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**Question Paper Code: 93304**

B.E./B.Tech. DEGREE EXAMINATION, NOV 2022

Third Semester

Computer Science Engineering

19UCS304 – Object Oriented Programming with Java

(Regulation 2019)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (5 x 1 = 5 Marks)

1. How many times will the following code print "Welcome to Java"?. CO1- R  

```
int count = 0;
do {
    System.out.println("Welcome to Java");
} while (++count < 10);
```

(a) 8                      (b) 9                      (c) 10                      (d) 11
2. What is false about constructor? CO3- R  

(a) Constructors cannot be synchronized in Java  
(b) Java does not provide default copy constructor  
(c) Constructor can have a return type  
(d) "this" and "super" can be used in a constructor
3. Which of these type parameters is used for a generic methods to return and accept any type of object? CO4- R  

(a) K                      (b) N                      (c) T                      (d) V
4. The exception class is in \_\_\_\_ package CO5- R  

(a) java.file                      (b) java.io                      (c) java.lang                      (d) java.util
5. Which is the feature of JavaFX? CO6- R  

(a) FXML                      (b) Scene Builder  
(c) CSS-like Styling                      (d) All of them

PART – B (5 x 3= 15 Marks)

6. Differentiate class and objects. CO1- R
7. Differentiate method overloading and method overriding. CO3- R
8. What are bounded type parameters in generic class? CO4- R
9. When is the finally clause of a try-catch-finally statement executed? CO5- R
10. Draw Java FX Architecture. CO6- R

PART – C (5 x 16= 80Marks)

11. (a) A shopping mall maintains its items under three major categories, viz. Food, Beverage and Cosmetics. Under Food category there are three kinds of foods, cereal, oil, and vegetable. Under Beverage category there are Milkshakes, Soda and Juice subcategories. Perfume, Talc, and Soap are the three subcategories of Cosmetic. Each item has item name and price details in addition to major and subcategory details. If a shopper buys several items, provide solution to display the items category wise sorted order. CO2- App (16)

Or

- (b) Football League Table Statement : All major football leagues have big league tables. Whenever a new match is played, the league table is updated to show the current rankings (based on Scores, Goals For (GF), Goals Against (GA)). Given the results of a few matches among teams, write a program to print all the names of the teams in ascending order (Leader at the top and Laggard at the bottom) based on their rankings. CO2- App (16)

12. (a) Develop a abstract Reservation class which has Reserve abstract method. Implement the sub-classes like Reserve Train and Reserve Bus classes and implement the same. CO3- Ana (16)

Or

- (b) Develop a Library interface which has drawbook(), returnbook() (with fine), checkstatus() and reservebook() methods. All the methods tagged with public. CO3- Ana (16)

13. (a) Create a class with a generic method that can find out the maximum among the three arguments supplied. CO4- Ana (16)

Or

- (b) Create a generic class which can accept any data item as its property. Define getter and setter methods for the property. CO4- Ana (16)

14. (a) A buyer has some money X in his pocket. He wishes to know how many units of different items he can buy from a shop. He automates this such that, the program will display how many number of each item can be bought with the money X and display “Sorry no item to sell” if the particular item is not available. The code for automation accepts the input as how many different kinds of items to check. Write a solution for this automation process. CO5- Ana (16)
- Or
- (b) Write a solution to calculate the average of the marks for a number of students in an examination. If a mark is within the range 45 – 50, it is considered as an abnormal situation to calculate the average and appropriate error message should be displayed. If the mark is 0, then it is considered another abnormal mark and the average should not be calculated and error message need to be displayed. CO5- Ana (16)
15. (a) Develop an user interface for a digital calculator. Provide a solution to perform multiplication and division. CO6- App (16)
- Or
- (b) Create a window entitles “change Color”. It contains three buttons namely “RED”, “GREEN” and “BLUE”. When a button is clicked, then the background color will be changed to appropriate color. CO6- Ana (16)

