UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2019

Course: Mainframe DBMS   Semester: VI
Program: B.Tech. (CSE)Mainframe Technology   Time 03 hrs.
Course Code: CSIB 353   Max. Marks: 100

Instructions: Attend all questions.

SECTION A

S. No.		Marks	CO
1.	Compare network and hierarchical DBMS in respect of their advantages and disadvantages.	4M	CO1
2.	Distinguish degree of a relation and relationship with suitable example.	4M	CO1
3.	Illustrate the use of left and right outer joins with suitable example.	4M	CO2
4.	Distinguish the role of database administration and storage administration.	4M	CO4
5.	Describe the use of CHECK utility in DB2 with suitable example.	4M	CO5

SECTION B

6.	Exemplify different types of anomalies in database with the help of a suitable example.	8M	CO1
7	Exemplify the use of trigger for creation of a log file (consider all the attributes for which you want to create the log file).	8M	CO2
8.	Illustrate the use of four classes of Dynamic SQL with suitable example.	8M	CO3
9.	Explain the use of Multi-Level security and Label-Based access control with suitable example. (OR) Compare Row-level and column-level access control with suitable example.	8M	CO4
10.	Illustrate Loading and unloading data utilities with their uses. (OR) Illustrate the use of RUNSTATS Utility with suitable example.	8M	CO5

SECTION-C

11.	i. Create application programe using COBOL and DB2 for performing the following:
	  a. Update the table content of particular row through application program.
	  b. Display all the records of a table in SPOOL.
		15M	CO3

	ii. Explain all the steps involved for performing the above tasks. (OR)	5M	CO3
	iii. Explain preparation process for an application program. Draw the diagrams for explaining the same.	10M	CO3
	iv. Create application programe using COBOL and DB2 for performing insertion operation in a table.	10M	CO3
12.	i. Illustrate the use of implicit cursor and explicit cursor in DB2.	5M	CO2
	ii. Create user defined function for increase the salary of employee's by 10% who are working for computer departments.	5M	CO2
	ii. Justify the statement, "A mismanaged DB2 storage can end up in system outage".	5M	CO4
	iii. Compare multivalued and composite attribute with suitable example.	5M	CO1

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Instructions:

<div align="center">SECTION A</div>

S. No.		Marks	CO
1.	If, there are two foreign key in a table and you want to delete one of them, write SQL statement to do the same (Write SQL for creation of tables also).	**4M**	**CO1**
2.	Explain how physical data independence and logical data independence play significant role in database design.	**4M**	**CO1**
3.	Explain with suitable example the role of static and dynamic SQL.	**4M**	**CO3**
4.	Comment on "A mismanaged DB2 storage can end up in system outages".	**4M**	**CO4**
5.	Describe the use of CHECK constraint with suitable example.	**4M**	**CO2**

<div align="center">SECTION B</div>

6.	Create a transparent audit system for a table client_master. The system must keep track of the records that are being deleted or updated. The functionality being when a record is deleted or modified the original record details and the date of operation are stored in the audit table, then the delete or update is allowed to go through.	**10M**	**CO2**

Client_master

Column name	Data type	Size	Attribute
Client_no	Varchar2	6	Primary key/first letter start with'C'
Name	Varchar2	20	Not null
Address1	Varchar2	30	
Address2	Varchar2	30	
City	Varchar2	15	
State	Varchar2	15	
Pincode	Number	6	
Bal_due	number	10,2	

7.	Explain conflict serializability and view serializability with suitable example.	**10M**	**CO2**
8.	Compare Multi-Level security and Label-Based access control	**10M**	**CO4**

9.	Explain Loading and unloading data utilities with their uses. (OR) Illustrate the use of utility which used maintain the statistics.	10M	CO5

SECTION-C

10.	i. Create application programe using COBOL and DB2 for performing the following: a. Update the table content of particular row through application program. b. Display all the records of a table in SPOOL. ii. Explain all the steps involved for performing the above tasks. (OR) i. Explain preparation process for an application program. Draw the diagrams for explaining the same. ii. Create application programe using COBOL and DB2 for performing insertion operation in a table.	1OM 10M 10M 10M	CO3 CO3 CO3 CO3
11.	i. Write SQL query for showing the use of following functionality by using inbuilt function(Create table by taking the appropriate attribute as per the requirement mentioned below) a. Find the minimum age of student who are studying in class BTEC_MFT_6. b. Find the name of student/s who have maximum number of certification. ii. Justify, "authorization IDs hold privileges and authorities" with the help of suitable diagram and example. iii. Illustrate the use of utility used for reorganizing data in DB2.	10M 5M 5M	CO1 CO4 CO5