

[Maximum Marks : 100]

Note :- All questions from each section carry equal marks. All questions are compulsory and answer limit are approximately 250 words. Start the answer of each section from new page. Maximum limit of pages of answer booklet are approximately 16 pages. Answer should be written by the student in his/her own handwriting mandatory. The first page of answersheet should be download by the student from university website www.bubhopal.ac.in is mandatory.

1. (a) What is a data base system ? What are the types of database management system ?
(b) What is the importance of data models ? Explain each type of data models with neat diagram.
2. (a) What is relational data model explain with example ?
(b) What are the basic relational algebra operations ? Explain with example.
3. (a) Discuss functional dependency concept along with its implications.
(b) What is meant by closure of a set of functional dependencies ? Explain with example.
4. (a) What is integrity ? Discuss the different types of integrity constraints.
(b) What do you mean by schedule in the context of concurrent execution of transaction in RDBMS ? Discuss the various type of serializability with suitable example.
5. (a) What are the major issues in designing the distributed system ?
(b) What is object DBMS ? What are the advantages of object oriented database ?