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**Question Paper Code : 13216**

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2012.

Fifth Semester

Computer Science and Engineering

080230021 — JAVA PROGRAMMING

(Regulation 2008)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the advantages of Object oriented programming languages? Is Java a object oriented programming Language?
2. What is the role of finalize method in a Java program? When the function would be called?
3. State whether the following statements are correct in Java. If they are not correct then give the correct form of them.
  - (a) `int p[ 00];`
  - (b) `sphere mysphere; //sphere is the name of a user defined class`
4. What are the uses of super keyword in Java?
5. When a class is said to be abstract in Java?
6. When does Java execute a "final" block of code?
7. Differentiate an exception from an error.
8. Show how an applet code named "first applet" can be embedded in HTML statements.
9. What is event driven programming?
10. How two Date objects can be compared in Java?

PART B — (5 × 16 = 80 marks)

11. (a) Declare a class salesperson with the fields name, age, sales\_ amount\_ week, salary\_ week. Provide a function get\_ Details() which input name, age, and sales\_ amount\_ week, put\_ Details() which prints name, age, sales\_ amount\_ week and salary\_ week. Provide also a function to determine salary\_ week. The company pay for its salesperson on a commission basis. They receive \$200 per week + 9% of their sales\_ amount\_ week. For example, if a person's sales\_ amount\_ week is \$5000 then his salary\_ week = 200 +9% of \$5000 = \$650. Create an array of objects and provide a function to determine the number of salespersons earning more than \$500 per week.

Or

- (b) (i) What is the meaning of the keyword “final”, when it is used with a variable initialization, a method, and a class? (4)
- (ii) Write a program to input a sentence as command line argument and print as a right angled triangle. For example string “I love India” must be printed as (12)

I

I love

I love India

12. (a) What are interfaces? How can they be implemented? Declare an interface stack with two functions Push and Pop. Implement the interface by two classes statiestack and dynamicstack. Implementation of the function pop is same in both the classes. But push in staticstack put the elements into the stack only if the size of the stack is less than the max\_capacity of the stack. Whereas push in dynamicstack expands if there is no room for the new element.

Or

- (b) (i) Differentiate String and StringBuffer classes in Java. (6)
- (ii) Write a Java program to input a string and a number from 1 to 5. Perform the following operations for the options given below : (10)
- (1) change the string to uppercase
  - (2) remove the first five characters from it reverse the string
  - (3) reverse the string
  - (4) get only characters at position 10 to 15
  - (5) append the string with “very good”.

13. (a) What is multithreaded programming? Explain with an example for each case, how Java supports multithreaded programming.

Or

- (b) Define a user defined class `negative_Exception`, which can be used to throw exceptions when negative numbers are entered. Define a class `person` with two fields `name` and `age`. If the user enters a negative number for `age` then throw an object of `negative_Exception`. Print the message that "a positive number is expected" when the object of `negative_Exception` is printed.
14. (a) Write an applet program in Java to create a window with blue background and display the string "This is my first Applet". Also play an audio clip of your choice.

Or

- (b) What is a `Map` in Java? Discuss in detail the various `Map` interfaces and classes supported by Java.
15. (a) Write a Java program to read a text file, determine the set of unique words in it. Provide function to print the set of unique words and their count in an output file. Import any required utilities in Java.

Or

- (b) Describe the `Bitset` class of Java. Write a Java program to create two `Bitset` objects of size 8. Input 2X8 (16) numbers, bits of the first object is set based on the first 8 numbers and bits of the second object is set based on the second 8 numbers. If more than 10 numbers have value greater than 1000, then perform `or` operation between the objects and print the result, else perform `xor` operation between the objects and print the result.
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