

U.G. 3rd Semester Examination-2021

COMPUTER SCIENCE

[PROGRAMME]

Course Code : COM.SC-G-CC-L-301C

(Database Management Systems)

Full Marks : 40 Time : 2½ Hours

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP-A

1. Answer any **five** questions from the following: 2×5=10
- a) What is a database?
 - b) What are the advantages of DBMS?
 - c) What are the unary operations in Relational Algebra?
 - d) What are the semantic constraints in SQL?
 - e) Define data abstraction in DBMS.
 - f) Define functional Dependency.
 - g) What are the disadvantages of file processing systems?
 - h) What is data redundancy?

[Turn over]

GROUP- B

2. Answer any **two** questions: 5×2=10
- a) Discuss the different database anomalies. 5
 - b) What do you mean by degree of a relationship? What is cardinality of a relationship? What is a ternary relationship? 2+1+2
 - c) What is multi valued dependency? Define 2NF and 3NF. 2+3
 - d) What are the three levels of data abstraction? Explain briefly. 2+3

GROUP-C

3. Answer any **two** questions: 10×2=20
- a) Write down the functions of a DBA. Explain the difference between the DELETE and TRUNCATE commands in a DBMS. 5+5
 - b) What is meant by an entity-relationship (E-R) model? Explain the terms entity, entity type, and entity set in DBMS. What do you understand by Data Model? 2+6+2
 - c) Explain different languages present in DBMS. What are super, primary, candidate, and foreign keys? 6+4

d) Write short notes on any **two** of the following:

5×2=10

i) Relational Data Model

ii) Normalization

iii) SQL
