TKN/KS/16 – 5906

Fifth Semester B. Sc. Examination

COMPUTER SCIENCE

Paper – II

(Database Management System)

Time : Three Hours] [Max. Marks : 50

N. B. : (1) All questions are compulsory and carry equal marks.
(2) Draw neat and labelled diagram wherever necessary.

EITHER

1. (a) State disadvantages of traditional file processing system (TFPS). 5

(b) Explain Network model with example. 5

OR

(c) Write a short note on different types of database users. 5

(d) Define Database management system. Discuss its components in brief. 5

EITHER

2. (a) Explain superkey, candidate key and primary key with example. 5

(b) Explain tabular representation of weak entity set considering suitable example. 5

OR

(c) Discuss following mapping cardinalities

(i) one–to–one

(ii) one to many

(iii) many to one

(iv) many to many

How these cardinalities are represented in E–R diagram. 5

(d) Define entity and explain entity set with example. 5

EITHER

3. (a) Discuss structure of Relational data base. 5

(b) Explain following fundamental operations with example :—

(i) Union

(ii) Set difference. 5

OR

(c) Explain outer join operation with example. 5

(d) What are aggregate functions ? Explain with example. 5

EITHER

4. (a) Explain 3NF with example. 5

(b) What is normalization ? Write advantages of representing data in a normalized form. 5

OR

(c) Explain :—

(i) Transitive functional dependency.

(ii) Multivalued functional dependency.

(d) Write definition of 1NF. Discuss problems arising in three basic operations insert, delete and update when relation is in 1NF.
(consider suitable example). 5

5. (a) Write short note on Data Independence. $2\frac{1}{2}$

(b) Explain relationship giving suitable example. $2\frac{1}{2}$

(c) Explain assignment operation with example. $2\frac{1}{2}$

(d) Explain functional dependency with suitable example. $2\frac{1}{2}$