BRAINWARE UNIVERSITY

Term End Examination 2018 - 19

Programme – Master of Arts in Multimedia and Web Development

Course Name - DBMS

Course Code – MMW302B

(Semester – 3)

Time allotted: 3 Hours **Full Marks: 70**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group –A

(Multiple Choice Type Questions) 10 x 1 = 10

1. *Choose the correct alternative from the following:*

(i) In the architecture of a database system external level is the

a. physical level. b. logical level.

c. conceptual level. d. view level.

(ii) Relational Algebra is

a. Data Definition Language b. Meta Language

c. Procedural query Language d. None

(iii) Key to represent relationship between tables is called

a. Primary key b. Primary key

c. Foreign Key d. Foreign Key

(iv) A DBMS query language is designed to

a. support end users who use English-like commands. b. support in the development of complex applications software.

c. specify the structure of a database. d. Both(a,b,c)

(v) Which of the following is a legal expression in SQL?

a. SELECT NULL FROM EMPLOYEE;
b. SELECT NULL FROM EMPLOYEE;
c. SELECT NAME FROM EMPLOYEE WHERE SALARY = NULL;
d. SELECT NAME FROM EMPLOYEE WHERE SALARY = NULL;

(vi) In a Hierarchical model records are organized as

a. Graph.
b. List.
c. Links.
d. Tree.

(vii) Architecture of the database can be viewed as

a. two levels.
b. four levels.
c. three levels.
d. one level.

(viii) The result of the UNION operation between R1 and R2 is a relation that includes

a. all the tuples of R1
b. all the tuples of R1
c. all the tuples of R1 and R2
d. all the tuples of R1 and R2

(ix) NULL is

a. the same as 0 for integer
b. the same as 0 for integer
c. the same as 0 for integer and blank for character
d. the same as 0 for integer and blank for character

(x) Which of the following is an advantage of view?

a. Data security
b. Hiding of complex queries
c. Derived columns
d. All of these

Group – B

(Short Answer Type Question) 3x5=15

Answer any *three* from the following:

2 Describe the advantages and disadvantages of using of DBMS. 5

3 What is NULL? Give an example to illustrate testing for NULL in SQL. 5

4	Explain the terms primary key, and foreign key. Give an example for each.	5
5	Define the five basic operators of relational algebra with an example each.	5
6	Draw and explain the three level architecture of the database system.	5

Group – C

(Long Answer Type Questions) 3x 15 = 45

Answer any *three* from the following:

7.	(a)	What is BCNF?	3
	(b)	Explain 1NF, 2NF and 3NF with example.	6
	(c)	Explain primary key and foreign key with an example.	6
8.	(a)	Explain the integrity constraints: Not Null, Unique, and Primary Key with an example each. Is the combination 'Not Null, Primary Key' a valid combination? Justify.	7
	(b)	What is data independence?	2
	(c)	Explain the difference between physical and logical data independence.	6
9.		Consider the following relational schemas: EMPLOYEE (EMPLOYEE_NAME, STREET, CITY) WORKS (EMPLOYEE_NAME, COMPANYNAME, SALARY) COMPANY (COMPANY_NAME, CITY) Give an expression in SQL for each of queries below:	
	(a)	Find the names of all employees who work for first Bank Corporation.	5
	(b)	Find the names and company names of all employees sorted in ascending order of company name and descending order of employee names of that company.	5
	(c)	Change the city of First Bank Corporation to 'New Delhi'.	5
10.	(a)	Define functional dependency and multivalued dependency.	6
	(b)	Explain the concept of a data model.	3
	(c)	What data models are used in database management systems?	6

11.	(a)	What are views? Explain how views are different from tables.	3
	(b)	Draw transaction state diagram and explain properly.	5
	(c)	What is cursor? Explain with an example.	4
	(d)	What is trigger in PL/SQL? Explain with an example.	3
