PART – A Questions

1.   Mention any two software process models.

2.   Define risk management.

3.   What is a module?

4.   What do you mean by requirement process?

5.   Define integration testing.

6.   State the main use of automated testing tools.

7.   Mention two types of software maintenance.

8.   Define acceptance testing.

9.   What is prediction?

10. What is black box reuse?

11. What are the five generic process frameworks?

12. What is classic life cycle model?

13. What are the four major elements present in design model?

14. What are the three parts of the interface design?

15. Define DFD.

16. List out the tasks of requirement engineering activity.

17. What is refactoring?

18. Define measurement in software quality.

19. What is data flow testing?

20. What is software safety?

21. Define Software Engineering.

22. What is risk?

23. Write any two requirements validation techniques.

24. Who are the participants in the process?

25. Define unit testing.

26. List any two automated testing tools.

27. What is automated system testing?

28. Define performance testing.

29. Mention any two approaches of evaluation of products.

30. What is prediction?

31.   Define process.

32.   What are the major sources of risk?

33.   What is meant by functional requirement?

34.   What is meant by fault tolerance?

35.   What is object orientation?

36.   What is integration testing?

37.   What is meant by software maintainability?

38.   Write any two important activities of maintenance team.

39.   Define CMM.

40.   What is the use of code inspection?

41.   Define software engineering.

42.   What is a process pattern?

43.   What are the restraining factors in system modeling?

44.   Why is it difficult to gain a clear understanding of what the customer wants?

45.   What types of clause does the designer create?

46.   List out the elements of design model.

47.   What is the role of independent test group?

48.   What is integration testing?

49.   How do you calculate MTBF and availability?

50.   Define SQA plan.

51.   What are the different layers of software engineering?

52.   What are key activities of the Extreme Programming Process?

53.   What are basic elements of data modeling?

54.   What are the hierarchal views of software engineering?

55.   What are different levels of abstraction?

56.   Define: Cohesion.

57.   What is the use of software testing?

58.   Distinguish between White box testing and Black box testing.

59.   What is MTBT?

60.   What is ISO 9000 Quality Standard?

61.   What is meant by Software Engineering?

62.   Mention two drawbacks of RAD model.

63.   Mention the factors to be considered during System Modeling.

64.   State the primary objectives of analysis Model.

65.   Define Software design.

66.   What does data abstraction contain?

67.   What is meant by software change?

68.   What is security testing?

69.   Define SQA.

70.   What is SCM?

71.   A guiding principle is termed as a _____.

72.   What is the difference in risk exposure divided by the cost of reducing risk called?

73.   The section in the design document that outlines the critical issues and trade-offs that are considered in generating a design is called_____.

74.   Which prototype model is used to learn about a problem and form the basis for some or all of the delivered software?

75.   When the test cases execute all the statements or control paths, it is called as _____ testing.

76.   What is defined as the maximum length of the path in the hierarchy from the class to the root of the inheritance tree?

77.   The in-house test is called the ____ test and the customer's pilot is called the _____test.

78.   Maintaining control over the system's day-to-day functions is _____maintenance.

79.   _____ reuse involves the same application area or domain and _____reuse cuts across domains.

80.   How does the stochastic prediction system behave?

81.   What is the role of a Programmer?

82.   What are the activities in a software life cycle?

83.   Mention the goal of software requirement.

84.   What is external design concerned with?

85.   Write the need for CRC.

86.   In _____testing errors in individual modules are discovered.

87.   How is a product assessed?

88.   Mention few automated tools for software maintenance.

89.   How is web engineering important at present?

90.   State the need for internal documentation.

91.   What is meant by boundaries of a system?

92.   -------- is an entity that receives data in data flow diagram?

93.   --------is the creative process of transforming the problem into a solution?

94.   -----------reflect the actual system modules?

95.   --------- test applied to a new version to verify that it still performs the same functions.

96.   ---------occurs when a component's algorithm does not produce the proper output a given input.

97.   In------Programming, programs are viewed as components of a layer system

98.   Clear box reuse also called as -------------------

99.   In------- prediction system always gives same output for a given input

100.   ---------descriptor helps to identify the component.

