II Semester B.C.A. Examination, May 2016
(CBCS) (2014-15 and Onwards)
COMPUTER SCIENCE
BCA – 204 : Database Management System

Time : 3 Hours
Max. Marks : 70

Instruction : Answer all Sections.

SECTION – A

I. Answer any ten questions. Each question carries two marks. (10×2 = 20)

1) Define DBMS. Mention any two advantages of DBMS.
2) What do you mean by DBMS catalog and metadata ?
3) Give any four functions of DBA.
4) Name any four types of attributes.
5) What do you mean by generalization and specialization ?
6) Define Primary key and Foreign key.
7) Define Functional dependency.
8) How are storage devices classified ?
9) What are the applications of Relational algebra in RDBMS ?
10) Mention the different categories of SQL statements.
11) What is an exception ? Mention major types of exceptions.
12) What are the desirable properties of transactions ?
II. Answer any five questions. Each question carries ten marks. \( (5 \times 10 = 50) \)

13) a) Explain the functions of DBMS.

   b) What is data independence? Explain briefly the two types of data independence.


   b) Explain the E-R notations used in database schema design.

15) a) Explain various methods of allocating file blocks on disks.

   b) Explain briefly RAID technology.

16) a) Explain briefly insertion, updation and deletion anomalies in database.

   b) What is normalization? Explain briefly the various types of Normal forms with examples.

17) a) Explain briefly schema based constraints in relational data model.

   b) Explain selection and projection operations in relational algebra with an example each.

18) a) Explain briefly DDL statements with syntax and examples.

   b) What is JOIN operation? Explain different types of joins with syntax and example.

19) a) What is a database trigger? Explain any four types of trigger.

   b) Explain While.. Loop statement in PL/SQL with an example.

20) a) Define transaction. Explain briefly different states of transaction with a neat state transition diagram.

   b) What is time stamp? Explain briefly two methods of generating time stamps.