* R F - 3 7 2 1 - 2 2 / 2 0 0 *

RF-3721-22

M. Sc. (Sem. II) (Bioinformatics) Examination

April / May – 2010

BI-204 : D.B.M.S.

Time : **3** Hours] [Total Marks : **70**

RF-3721

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **M. Sc. (Sem. 2) (Bioinformatics)**

Name of the Subject :

☛ **BI-204 : D.B.M.S.**

☛ Subject Code No. : **3 7 2 1** ☛ Section No. (1, 2,.....) : **1**

Seat No. :

Student's Signature

(2) Answer both sections in **separate** answer sheets.

1 Attempt (any **three**):- **21**

(a) Discuss responsibilities of Database Administrator.

(b) Explain data abstraction at various levels.

(c) What is normalization? Explain 1NF and 2NF with proper example.

(d) Define DBMS. Explain advantages of database management systems over traditional file systems.

(e) Explain anomalies for bad database design.

2 Consider following tables:- **12**

Student (Employee No, Name, Birth date, Designation, Birth date, Department code)

Department (Department code, Department name.)

Functional dependency holds on above tables are:

Employee No-> Employee name, address, designation, Birth date Department code

Department code-> Department Name.

(a) Find the candidate key for each relation. **2**

(b) Find the key which work as foreign key? **2**

(c) Write SQL statements to solve following queries. **8**

(i) Find total number of employees for each department.

(ii) List name of employee having designation as "manager".

(iii) Find the name youngest Employee of the company.

(iv) List total number of departments.

3 Define multi-valued attributes. **2**

RF-3722

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **M. Sc. (Sem. 2) (Bioinformatics)**

Name of the Subject :

☛ **BI-204 : D.B.M.S.**

☛ Subject Code No. : **3 7 2 2** ☛ Section No. (1, 2,.....) : **2**

Seat No. :

Student's Signature

(2) Answer both sections in **separate** answer sheets.

4 Write short notes (any **four**):- **14**

(a) Foreign Key

(b) DDL

(c) Composite Attribute

(d) Relation Schema & Instance.

(e) Loss-less decomposition

5 Answer the following questions (any **three**):- **21**

(a) List basic relational algebra operators. Explain any 3.

(b) Explain Super Key, Candidate Key and Primary key with proper example.

(c) Explain E-R data model.

(d) Explain functional dependency, full functional dependency and transitive dependency with proper example.