101.   How does method differ from tool?

102.   What is meant by risk?

103.   What are the two kinds of requirements document?

104.   What are the design levels in architectural styles?

105.   Describing classes using O O requires 3 perspectives – What are they?

106.   Distinguish between fault and error.

107.   What are reliability and availability?

108.   Mention the different types of training.

109.   Categorize the various evaluating techniques.

110.   What are the inaccurate ways of prediction?

111.   What is a method?

112.   What is paradigm?

113.   What is requirement?

114.   What is prototype?

115. What is identity?

116. Define static analysis?

117. Define alpha testing.

118. Define S-systems?

119. What is feature analysis?

120. What are Leggards?

121. What is an abstraction?

122. Comment on egoless approach.

123. What are the two kinds of requirements document?

124. What do you understand from Design?

125. What is UML?

126. Mention the types of code walkthrough.

127. Write the steps in testing a system.

128. What do you mean by reverse engineering?

129. State the use of feature analysis.

130. Curtis, Hefley comments on PMM.

131. The elements involved in the activities are called _____.

132. When the process involves the building of some product, we sometimes refer to the process as a _____.

133. What is a requirement?

134. Define a throw-away prototype.

135. What is OO?

136. A_____ is an action or transformation that an object performs or to which it is subjected.

137. What is a benchmark test?

138. Any work done to change the system after it is in operation is considered to be _____.

139. What is a survey?

140. The _____ is the tentative theory or supposition that we think explains the behavior we want to explore.

141. Define Software Engineering.

142. Give at least two reasons why Prototyping is Problematic.

143. How do we use the models that we create during requirement analysis?

144. How can we evaluate a design method to determine if it will lead to efficient modularity?

145. What does data flow diagram level 0 represent?

146. What are the types of interface design?

147. Mention any two characteristics of software testing.

148. What is the use of drivers in unit testing?

149. What do you mean by version control?

150. Define the term baseline in SCM.

151. What are the steps in risk management?

152. Denote the process model in which modelling does not end when the software is delivered, but can be adapted to be applied throughout the life of the computer software?

153. Define Cardinality.

154. Give the restraining factors considered to construct a system model.

155. Brief the "golden rules" of user interface design.

156. Define a component.

157. Define Integration Testing.

158. Give the characteristics required for good testing.

159. Define Software Quality.

160. Define Software Reliability.

161. Who are the participants in software development?

162. Mention the draw backs of water fall model.

163. What do nonfunctional requirements describe?

164. What is the purpose of Guardians?

165. What is depth of inheritance?

166. List the types of documentations.

167. What is the role of professional tester?

168. What is the need for maintenance?

169. What is reliability?

170. Predictions can be in accurate in two ways – what are they?

171. What is a process paradigm?

172. Define slack time.

173. What is a throwaway prototype?

174. What is design?

175. Write any one difference between a method and a message.

176. What is code walkthrough?

177. What is software testing?

178. What is life cycle cost?

179. What do you mean by hypothesis?

180. Why are predictions inaccurate?

181. What are the umbrella activities of a software process?

182. Define software process.

183. What do you mean by Requirement Engineering?

184. List the principles of a software design.

185. What are the various testing activities?

186. What is use cases?

187. Name the various types of system testing.

188. What is Performance testing?

189. Define software measurement.

190. What are the characteristics of software measurement?

191. Define Correction.

192. Define Adaption.

193. Define System Modeling.

194. Define Requirements Validation.

195. Define data design.

196. Define Component level Design.

197. List out the Objectives of testing.

198. _____ technique first proposed by Tom McCabe [MCC76].

