

—2023— 2022

Time : 3 hours

Full Marks : 70

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Answer from all the Groups as directed.

Group – A

(Objective Type Questions)

1. [A] Choose the correct answer of the following :

1×5 = 5

(a) The Primary tools used in structural design is a :

- (i) Structure chart
- (ii) Data flow diagram
- (iii) Program flowchart
- (iv) None of these

(b) The communication problem involves the :

- (i) Analyst and the Programmer
- (ii) Manager and the Analyst
- (iii) Programmer and the Computer
- (iv) Operator and the Computer

(c) ZNF represent :

- (i) Removal of transitive dependences
- (ii) Grouping of the Data
- (iii) Redundancy Control
- (iv) None of these

(d) A decision tree is a diagram or chart that helps to determine a course of :

- (i) Action
- (ii) Decision
- (iii) Branch
- (iv) All of these

(e) Graphical Description of the data is known as :

- (i) DFD
- (ii) Levelled DFD
- (iii) Data Dictionary
- (iv) None of these

[B]. Fill in the blanks of the following : $1 \times 5 = 5$

- (a) SSAD stands for _____.
- (b) BCNF stands for _____.
- (c) An open rectangle represents _____.
- (d) HIPO stands for _____.
- (e) 3NF stands for _____.

Group – B

(Short-answer Type Questions)

2. Answer any four questions of the following :

$5 \times 4 = 20$

- (a) Explain the characteristics of the system.
- (b) What is DFD ? Explain the symbols of DFD.
- (c) Explain the type of Information System in SSAD.
- (d) What is Structural Analysis ? Explain the Decision Free and Structureal English.
- (e) Explain the operational feasibility and technical feasibility.
- (f) Explain the role of System Analyst.

Group – C

(Long-answer Type Questions)

3. Answer any four questions of the following :

10×4 = 40

- (a) Explain the phases of SDLC with diagram.
- (b) What is Normalization ? Differentiate between 1NF and 2NF.
- (c) Construct Entity-Relationship Diagram of Railway Reservation System.
- (d) What is Data Dictionary ? Describe the basic symbols of Data Dictionary.
- (e) Describe the Context Analysis Diagram.
- (f) Explain the following :
 - (i) DSS
 - (ii) Logical and Physical Design
 - (iii) Levelled DFD
 - (iv) Automation Boundary

