

EIS-54

B.E. (Illrd Sem.) (CGPA) (CSE) Examination-2015

DATA BASE MANAGEMENT SYSTEM

Paper : CS-304

Time Allowed : Three Hours

Maximum Marks : 60

Note : Attempt all questions.

Each question carry equal marks.

- Q.I (a) List differences between a file processing system and DBMS.
- (b) Explain the difference between the two-tier and three tier client/server architecture.

or

- (a) Describe five main function of a database administrator.
- (b) Make comparison between the strong entity and weak entity.

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Q.II (a) Explain the network database model with an example.

(b) Explain the following features of ORACLE—

- (i) Sequence
- (ii) SQL loader

or

- (a) Discuss the candidate key, primary key, super key, composite key and alternate key.
- (b) Write short note on integrity constraints.

- Q.III (a) Explain the basic relational algebra operations with the symbol used and example for each.
- (b) What do you mean by the tuple relational calculus ? What are its operations.

or

Consider the relations—

EMP (ENO, ENAME, AGE, BASIC)

WORK_ON (ENO, DNO)

DEPT (DNO, DNAME, CITY)

Express the following queries in SQL—

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- (i) Find names of employees whose basic pay is greater than average basic pay.
- (ii) Find the sum of the basic pay of all the employees, the maximum basic pay, the minimum basic pay and the average basic pay.

Q.IV (a) What do you mean by normalization ? Explain BCNF and 3NF with suitable example.

- (b) What are the inference rule for functional dependencies ?

or

- (a) Prove that a relation which is in 4NF must be in BCNF.
- (b) What is query optimization ? Discuss various steps of optimization.

Q.V (a) How does a DBMS represent a relational query evaluation plan ?

- (b) Write short note on transaction processing.

or

- (a) Describe different types of transaction failures. What is meant by catastrophic failure ?

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- (b) What is time stamp ? How does the system generate time stamps ?

Q.VI (a) Write short note on databases on www.

- (b) What do you mean by Oracle ? Give its architecture.

or

Explain the following terms—

- (i) Table spaces
- (ii) Blocks
- (iii) Extents
- (iv) Segments

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