199. List out the McCalls Quality factors.

200. What is correctness?

201.   Define Process.

202.   What is paradigm?

203.   What do you mean by non-functional requirement?

204.   List any two characteristics of good conceptual design.

205.   What is object orientation?

206.   What is meant by fault identification?

207.   Define software reliability.

208.   What is cyclometric number?

209.   Write about deterministic prediction system.

210.   List down the strategies to improve the product.

211.   Define Software Engineering.

212.   What are the drawbacks of RAD model?

213.   Define clean room software process.

214.   What is Modularity?

215.   List out the various software size measures.

216.   What is unit testing?

217.   List out the principles of system testing.

218.   What is meant by reachability measure?

219.   List out the approaches of Evaluation.

220.   What are the Object Oriented software metrics?

221.   Define software engineering.

222.   What is agility?

223.   Draw the flow chart for the system engineering hierarchy.

224.   Why is requirements elicitation difficult?

225.   Define archetype.

226.   State the three "Golden Rules" in User Interface Design.

227.   Define recovery testing.

228.   What is a "good" test?

229.   State the goal of quality assurance.

230.   Which review is called a walkthrough or an inspection?

231. Write down the generic process framework that is applicable to any software project.

232. What are the difference between verification and validation?

233. What does requirement process involve?

234. Name three generic classes of methods and tools used in prototyping.

235. List the architectural models that can be developed.

236. What are the fundamental concepts of software design?

237. Write down the difference between Alpha testing and Beta testing?

238. What is security testing?

239. What are the two types of reliability models?

240. What is called baselines?

241. Define Software Engineering.

242. What is unified process?

243. What is system modeling?

244. Define the term validation.

245. Define Component.

246. What is Frame Work?

247. What is validation testing?

248. Define Alpha Testing.

249. What is Quality Assurance?

250. What is reliability?

<u>PART – B Questions</u>

1. List down the activities during the development of software.

2. Write any three requirements definition document.

3. Who performs the tests?

4. Write a short note on pilot test.

5. Brief about black box reuse.

6. What does a system engineering model accomplis

7. What are the steps required to build ERD?

8. What is meant by cohesion? How should a software be designed considering cohesion?

9. What is the objective of unit testing?

10. .What are the advantages of CASE tool?

11. Define Software Engineering.

12. What is elicitation in requirement engineering tasks?

13. Brief the four characteristics of a well-formed design class.

14. Brief testing of software and give three generic characteristics.

15. What are the elements of the Software Configuration Management?

16. What are the desirable properties of process modeling?

17. Explain Wasserman's suggestions for design.

18. What are the types of faults?

19. List the factors affecting effort.

20. Comment on postmortem analysis.

21. What are the reasons for modeling a process?

22. What is the difference between requirements definition and specification?

23. What is the difference between an internal and external documentation?

24. What is a programmer's guide?

25. What is postmortem analysis

26. Draw the increment model diagram neatly.

27. What is meant by Assumptions Factor?

28. List out all design principles.

29. List out Object Oriented Testing Strategies.

30. Write down the steps for Statistical Quality Assurance.

31. Explain iterative waterfall and spiral model for software life cycle development and various activities involved in each phase.

