



Register Number: .

Date: 13-01-2020

ST. JOSEPH'S COLLEGE (AUTONOMOUS), BANGALORE – 27
MSC(DATA ANALYTICS) – I SEMESTER
SEMESTER EXAMINATION – JANUARY 2021
BDA1520: DATABASE MANAGEMENT SYSTEM

Time : 2 1/2 hours

Max Marks : 70

This Paper contain 2 printed pages and three parts

Answer any 7 Questions

7 x 10 = 70 marks

1. Design ER Diagram for an employee database with at least four entities considering all the constraints. 10
2. Discuss the main characteristics of database approach and how it is differ from traditional file systems. 10
3. Explain in detail about Hierarchical model, Network model and Object oriented model with example. 10
4. Consider the following information about a university database:
 - ✓ Professors have an SSN, a name, an age, a rank, and a research specialty.
 - ✓ Projects have a project number, a sponsor name (e.g., NSF), a starting date, an ending date, and a budget.
 - ✓ Graduate students have an SSN, a name, an age, and a degree program (e.g., M.S. or Ph.D.).
 - ✓ Each project is managed by one professor (known as the project's principal investigator).
 - ✓ Each project is worked on by one or more professors (known as the project's co-investigators).
 - ✓ Professors can manage and/or work on multiple projects.
 - ✓ Each project is worked on by one or more graduate students (known as the project's research assistants).
 - ✓ When graduate students work on a project, a professor must supervise their work on the project. Graduate students can work on multiple projects, in which case they will have a supervisor for each one.

Design and draw an ER diagram that captures the information about the university.

Use only the basic ER model here, that is, entities, relationships, and attributes.

10