

**Professional Course Examination, November/December 2019**

( 5th Semester )

**BACHELOR OF COMPUTER APPLICATIONS**

Course : BCA-501

**( Introduction to Java Programming )**

Full Marks : 75

Time : 3 hours

**( PART : A—OBJECTIVE )**

( Marks : 25 )

*The figures in the margin indicate full marks for the questions*

**SECTION—A**

( Marks : 15 )

Tick (✓) the correct answer in the brackets provided :

1×10=10

1. The starting point for the interpreter to begin the execution of the program is  
(a) opening brace ( )      (b) main line ( )  
(c) class declaration ( )      (d) output line ( )
2. The default value of integer variable is  
(a) one ( )      (b) zero ( )  
(c) null ( )      (d) false ( )
3. Which type of access has the highest degree of protection?  
(a) Public access ( )      (b) Friendly access ( )  
(c) Protected access ( )      (d) Private access ( )

4. In which of the following packages Internet Serversclass exists?  
 (a) java.util ( ) (b) java.awt ( )  
 (c) java.lang ( ) (d) java.net ( )
5. The first application written in Java was  
 (a) Netscape Navigator ( ) (b) Applet ( )  
 (c) HotJava ( ) (d) Oak ( )
6. Which exception is thrown when divided by zero statement executes?  
 (a) ArithmeticException ( ) (b) IOException ( )  
 (c) NullPointerException ( ) (d) None of the above ( )
7. Which one of the following is **not** file operation?  
 (a) Creating ( ) (b) Editing ( )  
 (c) Deleting ( ) (d) Closing ( )
8. Which of these classes is used to read characters in a file?  
 (a) FileReader ( ) (b) FileWriter ( )  
 (c) FileInputStream ( ) (d) InputStreamReader ( )
9. The string method "**s1.append(s2)**" appends the string s2 to s1 at the  
 (a) beginning ( ) (b) middle ( )  
 (c) end ( ) (d) None of the above ( )
10. In which state the thread is said to be ready for execution?  
 (a) Newborn state ( ) (b) Runnable state ( )  
 (c) Running state ( ) (d) Blocked state ( )

Indicate whether the following statements are *True (T)* or *False (F)* by putting a Tick (✓) mark in the brackets provided : 1×5=5

1. A class that cannot be subclassed is called final class.  
( T / F )
2. Constructors have the same name as the class itself.  
( T / F )
3. Applets can run any program from the local computer.  
( T / F )

4. Java is a free-form language.

( T / F )

5. An exception is a condition that is caused by a compile time error.

( T / F )

**SECTION—B**

( Marks : 10 )

Answer the following questions :

2×5=10

1. What are command line arguments?
2. What is type casting? Give example.
3. What do you mean by polymorphism?
4. What are constructors?
5. What is the importance of synchronization in multithreaded programming?

**( PART : B—DESCRIPTIVE )**

( Marks : 50 )

*The figures in the margin indicate full marks for the questions*

1. (a) List at least five major differences between C and Java. 5
- (b) Explain any five features of Java. 5

**OR**

- (c) Describe the different levels of access protection available in Java. 5
- (d) What is inheritance? Describe the different forms of inheritance. 5
2. (a) What is a package? List the various benefits of using packages in Java. 5
- (b) What is an interface? Write the differences between class and interface. 5

**OR**

- (c) What is a vector? List the advantages of vectors over arrays. 5
- (d) What is an array? Write a simple Java program that illustrates the use of an integer array. 5

3. (a) List at least five differences between multithreading and multitasking. 5  
(b) Describe the complete life cycle of thread. 5

**OR**

- (c) What is an exception? List some of the most common types of exceptions that might occur in Java. 5  
(d) Explain the mechanism of exception handling by giving example. 5  
4. (a) What is a file? State the steps involved in creating a disk file. 5  
(b) What is a stream in Java? What are the two types of character stream classes? 5

**OR**

- (c) What do you mean by collections framework in Java? Describe the various interfaces defined in the collections framework. 5  
(d) Name and explain any five types of classes available in the collections framework. 5  
5. (a) List out the differences between applets and applications. 5  
(b) Describe the different stages in the life cycle of an applet. 5

**OR**

- (c) What is the purpose of Layout Manager? Describe the different types of Layout Manager. 5  
(d) What are controls? Name and explain the two types of AWT controls that provide users with a list of choices. 5

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