

Professional Course Examination, May 2023

(4th Semester)

BACHELOR OF COMPUTER APPLICATIONS

(Object-Oriented Programming in Java)

Full Marks : 75

Time : 3 hours

The figures in the margin indicate full marks for the questions

(PART : A—OBJECTIVE)

(Marks : 25)

SECTION—I

(Marks : 15)

A. Tick (✓) the correct answer in the brackets provided : 1×10=10

1. Which of the following is the entry point for executing a Java program?

(a) Class ()

(b) Public ()

(c) Static ()

(d) Main ()

2. The following program is an example of—

```
int i = 1;
while (i<=10)
{
    System.out.println(i);
    i++;
}
```

- (a) entry loop ()
- (b) exit loop ()
- (c) Both (a) and (b) ()
- (d) None of the above ()
3. Which of the following is used to communicate between objects?
- (a) This ()
- (b) Static ()
- (c) Method ()
- (d) Keyword ()
4. Which of the following is the concept of polymorphism?
- (a) A single action in different way ()
- (b) Uses the property of other classes ()
- (c) Hiding the details and showing an essential information ()
- (d) All of the above ()
5. Which of the following is compile time error?
- (a) Converting invalid string to a number ()
- (b) Misspelling of identifiers and keyword ()
- (c) Dividing an integer by zero ()
- (d) All of the above ()

6. Which of the following is the reason the output stream designed for?

- (a) For performing writing bytes ()
- (b) For performing closing streams ()
- (c) For performing flushing streams ()
- (d) All of the above ()

7. An interface which is defined inside another interface or class is called

- (a) nested interface ()
- (b) combine interface ()
- (c) inside interface ()
- (d) None of the above ()

8. Which of the following is used to access user define package?

- (a) Interface ()
- (b) Import ()
- (c) Package ()
- (d) None of the above ()

9. _____ is a Java program that can be embedded into a web page and runs inside the web browser and works at client side.

- (a) Application ()
- (b) Applet ()
- (c) Both (a) and (b) ()
- (d) None of the above ()

10. Which of the following is used to store data and partial results, as well as to perform dynamic linking, return values for methods, and dispatch exceptions?

(a) Panel ()

(b) Window ()

(c) Container ()

(d) Frame ()

B. State whether the following statements are *True (T)* or *False (F)* by putting a Tick (✓) mark : 1×5=5

1. If branching takes place without any decision, it is known as unconditional branching.

(T / F)

2. Dot(.) operator is used to allocate object into a memory.

(T / F)

3. Java finally block is always executed whether exception is handled or not.

(T / F)

4. Multiple inheritance can be successful using interface in Java program.

(T / F)

5. AWT components are lightweight.

(T / F)

SECTION—II

(Marks : 10)

C. Answer the following questions :

2×5=10

1. (a) List the structure of Java program.

OR

(b) What are the features of Java?

2. (a) Define two different types of constructors.

OR

(b) What are four important parts of method declaration?

3. (a) When to use nested try block in Java program?

OR

(b) Write at least four operations that can be performed with File Object.

4. (a) State and define different types of Wrapper Class.

OR

(b) Write two points of advantages of implementing packages.

5. (a) Write the differences between Applet and Application.

OR

(b) What are the three participants in event model?

(PART : B—DESCRIPTIVE)

(Marks : 50)

D. Answer the following questions :

10×5=50

1. (a) How does Java differ from C?

4

(b) Define an array. Write different types of arrays in Java with suitable example.

2+4=6

OR

2. (a) Define OOPs concepts in Java.

5

(b) Write the advantage of switch over to if ... else statement. Write a simple program to demonstrate a switch statement.

5

3. (a) How is static variable different from instance variable? 4
- (b) Define inheritance. Write and explain different types of inheritance with a suitable diagram. 6

OR

4. (a) Write a suitable program to demonstrate how communication takes place between objects using method. 5
- (b) Write the rules of thumb in Access modifiers. 5
5. (a) Explain how exception handling can be regarded as debugger. 4
- (b) List out five common compile-time errors. Also write a simple program that demonstrates compile-time error. 6

OR

6. (a) Define Byte stream. State and explain different types of Byte stream. 5
- (b) Define File, List out and write the function of basic i/o related exception in Java. 5
7. (a) How to create our own package in Java? 5
- (b) Write a suitable program to achieve multiple inheritance using interface. 5

OR

8. (a) Define Wrapper Class. Why do we need Wrapper Class in Java programming? 2+3=5
- (b) Write various types of Java API packages with their respective content. 5

9. (a) Define an Applet. Explain two types of Applets in Java with a suitable diagram. 2+3=5
- (b) State and explain different stages in the life cycle of Applet with suitable diagram. 5

OR

10. (a) Define containers. List commonly used containers in Java. How are they different from one another? 1+4=5
- (b) Write different types of SWING component with an example. 5
