Practice Questions

1. State why software quality is important
2. Outline some of the characteristics of high-quality software
3. Enumerate a typical software development phase
4. Define formal methods
5. Mention the formal method used in Software Development
6. Mention and the uses of formal methods in Software Development
7. Explain where to use Formal Methods
8. Describe the need to use formal methods
9. Give a background of formal methods
10. Define the phrase formal methods
11. State some advantages and disadvantages of formal methods
12. Enumerate the stages of formal methods
13. Enumerate the stages of SDLC
14. Briefly describe each of the stages of SDLC
15. Define proposition
16. Identify proposition operators
17. Construct and interpret propositions
18. Construct truth tables
19. Give a background of formal methods
20. Discuss formal proof
21. Mention some terminologies used in mathematical proof
22. Briefly explain the four proofing methods
23. Define a set
24. Mention and illustrate the terminologies used to describe sets Relationship
25. Differentiate between finite and infinite elements
26. Discuss the operations on a set with appropriate examples
27. Discuss the various stages to apply formal methods
28. Discuss what to do at various stages
29. Discuss the terminologies used in Z notation
30. Outline the various functions in Z notation
31. Relate software development to the engineering process
32. State some software evolution laws
33. Discuss E-Type software evolution
34. Discuss the need for Software Engineering
35. Outline the characteristics of good software
36. List the SDLC activities
37. Explain the SDLC activities with aid of a diagram
38. List and explain the Software Development Paradigm
39. Identify the characteristics of a software project
40. Describe a software project
41. Justify the need for software project management

42. Identify the job of a software project manager
43. Explain the following: project planning, scope management and project estimation
44. Mention at least 3 project management tools
45. List and explain the four steps in requirement engineering process
46. Depict the requirement elicitation process with a diagram
47. Mention at least 6 requirement elicitation techniques
48. List at least 10 software requirement characteristics
49. Differentiate between functional and non-functional software requirements
50. Mention the 10 user interface requirements
51. Outline the responsibilities of a system analyst
52. Differentiate between software metrics and software measures
53. Software design yields three levels of results. Mention and briefly describe them
54. Discuss modularisation and state its advantages
55. Differentiate between cohesion and coupling
56. List and explain any 5 types of cohesion
57. Mention and discuss different types of software design
58. List and explain the different concepts of object-oriented design
59. Mention and discuss two generic approaches for software design
60. Mention and discuss different types of software design
61. List and explain the different concepts of object-oriented design
62. Mention and discuss two generic approaches for software design
63. Discuss the 3 main concepts used in structured programming
64. Discuss the concepts used in functional programming
65. State any 5 coding guidelines
66. Explain software testing
67. Differentiate between validation and verification
68. Identify the importance of software testing
69. Differentiate between manual and automated testing
70. Identify the basis of software testing
71. Differentiate between Black-box testing and White-box testing
72. Mention the various levels of testing
73. Mention and discuss different types of software maintenance
74. Outline real-world factors affecting software maintenance cost
75. List software-end factors affecting maintenance cost
76. Mention at least 5 factors
77. Briefly describe the CASE tool
78. Mention and discuss different types of CASE tools
79. Outline the concern of configuration management