32. List out the activities involved in software requirement analysis. What is requirement validation?

33. Explain in detail about Integration testing.

34. Define software testing. How is it different from debugging?

35. Give a brief note on the evaluation techniques.

36. State the difference between validation and verification.

37. Give the characteristics of requirements.

38. Write short notes on internal documentation.

39. What are the types of training required by the user/operator while delivering the system?

40. List out the ways to determine the prediction is inaccurate.

41. Explain the concept of effort estimation.

42. Write short notes on documenting the design.

43. Explain the concept of Test Planning.

44. What is function testing?

45. Compare assessment vs. prediction.

46. List out the generic process framework activities.

47. What does a system engineering model accomplish?

48. What types of design patterns are available for the software engineers?

49. Differentiate between alpha and beta testing.

50. Define software reliability and software availability.

51. What are the advantages and disadvantages of Incremental Model?

52. What restraining factors should the engineer consider to construct a system model?

53. Discuss the core activities involved in used interface design process:

54. What is the overall strategy for the software testing?

55. Differentiate between Quality Configuration and Quality Assurance.

56. What are the categories of risk management?

57. List down the types of requirements.

58. Write a note on architectural design.

59. What is system testing?

60. List down the qualities standards.

61. State the desirable properties of process modeling.

62. Give the outline of Requirements Specification Document.

63. What are the types of faults?

64. What do you mean by regression test? List the steps for the same.

65. Comment on CMM.

66. List out the activities involved for the development of software?

67. List out the requirement validation manual techniques.

68. Define concrete subject and concrete observer?

69. Trace the parts of a test plan.

70. Define Measurement System and prediction system?

71. State the reasons for modeling a process.

72. Explain about types of prototyping.

73. Draw the use case diagram for railway reservation.

74. Explain about test thoroughness.

75. Explain all the properties of Dromy's model.

76. List out the stages involved in software development

77. Give any three techniques for improving design

78. Give the steps involved in task management design

79. Give any three types of performance test

80. What is meant by software maintainability?

81. Draw a diagram that represents the prototyping model.

82. List the important properties of pipe-and-filter system.

83. What are the steps involved to design the data management? Explain.

84. Discuss about the documentation.

85. Discuss about the levels of people capability maturity model.

86. Define software engineering.

87. Differentiate between top-down and bottom-up design strategies.

88. Draw object oriented design pyramid and explain.

89. What are the basic approaches to manual use of formal verification techniques?

90. What changes will affect software engineering over the next decade?

91. Mention the members of a development team.

92. Differentiate between the requirements definition document and the requirements specification document.

93. Big-bang testing is not practical for large ones. Justify.

94. Give real-time examples for S-systems, P-systems and E-systems.

95. Who are called as laggards?

96. Give a brief explanation on the incremental model.

97. What are the elements of analysis modeling?

98. What do you mean by Software Architecture?

99. Define unit testing. What are the common computer errors in unit testing?

100. What is Software Quality Assurance? What are the measures of software quality?

101. What are the phases of software development life cycle model?

102. What is system modeling?

103. Explain the principles of designing Class-based Components.

104. Write short notes on unit testing.

105. List out the elements of a Configuration Management Sy

106. Why do we define software engineering as layered technology?

107. How does the requirement engineering process get initiated?

108. Explain the concept of modularity in design engineering process.

109. What are the steps for bottom -up integration?

110. What steps are required to perform statistical SQA?

111. What are the desirable properties of process modeling tools and technique?

112. Write short notes about data abstraction.

113. What is state diagram?

114. Write short notes on configuration management.

115. What is meant by software reuse?

116. Write a short note on an engineering approach towards software engineering.

117. Briefly explain how to document a design.

118. Write a note on use cases.

119. Discuss the need for training the users.

120. List the criteria to evaluate a process.

121. Write a short note on an engineering approach towards software engineering.

122. Briefly explain how to document a design.

123. Write a note on use cases.

124. Discuss the need for training the users

125. List the criteria to evaluate a process.

126. Define 3 different approaches to Message Authentication

127. List the S/MIME Functions

128. Enumerate the properties of the Reference Monitor

129. Explain the concept of prototyping model.

130. What is elicitation in requirement engineering activity?

131. Explain modularity in design concepts.

132. What is the measure of relativity and availability in software quality?

133. What is the role SQA group?

<u>PART – C Questions</u>

1. Brief the evolutionary process models and its types.

2. explain Risk analysis and the steps involved in the analysis model.

3. Discuss the tasks involved in the requirements engineering.

4. Detail the intent of analysis model and the building of an analysis model.

5. Discuss the user interface analysis and design.

6. Explain architectural design with appropriate pictorial depictions.

7. Discuss the Basis Path Testing of white Box Testing with computation of cyclomatic complexity.

8. Discuss the test strategies for conventional software.

9. Brief the Software Configuration Management and its process.

10. Explain the need for Formal Technical Review and the processes involved in conducting such reviews.

11. Discuss any two software life cycle models in detail.

12. Discuss in detail about tracking progress.

13. Explain about types of requirements and characteristics in detail.

14. How will you measure the characteristics of good design? Explain.

15. Explain about OO Design in detail

16. Explain about programming standard guidelines and general guidelines for design.

17. Explain about functional test and performance test in detail.
       Explain about maintenance tools and techniques in detail.

18. Explain about evaluating products.

19. Discuss about improving predictions and resources.

20. Explain the waterfall model for development of software.

21. Find the critical path for the activity graph given below:
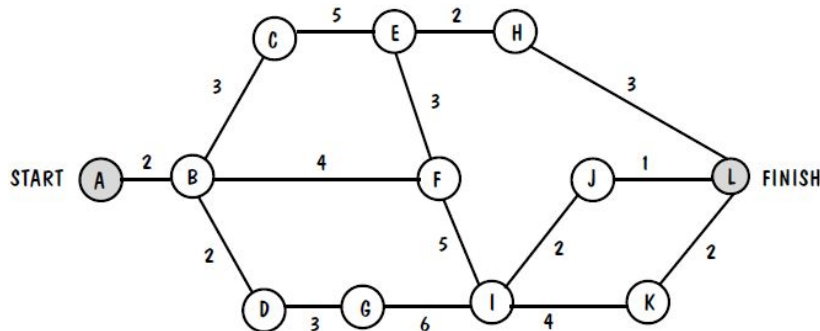
22. Explain the characteristics of the requirements in software engineering.

