

**2021**

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

**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 are the advantages of DBMS?  
(b) Discuss the applications of DBMS with examples. 3+7
2. Explain hierarchical data model. 10
3. Write short notes on :  
(a) Data Definition Language (DDL)  
(b) Data Control Language (DCL). 5+5
4. (a) What do you understand by normalization?  
(b) Explain the concept of 3NF. 3+7
5. Write short notes on :  
(a) Multilevel indexing  
(b) Primary indexing. 5+5
6. (a) “SQL offers unique advantages over procedural languages”.– Discuss.  
(b) Discuss the concept of “Query & Query optimization in SQL”. 5+5
7. Draw the ER diagram for a college. The entities involved are :  
(a) College Name  
(b) Principal / Rector

**Please Turn Over**

- (c) Students
- (d) Disciplines.

You can include more entities but these entities are to be compulsorily included. 10

8. Write short notes on :

- (a) BCNF
- (b) Three schema architecture in DBMS. 5+5

**Module - II**  
**(System Analysis and Design)**

Answer *any four* questions.

- 9. Explain the waterfall system development model with the help of a diagram. 10
  - 10. Describe the “problem definition” and “analysis” phase in system development. 5+5
  - 11. What is unit testing? Discuss the advantages of unit testing. 3+7
  - 12. Write short notes on :
    - (a) Decision tree
    - (b) Top down approach. 5+5
  - 13. Discuss the concept of process modelling with examples. 10
  - 14. Explain the following terms :
    - (a) Data dictionary
    - (b) User interface design. 5+5
  - 15. (a) Discuss the advantages of decision tables.  
(b) Explain the applications of regression testing. 5+5
  - 16. Briefly explain the Software Development Life Cycle (SDLC). 10
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