Code No: R1631053 **R16** SET - 1

III B. Tech I Semester Supplementary Examinations, October/November - 2020

OBJECT ORIENTED ANALYSIS AND DESIGN USING UML

(Computer Science and Engineering)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answer **ALL** the question in **Part-A**
3. Answer any **FOUR** Questions from **Part-B**

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PART –A (14 Marks)

1. a) What are the adornments in the UML? [2M]
   b) Write the common uses of the class diagram. [2M]
   c) What is the use of the CRUD Matrix? [2M]
   d) What are the phases of the Software Development Life Cycle? [3M]
   e) What are swim lanes with an activity diagram? [3M]
   f) What is the difference between note and node? [2M]

PART –B (56 Marks)

2. a) Define the structure of Complex Systems and explain various attributes of complex systems. [7M]
   b) Describe the various elements of the Object model in detail. [7M]

3. a) Using the number system of complex numbers, real numbers, rational numbers, integers, and natural numbers, illustrate the concept of "part-of" hierarchy and "is-a" hierarchy. [7M]
   b) Differences between Class and Object with suitable examples. What are the Objectives of Design? [7M]

4. a) Define UML and explain how the architecture of UML meets the requirements of modeling? [7M]
   b) How class diagram is important in UML? Explain with an example. [7M]

5. a) What are the similarities and differences between sequence and collaboration diagrams? [7M]
   b) Explain briefly about the following terms: [7M]
      a) Stereotypes b) Tagged Values c) Constraints.

6. a) Explain and model the behavior of an ATM machine with the help of a statechart diagram. [8M]
   b) Explain the following terms: [6M]
      i) The event, Actions, and Guard conditions.
      ii) History states.
      iii) Client/Server system.

7. a) What are the characteristics of a well-structured deployment diagram? Explain. [7M]
   b) What are the standard stereotypes that apply to components? Explain. [7M]

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