

Roll No. :

Total No. of Questions : 11]

[Total No. of Printed Pages : 3

BPG-1104

M.Sc. (Previous) Examination, 2021

COMPUTER SCIENCE

MCS-103

(Database Management)

Time : 1½ Hours]

[Maximum Marks : 50

Section-A

(Marks : 2 × 10 = 20)

Note :- Answer all the *ten* questions. Each question is to be attempted in around **50** words. Each question carries **2** marks.

Section-B

(Marks : 3 × 5 = 15)

Note :- Answer all *five* questions. Each question has internal choice (Answer limit **200** words). Each question carries **3** marks.

Section-C

(Marks : 5 × 3 = 15)

Note :- Answer any *three* questions out of five (Answer limit **500** words). Each question carries **5** marks.

Section-A

2 each

1. (i) What is Entities ?
- (ii) What is Key ?
- (iii) What is Referential Integrity ?

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- (iv) What is Cross Product ?
- (v) What is SQL ?
- (vi) What is Dense Index ?
- (vii) What is DCL ?
- (viii) What is Starvation ?
- (ix) What is 1NF ?
- (x) What are the security needs of database ?

Section-B

3 each

2. What is the architecture of DBMS ?

Or

What are the various advantages of database over the file system ?

3. Write short notes on the following :

- (i) Conceptual schema
- (ii) Functional Dependency

Or

Write short notes on the following :

- (i) Super key
- (ii) Foreign key

4. Solve the following on the given database (using SQL) :

S(Sno, Sname, City, Status)

P(Pno, Pname, Color, Weight)

Sp(Sno, Pno, qty.)

- (a) Get supplier number who supplies maximum quantities.
- (b) Get total quantity supplied by S1.

Or

Draw an ER diagram for the following application from the manufacturing industry :

- (a) Each supplier has a unique name.
- (b) More than one supplier can be located in same city.
- (c) Each part has a unique part number.
- (d) Each part has a colour
- (e) A supplier can supply more than one part.
- (f) A part can be supplied by more than one supplier.
- (g) A supplier can supply a fixed quantity of each part.

[Make necessary assumption if needed]

5. Explain Normalization.

Or

Explain concept of serializability.

6. Explain Deadlock.

Or

Explain concept of Data Warehousing.

Section–C

5 each

- 7. Explain the role of DBA in a database environment.
- 8. How is relationship between entities indicated in E-R diagram and what is its function ?
- 9. Explain Data Independence.
- 10. Explain time strap ordering algorithm.
- 11. Explain serial and non-serial schedules.