

**Java Programming**

P. Pages : 2

Time : Three Hours

**NKT/KS/17/7358**

Max. Marks : 80

- Notes :
1. All questions carry marks as indicated.
  2. Solve Question 1 OR Questions No. 2.
  3. Solve Question 3 OR Questions No. 4.
  4. Solve Question 5 OR Questions No. 6.
  5. Solve Question 7 OR Questions No. 8.
  6. Solve Question 9 OR Questions No. 10.
  7. Solve Question 11 OR Questions No. 12.
  8. Due credit will be given to neatness.
  9. Diagrams should be given whenever necessary.
  10. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) Write a Java program to calculate salesman commission. 8  
 A class salesman must have attributes as name, sales man\_code, Sale\_amount and commission.  
 The company calculates commission of sales man as.  
 8% if sales < 2000.  
 10% if sales >= 2000 and <= 5000.  
 12% if sales > 5000.
  - b) Explain the purpose of 'If' statements and illustrate the various forms of usage of 'If' statement in Java. 3
  - c) What is the difference between a literal and a variable? Illustrate with an example. 3
- OR**
2. a) A man is paid at the hourly rate of Rs. 3/- per hour, for the first 30 hours worked in a week. Thereafter the overtime is paid at 1½ times the hourly rate for the next 25 hours and 2 times the hourly rate for further hours worked. 8  
 Design and write a Java program to define a class worker with necessary attributes and methods and to create 5 sample workers and print the wages to be paid to the workers.
  - b) What is a constructor? What are the rules of define a constructor? Explain the usage of multiple constructors using a suitable example. 6
3. a) Explain arrays and vector class in in Java. What is the difference between an array and a vector? Explain with example. 6
  - b) Write a program to read nXm matrix and find. 7
    - i) The average of each row.                      ii) The average of each column.
    - iii) The average of all the mn entries.      iv) Max and min element in array.
- OR**
4. a) Write a Java program to search a student by first name of last name in a set of 10 students. 6
  - b) Write a Java program that returns upper case letter if input string. Object passed through keyboard? 7

5. a) Write a Java program to display bank customer details. The banking application must have following classes with respective attributes. 9
- | Class         | Attributes  |
|---------------|---|
| i) Address    | – Street, town, state, country, pin code.                     |
| ii) Person    | – Name, Address, Date of birth.                               |
| iii) Customer | – Personal details, Account opening date.                     |
| iv) Account   | – Customer, Account Number, Balance Amount, Rate of interest. |
- b) What is multiple inheritance? 4  
 Explain with simple example and relate it with Java implementation.
- OR**
6. a) What is a package? Explain different types of packages used in Java. Why do we need packages in Java? 6
- b) What is an exception in Java? 5  
 Explain how is it handled in Java.
- c) Explain Access specifiers used in Java. 2
7. a) What is a thread? Explain and describe the complete thread life cycle. 8
- b) How are thread priorities decided? 5  
 Explain ways of creating thread with suitable example.
- OR**
8. a) Explain in short following thread methods with example. 13
- |                         |                  |
|-------------------------|------------------|
| i) Set name ( )         | ii) Get Name ( ) |
| iii) Current thread ( ) | iv) Sleep ( )    |
| v) Is Alive ( )         | vi) Suspend.     |
9. a) Write a Java program that randomly generates n integers and store them in a file. 8
- b) Differentiate serialization and Deserialization. 6
- OR**
10. a) What is stream class in Java? 6  
 Explain input and output stream with illustrations.
- b) Write a Java program that reads a text file and copy its contents to another file. 8
11. Write note on. 13
- |         |            |
|---------|------------|
| i) AWT. | ii) Swing. |
|---------|------------|
- OR**
12. a) Design a simple applet that displays birthday greetings. 6
- b) Explain the life cycle of Applet with the help of neat diagram. 7

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