

Sl. No.

## B2.51-R4 : INTRODUCTION TO OBJECT ORIENTED PROGRAMMING THROUGH JAVA

अवधि : 03 घंटे

अधिकतम अंक : 100

DURATION : 03 Hours

MAXIMUM MARKS : 100

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| ओएमआर शीट सं. : |  |  |  |  |  |
| OMR Sheet No. : |  |  |  |  |  |

रोल नं. :

Roll No. :

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उत्तर-पुस्तिका सं. :

Answer Sheet No. :

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परीक्षार्थी का नाम :

Name of Candidate :

परीक्षार्थी के हस्ताक्षर :

;Signature of Candidate :

परीक्षार्थियों के लिए निर्देश :Instructions for Candidate :

|   |   |
|---|---|
| कृपया प्रश्न-पुस्तिका, ओएमआर शीट एवं उत्तर-पुस्तिका में दिये गए निर्देशों को ध्यानपूर्वक पढ़ें।   | Carefully read the instructions given on Question Paper, OMR Sheet and Answer Sheet.  |
| प्रश्न-पुस्तिका की भाषा अंग्रेजी है। परीक्षार्थी केवल अंग्रेजी भाषा में ही उत्तर दे सकता है।  | Question Paper is in English language. Candidate can answer in English language only.   |
| इस मॉड्यूल/पेपर के दो भाग हैं। भाग एक में चार प्रश्न और भाग दो में पाँच प्रश्न हैं।   | There are TWO PARTS in this Module/Paper. PART ONE contains FOUR questions and PART TWO contains FIVE questions.  |
| भाग एक "वैकल्पिक" प्रकार का है जिसके कुल अंक 40 हैं तथा भाग दो "व्यक्तिपरक" प्रकार का है और इसके कुल अंक 60 हैं।  | PART ONE is Objective type and carries 40 Marks. PART TWO is Subjective type and carries 60 Marks.  |
| भाग एक के उत्तर, ओएमआर उत्तर-पुस्तिका पर ही दिये जाने हैं। भाग दो की उत्तर-पुस्तिका में भाग एक के उत्तर नहीं दिये जाने चाहिए।   | PART ONE is to be answered in the OMR ANSWER SHEET only. PART ONE is NOT to be answered in the answer book for PART TWO.  |
| भाग एक के लिए अधिकतम समय सीमा एक घण्टा निर्धारित की गई है। भाग दो की उत्तर-पुस्तिका, भाग एक की उत्तर-पुस्तिका जमा कराने के पश्चात् दी जाएगी। तथापि, निर्धारित एक घंटे से पहले भाग एक पूरा करने वाले परीक्षार्थी भाग एक की उत्तर-पुस्तिका निरीक्षक को सौंपने के तुरंत बाद, भाग दो की उत्तर-पुस्तिका ले सकते हैं। | Maximum time allotted for PART ONE is ONE HOUR. Answer book for PART TWO will be supplied at the table when the Answer Sheet for PART ONE is returned. However, Candidates who complete PART ONE earlier than one hour, can collect the answer book for PART TWO immediately after handing over the Answer Sheet for PART ONE to the Invigilator. |
| परीक्षार्थी, उपस्थिति-पत्रिका पर हस्ताक्षर किए बिना और अपनी उत्तर-पुस्तिका, निरीक्षक को सौंपे बिना, परीक्षा हॉल/कमरा नहीं छोड़ सकते हैं। ऐसा नहीं करने पर, परीक्षार्थी को इस मॉड्यूल/पेपर में अयोग्य घोषित कर दिया जाएगा।   | Candidate cannot leave the examination hall/room without signing on the attendance sheet and handing over his/her Answer Sheet to the invigilator. Failing in doing so, will amount to disqualification of Candidate in this Module/Paper.  |
| प्रश्न-पुस्तिका को खोलने के निर्देश मिलने के पश्चात् एवं उत्तर लिखना आरम्भ करने से पहले उम्मीदवार जाँच कर यह सुनिश्चित कर लें कि प्रश्न-पुस्तिका प्रत्येक दृष्टि से संपूर्ण है।   | After receiving the instruction to open the booklet and before starting to answer the questions, the candidate should ensure that the Question Booklet is complete in all respect.  |

जब तक आपसे कहा न जाए, तब तक प्रश्न-पुस्तिका न खोलें।

DO NOT OPEN THE QUESTION BOOKLET UNTIL YOU ARE TOLD TO DO SO.

**PART ONE**

**(Answer all the questions)**

1. Each question below gives a multiple choice of answers. Choose the most appropriate one and enter in the "OMR" answer sheet supplied with the question paper, following instructions therein.

**(1x10)**

- 1.1 Java is platform independent programming language because :

- (A) It is written in almost similar manner as English language.
- (B) It compiles to an intermediate code targeting virtual machine, which can be interpreted by an interpreter for given OS.
- (C) Java compiler translates the source code directly to the machine level language.
- (D) It follows the concept of "write once and compile everywhere".

- 1.2 Which of the following is class in Java ?

- (A) int
- (B) string
- (C) float
- (D) short

- 1.3 In Java which of the following data type groups are of same size ?

- (A) int and long
- (B) long and float
- (C) float and double
- (D) int and float

- 1.4 Which of the following is not object-oriented programming paradigm ?

- (A) Encapsulation
- (B) Inheritance
- (C) Polymorphism
- (D) Dynamic memory allocation

- 1.5 Which of the following features are not common in both Java and C++ ?

- (A) The class declaration
- (B) The access modifier
- (C) The encapsulation of data and methods
- (D) Pointer for referencing

- 1.6 Which of the following is called when a method having the same name as that the name of class where it is defined ?

