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13MCA51

Fifth Semester MCA Degree Examination, Dec.2016/Jan.2017

Object Oriented Modeling and Design Patterns

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

- 1 a. What is object orientation? Describe the characteristics of object orientation. (10 Marks)
b. Describe the stages of object oriented methodology, used in software development. (10 Marks)
- 2 a. With respect to object oriented terminology describe the following with suitable examples :
i) object ii) class iii) values and attributes iv) operations and methods. (10 Marks)
b. What do you mean by link and association? Hence explain with examples. (06 Marks)
c. Discuss the terms aggregation and composition. (04 Marks)
- 3 a. Discuss the significance of state diagram and draw the neat state diagram for telephone line system. (10 Marks)
b. Describe the following terms with suitable examples :
i) enumeration ii) multiplicity iii) scope iv) visibility. (10 Marks)
- 4 a. Draw the use case diagram for library management system. Hence describe the significance of use case diagram. (10 Marks)
b. Draw the sequence diagram for cash withdrawal process in ATM system. Hence describe the guidelines for sequence diagram. (10 Marks)
- 5 a. Explain well defined stages of software development stages. (10 Marks)
b. Elaborate and explain the questions to be answered for a good system concept. (10 Marks)
- 6 a. Explain the steps to construct a domain class model. (10 Marks)
b. Explain the steps to construct an application interaction model. (10 Marks)
- 7 a. What is pattern? Describe the categories architectural pattern, design pattern, idioms in detail. (08 Marks)
b. The following steps improve the organization of class design. Justify.
i) Information hiding
ii) Coherence of entities
iii) Fine tuning packages. (12 Marks)
- 8 Write short notes on :
a. Activity model
b. Publisher – subscriber pattern
c. Association class
d. Abstract and concrete class. (20 Marks)

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