

Total No. of Questions : 5]

SEAT No. :

P-5787

[Total No. of Pages : 2

[6120]-109

M.C.A. - E (Management)
IT-24 : Advanced DBMS
(2020 Pattern) (Semester - II)



Time : 2½ Hours]

[Max. Marks : 50

Instructions to the candidates :

- 1) All questions are compulsory.
- 2) Figure to the right indicate full marks.

Q1) A university registrar's office maintains data about the following Entities :

[8]

- a) Course including number, title, credits, syllabus and prerequisites
 - b) Course offering includes course number, year, semester, section number, instructor, timing and classroom
 - c) Students including student-id, name and program and
 - d) Instructors including identification number, name, department and title. Further the enrollment of students in course and grades awarded to students in each course they are enrolled for must be appropriate modeled.
- i) Draw the ER Diagram for above case study.

OR

- ii) Design the normalized database upto 3NF for above case study.

Q2) a) What is data independence explain its two types. [5]

b) Write short notes on spatial Database. [5]

OR

a) Describe 3-tier schema architecture of data base. [5]

b) What is object oriented database? What are its fundamental features? [5]

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- Q3) a) What are the various failure classification in detail? [5]
b) Explain different types of Access-control in database security. [5]

OR

- a) Write a short note on Data Encryption. [5]
b) Write a short note on Remote Backup System. [5]

- Q4) a) Demonstrate with example 2PC protocol using growing and shrinking phase. [6]
b) How many types of mechanism work in NoSQL? Write down their names. [2]

OR

- a) Check whether the given schedules in conflict serializable or not, if yes then determine all the possible serializable schedule.
S : W1(B), R2(A), W2(A), W2(B), R3(A), R3(B), R4(A) [6]
b) Write down the NoSQL's different features. [2]

- Q5) a) List the parallel database architectures. Explain with diagram. [7]
b) Explain the any two concurrency control approaches in DDBMS in details. [7]

OR

- a) Explain Inter operational and Intra operational parallelism in detail. [7]
b) Explain 2 phase and 3 phase commit protocol in DDBMS with proper example. [7]

