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4/11/17 FN

Question Paper Code : 50392

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2017

Fifth/Sixth Semester

Computer Science and Engineering

CS 6502 – OBJECT ORIENTED ANALYSIS AND DESIGN

(Common to Information Technology)

(Regulations 2013)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

PART – A

(10×2=20 Marks)

1. Define an object. Identify the probable attributes that will be modeled in a Library database for the object BOOK.
2. Outline the purpose of using use cases, to describe requirements.
3. Define cohesion and coupling.
4. What are design patterns ?
5. When to create a subclass of a superclass ?
6. What is inception ?
7. Outline the key reason for modeling a package diagram.
8. Name the two types of UML interaction diagrams.
9. What is unit testing ?
10. Define a test case. Give example.



(5×13=65 Marks)

PART – B

11. a) i) Present an outline of object-oriented analysis and object-oriented design. (7)
ii) Why the Unified process has emerged as a popular and effective software development process? (6)
- (OR)
- b) Model a state transition diagram for the following scenario : (13)
- Here is what happens in a microwave oven :
- The oven is initially in an idle state with door open, where the light is turned on.
 - When the door is closed it is now in idle but the light is turned off.
 - If a button is pressed, then it moves to initial cooking stage, where the timer is set and lights are on and heating starts.
 - At any moment the door may be opened, the cooking is interrupted, the timer is cleared and heating stops.
 - Also while cooking, another button can be pushed and extended cooking state starts, where the timer gets more minutes. At any moment door can be opened here also.
 - If the timer times out, then cooking is complete, heating stops, lights are off and it sounds a beep.
 - When the door is open, again the oven is in idle state with the door open.
12. a) Explain with an example creator and information expert GRASP patterns. (13)
- (OR)
- b) Explain with an example the factory method design pattern. (13)
13. a) i) Explain with an example a concrete use case and an abstract use case. (5)
ii) Explain with an example generalization and specialization and write a note on abstract class and abstract operation. (8)
- (OR)
- b) i) What is multiplicity of an association? Explain with an example the different types of multiplicities. (7)
ii) Explain with an example aggregation and composition. (6)