

Programme Name & Branch: B.Tech

Course Name & Code: Java Programming & CSE1007

Slot: A2+TA2

Class Number: 7427/2676/1833/5645/7431

Maximum Marks: 50

Exam Duration: 1Hr 30Min

5 x 10 = 50 Marks

Answer All Question

1. Write a java program to create class **Books** with the data members **book name, author, price, type(fiction, comic, cooking)**. Use input methods to get the input values. Create three array list (fiction, comic and cooking). [10M]
 - a. Depending upon the type of the book, insert the book object into the respective list.
 - b. Display the list of books in each type.
 - c. Sort the list of books in each list with respect to their book name.
 - d. Display the min and max priced books of each list.
2. Online bank loan sanction facility is launched to facilitate the client. Write a java program to create class **Loan** with data members **client name, address, age, salary, loan amount, loan type(housing, vehicle, personal)**. Take the necessary inputs and write the object into the file. The bank manager will fetch the loan details from the file and verify the details for approval. [10M]
 - a. Write a java program for a client to submit the application in a file.
 - b. Write a java program for a bank manager to fetch the details from the file for approval.
3. Write a java program to design an online quiz using 2 threads (EXAM, USER). Exam thread displays each question and waits for a time period of 30s per question for answering. The user thread answers the questions. Synchronize the threads to implement the above scenario. [10M]
4. Write a java program to design a RoadRunner game. The player wins the game if he plays 100 levels and earns 100 coins in each level within 5 life. Create a class RoadRunner with datamembers - name, coins, level, life. To play the game, call play() which in turn calls run(). Inside the run() count the no of jumps; for every jump, count 1 coin. Once the count of the coin reaches 100 and life is >0 & life < 5, return the status true else return false. [10M]

If the status returned is true, Increase the level, else raise an exceptions
If the life=0 then raise an exception.
If the player completes 100 levels, Declare win else raise an exception.
5.
 - a. Create an interface arithmetic with an abstract method operate(double, double). Implement the abstract method using lambda expression to find the square(m,n), squareroot(m,n). [5M]
 - b. "serializable interface is a marker interface", justify. [5M]

48 of {a,b}, {a,c}, {b,c}