



**MAULANA ABUL KALAM AZAD UNIVERSITY OF
TECHNOLOGY, WEST BENGAL**

Paper Code : CS-504D

OBJECT-ORIENTED PROGRAMMING

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

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

**GROUP - A
(Multiple Choice Type Questions)**

1. Choose the correct alternatives for the following :

$10 \times 1 = 10$

- i) Whether Java need compiler or interpreter
 - a) compiler b) interpreter
 - c) both (a) and (b) d) none of these.
- ii) Does any Java program contains more than one main method ?
 - a) Yes
 - b) No
 - c) Sometimes it is possible
 - d) In different package.

- iii) How many public class can be allowed in Java ?
- a) One
 - b) Two
 - c) Many
 - d) None of these.
- iv) How dead thread can be accessed ?
- a) Using start()
 - b) Using notify()
 - c) Using reCreate()
 - d) None of these.
- v) Java compiler written by
- a) C
 - b) C++
 - c) Owk
 - d) None of these.
- vi) Applet has main() method
- a) False
 - b) True
 - c) Required for local applet
 - d) None of these.
- vii) Final is useful
- a) to protect a method from overloading
 - b) to protect a class from inherit
 - c) to protect a interface from implementing
 - d) none of these.
- viii) Dynamic method dispatcher is useful for
- a) to resolve method override
 - b) to resolve multilevel inheritance annomaly
 - c) to resolve multiple inheritance annomaly
 - d) none of these.

- ix) AWT package is uses for
- a) Component and graphics
 - b) Component
 - c) Graphics
 - d) None of these.
- x) An abstract class can contain no method at all
- a) True
 - b) False
 - c) Variable
 - d) None of these.

GROUP - B

(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

2. What are the two methods to create threads ? Compare them. Explain them with an example Java program. 2 + 3
3. What is function overloading explain with example.
4. How does a class accomplish data hiding ? List out the differences between Procedure Oriented Programming and Object Oriented programming. 2 + 3
5. What is Constructor ? What does the finalize method do ? 2 + 3
6. What is delegation model in Java Applet.

GROUP - C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

7. Write a super class interface employee has name and id number. Write manager and labour derived from employee class. Manager class has member data *q*-function and *q*_fication and manager allowance and rank labour class has member data Dailywage, Overtime and Grade. $3 + 3 + 9$
 8. What are five essential methods used for the structure of any Applet. Develop an applet that receives three numeric values as inputs from the user and then displays the largest of three on the screen. Write a HTML program and test the applet. $6 + 9$
 9. What is Inheritance ? How many types of inheritance Java supports are there ? Discuss it. Given a method that does not declare any exception, can I override that method in a subclass to throw an exception ? $2 + 4 + 2 + 7$
 10. What is multi-threading ? Write a program which can run a main thread and a child thread simultaneously. What does synchronized keyword do ? Briefly describe with example. $2 + 5 + 2 + 6$
 11. Write short notes on any *three* of the following : 3×5
 - a) Abstract class
 - b) Dynamic method dispatch
 - c) Dynamic binding
 - d) Sequence diagram and its use
 - e) Method overriding with example.
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