

Name:	 UPES UNIVERSITY WITH A PURPOSE
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
Online End Semester Examination, May 2021

Course: Java SE Programming
Program: BCA – IOT / BFSI
Course Code: CSBC2015

Semester: IV
Time: 3 hrs.
Max. Marks: 100

SECTION A (30 marks)

1. Each Question will carry 5 marks.
2. Instruction: Complete the Statement/Select the correct answer(s)

S.No.	Question	CO
Q1	Write a Java Program to find the simple interest with the following specifications a. No input from the user b. Assign principle, term, roi values where principle=10300, term=20 and roi=0.12 c. class name is SimpleInterest d. class to have only void main function	CO1
Q2	Mention any 5 new features of NIO 2.0.	CO2
Q3	List the functionality of ExecutorService in Java.	CO2
Q4	State the difference between Byte Streams and Character Streams and the classes connect to it.	CO2
Q5	Define Assertions? Specify the syntax and need of Assertions in Java.	CO3
Q6	Specify the purpose and the parameter that are passed in the getConnection() method. Give an example for the same.	CO4

SECTION B (50 marks)

1. Each Question will carry 10 marks.
2. Instruction: Write short/brief notes.

Q7	Write the java program (Program1.java) for the below given Decision problem . A book and stationary store decides to give its customers 10% discount on a purchase greater than 10,000/- .The program should accept the no. of units purchased and the price of the items and then calculate the amount payable. Further based on the total amount, appropriate discount should be given and final payable amount should be displayed. Give the command to compile and execute the same in the command prompt.	CO1
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Q8	Justify when static class and static method has advantage with a suitable example? Also discuss the use of static initializers.	CO1
Q9	Discuss the various ways threads are created in Java. Write a JAVA program to implement the concept of threading by implementing the Callable interface and create the two Thread object. Each thread should sleep for 300 milli seconds after printing the i value that runs in a loop for 1->1-3.	CO2
Q10	Write a Java program to demonstrate the lambda operator for 3 argument functions with the below specifications. <ul style="list-style-type: none"> - Create an functional interface with your name and it has an abstract method void printendsem(int arg1,int arg2,int arg3). - Create an anonymous class that implement that interface and override the void printendsem(int arg1,int arg2,int arg3) that finds the sum of 3 values that's passed as argument and print the results. Using the anonymous inner class write the code to call the method printendsem(10,20,30). - Create another object that convert it to lambda implementation. 	CO3
Q11	Discuss the use of various Exceptional Handlers with suitable examples. <p style="text-align: center;">OR</p> Write a java program to throw an exception for an employee details. <ul style="list-style-type: none"> • If an employee name is a number, a name exception must be thrown. • If an employee age is greater than 50, an age exception must be thrown. • Or else an object must be created for the entered employee details 	CO3
SECTION-C (20 marks)		
<p>1. Each Question will carry 20 marks.</p> <p>2. Instruction: Write long answer.</p>		
Q12	<p>a) List any 4 popular SQL databases in the Market.(2 Marks)</p> <p>b) State the steps to connect to the database and explain it. (8 Marks)</p> <p>c) Write a JDBC Java Program using the below given JDBC Connection.(10 Marks)</p> <ul style="list-style-type: none"> - Host string = jdbc:derby://localhost:1527/StudentDB - Username=<sapid> - Password=<sapid> <p>Assume the StudentDB has a table Marks with the data as given below. Write the program to display the employee details like Name, Roll No and Average marks by taking the user input Roll No. Execute SQL query against the database to display the details of all the students in the table.</p> <p style="text-align: center;">OR</p>	CO4

- a) Compare executeQuery() and executeUpdate() method of the statement object with an example. (10 Marks)
- b) Write a JDBC Java Program using the below given JDBC Connection.(10 Marks)
- Host string = jdbc:derby://localhost:1527/SalesDB
 - Username=<sapid>
 - Password=<sapid>

Assume the SalesDB has a table ProductSales with the data as given below. Write the program to display the employee details like Salesman, Product, State and Total Sales by taking the user input Salesman and Product. Execute SQL query against the database to display the details of the product sales with the specified Salesman and Product.

Product Sales					
Salesman	Product	State	Quantity	Product Price	Total Sales
Bill	A	Colorado	16	\$400.00	\$6,400
Frank	A	Iowa	22	\$400.00	\$8,800
Harry	C	Kansas	13	\$515.00	\$6,695
Janet	D	California	18	\$280.00	\$5,040
Joe	C	Montana	31	\$515.00	\$15,965
Martha	B	California	24	\$375.00	\$9,000
Mary	B	Kansas	22	\$375.00	\$8,250