Name: **Enrolment No:**	UPES UNIVERSITY WITH A PURPOSE

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

Course: Data Management **Semester: II**
Program: MBA(BA) **Time: 03 Hours**
Course code: DSBA 7004 **Max. Marks: 100**

SECTION A

		Marks	CO
Q 1	**Select appropriate option from the following:**	**(20 x 1 = 20)**	
	1. DBMS is a collection of …….. that enables user to create and maintain a database. A) Keys B) Translators C) Program D) Language Activity 2. In a relational schema, each tuple is divided into fields called A) Relations B) Domains C) Queries D) All of the above 3. In an ER model, ……. is described in the database by storing its data. A) Entity B) Attribute C) Relationship D) Notation 4. DFD stands for A) Data Flow Document B) Data File Diagram C) Data Flow Diagram D) None of the above 5. A top-to-bottom relationship among the items in a database is established by a A) Hierarchical schema B) Network schema C) Relational Schema D) All of the above 6. …… table store information about database or about the system. A) SQL B) Nested		**CO1**

C) System
D) None of these

7. ……..defines the structure of a relation which consists of a fixed set of attribute-domain pairs.
A) Instance
B) Schema
C) Program
D) Super Key

8. …… clause is an additional filter that is applied to the result.
A) Select
B) Group-by
C) Having
D) Order by

9. A logical schema
A) is the entire database
B) is a standard way of organizing information into accessible parts.
C) Describe how data is actually stored on disk.
D) All of the above

10. …… is a full form of SQL.
A) Standard query language
B) Sequential query language
C) Structured query language
D) Server side query language

11) A relational database developer refers to a record as
A. a criteria
B. a relation
C. a tuple
D. an attribute

12) ..... keyword is used to find the number of values in a column.
A. TOTAL
B. COUNT
C. ADD
D. SUM

13) An advantage of the database management approach is
A. data is dependent on programs
B. data redundancy increases
C. data is integrated and can be accessed by multiple programs
D. none of the above

14) The collection of information stored in a database at a particular moment is called as .....
A. schema
B. instance of the database
C. data domain
D. independence

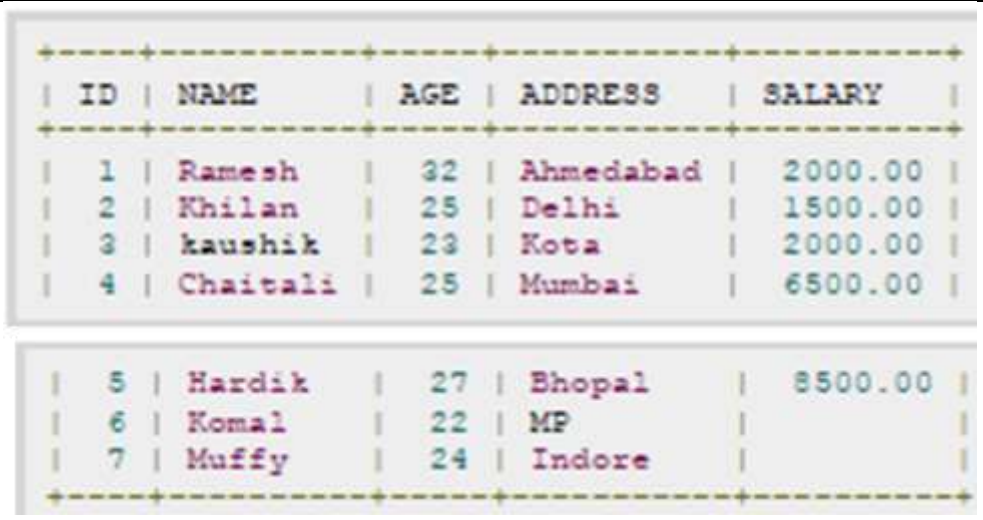
	15) Data independence means A. data is defined separately and not included in programs. B. programs are not dependent on the physical attributes of data C. programs are not dependent on the logical attributes of data D. both B and C 16) A ..... is used to define overall design of the database A. schema B. application program C. data definition language D. code 17) Key to represent relationship between tables is called A. primary key B. secondary key C. foreign key D. none of the above 18) Grant and revoke are ..... statements. A. DDL B. TCL C. DCL D. DML 19) DBMS helps achieve A. Data independence B. Centralized control of data C. Neither A nor B D. Both A and B 20) ..... command can be used to modify a column in a table A. alter B. update C. set D. create		
SECTION B			
	Answer the following questions:		
Q2.	Describe the use of column aliases in SQL with the help of examples.	**5**	**CO2**
Q3.	What are different types of attributes used in ER diagram?	**5**	**CO2**
Q4.	Define different types of constraints used in database with the help of examples.	**5**	**CO1**
Q5.	Describe different types of operators used in DBMS.	**5**	**CO2**
Q6.	Define Primary key, composite key and foreign key with the help of example.	**5**	**CO2**

