

2022

COMPUTER SCIENCE — HONOURS

Paper : CC-12

(Object Oriented Programming)

Full Marks : 50

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

Answer *question no. 1* and *any four* questions from the rest.

1. Answer *any five* questions :

2×5

- (a) What is 'method overriding'?
 - (b) How is error handled in Java?
 - (c) What is the use of abstract method in Java?
 - (d) Cite an example to demonstrate the use of 'this' keyword in Java.
 - (e) What is the role of garbage collection in Java?
 - (f) Cite an example of *arrayoutofbound* exception in Java.
 - (g) What is the use of 'super' keyword in Java?
 - (h) When does the finally() block get executed in Java?
2. (a) What is the difference between data hiding and abstraction in Java? Cite an example of abstract class that has an abstract method.
- (b) How is the problem of multiple inheritance resolved in Java? Explain with an example. (3+2)+5
3. (a) What is polymorphism in Java? Explain different types of polymorphism with example.
- (b) Write a Java program to illustrate dynamic method dispatch using hierarchical inheritance. (2+3)+5
4. (a) What is a package? Explain the different access control packages in Java.
- (b) Write a program in Java to input a number and check whether it a perfect number or not. (2+3)+5
5. (a) Write a program in Java to find out the maximum element from an array without sorting it.
- (b) Write a program to reverse an Array List in Java. (2+3)+5

Please Turn Over

6. (a) What are the benefits of using multithreading?
(b) What are the two ways of implementing thread in Java? Explain with proper example.
(c) What is thread prioritization in Java? How is it achieved? 2+4+(1+3)

 7. (a) Explain the life cycle of an applet. What is the order of method invocation in an applet?
(b) What are the different types of AWT components? How are these components added to the container? (3+2)+(2+3)

 8. (a) Briefly explain the Servlet and Swing in Java.
(b) Is it possible to convert a superclass reference into a subclass reference? Explain.
(c) Differentiate between *private* and *protected* access specifier with the help of an example. (2+2)+2+4
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