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TMC–202

M. C. A. (SECOND SEMESTER) END SEMESTER EXAMINATION, June, 2023

OBJECT ORIENTED ANALYSIS USING JAVA PROGRAMMING

Time : Three Hours

Maximum Marks : 100

Note : (i) All questions are compulsory.

(ii) Answer any *two* sub-questions among (a), (b) and (c) in each main question.

(iii) Total marks in each main question are **twenty**.

(iv) Each sub-question carries 10 marks.

1. (a) Explain static in context of variable, method and block. Differentiate between static and non-static method. (CO1,2)

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(b) Explain the main application of inheritance and also explain its types. Explain the order of constructor calling in multilevel inheritance. (CO1, 2)

(c) Explain any five methods of String class and five methods of StringBuffer class. Differentiate between mutability and immutability. (CO1, 2)

2. (a) Explain default exception. Differentiate between checked and unchecked exceptions. How can we handle exceptions ? (CO3)

(b) Differentiate between throw and throws keywords. Define a class OldAge and YoungAge. Write a java program and ask a user to enter age. If age is less then 18, throw YoungAge exception and if age is greater then 65, throw OldAge Exception. (CO3)

(c) Explain thread priorities. Explain the default priority of main and child thread. How we can get and set thread priority. (CO3)

3. (a) Explain thread life cycle. Differentiate Runnable interface and Thread class. (CO3, 4)

(b) Differentiate join() and sleep() method. Write a java program in which child thread will wait till main completes its execution. Demonstrate working of joins() and sleep() methods. (CO3, 4)

(c) Explain thread synchronization. Write a java program to implement thread synchronization. (CO3, 4)

4. (a) Create a GUI application using swing components to calculate addition, subtraction and multiplication on button click. (CO3, 4)

(b) Create a swing application with label, text area and button, on click button calculate the number of words and character in text area. (CO3, 4)

(c) Assume "*studentdata*" table in mysql data base. Create a GUI application for student registration form using swing components. Form should include name, roll number, gender, submit button.

On click submit button data should be store in mysql "*studentdata*" table using JDBC. (CO3, 4)

5. (a) Assume a table employee in mysqi/oracle database having ids of int type, name of varchar type and salary of double type. Create a procedure having two IN parameters, named as updateSalary(IN id mt ,IN newsalary double) now define procedure to update salary with specified newsalary in first "IN" parameter of given id iii second "IN" parameter Write a JDBC program to call updateSalary(?,?) procedure using CallableStatement interface. (CO6)

(b) Explain the commit, savepoint, rollback using JDBC program. (CO6)

(c) Explain batch update. Assume vehicle table in mysql/oracle database having vehicle no of int type, name of varchar type and price of double type. Write a JDBC program to perform the following operations using batch update : (CO6)

(i) Insert new record

(ii) Delete existing record

(iii) Update name of vehicle