

(Following Paper ID and Roll No. to be filled in your Answer Books)

PAPER ID : MG1

Roll No.

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M. TECH. (Sem.II)

THEORY EXAMINATION 2015-16

CONCEPTUAL MODELING

Time : 3 Hours

Total Marks : 100

1. Attempt any two parts: (2×10=20)
 - (a) What do you understand why Conceptual Modeling? What are the basic needs of Conceptual Modeling?
 - (b) With the help of suitable examples explain the conceptualization principle
 - (c) Discuss in detail the ANSI/SPARC architecture model.

2. Attempt any two parts: (2×10=20)
 - (a) What is Data Oriented Model? Explain in detail the SHM.
 - (b) What are the categories of Behavior Models? Explain the techniques to make a behavior model object-oriented. Give suitable examples in support of your answer.
 - (c) Explain how the Mapping is done for the following:
 - (i) Weak entity sets and identifying relationships of ER model to Relational model
 - (ii) Hierarchical entities

3. Attempt any two parts: (2×10=20)
- (a) What is REMORA model? What is the significance of the statement 'An expert system is developed in the context of the REMORA methodology'?
 - (b) What is an Event, give suitable examples? What are the different interpretations of an Event?
 - (c) Define and Differentiate the Two models of database: semantic model and implantation model.
4. Attempt any two parts: (2×10=20)
- (a) Alice has a large DVD movie collection. Her friends like to borrow her DVD's, and she needs a way to keep track of who has what. She maintains a list of friends, identified by unique FID's (friend identifiers) and a list of DVD's, identified by DVDID's (DVD identifiers). With each friend is the name and the all-important telephone numbers which she can call to get the DVD back. With each DVD is the star actor name and title. Whenever a friend borrows a DVD, Alice will enter that fact into her database along with the date borrowed. Whenever the DVD gets returned, that fact, too, gets noted along with the date returned. Alice wants to keep a complete history of her friends' borrowing habits so that she can ask favors of the heavy borrowers (or perhaps refuse to make further loans to those who habitually don't return them quickly). Draw the ER Model for the same. Also translate the ER model to relational model.

- (b) How the conceptual model plays an important role in the overall system development life cycle. Illustrate it with the help of suitable example.
- (c) Describe the method of translation of Conceptual model to Relational Schemata.

5. Write Short Notes on any FOUR of the following: (4×5=20)

- (a) Semantic Net
- (b) Behaviour-oriented Models
- (c) Lawson's characteristics of design in relation to data modeling
- (d) SHM+
- (e) Hierarchical Model
- (f) 100% principle of conceptualization

UPTU NOTES