

S.No. : 830

ITBC 3102

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Following Paper ID and Roll No. to be filled in your Answer Book.

**PAPER ID : 34001**

Roll  
No.

## **B. Tech. Examination 2022-23**

**(Odd Semester)**

### **JAVA FUNDAMENTAL**

*Time : Three Hours]*

*[Maximum Marks : 60*

**Note :-** Attempt all questions.

#### **SECTION-A**

1. Attempt all parts of the following :

$8 \times 1 = 8$

- (a) What do you understand by OOPS?
- (b) What is JVM?
- (c) What is super class and subclass?
- (d) What is a class in Java?
- (e) What are primitive data types?

**[ P. T. O.**



- (f) What is meant by the local variable and the instance variable?
- (g) What is SDLC?
- (h) What is the use of interpreter in Java?

### SECTION – B

2. Attempt any two parts of the following :  $2 \times 6 = 12$

- (a) What are constructors? Explain the types of constructors in Java? Create a class to demonstrate the usage of parameterized constructors.
- (b) Explain in details the features of JAVA.
- (c) Explain programmatically the concept of abstract classes and interfaces. Differentiate abstract class and interface.
- (d) What is exception handling? Explain the types of exceptions in details. Explain one suitable program of exception handling.

### SECTION – C

**Note :-** Attempt all questions. Attempt any two parts from each question.  $5 \times 8 = 40$



3. (a) Explain encapsulation in Java. Create a one example of encapsulation that has only one field with its setter and getter methods.
- (b) Explain access specifiers through suitable programs.
- (c) Explain the advantages and disadvantages (if any) of available session tracking techniques.
4. (a) Write a program by creating the two objects of class and initializing the value to these objects by invoking the method.
- (b) Explain the use of static, final and this keyword through suitable programs.
- (c) What is JSP? Mention some advantages of using JSP to create web applications over servlet. Why we use JSP? Explain life cycle of a JSP?
5. (a) Explain the difference between method overloading and method overriding through suitable programs.
- (b) What is Servlet? What are its life cycle methods. What is request object and response object in Servlets? Explain Servlet APL.

*[ P. T. O. ]*



- (c) Elaborate the difference between array list and linked list. Explain one example of array list and linked list in Java.
- 6.
- (a) Elaborate inheritance. Explain all types of inheritance. Create a program of multiple and multilevel inheritance.
  - (b) What is abstraction and encapsulation? Elaborate one example for abstraction and encapsulation in Java.
  - (c) Elaborate the use of collection in Java. Write a program to create and traverse (or iterate) array list. Use its methods to add and remove elements.

