USN □□□□□□□□□□ 10CS71

Seventh Semester B.E. Degree Examination, June/July 2017
Object Oriented Modeling and Design

Time: 3 hrs. Max. Marks:100

Note: *Answer any FIVE full questions, selecting*
atleast TWO questions from each part.

PART – A

1 a. What is object oriented development? Explain briefly the stages involved in object oriented methodology. **(10 Marks)**
 b. Discuss the purpose of three models. **(06 Marks)**
 c. Prepare a class diagram from the object diagram shown in Fig.Q1(c). Explain multiplicity decision. **(04 Marks)**
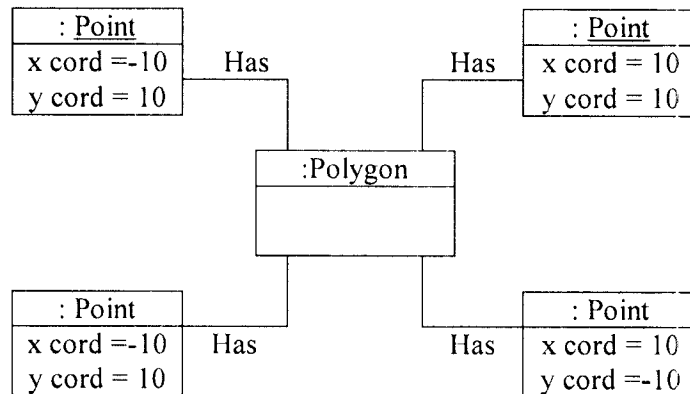

Fig.Q1(c)

2 a. Explain the following using suitable examples:
  (i) Enumerations (ii) Scope (iii) Multiplicity for attributes. **(08 Marks)**
 b. What is an event? Discuss the various kinds of events using UML notations. **(08 Marks)**
 c. Design and describe a guarded transition diagram for traffic lights at an intersection. **(04 Marks)**

3 a. Prepare a use case diagram for computer email system with minimum two actors. Explain the relevance of each actor with corresponding use case. **(08 Marks)**
 b. Explain with suitable examples the following :
  (i) Include relationship
  (ii) Extend relationship **(08 Marks)**
 c. What are transient object? Exhibit transient object with a sequence diagram. **(04 Marks)**

4 a. What is a problem statement? Briefly discuss on the kinds of requirements. **(10 Marks)**
 b. List out the steps to construct a domain class model. **(04 Marks)**
 c. For an ATM Bank system. Prepare a data dictionary for all modeling elements. **(06 Marks)**

PART – B

5 a. Describe application analysis with an example of ATM banking system.   (10 Marks)
   b. Explain in detail how a system is broken into subsystems.   (10 Marks)

6 a. Explain the consideration for choosing alternative algorithm.   (06 Marks)
   b. Clearly differentiate between forward engineering and reverse engineering. (04 Marks)
   c. Mention the steps involved in implementation modeling. Explain the first step. (10 Marks)

7 a. What is a pattern? Explain the model-view-controller design pattern for software architecture with OMT diagram.   (10 Marks)
   b. Briefly discuss the structure of the client dispatcher-server design pattern using CRC. (10 Marks)

8 a. Give an example design pattern for management of software system. Explain briefly. (10 Marks)
   b. What are Idioms? How do they differ from design pattern? Explain necessary steps for implementing the counted pointer idiom.   (10 Marks)

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