SECTION-C

	On the bases of given tables answer the following questions:		

Q7.	Consider an **employee_tbl** table, which is having the following records:
	`SQL> SELECT * FROM employee tbl;`
	`+------+------+------------+--------------------+`
	`| id | name | work date | daily typing pages |`
	`+------+------+------------+--------------------+`
	`| 1 | John | 2007-01-24 | 250 |`
	`| 2 | Ram | 2007-05-27 | 220 |`
	`| 3 | Jack | 2007-05-06 | 170 |`
	`| 3 | Jack | 2007-04-06 | 100 |`
	`| 4 | Jill | 2007-04-06 | 220 |`
	`| 5 | Zara | 2007-06-06 | 300 |`
	`| 5 | Zara | 2007-02-06 | 350 |`
	`+------+------+------------+--------------------+`
	A)Write output for the following SQL:
	i) SELECT COUNT(*) FROM employee_tbl WHERE name="Zara";
	ii) SELECT id, name, MAX(daily_typing_pages) FROM employee_tbl GROUP BY name;
	iii) SELECT MIN(daily_typing_pages) least, MAX(daily_typing_pages) max FROM employee_tbl;
	iv) SELECT SUM(daily_typing_pages) FROM employee_tbl;
	B) Write SQL to display following output:
	i) To count the number of records for Zara
	ii) To fetch maximum value of daily_typing_pages
	iii) Find all the records with maximum value for each name
	iv) Calculate average of all the dialy_typing_pages
	v) To calculate square root of all the dialy_typing_pages
		10
		
		10
			CO3

Q8.	Consider the following table, CUSTOMERS having the following records:		**CO3**

	 Write SQL query for the following statements: i) Update ADDRESS to Pune for a customer whose ID is 6. ii) DELETE a customer record, whose ID is 6. iii) Sort the result in descending order by NAME. iv) Create table CUSTOMERS. v) Insert two records in a table.	**10**	
	SECTION-D		
Q9.	A company database needs to store information about employees (identified by ssn, with salary and phone as attributes), departments (identified by dno, with dname and budget as attributes), and children of employees (with name and age as attributes). Employees work in departments; each department is managed by an employee; a child must be identified uniquely by name when the parent (who is an employee; assume that only one parent works for the company) is known. We are not interested in information about a child once the parent leaves the company. 1. Draw an ER diagram that captures this information. 2. Write SQL statements to create the corresponding relations and capture as many of the constraints as possible. If you cannot capture some constraints, explain why.	**10** **15**	**CO3**

SET II

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SECTION A

		Marks	CO
Q 1	**Select appropriate option from the following:**	**(20 x 1 = 20)**	
	1) A relational database developer refers to a record as A. a criteria B. a relation C. a tuple D. an attribute 2) ..... keyword is used to find the number of values in a column. A. TOTAL B. COUNT C. ADD D. SUM 3) An advantage of the database management approach is A. data is dependent on programs B. data redundancy increases C. data is integrated and can be accessed by multiple programs D. none of the above 4) The collection of information stored in a database at a particular moment is called as ..... A. schema B. instance of the database C. data domain D. independence 5) Data independence means A. data is defined separately and not included in programs. B. programs are not dependent on the physical attributes of data C. programs are not dependent on the logical attributes of data D. both B and C 6) A ..... is used to define overall design of the database A. schema B. application program		**CO1**

C. data definition language
D. code

7) Key to represent relationship between tables is called
A. primary key
B. secondary key
C. foreign key
D. none of the above

8) Grant and revoke are ..... statements.
A. DDL
B. TCL
C. DCL
D. DML

9) DBMS helps achieve
A. Data independence
B. Centralized control of data
C. Neither A nor B
D. Both A and B

10) ..... command can be used to modify a column in a table
A. alter
B. update
C. set
D. create

