USN | | | | | | | | | |

10CS71

Seventh Semester B.E. Degree Examination, July/August 2021
Object Oriented Modeling and Design

Time: 3 hrs.   Max. Marks:100

Note: *Answer any FIVE full questions.*

1 a. Define Object-Orientation. Explain four aspects of Object-Orientation with examples.
   (10 Marks)
   b. Explain Generalization with UML diagrams. Also explain uses of generalization.   **(10 Marks)**

2 a. Categorize the following relationships into generalization, aggregation or association.
      Assume there may be n-ary association in the list. Explain your answers.
      i)   A country has a capital city
      ii)   Modems and keyboards are input/output devices
      iii)   A route connects two cities.   **(06 Marks)**
   b. Explain different types of multiple inheritance with examples.   **(08 Marks)**
   c. Explain the following:
      i)   do-activity
      ii)   entry-activity.   **(06 Marks)**

3 a. What are nested states? Discuss aggregation concurrency with an example.   **(08 Marks)**
   b. Explain include and extend relationships with examples.   **(06 Marks)**
   c. Explain types of sequence models with examples.   **(06 Marks)**

4 a. What is software development process? Explain different stages of software development
      process.   **(10 Marks)**
   b. Explain the steps performed in constructing a domain state model.   **(10 Marks)**

5 a. Explain the steps required to construct application class model.   **(08 Marks)**
   b. Explain the qualities of 'good class' libraries.   **(06 Marks)**
   c. What is subsystem? Explain layered architecture.   **(06 Marks)**

6 a. Discuss the steps performed in designing algorithms.   **(08 Marks)**
   b. Differentiate between forward and reverse engineering.   **(06 Marks)**
   c. Discuss the different possibilities in fine tuning of classes.   **(06 Marks)**

7 a. Explain the model-view-controller with a diagram.   **(10 Marks)**
   b. Explain the client-dispatcher-server communication patterns along with its structure and
      dynamics.   **(10 Marks)**

8 a. Explain the structure of command processor pattern.   **(10 Marks)**
   b. Explain the view handler management pattern.   **(10 Marks)**

* * * * *