

2021**COMPUTER SCIENCE****[GENERAL]****Paper : IVA**

Full Marks : 65

Time : 2 Hours

*The figures in the right-hand margin indicate marks.***Answer Q. No. 1 and any four from the rest.**

1. Answer any **five** questions: $1 \times 5 = 5$
- What is structured query language?
 - What is data integrity?
 - Define primary key.
 - What is union compatibility?
 - Define procedure in VB.
 - What is entity?
 - What is relation in DBMS?
 - Differentiate between List box and Combo box.
 - What is VB object?
2. a) What are the advantages of DBMS over traditional file system?
 b) Discuss indexed sequential file system.
 c) Explain any three numeric function in VB.
 $5+5+5=15$
3. a) What are the different mapping cardinalities? Give examples.
 b) Define and distinguish between Specialization and Generalization.
 c) Define ERD. Draw an ERD for Banking Database.
 $5+5+5=15$
4. a) Why we need normalization?
 b) What is functional dependency? Define 1NF and 2NF.
 c) What is dependency preservation in normalization?
 d) What is data inconsistency?
 $3+(2+5)+3+2=15$
5. Write short notes on (any **three**): $5 \times 3 = 15$
- ODBC
 - MFC

[Turn over]

- c) Style Properties of Combo Box
- d) 3NF
- e) ACID properties

6. Consider the following relational schema:

$$3 \times 5 = 15$$

Employee (SSN, Name, Age, Dno)

Salary (SSN, Salary)

Work_on (Project_No, SSN)

Project (Project_No, Project_name, Plocation)

Write the SQL for the following queries:

- a) Display the names of projects that located in Delhi.
- b) Find the salaries of employees by name.
- c) Retrieve the names and SSN of the employees working on Project_No = A100.
- d) Describe each table of database.
- e) Rename Employee table to Emp.

- 7. a) Explain the concept of generalization and aggregation in ER diagram. Give example.
- b) Define each of the following terms:
 - i) multivalued attribute

ii) foreign key

iii) instances

- c) Discuss three level of data abstraction.

$$7+3+5=15$$

- 8. a) Discuss different types of anomalies that may exist in a database. What is redundancies?
- b) What is data dictionary? Why it is important?
- c) What is control array in VB? Explain.

$$(3+3)+3+6=15$$