

16117

3 Hours / 100 Marks

Seat No.

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**Instructions :** (1) All Questions are *compulsory*.

(2) Illustrate your answers with neat sketches wherever necessary.

(3) Figures to the right indicate full marks.

(4) Assume suitable data, if necessary.

**Marks**

1. (A) Attempt any **THREE** of the following :

**12**

(a) How java is different than other programming language ?

(b) What is scope of variable ? Give example of class variable, instance variable and local variable.

(c) What is an exception ? How it is handled ? Give suitable example.

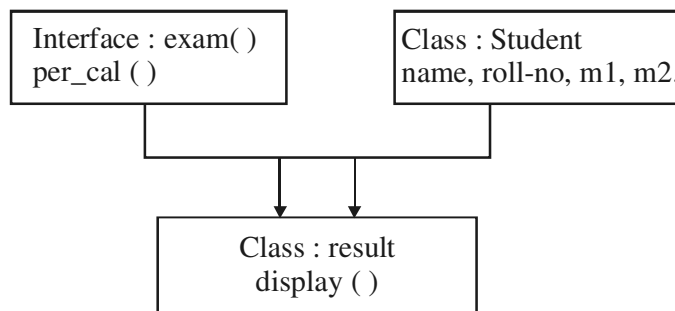
(d) Explain methods of map class and set class in jdk frame work.

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

**1 × 6 = 6**

(a) Create a class 'Rectangle' that contains 'length' and 'width' as data members. From this class derive class box which has additional data member 'depth'. Class 'Rectangle' consists of a constructor and an area ( ) function. The derived 'Box' class have a constructor and override function named area ( ) which returns surface area of 'Box' and a volume ( ) function. Write a java program calling all the member function.

(b) Write a java program.



[ 1 of 4 ]

**P.T.O.**

- 2. Attempt any TWO of the following : 16**
- (a) Write a program to create a class Account having variable accno, accname and balance. Define deposit ( ) and withdraw ( ) methods. Create one object of class and perform the operation.
  - (b) How multiple inheritance is achieved in java ? Explain with proper program.
  - (c) Write an applet program that accepts two input, strings using <Param> tag and concatenate the strings and display it in status window.
- 3. Attempt any FOUR of following : 16**
- (a) How garbage collection is done in Java ? Which methods are used for it ?
  - (b) What is the difference between vector and array ? Give suitable example.
  - (c) Write a program to compute the sum of the digits of a given integer numbers.
  - (d) Explain following methods :
    - (i) drawrect ( )
    - (ii) getfont ( )
  - (e) Write a program that will count no. of characters in a file.
- 4. (A) Attempt any THREE of following : 12**
- (a) In what ways does a switch statement differ from an if statements ?
  - (b) Write a program to find the no. of and sum of all integers greater than 100 and less than 200 that are divisible by 7.
  - (c) What is synchronization ? When do we use it ? Explain synchronization of two threads.
  - (d) Draw the hierarchy of Writer stream classes, and hierarchy of Reader stream classes.
- (B) Attempt any ONE of following : 6**
- (a) What are the access control parameters ? Explain the concept with suitable example.
  - (b) Describe following methods of applet :
    - (i) suspend ( )                      (ii) resume ( )
    - (iii) sleep ( )                      (iv) notify ( )
    - (v) stop ( )                      (vi) wait ( )

**5. Attempt any TWO of following : 16**

- (a) Write a thread program for implementing the 'Runnable interface'.
- (b) Define an exception called 'No match Exception' that is thrown when a string is not equal to "MSBTE". Write program.
- (c) Write a program to display a string "concentric circles" using font 'Arial' size as 12 and style as bold + italic and display three concentric circles with different colours on the applet.

**6. Attempt any FOUR of the following : 16**

- (a) What is the use of new operator ? Is it necessary to be used whenever object of the class is created ? Why ?
  - (b) Perform following string / string buffer operations, write java program.
    - (i) Accept a password from user
    - (ii) Check if password is correct then display "Good", else display "Wrong"
    - (iii) Display the password in reverse order.
    - (iv) Append password with "welcome".
  - (c) What is :
    - (i) Add Element ( ) &
    - (ii) Element At ( ) command in vector
  - (d) What is Interface ? How to add interfaces to packages.
  - (e) Write java program to display triangle filled with red colour.
  - (f) Write a java program to copy contents of one file to another file.
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