

17515

11819

3 Hours / 100 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
  - (2) Answer each next main Question on a new page.
  - (3) Illustrate your answers with neat sketches wherever necessary.
  - (4) Figures to the right indicate full marks.
  - (5) Assume suitable data, if necessary.

**Marks**

1. (A) Attempt any THREE of following :

3 × 4 = 12

- (a) Explain following terms related to Java features.
  - (i) Object oriented
  - (ii) Compiled and interpreted
- (b) Differentiate between Input stream class and Reader class.
- (c) Explain any two logical operators in Java with example.
- (d) Describe life cycle of thread.

(B) Attempt any ONE of following :

1 × 6 = 6

- (a) Define a class 'Book' with data members bookid, bookname and price.  
Accept data for seven objects using Array of objects and display it.
- (b) What is interface ? Describe its syntax and features.

**2. Attempt any TWO of following :****2 × 8 = 16**

- (a) Write a program to create a vector with seven elements as (10, 30, 50, 20, 40, 10, 20). Remove element 3<sup>rd</sup> and 4<sup>th</sup> position. Insert new element at 3<sup>rd</sup> position. Display original and current size of vector.
- (b) What is packages in Java ? Write a program to create a package and import the package in another class.
- (c) Write syntax and example of
  - (i) Draw poly
  - (ii) Draw Rect
  - (iii) Filloval
  - (iv) Draw Arc ( )

**3. Attempt any FOUR of following :****4 × 4 = 16**

- (a) Differentiate between array and vector.
- (b) Write a program to calculating area and perimeter of rectangle.
- (c) Explain fileinputstream class to read the content of a file.
- (d) Explain applet life cycle with suitable diagram.
- (e) What is use of super and final with respect to inheritance ?

**4. (A) Attempt any THREE of following :****3 × 4 = 12**

- (a) Explain type casting with suitable example.
- (b) Explain following clause w.r.t. exception handling :
  - (i) try
  - (ii) catch
  - (iii) throw
  - (iv) finally
- (c) Write a program to print sum of even numbers from 1 to 20.
- (d) Differentiate between Applet and Application.

**(B) Attempt any ONE of the following :**

**1 × 6 = 6**

- (a) Write a program to create an applet for displaying circle, rectangle and triangle one below the other & filled them with red, green and yellow respectively.
- (b) Describe following methods related to vector add Element ( ), remove Element ( ) & insert Element At ( ).

**5. Attempt any TWO of the following :**

**2 × 8 = 16**

- (a) Explain following terms :
  - (i) Thread Priority
  - (ii) Types of Exception
- (b) Write a program to create two threads, so one thread will print even numbers between 1 to 10 whereas other will print odd numbers between 11 to 20.
- (c) How can parameters be passed to an applet ? Write an applet to accept username in the form of parameter and print “Hello <username>”.

**6. Attempt any FOUR of the following :**

**4 × 4 = 16**

- (a) Demonstrate concept of method overriding with example.
  - (b) Write any two methods of file and file input stream class each.
  - (c) Design an applet which displays rectangle filled with blue colour and display message as “MSBTE EXAM” in red colour below it.
  - (d) Write a program to demonstrate multiple inheritances .
  - (e) Write a program to find greater number among two numbers using conditional operator.
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