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R13 Code No: 813AN JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD MCA III Semester Examinations, June/July - 2018 **OBJECT ORIENTED ANALYSIS AND DESIGN (USING UML)**

Time: 3 Hours

Note: This question paper contains two parts A and B. Part A is compulsory which carries 20 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 8 marks and may have a, b, c as sub questions.

PART - A

- 1.a) Why the modeling is required? Explain the four basic principles of modeling. [4]
 - Describe the common uses of class and object diagrams in detail. b)
 - How the use-cases and relationships among use-cases can be organized and rendered in c) UML. [4]
 - Define state and event. What are the various parts of a state? Explain. d) [4]
- What is the significance of Artifact Diagrams? Discuss. e) [4]

PART - B

5×8 Marks = 40

- Explain the various phases of object oriented software development life cycle using 2.a) appropriate diagram.
 - How the Unified Modeling Language can be useful in Object Oriented b) Modeling? Explain with appropriate example. [4+4]

OR

- 3.a) Compare and contrast the object-oriented model with the E-R and EER models.
- b) How the architecture of a software intensive system can be described? Explain different views of it in UML. [4+4]
- 4. Explain the concepts of stereotypes, tagged values and constraints with reference to UML using appropriate diagrams. [8]

OR

- Explain the relationship between the Class diagram and Object diagram using 5.a) appropriate example.
- With an example, explain the steps to reverse engineer an object diagram. [4+4]b)
- 6. Explain the steps for modeling the context of a system using use-case diagram. Draw the use-case diagram for modeling a course registration system. [8]

OR

- 7.a) What is meant by semantic equivalence between the two kinds of interaction diagrams?
 - Enumerate the steps to model activity diagram and explain with an example. b) [4+4]





Max. Marks: 60

 5×4 Marks = 20

[4]

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- 8.a) Explain the concept of components. How it is represented? Specify the different kinds of components.
 - b) Explain the contents and common uses of component diagrams. [4+4]

OR

- 9. Explain the various contents of a deployment diagram. With the help of an example, explain the modeling of a fully distributed payroll system with reference to the deployment diagrams. [8]
- 10.a) Discuss the differences between software design patterns and frameworks with examples.
 - b) Draw the state chart and activity diagrams for unified library system. [4+4]

OR

- 11.a) Draw the use case diagram for the Unified library system and explain the relationships.
 - b) Draw a class diagram of business objects in the Unified library system and explain. [4+4]

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