMPUTER APPLICATIONS (CBCS-2019 COURSE)
M.C.A. SEM - III : WINTER :- 2021
SUBJECT: OBJECT ORIENTED PROGRAMMING

Day : Monday | Time : 10:00 AM-01:00 PM
Date 21-02-2022 | **W-22227-2021** | Max. Marks: 60

N.B.:

1) Q 4 from Section I is COMPULSORY.
2) Answer ANY TWO questions from Q 1, 2, 3 in Section I.
3) Answer ANY TWO questions from Q 5, 6, 7 in Section II.
4) All questions CARRY EQUAL marks.
5) Answers to Both the sections should be written in SAME answer book.
6) Draw a labeled diagram WHEREVER necessary.

SECTION - I

Q.1) Answer the following: (6 Marks X 2 = 12)

a) Define and Describe following Terms.
   i) Abstraction
   ii) Inheritance
   iii) Polymorphism

b) Explain the concept of Jagged Array? State its advantage.

Q.2) Answer the following: (6 Marks X 2 = 12)

a) State the types of parameter passing to functions in Java and briefly describe it.

b) What is the need of interface? Explain with example.

Q.3) Explain the following: (6 Marks X 2 = 12)

a) List and describe roles of methods used in inter-thread communication

a) Explain the concept of serialization and deserialization.

Q.4) Write short notes on the following: Attempt ANY THREE (4 Marks X 3 = 12)

a) Wrapper Classes
b) Method overloading
c) Finally block
d) Thread lifecycle
e) Serialization
f) collection framework
g) Collection features

SECTION - II

Q.5) Answer the following: (6 Marks X 2 = 12)

a) Design and develop a class Student; to be used to represent in the higher education. Demonstrate use of this class by writing java code.

b) There are various types of employees; define base class using abstraction and also identify and design class inherited from it.

Q.6) Answer the following: (6 Marks X 2 = 12)

a) Design a Java Thread implementation to accept two numbers from m and n and generates all common multiples of them and store then in list. Use it to send values of m and n and print all the numbers generated.

b) Develop java program to read contents of one file and copy it into another by reversing each line.

Q.7) Explain the following: (6 Marks X 2 = 12)

a) Write a java program to maintain two sets and perform following operations on it.
   i) Union
   ii) Intersection
   iii) Difference

b) Write a program to determine the sum of the following series. Where K and n are accepted from user.
   sum = 1 + 2^2 + 3^2 + ...+ k^n.

*****