

**2023**

*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

