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B. E. (Fifth Semester) Examination, Nov.-Dec. 2021

(New Scheme)

(IT Engg. Branch)

DATABASE MANAGEMENT SYSTEM

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

*Note : Attempt all questions. Part (a) is compulsory from each questions. Solve any **two** parts from (b), (c) and (d).*

Unit-I

1. (a) What is weak entity?   2

   (b) What is attribute? Discuss the types of attributes in brief.   7

[2]

(c) Explain the specialization and generalization with suitable diagram. 7

(d) Explain the difference between B trees and B$^+$ trees. Give suitable example. 7

Unit-II

2. (a) List the various DDL Command. 2

(b) Describe the type relation calculus and domain relational calculus with example. 7

(c) What is triggers? Explain where it is used with syntax? 7

(d) What is Join? Explain various types of join with suitable example. 7

Unit-III

3. (a) Define Primary Key. 2

(b) What do you mean by normalization? Discuss insertion, deletion and modification anomalies. Why are they considered bad? 7

(c) Explain the types of functional dependency with examples. 7

[3]

(d) Describe 1 NF, 2 NF and 3 NF with suitable example. 7

Unit-IV

4. (a) What is Schedule? 2

(b) Explain ACID property in detail. 7

(c) What is serializability and why it is required? 7

(d) What are the different transaction states encountered in transaction state life cycle? Illustrate with suitable example. 7

Unit-V

5. (a) What is Check Points? 2

(b) What are different type of failures? Explain the concept of recovery also. 7

(c) What is shadow paging? Explain it with suitable diagram. 7

(d) Explain validation based protocol. Also explain its phases. 7