

PH 602.2 E2 – Object Oriented Software Engineering

Question Bank

Unit I

1. Briefly explain the different stages in Software engineering development activities.
2. Explain agile process with its advantage. Explain any one agile process model.
3. How do you account for Software Engineering failures? Support your answer with appropriate answers.
4. Explain object oriented modeling
5. Write a note on classical phases in software production.
6. Explain with example Encapsulation, dynamic binding
7. Explain with example garbage collection
8. Explain with example: Abstract Data Types.
9. Explain UML Architecture
10. What is use case diagram? Explain different components of use case diagram.
11. Explain with example activity diagram and swim lane diagram
12. Explain with example static diagram (State chart)
13. Explain use case relationship with example
14. Explain object constraint language (OCL)
15. Explain with example static modeling
16. Explain with example Relational and object model., event classes, event messages, unified resource indicator
17. Explain with example sequence diagram, Deployment diagram
18. Explain with example class diagram, use case, identification of actors, object diagram
19. Explain business layer class diagram
20. Explain with example association, aggregation, realization, multiplicity
21. Explain UML, What are the basic building blocks of UML? Develop a UML diagram for Library Information System
22. Explain with example association and qualifier association classes
23. Write short notes on the following: Entity objects, boundary objects, control objects, Associations, multiplicity, Qualifiers
24. Bring out the difference between sequence diagrams and state chart diagrams?
25. With a suitable example explain the different components of a State diagram.
26. When do you use a sequence diagram? Briefly explain its construction with a suitable example.
27. Write a short note on
28. a. Prototype model
29. b. Iterative and Incremental model

Unit II

- 30.Explain Software Process with a neat diagram.
- 31.Explain Requirement engineering tasks and process
- 32.How are software requirements validated? Explain Software engineering Negotiation
- 33.What is pattern-based design for software projects?
- 34.What is a software requirement? What is the role of the requirements document in the software development process?
- 35.What is Requirement Engineering? How is it related to Requirement Elicitation?
- 36.“Failure in appropriate Requirement Elicitation leads to an improperly developed system”. Justify this statement with suitable examples.
- 37.Explain Formal and Informal Specification
- 38.Explain SRS
- 39.Explain dynamic Analysis How it is useful
- 40.Explain Reverse Engineering
- 41.Explain with diagram software life cycle models
- 42.Compare and contrast spiral model and iterative model
- 43.Explain SOAP, Requirement Capture
- 44.Write short notes on Functional Requirements.
- 45.Explain Nonfunctional and Pseudo Requirements.
- 46.Explain Greenfield Engineering, Reengineering and interface Engineering.
- 47.What is an Analysis model? What are its components? Explain briefly.

Unit III

48. Explain Software Design and System Design
49. What is Sequence diagram? Explain with an example.
50. What are Design goals? Briefly describe the different issues that are defined by them.
51. What is meant by Coupling and Cohesion? Explain with a suitable example.
52. Explain Strong coupling and cohesion and how useful
53. How are Subsystems and Classes connected to Object Oriented Modeling?
54. What are the input design optimization issues for designer and explain
55. Write short notes on Repository Architecture, Model/View/Controller Architecture, Client Tier Technology /Server Architecture, Middle tier technology Peer to peer Architecture, peer review Architecture.
56. Write short notes on Services and Subsystem Interface.
57. What is the importance of Software Architecture? Explain few sample architectures with examples.
58. Explain System Design Document.
59. Prepare a class diagram for "E-Shopping System" consisting of at least three classes. Define appropriate relationship, association with multiplicity.
60. Write short note on "Object Oriented Testing Strategies".
61. Draw state diagram for considering different scenarios for ice cream vending machine.
62. Draw an activity diagram for any one scenario of Airline Reservation system.
63. What is sequence diagram? What are elements used in sequence diagram, Explain each.
64. Draw the activity diagram of ATM activities.

Unit IV

65. 'During Object Design developers close the gap between the application objects identified during analysis and the hardware/software platform selected during system design'. Explain.
66. Explain Object Design
67. Briefly explain the group of activities involved in Object Design.
68. Explain Type, Signature and Visibility of an attribute with suitable example.
69. What are Contracts wrt to Object Design? Briefly explain the different types of constraints that can be applied to attributes?
70. Explain
- a. Specification activities
 - b. Component selection activities
 - c. Restructuring activities
71. Explain Object Design Document
72. What are Implementation diagrams? Explain the types of Implementation diagrams.

Unit V

- 73.Explain Mapping and Mapping activities
- 74.What are the different kinds of metrics and Explain their qualities
- 75.What is Testing? What is its importance?
- 76.Write short notes on Software reliability.
- 77.What is meant by measures and metrics? What is Software Testing Metric?
- 78.What is a test Metrics Life Cycle? How to calculate Test Metrics?
- 79.Explain Black box and white box testing
- 80.Explain with example Code sharing and code reuse
- 81.Explain the difference between Alpha and beta testing
- 82.How code review is different from code cracking
- 83.Explain the business field test
- 84.Explain test plan and test operation
- 85.Explain the following Quality Control Techniques:
 - d. Fault Avoidance Techniques
 - e. Fault Tolerance Techniques
- 86.Write short notes on the various model elements used during testing.
- 87.Briefly explain Faults and Failures. Explain all types of Test Metrics
- 88.Describe the Testing Activities
- 89.Explain Component Inspection
- 90.Describe Unit testing with suitable examples.
- 91.How is Integration testing carried out? Explain the different Integration Testing Strategies.
- 92.What is the importance of System testing? Explain the various system testing activities that are performed?
- 93.What are the different ways in which testing time can be minimized?
- 94.How are the testing activities documented? Explain