



DHARMSINH DESAI UNIVERSITY, NADIAD
FACULTY OF TECHNOLOGY
B.TECH. SEMESTER V [INFORMATION TECHNOLOGY]
SUBJECT: (IT 502) DATABASE MANAGEMENT SYSTEM

Examination	: First Sessional	Seat No.	:
Date	: 02/08/2016	Day	: Tuesday
Time	: 11.30 to 12.45	Max. Marks	: 36

INSTRUCTIONS:

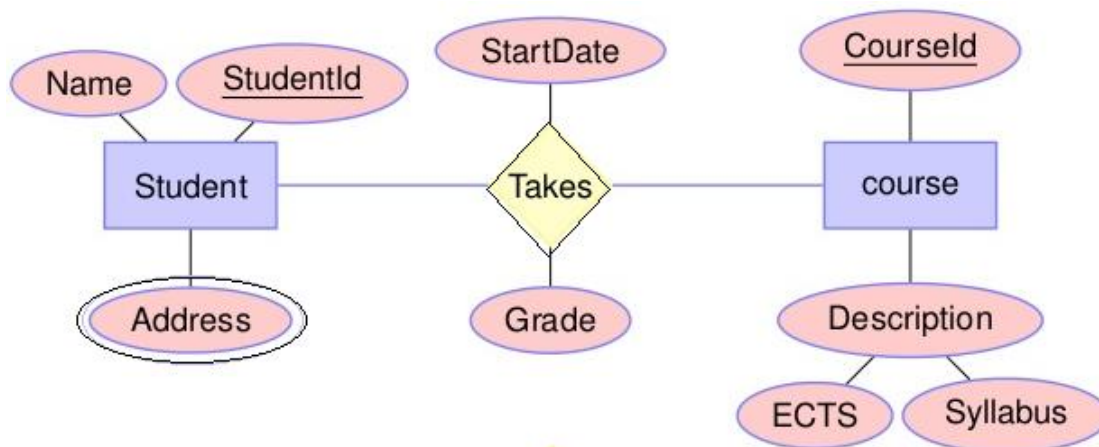
1. Figures to the right indicate maximum marks for that question.
2. The symbols used carry their usual meanings.
3. Assume suitable data, if required & mention them clearly.
4. Draw neat sketches wherever necessary.

Q.1 Do as directed.

- (a) Compare file system and database system in terms of concurrent access anomalies. [2]
- (b) Define descriptive attribute and discriminator for weak entity with example. [2]
- (c) Explain referential integrity constraint with example. [2]
- (d) What is difference between trigger and assertion? [2]
- (e) What is the difference between E-R diagram and schema diagram? [2]
- (f) Define unsafe expression in TRC with example. [2]

Q.2 Attempt *Any Two* from the following questions. [12]

- (a) Draw an E-R diagram for **Hotel Management System**. (Min. 5 Entity Sets) [6]
- (b) (i) What is the purpose of Triggers? Explain with appropriate example. [3]
(ii) Convert following E-R Diagram into relational table structure. Clearly state the Keys and Assumptions taken. [3]



- (c) (i) What is view? Explain syntax for creating view. [2]
(ii) Explain types of joins with examples also write SQL queries and relational algebra. [4]

Q.3 (a) Write down SQL Query for the following SCHEMA 1. [6]

Suppliers (sid : integer, sname : string, address : string)

Parts (pid : integer, pname : string, color : string)

Catalog (sid : integer, pid : integer, cost : real)

- (i) Delete all parts from catalog with effective and efficient way. [1]
 - (ii) Add new part into part table where pid=101 , pname='bolt' and color='RED'. [1]
 - (iii) Find the name of suppliers who supply some red parts. [2]
 - (iv) Find the sids of suppliers who supply all part. [2]
- (b) **Write the Tuple Relational Calculus queries for the following [Use SCHEMA 1]. [6]**
- (i) Show all parts supply by all supplier with cost. [2]
 - (ii) Retrieve parts from part table whose color are 'RED' [2]
 - (iii) Retrieve parts name that have highest cost. [2]

OR

Q.3 (a) Write down relational algebra for the following problems. [Use SCHEMA 1].

- (i) Delete all parts from catalog with effective and efficient way. [1]
 - (ii) Add new part into part table where pid=101 , pname='bolt' and color='RED'. [1]
 - (iii) Find the name of suppliers who supply some red parts. [2]
 - (iv) Find the sids of suppliers who supply all part. [2]
- (b) **Write the Domain Relational Calculus queries for the following [Use SCHEMA 1]. [6]**
- (i) Show all parts supply by all supplier with cost. [2]
 - (ii) Retrieve parts from part table whose color are 'RED' [2]
 - (iii) Retrieve parts name that have highest cost. [2]