BRAINWARE UNIVERSITY

Course –BSc (HN)

Database Management System (BHN403)

(Semester – 4)

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) What is 'data about data'?

a. directory b. data bank
c. metadata d. information

(ii) Which level describes 'how the data is actually stored'?

a. physical level b. logical level
c. view level d. none of these

(iii) A relational database consists of a collection of which of the following?

a. tables b. fields
c. records d. keys

(iv) Which term used to refer to a row in a table?

a. attribute b. tuple
c. field d. instance

(v) What is instance in a database at a particular moment?

a. collection of information b. collection of table
c. collection of keys d. collection of attributes

(vi) 'ALTER' command is used in which type of language?

a. DDL b. DML
c. DCL d. SDL

(vii) In 3NF, which dependency is going to be eliminated?

a. Trivial dependencies
b. Partial dependencies
c. Multivalued dependencies
d. Transitive dependencies

(viii) What consist of a sequence of query and/or update statements?

a. commit
b. rollback
c. flashback
d. transaction

(ix) A list of action from a set of transactions is known as

a. statement
b. schedule
c. transaction set
d. none of these

(x) A schedule that will always produce identical results

a. equivalent schedule
b. complete schedule
c. serial schedule
d. non-serial schedule

Group – B

(Short Answer Type Questions) 3 x 5 = 15

Answer any *three* from the following

2.	(a)	What is database?	[2]
	(b)	Explain the difference between data and information.	[3]
3.		Explain different type of keys in DBMS.	[5]
4.	(a)	What is an entity? Explain different types of entity.	[2]
	(b)	Explain different types of attribute in ERD.	[3]
5.	(a)	Why Normalization is required?	[2]
	(b)	Explain different types of anomalies exist in a table.	[3]
6.		Explain transaction state diagram.	[5]

Group – C

(Long Answer Type Questions) 3 x 15 = 45

Answer any *three* from the following

7. (a) Consider the following Employee database:
Employee(employee_name, street, city)
Works(employee_name, company_name, salary)
Company(company_name,city)
*Primary keys are underlined.
Write SQL queries for the following:
i. Find the names of all employees who work for "Indus Bank Corporation".
ii. Find the names of all employees who live in "Munnar".
iii. Find the salary of all employees who live in "Chennai".
iv. Find the name of all employees who works for "ABC Corporation" or lives in "Cochin" .
[4 x 3]

(b) Define equi-Join in DBMS? [1]

(c) Explain the difference between inner join and outer join. [2]

8. (a) What is DDL? Explain with Example [3]

(b) What is DML? Explain with Example [3]

(c) Explain the difference between procedural DML and non-procedural DML. [5]
Explain the difference between physical and logical data independence. [4]

9. (a) Consider R be a relation with attributes as shown-
R=(A,B,C,D,E,I) and the set of FDs-
F={A→B,A→C,CD→I,CD→E,B→H} Compute $(F)^{+}$. [8]

(b) Consider R be a relation with attributes as shown-
R=(A,B,C,D,E) and the set of FDs-
A→BC, CD→E ,B→D, E→A.
Find all the candidate keys for R [7]

10. (a) Define Indexing? [2]

(b) Distinguish between primary indexing, secondary indexing and clustering indexing? [6]

(c) Explain 'Dirty Read' and 'Incorrect Summary Problem' [4+3]

11. Write short note(any *three*) [3 x 5]

(a) Data Abstraction
(b) Generalization and Specialization
(c) Relational Algebra
(d) Functional Dependencies.
(e) Entity Integrity & Referential Integrity