

**B.Tech Sem – IV(2007 Course) (Inf. Tech.) : WINTER -
2017**

SUBJECT: DATABASE MANAGEMENT SYSTEMS

Day: Wednesday
Date: 22/11/2017

W-2017-2422

Time: 02.30 PM TO 05.30 PM
Max. Marks: 80

N.B:

- 1) **Q.No.1 and Q.No.5 are COMPULSORY.** Out of remaining any **TWO** questions from Section I and II.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in the **SEPARATE** answer book.
- 4) Use of non-programmable electronic **CALCULATOR** is allowed.
- 5) Draw neat and labeled diagram **WHEREVER** necessary.
- 6) Assume suitable data if necessary.

SECTION-I

- Q.1**
- a) What are components of E-R diagram? **(05)**
 - b) What is the need of for normalization? What is the difference between strong entity and weak entity? **(05)**
 - c) What is trigger? Differentiate between procedure and triggers. **(04)**
- Q.2**
- a) Explain specialization, generalization and aggregation with example. **(07)**
 - b) Give difference among primary key, candidate key and super key with example. **(06)**
- Q.3**
- a) Why 4NF in normal form is more desirable than BCNF? Justify with suitable example. **(07)**
 - b) What is entity integrity and referential integrity constraints? Explain with suitable example. **(06)**
- Q.4**
- a) Consider the relational database. **(06)**
Dept (dept_no, dname, loc, mgrcode)
Emp (Emp_no, ename, designation).
Project (proj_no, proj_name, status).
Dept and Emp are related as 1 to many, Project and Emp are related as 1 many. Write queries for the following.
 - i) Give the name of employees who are working on 'Blood Bank' project.
 - ii) Give the name of managers from 'Marketing' department.
 - iii) Give all employees working under status 'INCOMPLETE' project.
 - b) Write a short procedure to add first n numbers. Accept n from user. **(07)**

SECTION-II

- Q.5**
- a) State the responsibilities of DBA. **(05)**
 - b) Explain serial and serializable schedule. **(05)**
 - c) Give advantages of distributed Database System. **(04)**
- Q.6**
- a) Describe static hashing and dynamic hashing. **(07)**
 - b) Explain different types of file organization. **(06)**
- Q.7**
- a) Explain shadow paging crash recovery method. **(06)**
 - b) Explain pointer swizzling techniques in brief. **(07)**
- Q.8**
- a) Explain OLAP operations. **(07)**
 - b) Explain Data warehousing and Data mining. **(06)**