JP – 767

I Semester M.C.A. (Two Years Course) Examination, July 2023
(CBCS Scheme)
(2020 – 2021 and Onwards)
COMPUTER SCIENCE
1MCA 5 : Object Oriented Programming

Time : 3 Hours Max. Marks : 70

Instructions : *1) Part – **A** : Answer **any five** questions.*
*2) Part – **B** : Answer **any four** questions.*

PART – A

Answer **any five** questions. **Each** carries **six** marks. **(5×6=30)**

1. Give an account of the principles of object oriented programming.
2. What are the salient features of JAVA language ?
3. Java is rich in operators. Justify.
4. What are the roles played by precedence and associativity of operators ? Give their significance.
5. What are classes and objects ?
6. Inheritance helps in hierarchical growth of a program. Justify.
7. Why are constructors used ? What are their types ?
8. What is multithreading ? Give its importance.

PART – B

Answer **any four** questions. **Each** carries **10** marks. **(4×10=40)**

9. a) What are relational expressions and compound conditional expressions ? How are they used to change the flow of control in a program ? **5**

   b) Develop a program to accept day, month and year numbers and report whether they form a valid date or not. **5**

P.T.O.

10. Present the syntax of the looping structures in Java and develop a Java program to display only the prime numbers in the given range of integers between m and n ($m \leq n$). **10**

11. Write a Java program to develop a class namely Book with member data, title, author, no. of pages and price. Create a list of books details and perform the following :

    a) Display all the books details.

    b) Update a books price.

    c) Sort the books details in the increasing order of price. **10**

12. Develop a program to illustrate the usage of the thread class to create multiple threads and also the usage of Runnable interface to create multiple threads. **10**

13. Develop a Java program to create a file consisting of characters and also to copy it to another file. **10**

14. Write short notes on : **(2.5×4=10)**

    a) Garbage collection.

    b) Method overriding.

    c) Abstract class.

    d) Arrays in Java.