

2021

**DATABASE MANAGEMENT SYSTEM AND
SYSTEM ANALYSIS AND DESIGN — HONOURS**

Paper : DSE-5.2 eB

Full Marks : 80

The figures in the margin indicate full marks.

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

Module - I

(Database Management System)

Answer *any four* questions.

1. (a) What do you mean by embedded SQL?
(b) Discuss the advantages and disadvantages of SQL. 4+6
2. (a) What are the differences between 2NF and BCNF?
(b) Discuss clustering indexing with example. 5+5
3. What do you mean by 'Data Control Language'? How is it different from Data Definition Language? 4+6
4. Explain the significance of :
(a) Three schema architecture
(b) Data abstraction. 5+5
5. Draw the ER diagram for a bank. The entities involved are :
(a) Bank name
(b) Branch Manager
(c) Bank Staff
(d) Customers.
You may add other entities as well. However, these four entities should be a part of your discussion compulsorily. 10
6. Write short notes on :
(a) Multi-level Indexing
(b) Secondary Indexing. 5+5

Please Turn Over

7. What is a network model in DBMS? Explain this model with the help of a diagram. 3+7
8. Write short notes on :
- (a) Query Optimization Technique
 - (b) Database normalisation. 5+5

Module - II
(System Analysis and Design)

Answer *any four* questions.

9. Explain the spiral system development model with a diagram. 10
10. Describe the different steps in developing a system. 10
11. (a) What is acceptance testing?
(b) Discuss the applications of unit testing with an example. 3+7
12. Describe the concept of physical and logical data flow diagram with relevant examples. 5+5
13. Explain the following terms :
- (a) Decision Tree
 - (b) Test case generation. 5+5
14. Explain the following phases in system development :
- (a) Problem Definition
 - (b) Analysis. 5+5
15. Discuss in brief the development methodologies in system design. 10
16. Write short notes on :
- (a) Object modeling
 - (b) User Interface Design. 5+5
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