

## **Question Bank – Software Engineering and Web Design Lab (Odd Sem 2025–26)**

### **Module 1 – Introduction to Web Programming and Concepts**

#### **5 Marks Questions**

1. Explain the difference between internal and external CSS with examples.
2. What are semantic HTML tags? Give examples and explain their importance.
3. List and explain any five commonly used HTML form input types.
4. Write a short note on JavaScript event handling.
5. Differentiate between id and class selectors in CSS.
6. What is the purpose of the DOM in JavaScript?

#### **10 Marks Questions**

7. Develop a responsive web page layout using HTML5 and CSS Grid.
8. Explain the process of validating user input using HTML and JavaScript with examples.
9. Write a program to demonstrate DOM manipulation (e.g., dynamically updating a list or table).
10. Explain in detail the JavaScript Event Model and its types with examples.
11. Design a simple web page with navigation links, an image gallery, and a contact form using HTML and CSS.

### **Module 2 – The Software Process**

#### **5 Marks Questions**

12. Define Software Process. What are its generic framework activities?
13. Compare Waterfall and Incremental process models.
14. Write short notes on the Spiral model and its risk management approach.
15. Explain the concept of Agile methodology.
16. List the key features of Scrum methodology.
17. What is the difference between prescriptive and evolutionary process models?

#### **10 Marks Questions**

18. Explain the phases of the Spiral Model with a neat diagram.
19. Compare Waterfall, Incremental, and Agile models based on flexibility, feedback, and risk management.
20. Discuss the key roles and artifacts in Scrum methodology.
21. Evaluate the suitability of different process models for real-world project types.
22. Explain Extreme Programming (XP) practices and their impact on software quality.

## **Module 3 – Requirements Engineering and Analysis**

### **5 Marks Questions**

23. Differentiate between functional and non-functional requirements.
24. Define Requirement Engineering. List its major activities.
25. What is an SRS? List its key components.
26. Explain any two requirement elicitation techniques.
27. What is a Use Case Diagram? Mention its key elements.
28. Explain the importance of IEEE standard for SRS.

### **10 Marks Questions**

29. Discuss the steps involved in Requirement Engineering in detail.
30. Explain the structure and contents of an SRS document with an example.
31. Prepare a Use Case Diagram for an online library management system.
32. Describe various requirement elicitation and analysis techniques with real-world examples.
33. Explain how ambiguity in requirements can be identified and refined during requirement analysis.

## **Module 4 – Software Estimation and Scheduling**

### **5 Marks Questions**

34. Define LOC and FP-based estimation models.
35. What are Process Metrics and Project Metrics? Give examples.
36. Explain the concept of Work Breakdown Structure (WBS).
37. What is the purpose of Gantt Charts in project scheduling?
38. Differentiate between estimation and scheduling.
39. What are the “4Ps” in software project management?

### **10 Marks Questions**

40. Explain the COCOMO model with its types and equations.
41. Prepare a WBS and Gantt Chart for a student management system.
42. Discuss the components of the Management Spectrum.
43. Compare LOC and FP estimation methods and state when each is suitable.
44. Explain how project metrics help in schedule tracking and performance analysis.

## **Module 5 – Design Engineering**

### **5 Marks Questions**

45. Define cohesion and coupling. Why are they important?
46. What are the golden rules of user interface design?
47. Write short notes on software design principles.
48. Differentiate between architectural and detailed design.
49. What is Interaction Design? Why is it important for usability?
50. Explain the concept of design patterns with examples.

### **10 Marks Questions**

51. Explain core design concepts like abstraction, modularity, information hiding, and refinement with examples.
52. Describe any two architectural design patterns (e.g., MVC, Layered) with diagrams.
53. Discuss the heuristics and golden rules used in user-centric design.
54. Explain the process of developing a user interface with good interaction design principles.
55. Evaluate the impact of poor design cohesion and high coupling on maintainability.

## **Module 6 – Software Testing and Risk Management**

### **5 Marks Questions**

56. Define Software Quality.
57. Differentiate between White Box and Black Box testing.
58. Explain the steps in the Risk Management process.
59. What is Configuration Management?
60. Define Risk Exposure and Risk Projection.
61. What are the key elements of an RMMM plan?

### **10 Marks Questions**

62. Explain various levels of software testing with suitable examples.
63. Discuss in detail the steps of Risk Identification, Assessment, and Mitigation.
64. Explain Software Configuration Management (SCM) and its components.
65. Using a case example, illustrate how testing ensures quality in a large project.
66. Compute risk exposure for a given project scenario and prioritize risks based on calculations.