

GUJARAT TECHNOLOGICAL UNIVERSITY**Diploma Engineering - SEMESTER-III • EXAMINATION – SUMMER • 2015****Subject Code: 330703****Date: 14-05-2015****Subject Name: Data Management System****Time: 02:30 pm - 05:00 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 considered to be Authentic.

- Q.1** (a) Explain advantageous of DBMS over file management system. **07**
 (b) Explain three level ANSI-SPARC database architecture in brief. **07**
- Q.2** (a) List out types of database systems and explain any one of them in detail. **07**
 (b) Explain relational data model with an example. **07**
- OR
- (b) Explain E-R model with its symbols and also discuss problem with E-R model. **07**
- Q.3** (a) What is relational algebra? Explain select and projection operation. **07**
 (b) What is data independence? Explain types of data independence with example. **07**
- OR
- Q.3** (a) Explain union, difference and Cartesian product operation of relational algebra. **07**
 (b) (1) What is mapping? Describe types of mapping with example. **04**
 (2) discuss the role of DBA **03**
- Q.4** (a) What is attributes? Explain types of attributes with example. **07**
 (b) Explain the concept of Generalization and Specialization in EER modeling with example. **07**
- OR
- Q.4** (a) What is constraint? Explain foreign key, check constraint of SQL*Plus. **07**
 (b) What are super class and subclass entity types? Explain the concept of super class and subclass with diagram. **07**
- Q.5** (a) Explain following function of SQL*Plus(any four) **07**
 (1)POWER() (2) SUBSTRING() (3)TO_DATE() (4)INITCAP() (5)CEIL()
 (6) TO_CHAR()
- (b) Explain any four **07**
 (1) data warehouse (2) metadata (3) data dictionary (4) data mining (5) primary key (6) schema
- OR
- Q.5** Consider following tables and write answer for the given queries. **14**
 Stud-data(stud-no, name, city, dept)
 Dept-data(stud-no, dept, joining-date)
 (1) Create table stud-data and dept-data
 (2) Add primary key constraint on column stud-data in stud-data table.
 (3) Retrieve all information about all student where name begin with 'ka'
 (4) Retrieve all information about students who joined before 'FEB-2010'
 (5) Add new column gender to table stud-data.
 (6) Find the name of students lives in the city 'Baroda'
 (7) Find the students who joined the department after 'JAN-2005' and before 'DEC-2010'

ગુજરાતી

- પ્રશ્ન. ૧ અ DBMS ના ફાઇલ ઓરિએટેડ સીસ્ટમ પર ના ફાયદા જણાવો. ૦૭
બ Three level ANSI-SPARC database architecture સવિસ્તાર સમજાવો. ૦૭
- પ્રશ્ન. ૨ અ અલગ અલગ જાતની Database systems લખો અને તેમાંથી કોઈપણ એક વિશે સવિસ્તાર સમજાવો. ૦૭
બ Relational data model ઉદાહરણ સાથે સમજાવો. ૦૭
- અથવા
- બ E-R model માં આવતા symbols સમજાવો અને E-R model ની સમસ્યાઓ વિશે સમજાવો. ૦૭
- પ્રશ્ન. ૩ અ Relational algebra એટલે શું? Select અને projection ઓપરેશન સમજાવો. ૦૭
બ Data independence એટલે શું? Data independence ના પ્રકાર ઉદાહરણ સાથે સમજાવો. ૦૭
- અથવા
- પ્રશ્ન. ૩ અ Relational algebra ના union, difference and Cartesian product operation વિશે સમજાવો. ૦૭
બ (1) Mapping એટલે શું? ? ઉદાહરણ સાથે સમજાવો. ૦૭
(2) DBA ના કાર્યો વિશે જણાવો.
- પ્રશ્ન. ૪ અ Attributes એટલે શું? ઉદાહરણ સાથે સમજાવો. ૦૭
બ EER modeling માં Generalization અને Specialization વિશે ઉદાહરણ સાથે સમજાવો. ૦૭
- અથવા
- પ્રશ્ન. ૪ અ Constraint એટલે શું? SQL*Plus માં Foreign key, check constraint વિશે સમજાવો. ૦૭
બ super class અને subclass entity એટલે શું? આકૃતિ સાથે સમજાવો. ૦૭
- પ્રશ્ન. ૫ અ નીચેના SQL*Plus ના ફંક્શન વિશે લખો(કોઈપણ ચાર) ૦૭
(1)POWER() (2) SUBSTRING() (3)TO_DATE() (4)INITCAP() (5)CEIL()
(6) TO_CHAR()
બ કોઈપણ ચાર સમજાવો. ૦૭
(1) data warehouse (2) metadata (3) data dictionary (4) data mining (5) primary key (6) schema

અથવા

Stud-data(stud-no, name, city, dept)

Dept-data(stud-no, dept, joining-date)

- (1) Create table stud-data and dept-data
- (2) Add primary key constraint on column stud-data in stud-data table.
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