11. DBMS is a collection of …….. that enables user to create and maintain a database.
A) Keys
B) Translators
C) Program
D) Language Activity

12. In a relational schema, each tuple is divided into fields called
A) Relations
B) Domains
C) Queries
D) All of the above

13. In an ER model, ……. is described in the database by storing its data.
A) Entity
B) Attribute
C) Relationship
D) Notation

14. DFD stands for
A) Data Flow Document
B) Data File Diagram
C) Data Flow Diagram
D) None of the above

	15. A top-to-bottom relationship among the items in a database is established by a A) Hierarchical schema B) Network schema C) Relational Schema D) All of the above 16. …… table store information about database or about the system. A) SQL B) Nested C) System D) None of these 17. ……..defines the structure of a relation which consists of a fixed set of attribute-domain pairs. A) Instance B) Schema C) Program D) Super Key 18. …… clause is an additional filter that is applied to the result. A) Select B) Group-by C) Having D) Order by 19. A logical schema A) is the entire database B) is a standard way of organizing information into accessible parts. C) Describe how data is actually stored on disk. D) All of the above 20. …… is a full form of SQL. A) Standard query language B) Sequential query language C) Structured query language D) Server side query language		
SECTION B			
	Answer the following questions:		
Q2.	Define different types of constraints used in database with the help of example.	**5**	**CO1**
Q3.	Differentiate between arithmetic and relational operators used in SQL.	**5**	**CO2**
Q4.	Differentiate between Primary key, unique key and foreign key with the help of examples.	**5**	**CO2**
Q5.	Define entity, attribute and relationship used in ER diagram with the help of example.	**5**	**CO1**

Q6.	Describe the use of column aliases in SQL with the help of examples.	**5**	**CO2**

SECTION-C

	On the bases of given tables answer the following questions:		
Q7.	Consider GAMES and PLAYER table, which is having the following records:	**10**	**CO3**

Table: GAMES

GCode	GameName	Number	PrizeMoney	ScheduleDate
101	Carom Board	2	5000	23-Jan-2004
102	Badminton	2	12000	12-Dec-2003
103	Table Tennis	4	8000	14-Feb-2004
105	Chess	2	9000	01-Jan-2004
108	Lawn Tennis	4	25000	19-Mar-2004

Table: PLAYER

PCode	Name	Gcode
1	Nabi Ahmad	101
2	Ravi Sahai	108
3	Jatin	101
4	Nazneen	103

A)Write output for the following SQL:

i) SELECT COUNT(DISTINCT Number) FROM GAMES;

ii) SELECT MAX(ScheduleDate),MIN(ScheduleDate) FROM GAMES;

iii) SELECT SUM(PrizeMoney) FROM GAMES;

iv) SELECT DISTINCT Gcode FROM PLAYER;

B) Write SQL to display following output:

(i) To display the name of all Games with their Gcodes.

(ii) To display details of those games which are having PrizeMoney more than 7000.

10

(iii) To display the content of the GAMES table in ascending order of ScheduleDate.

(iv) To display sum of PrizeMoney for each of the Number of participation groupings

Q8.	**Write SQL commands to create the table COLLEGE with following specifications**: | Field Name	Data Type	Constraints
---	---	---
Cno	Int(4)	Primary Key
Name	Varchar(20)	
Department	varchar(15)	
Dateofadm	date	
Fees	Double(7,2)	
Gender	Char(1)	| Write SQL query for the following statements: i) To list the structure of the table COLLEGE? ii) Write SQL commands to insert 3 records in COLLEGE table. iii) Add one more column Age of type int(2) default 18 in the COLLEGE table. iv) Write SQL command to insert default Age. v) Modify the column Age as int (3).	**10**	**CO3**
	SECTION-D		
Q9.	A company database needs to store information about employees (identified by ssn, with salary and phone as attributes), departments (identified by dno, with dname and budget as attributes), and children of employees (with name and age as attributes). Employees work in departments; each department is managed by an employee; a child must be identified uniquely by name when the parent (who is an employee; assume that only one parent works for the company) is known. We are not interested in information about a child once the parent leaves the company. 1) Draw an ER diagram that captures this information.	**10**	**CO3**

	2) Write SQL statements to create the corresponding relations and capture as many of the constraints as possible. If you cannot capture some constraints, explain why.	**15**	