

Con. 3193-08.

(REVISED COURSE)

CO-2887

(3 Hours)

[Total Marks : 100

N.B. (1) Question No. 1 is **compulsory**.(2) Attempt any **four** questions out of remaining **six** questions.

1. A Database is to be designed for a medium sized company dealing with industrial application of computers. The company delivers various products to its customers ranging from a single application program through to complete installation of hardware with customized software. The company employs various expert, consultants and supporting staff. All personal are employed on long term basic i.e. there are no short-term or temporary staffs. Although the company is some how structured for administrative purposes (that is, it is divided into department headed by Department Managers) all projects are carried out in an inter-disciplinary way. For each project a project team is selected, grouping employees from different department, and a Project Manager (also an employee of the Company) is appointed who is entirely and exclusively responsible for the control of the project, quite independently of the Company hierarchy.
Draw an EER Diagram and design possible Object Oriented Schema by identifying different classes and methods. If required some more information can be assumed. **20**
2. (a) Explain with suitable example Aggregation, Specialization and Generalization in EER Diagrams. **10**
(b) Explain with suitable example object identity ,Object structure and type constructors in case OODBs. **10**
3. (a) What is the difference between transient and persistence object ? What are the ways of making the object persistence ? Explain. **10**
(b) What is importance of the terms 'Speed up' and 'Scale up' while applying parallelism in case of parallel database ? What are the factors that diminish both 'Speed up' and 'Scale up'. **10**
4. (a) In SQL3 how type inheritance and table inheritance is implemented ? Explain with Example. **10**
(b) In case of parallel databases what are different partitioning techniques in I/O Parallelism ? How skew is handed in I/O Parallelism ? **10**
5. (a) Explain Client-Server architecture for databases. **10**
(b) What is well-formed and valid XML document ? With example explain what is XML Schema file. **10**
6. (a) Explain with proper example nested relation in ORDBMS. **10**
(b) Write short notes on Temporal Database. **10**
7. (a) What are the application of Data ware housing and data mining ? **10**
(b) Write short notes on Geographical Information System (GIS). **10**