- (A) abstract
- (B) this
- (C) constructor
- (D) final

1.7 class Test {  
     public static void main(String[] args) {  
         for(int i = 0; true; i++) {  
             System.out.println("Hello");  
             break; }  
     }

- (A) Hello
- (B) Compilation fail
- (C) Runtime error
- (D) Infinite loop

1.8 Which of these methods is a part of Abstract Window Toolkit (AWT) ?

- (A) display()
- (B) print()
- (C) drawString()
- (D) transient()

1.9 Which of these assignments is invalid ?

- (A) float f = 4.3;
- (B) short sum = 48;
- (C) double d = 4.3;
- (D) int I = '1';

1.10 Which of the following keyword is used to refer to member of base class from a subclass ?

- (A) upper
- (B) super
- (C) this
- (D) none of the above

2. Each statement below is either TRUE or FALSE. Choose the most appropriate one and enter your choice in the "OMR" answer sheet supplied with the question paper, following instructions therein. (1x10)

2.1 A break statement must always be present in the default case of a "switch" selection structure.

2.2 An array in Java can be used to store same types of data only.

2.3 Static method of the class can be invoked without creating object of the class.

2.4 Final keyword with method is used to prevent method overriding in subclass of the class.

2.5 In an instance method or a constructor, "this" is a reference to the current object.

2.6 Garbage Collection is manual process in Java.

2.7 Assignment operator is evaluated Left to Right.

2.8 Variable name can begin with a letter, "\$", or "\_".

2.9 We can create object of Interface in Java.

2.10 A .class file contains bytecodes.

3. Match words and phrases in column X with the closest related meaning/word(s)/ phrase(s) in column Y. Enter your selection in the "tear-off" answer sheet attached to the question paper, following instructions therein. (1x10)

|      | X   |    | Y                  |
|------|---|----|--------------------|
| 3.1  | Variable declare inside any method or any loop                | A. | Object             |
| 3.2  | A library of classes is                                       | B. | Memory allocation  |
| 3.3  | Arrays in Java are  | C. | Identifier         |
| 3.4  | Finally keyword is used in                                    | D. | Package            |
| 3.5  | new keyword   | E. | Local Variable     |
| 3.6  | A reserved word cannot be used as                             | F. | Upcasting          |
| 3.7  | Date class  | G. | Exception Handling |
| 3.8  | super() can only occur as the first statement in a            | H. | Runtime            |
| 3.9  | The concept of assigning the object of superclass to subclass | I. | Compile time       |
| 3.10 | Exception occurs at   | J. | Dictionary         |
|      |   | K. | java.util package  |
|      |   | L. | Constructor        |
|      |   | M. | Down casting       |

4. Each statement below has a blank space to fit one of the word(s) or phrase(s) in the list below. Choose the most appropriate option, enter your choice in the "OMR" answer sheet supplied with the question paper, following instructions therein. (1x10)

|    |            |    |                     |    |           |
|----|------------|----|---------------------|----|-----------|
| A. | Object     | B. | Finally             | C. | Static    |
| D. | java.util  | E. | java.lang           | F. | Final     |
| G. | Use case   | H. | MouseMotionListener | I. | Same      |
| J. | Implements | K. | Abstract            | L. | Different |
| M. | Extends    |    |                     |    |           |

- 4.1 Data members shared among all instance of that class are \_\_\_\_\_.
- 4.2 Default package imported to all java classes is \_\_\_\_\_.
- 4.3 Try can be followed by either catch or \_\_\_\_\_.
- 4.4 \_\_\_\_\_ diagram shows a set of use cases and actors and their relationships.
- 4.5 The class which is super class of all classes java is \_\_\_\_\_.
- 4.6 In order to capture the events when mouse is dragged, \_\_\_\_\_ interface is used.
- 4.7 \_\_\_\_\_ keyword is used to inherit interface to class.
- 4.8 Classes which cannot be instantiated, but they can be sub classed are \_\_\_\_\_.
- 4.9 To prevent class inheritance \_\_\_\_\_ keyword is used.
- 4.10 Package statement helps to create many classes to have \_\_\_\_\_ name.

**PART TWO**

**(Answer any FOUR questions)**

5. (a) Explain the object oriented concepts : class, object, encapsulation, abstraction, inheritance.
- (b) Explain the use of super and this keyword in Java.
- (c) Create a User Defined Exception named CheckAge to check the age entered by user is valid or not. If the age entered by user is greater than 100 than throw CheckAge exception else print "You have entered correct age" message.  
**(5+5+5)**
6. (a) Explain multilevel inheritance in Java with suitable example.
- (b) Differentiate between abstract class and interface.
- (c) List types of JDBC drivers and explain any one along with its advantages and disadvantages.  
**(5+5+5)**
7. (a) What is Thread ? Explain the thread life cycle in detail.
- (b) Explain the concept of constructor chaining in inheritance with suitable example.
- (c) What are UML class diagrams ? What is generalization relationship ? Explain it with suitable example.  
**(5+5+5)**

8. (a) Briefly explain the all keywords associated with exception handling.
- (b) Write a Java program to find maximum number from the array with 10 elements.
- (c) What is an applet in java ? What are basic methods defined in an Applet class ? Explain advantage and disadvantages of an Applet.  
**(5+5+5)**
9. (a) Describe Event Delegation Model in detail.
- (b) List access modifiers available in Java. Also, explain the scope of each access modifier.
- (c) Briefly discuss importance of following diagrams in UML :
- (i) Interaction Diagrams
- (ii) Activity Diagrams  
**(5+5+5)**

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SPACE FOR ROUGH WORK

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