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SEAT No. _____

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SARDAR PATEL UNIVERSITY
M.Sc. (Applied Statistics) (I Semester) External Examination, 2018
COURSE No.: PS01CAST24
(Data Base Management Systems)
(Total Marks 70)

Date: 24/10/2018, Wednesday

Time: 10:00 AM – 01:00 PM

Q.1 Write the correct answer (each sub question carries one marks).

[8]

- (1) The _____ clause is another section of the select statement.
a. Having clause b. Order by c. Group by d. None of the above
- (2) Which of the following is not a property of transactions?
a. Atomicity b. Concurrency c. Isolation d. Durability
- (3) In 2NF
a. No functional dependencies (FDs) exist. c. No multi valued dependencies (MVDs) exist.
b. No partial FDs exist. d. No partial MVDs exist
- (4) Which of the following aggregate functions does not ignore nulls in its results?
a. COUNT b. COUNT (*) c. MAX d. MIN
- (5) Cascading rollback is avoided in all protocol except:
a. Strict two-phase locking protocol. b. Tree locking protocol
c. Two-phase locking protocol d. Validation based protocol
- (6) ODBC stands for
a. Object database connectivity. c. Oral database connectivity.
b. Oracle database connectivity. d. Open database connectivity
- (7) A relational database developer refers to a record as _____
a. Criteria b. Relation c. Tuple d. Attribute
- (8) NULL is
a. The same as 0 for integer c. The same as blank for character
b. The same as 0 for integer and blank for character d. Not a value

Q.2 Answer any SEVEN the following questions (each sub-question carries TWO marks).

[14]

- (a) Distinguish between Primary key and Unique Key.
- (b) When specifying a condition in the where clause only logical standard operators can be used. Is it true or false? Justify it.
- (c) Define SQL and List out rules for SQL in oracle.
- (d) Describe types of database with example.
- (e) "Controlling Data Redundancy is the most important function of DBMS" Justify it.
- (f) Define Entity and Attributes and briefly discuss types of Entity and Attributes with example.
- (g) Explain the difference between a one-to-many and a many-to-many relationship. Which Logical data structures have one-to-many and which have many-to-many relationship?

(1)

(P.T.O.)

- (h) Define Extent and Segments with example.
- (i) What is SPFILE? Difference between SPFILE and PFILE
- Q.3 (a) Define File Processing system and DBMS with example. Differentiate DBMS and File Processing System. [6]
- (b) Define Data Integrity. And Briefly explain four types of data integrity. [6]

==OR==

- (b) What is a communication protocol? What is the structure of an HTTP request message? What is the structure of an HTTP response message? Why do HTTP messages carry a version field? [6]
- Q.4 (a) Discuss types of Data Model with Example. [6]
- (b) Identify and discuss each of the indicated dependencies in normalization Process. Explain Normalization Process with the help of example. [6]

==OR==

- (b) What is DDL? Make a list of commands used in DDL with brief description and syntax. [6]
- Q.5 (a) Consider the following information about a university database: Professors have an SSN, a name, an age, a rank, and a research specialty. Projects have a project number, a sponsor name, a starting date, an ending date, and a budget. Graduate students have an SSN, a name, an age, and a degree program. Each project is managed by one professor and Each project is worked on by one or more professors. Professors can manage and/or work on multiple projects. Each project is worked on by one or more graduate students. Graduate students work on a project, a professor must supervise their work on the project. Graduate students can work on multiple projects, in which case they will have a supervisor for each one. Departments have a department number, a department name, and a main office. Departments have a professor (known as the chairman) who runs the department. Professor's work in one or more departments and for each department that they work in, a time percentage is associated with their job. Graduate students have one major department in which they are working on their degree. **Design and draw an ER diagram that captures the information about the university and indicate any key and participation constraints.** [6]
- (b) Explain user management describes oracle users and user's creation method. [6]

==OR==

- (b) Explain table space management and types of table space management. [6]
- Q.6 (a) What are the responsibilities of a DBA? If we assume that the DBA is never interested in running his or her own queries, does the DBA still need to understand query optimization? Why? [6]
- (b) Explain data guard services with help of undo and flashback features. [6]

==OR==

- (b) Explain SQL loader, control file and methods of SQL loaders. [6]

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