B.E./B.TECH. Degree Examination, December 2020

Fifth Semester

CS16502-OBJECT ORIENTED ANALYSIS AND DESIGN

(Regulation 2016)

Time: Three hours Maximum : 80 Marks

Answer **ALL** questions

PART A - (8 X 2 = 16 marks)

1. The essential characteristics of an object that distinguish it from all other kinds of objects and thus provide crisply defined conceptual boundaries, relative to the perspective of the viewer is
   a) Encapsulation
   b) Modularity
   c) Hierarchy
   d) Abstraction
2. The process of compartmentalizing the elements of an abstraction that constitute its structure and behavior is
   a) Hierarchy
   b) Encapsulation
   c) Modularity
   d) Entity Abstraction
3. Single inheritance, Multiple inheritance, and Aggregation comes under _____
   a) Modularity
   b) Typing
   c) Hierarchy
   d) None of the mentioned
4. In UML diagram of a class
   a) State of object cannot be represented
   b) State is irrelevant
   c) State is represented as an attribute
   d) State is represented as a result of an operation
5. When do you use design patterns?
6. Distinguish between coupling and cohesion.
7. Illustrate use of UML state diagram.
8. Write about the issues in OO Testing.

PART B - (4 X16 = 64 marks)

09. (a) (i) Design with an example, how use case modeling is used to describe functional requirements. Identify the actors, scenarios and use cases for example. **(8)**

(ii) Examine the phases of unified process in OOAD with neat diagrams. **(8)**

(OR)

(b) (i) Apply interactive modeling for a payroll system in UML diagram. **(8)**

(ii) Design and develop the NextGen POS system. **(8)**

10. (a) (i) Apply UML notation in the class diagram with an example to explain the concept of link, association and inheritance. **(8)**

(ii) Apply UML package diagram to explain logical architecture in detail. **(8)**

(OR)

(b) (i) Illustrate the concept of Domain model with example. **(8)**

(ii) Compare the relationship between SSD and use cases? Explain with an example. **(8)**

11. (a) (i) Illustrate the following GRASP pattern: creator, information expert, low coupling, high coupling and controller. **(8)**

(ii) Design the use-case Realization with GOF Design Patterns. **(8)**

(OR)

(b) (i) Convert the UML design to code in object oriented language. **(8)**

(ii) Illustrate OO Integration Testing and OO System Testing. **(8)**

12. (a) (i) Draw UML activity diagram for a suitable application. Comment the various notations used in diagram. **(8)**

(ii) Write elaborately on UML state machine diagrams and modeling. **(8)**

(OR)

(b) (i) Draw and discuss about UML deployment and component diagram for university information system **(8)**

(ii) Discuss in detail about GUI Testing and demonstrate the need for GUI Testing. **(8)**