

Question Paper

Exam Date & Time: 20-Nov-2019 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

INTERNATIONAL CENTRE FOR APPLIED SCIENCES END-SEMESTER THEORY EXAMINATION- NOVEMBER 2019 III SEMESTER B.Sc. (Applied Sciences) - in Engg.

SOFTWARE DESIGN USING OBJECT ORIENTED PARADIGM [ICS 233]

Marks: 100

Duration: 180 mins.

Answer 5 out of 8 questions.

- 1) Explain the Software Development Life Cycle Model. (5)
 - A)
 - B) Give Use Case Model for Point of Sale problem. Show Process Sale Use Case, with all the relationships involved, through a Use Case Diagram. (5)
 - C) List different types of Associations in a Class Diagram through Notations. (3)
 - I
 - II How do you give Object Diagram for Class_Student and Class_Course , where in the class Class_Student has an instance for a student and Class_Course has courses offered by CSE and E & C. (3)
 - III Give Component Diagram for an University Automation System, where in the following Components are present: (4)
(Seminar Management, Student Administration, Facilities, Student, Seminar, Schedule, Security, Persistence and University Data Base.)
- 2) Giving the rules of System Sequence Diagram, draw a System Sequence Diagram for Point of Sale Problem. (5)
 - A)
 - B) Identifying the Domain classes, draw the Domain Class Diagram for point of Sale Problem. (5)
 - C) Give the Complete Layered Architecture of POS problem, drawing the detailed Package Diagram, with relationships. (10)
- 3) What are the different artefacts and tasks, for Inception Phase in UP Model? Explain. (5)
 - A)
 - B) How do you use Noun Phrase Approach for identifying Conceptual Classes and Specification Classes? Explain. (5)
 - C) Identifying States for POS problem, draw the State Chart Diagram . (10)
- 4) What are five Principles of GRASP Patterns? Explain. (5)

- A)
- B) Given Sales, Sales_Line_Item and Product_Specification classes, using appropriate relationships among these classes, Write the code for calculating Total Sales. (5)
- C) Suppose, there are subjects, marks for the subjects, GPA, CGPA, for students attending the subjects, Show High Cohesion and Low Coupling through an Object Oriented Code. (5)
- I
- II Given Entertainment Class, Observer Class, Eros Movies Class and Subscriber Class, Give the Observer Pattern. (5)
- 5) What are the different Testing Methods available in Object Oriented Design? Explain. (5)
- A)
- B) How do you do GUI based testing? Explain. (5)
- C) Explain the ' V ' Model of Software Product Development. (10)
- 6) Give Activity Diagram for Order Management System, with all possible activities. (10)
- A)
- B) Using Proper Rules, draw a Deployment Diagram. (5)
- C) What are the different layers of any Software development in Logical Architecture? Explain with a diagram. (5)
- 7) What are Design Patterns? Enlist any three with explanation. (5)
- A)
- B) What are differences between Adapter Pattern and Bridge pattern? Explain. (10)
- C) How do you show Horizontal and Vertical Layers in Logical Architecture? Explain. (5)
- 8) How do you show Aggregation and Composition between Sale and Sales_Line_Item, and Product and Product specification? Explain, with a Code. (10)
- A)
- B) How do you show Iterative and Incremental Software Development, for Product Release? Explain. (10)

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