

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

Diploma Semester -III Examination January- 2010

Subject code:330703

Subject Name: Database Management System

Date: 29 / 01 / 2010

Time: 11.00 am – 1.30 pm

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. English version is Authentic

- Q.1** Answer the Followings. **14**
1. Define: Data & Information.
 2. Explain physical data independence in brief.
 3. Define: Primary Key, Domain
 4. Write syntax of create table clause of SQL*plus.
 5. Explain simple attribute and composite attribute.
 6. Explain unique constraint of SQL*plus.
 7. List advantages of superclasses and subclasses in EER diagram.
- Q.2** Answer the followings.
- (a) List advantages of DBMS. **04**
 - (b) Explain three level ANSI-SPARC database architecture in brief. **03**
 - (c) Explain relational data model with an example. **07**
- OR**
- (c) List types of database systems and explain any two. **07**
- Q.3** Answer the Followings.
- (a) What is relational algebra? Explain select and projection operation. **07**
 - (b) Discuss the basic concepts of ER diagram. **07**
- OR**
- Q.3** Answer the Followings.
- (a) What is relational algebra? Explain Division, intersection operation. **07**
 - (b) Define an entity. What is an entity set? What are the different types of entity? Explain with an example. **07**
- Q.4** Answer the followings.
- (a) Explain the concept of generalization and specialization in EER modeling with an example. **06**
 - (b) Explain following functions of SQL*Plus. (Any four) **08**
AVG, INITCAP, ADD-MONTHS, TO_CHAR, ROUND, RTRIM
- OR**
- Q.4** (a) What is participation constraint? What are its types? Explain with an example. **07**
- (b) What is a constraint? Explain check and not null constraint of SQL*Plus. **07**
- Q.5** Considering following tables write answers for the given queries. (Any Seven) **14**
- EMP (empno, ename, job, managerno, hiredate, sal, commission, deptno)
DEPT(deptno, dname, location)
1. List the information of all employees.

2. List the name and salary of the employees whose salary is more than 1000.
3. List the names of employees whose empno are 7369, 7521, 7934 and 7788.
4. List the employees names ending with "A".
5. List the maximum, minimum, average and sum of salary.
6. List the deptno and total salary payable in each department.
7. List the employee name, department names.
8. List employees belonging to the department of "ANURAG".
9. Delete all the employees who are more than 2 years old in the organization.
10. Change the deptno of "ANURAG" from 30 to 40 of emp table.

OR

Q.5 Considering following tables write answers for the given queries. (Any Seven)

14

Employee (employee-name, street, city)

Works (employee-name, company-name, salary)

Company (company-name, city)

Manages (employee-name, manager-name)

1. Find the names of all employees who work at "ABC Corporation".
2. Find name, city of residence of all employees who work at "ABC Corporation".
3. Find the name of all employees who do not work for "ABC Corporation".
4. Modify the database such that Martin now lives in Mumbai.
5. Give all employees of "ABC Corporation" a 10% salary raise.
6. Delete all records in the Works table for employees of "ABC Corporation".
7. Find average salary of "ABC Corporation" company.
8. Find all employees who are manager.
9. Find the names of all employees who earn more than every employee of "ABC Corporation".
10. Find all companies located in every city in which "ABC Corporation" is located. (Assume the companies may be located in several cities)

પ્રશ્ન-૧	નીચેના પ્રશ્નોના જવાબ લખો.	14
	૧. વ્યાખ્યા આપો: ડેટા અને ઇન્ફોર્મેશન.	
	૨. ફીઝીકલ ઇન્ડીપેન્ડેન્સ ટ્રેકમાં સમજાવો.	
	૩. વ્યાખ્યા આપો: પ્રાયમરી કી, ડુમેઈન.	
	૪. SQL*Plus ની create table ની syntax લખો.	
	૫. સીમ્પલ અને કમ્પોઝાઇટ એટ્રીબ્યુટ સમજાવો.	
	૬. SQL*Plus નું યુનીક કંન્સ્ટ્રેન્ટ સમજાવો.	
	૭. EER diagram માં સુપરક્લાસ અને સબક્લાસ નું મહત્વ સમજાવો.	
પ્રશ્ન-૨	નીચેના પ્રશ્નોના જવાબ લખો.	
અ	DBMS ના ફાયદા જણાવો.	04
બ	ANSI-SPARC નું ત્રણ લેયર database architecture ટ્રેકમાં સમજાવો.	03
ક	રીલેશનલ મોડેલ ઉદાહરણ આપીને સમજાવો.	07
	અથવા	
ક	ડેટાબેઇઝના ટાઇપ લખો અને કોઈ પણ બે ટાઇપ સમજાવો.	07
પ્રશ્ન-૩	નીચેના પ્રશ્નોના જવાબ લખો.	
અ	રીલેશનલ એલ્જીબ્રા શું છે? સિલેક્ટ અને પ્રોજેક્શન ઓપરેશન સમજાવો.	07
બ	ER diagram ની મૂળભૂત ખ્યાલ (concept) સમજાવો.	07
	અથવા	
પ્રશ્ન-૩	નીચેના પ્રશ્નોના જવાબ લખો.	
અ	રીલેશનલ એલ્જીબ્રા શું છે? ડીવીઝન અને ઇન્ટરસેક્શન ઓપરેશન સમજાવો.	07
બ	એન્ટીટીની વ્યાખ્યા આપો. એન્ટીટી સેટ શું છે? એન્ટીટીની અલગ ટાઇપ કઈ છે? ઉદાહરણ આપીને સમજાવો.	07
પ્રશ્ન-૪	નીચેના પ્રશ્નોના જવાબ લખો.	
અ	EER modeling ના જનરલાઇઝેશન અને સ્પેશ્યલાઇઝેશન મોડેલ ઉદાહરણ આપીને સમજાવો.	06
બ	નીચેના SQL*Plus ફંક્શન સમજાવો. (કોઈ પણ ચાર) AVG, INITCAP, ADD-MONTHS, TO_CHAR, ROUND, RTRIM	08
	અથવા	
પ્રશ્ન-૪	નીચેના પ્રશ્નોના જવાબ લખો.	
અ	પાર્ટીસીપેશન કંન્સ્ટ્રેન્ટ શું છે? તેના ટાઇપ કયા છે? ઉદાહરણ આપીને સમજાવો.	07
બ	કંન્સ્ટ્રેન્ટ શું છે? SQL*Plus ની check and not null કંન્સ્ટ્રેન્ટ સમજાવો.	07
પ્રશ્ન-૫	નીચેના ટેબલ પરથી આપેલ ક્વેરીઓના જવાબ લખો. (કોઈ પણ સાત). EMP (empno, ename, job, managerno, hiredate, sal, commission, deptno)	14

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અથવા

પ્રશ્ન-૫

નીચેના ટેબલ પરથી આપેલ ક્વેરીઓના જવાબ લખો. (કોઈ પણ સાત).

Employee (employee-name, street, city)

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