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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA
(An Autonomous Institute Affiliated to AKTU, Lucknow)
B.Tech.

SEM: III - CARRY OVER THEORY EXAMINATION - JUNE (2021 - 2022)

Subject: Object Oriented Techniques using Java

Time: 3 Hours

Max. Marks: 100

General Instructions:

1. The question paper comprises three sections, A, B, and C. You are expected to answer them as directed.
2. Section A - Question No- 1 is 1 marker & Question No- 2 carries 2 mark each.
3. Section B - Question No-3 is based on external choice carrying 6 marks each.
4. Section C - Question No. 4-8 are within unit choice questions carrying 10 marks each.
5. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.

SECTION A

20

1. Attempt all parts:-

- | | | |
|------|---|---|
| 1-a. | Which of the following are not Java keywords ? (CO1) | 1 |
| | (a) double | |
| | (b) switch | |
| | (c) then | |
| | (d) instanceof | |
| 1-b. | Hiding of information is (CO1) | 1 |
| | (a) Inheritance | |
| | (b) Encapsulation | |
| | (c) Abstraction | |
| | (d) Polymorphism | |
| 1-c. | Which concept allows you to reuse the written code? (CO2) | 1 |
| | (a) Encapsulation | |
| | (b) Abstraction | |
| | (c) Inheritance | |
| | (d) Object | |
| 1-d. | If two methods have same name but different parameter list then it is called_____ (CO2) | 1 |
| | (a) Method overriding | |
| | (b) Method overloading | |
| | (c) Operator overloading | |
| | (d) None of these | |
| 1-e. | Which of these keywords is not a part of exception handling?(CO3) | 1 |
| | (a) try | |
| | (b) finally | |
| | (c) thrown | |
| | (d) catch | |
| 1-f. | Which of these keywords must be used to monitor for exceptions? (CO3) | 1 |
| | (a) try | |
| | (b) catch | |
| | (c) throw | |
| | (d) finally | |

- 1-g. The method which is defined in Runnable interface is ? (CO4) 1
 (a) thread()
 (b) run()
 (c) both thread() and run()
 (d) All of the mentioned
- 1-h. If the thread is waiting in queue and is waiting for its turn to be executed, the thread is called in which state (CO4) 1
 (a) runnable
 (b) running
 (c) waiting
 (d) none of the above
- 1-i. AWT stands for ? (CO5) 1
 (a) All Window Toolkit
 (b) Abstract Work Toolkit
 (c) Abstract Window Toolkit
 (d) Abstract Window Text
- 1-j. Arranges the components as a deck of cards such that only one component is visible at a time (CO5) 1
 (a) BorderLayout
 (b) CardLayout
 (c) GridLayout
 (d) FlowLayout

2. Attempt all parts:-

- 2.a. What is System.out in Java? (CO1) 2
- 2.b. What is the use of super keyword in java? (CO2) 2
- 2.c. What is checked exception? (CO3) 2
- 2.d. Illustrate the implementation of thread in java.(CO4) 2
- 2.e. What is the difference between a Window and a Frame? (CO5) 2

SECTION B

30

3. Answer any five of the following:-

- 3-a. What is the difference between object diagrams and class diagrams? Draw a class diagram of order management system. (CO) 6
- 3-b. How to take an input from a user with the help of scanner class in JAVA? Explain using JAVA code. (CO1) 6
- 3-c. Describe interface & Demonstrate it using a suitable Java Program? (CO2) 6
- 3-d. Explain garbage collection in java. (CO2) 6
- 3.e. What are the two different methods of initializing a string?(CO3) 6
- 3.f. Explain the difference between volatile and synchronized keywords. (Use suitable examples.) (CO4) 6
- 3.g. Discuss HashMap. (CO5) 6

SECTION C

50

4. Answer any one of the following:-

- 4-a. What are command line arguments? How are they useful? Write a program to compute the sum of the digits of an input number (Using command line arguments) eg if 4523 is an integer then the sum of digits displayed will be 14. (CO1) 10
- 4-b. Write a JAVA program that takes values of name, age, department and marks of 4 subjects from the user. Display the name, total and average of marks computed. (CO1) 10

5. Answer any one of the following:-
- 5-a. What is polymorphism and what are the advantages of Polymorphism? (CO2) 10
- 5-b. What is ArrayIndexOutOfBoundsException in java? When it occurs in java program. Illustrate with example. (CO2) 10
6. Answer any one of the following:-
- 6-a. Write the differences between String, StringBuffer and StringBuilder classes. With proper syntax, explain the following methods. (CO3) 10
1. Method to extract a particular character of a string.
 2. Reverse a String.
- 6-b. Write a short note on the use of throw, throws and finally(CO3) 10
7. Answer any one of the following:-
- 7-a. Explain start(), run(), and sleep() Thread methods using java code example. (CO4) 10
- 7-b. Explain how a thread can be created using Thread class. (CO4) 10
8. Answer any one of the following:-
- 8-a. Differentiate between List and ArrayList. Create a class TestArrayList having main method. Perform following functionality. (CO5) 10
1. Create an ArrayList having fruits name of type String.
 2. Store different fruit names. (Try to add duplicate fruit names).
 3. Print all fruit names.
 4. Print the first and last fruit names.
 5. Print the size of ArrayList.
 6. Remove a particular fruit from ArrayList.
- 8-b. Compare HashMap and Hashtable. Explain with the help of an examples. (CO5) 10