23. Explain the pipe and filter architectural style of software.

24. Describe the Object Oriented development process in detail.

25. Explain the different types of faults that can occur in software.

26. Discuss the different types of performance tests.

27. Explain the four major aspects of system evolution.

28. Describe the various categories of evaluation techniques.

29. Explain the key questions that managers and developers should ask to improve an organization's products, processes, and resources.

30. Explain the various steps involved in Software Life cycle process.

31. Describe any two Evolutionary process models.

32. Explain the Software requirement elicitation process.

33. Discuss in detail the design concepts.

34. Write in detail about the object oriented system design and also discuss about UML.

35. Explain in detail about Integration testing.

36. Explain about the software testing strategies. What are the different types of system testing?

37. Explain about CASE tools.

38. Illustrate the various ways of evaluating the software product.

39. Discuss about the future trends of software engineering.

40. Explain: a.   Prototyping modelb.   b. Transformational model

41. Discuss about Risk Management in detail.

42. What are the characteristics of requirements?

43. Explain in brief about prototyping requirements.

44. Discuss about decomposition and modularity.

45. Write about the design documentation.

46. Describe about use case diagrams with an example.

47. Write a short note on integration testing.

48. Explain about software faults and failures.

49. Briefly discuss about unit testing.

50. Explain in detail about function testing and performance testing.

51. Explain about training in detail.

52. Discuss in detail about approaches and selection of evaluation techniques.

53. Explain about evaluating resources in detail.

54. Explain in detail the following software process models with a neat diagram

55. a. Incremental process model   b. Evolutionary process model

56. a. Explain the waterfall model. What are the problems that are sometimes encountered when the waterfall model is applied?

      b. Explain the process model that couples the iterative nature of prototyping with the controlled and systematic aspects of the waterfall model.

57. How does system engineering differ from s/w engineering? Also write brief notes on computer based systems and system engineering hierarchy.

58. State and explain the requirements engineering tasks in detail.

59. Explain the fundamental software design concepts in detail.

60. Explain the interface design activities. What steps do we perform to accomplish interface design?

61. Explain in detail the following software process models with a neat diagram

      a. Incremental process model   b. Evolutionary process model

62. Explain in detail about:

      a. Spiral Model   b. Incremental Model

63. How is the cost estimation efficiently used in any software? Explain.

64. What is System Modelling? Explain how it is used in system Engineering.

65. Explain Requirement engineering task in detail.

66. Discuss in detail about design concepts with suitable examples.

67. How are the architectural designs analyzed? Explain.

68. What is Control Structure testing? Explain.

69. Explain in detail about basis path testing with suitable diagrams.

70. List out and explain the software quality concept in detail.

71. What is Statistical Software Quality Assurance? Explain with suitable example.

72. Discuss the various life cycle models in software development.

73. Explain about the specialized process models.

74. a. Discuss several methods for Requirements validation.

    b. Discuss about Requirement Elicitation and Analysis.

75. a. Define data dictionary. Explain in detail.

    b. Describe about the analysis model.

76. Write short notes on architectural design.

77. Discuss the process of translating the analysis model into a software design.

78. Write short notes on:

    a. Graph Based testing methods   b. Equivalence Partitioning

79. Discuss the importance of cyclomatic complexity with an illustration.

80. Elaborate on the series of tasks of a software configuration management process.

81. a. Write about technical review process in detail.

    b. Why do we need Quality standards?

82. Describe in detail about waterfall model and spiral model.

83. Illustrate and explain the steps involved in risk management.

84. What is software requirement? Explain the process of determining the requirements.

85. What are the different architectural styles for software design? Explain each design in detail.

86. Illustrate and explain the OO development process with neat sketch.

87. What is integration testing? Discuss about the various approaches of integration testing.

88. Describe in detail about performance testing and acceptance testing.

89. a. What are the maintenance activities to be focused while evolving the system? Explain.

   b. What do you mean by configuration management? Explain.

90. Explain the various approaches to evaluate the product.

91. Discuss about various levels of maturity in CMM.

92. Explain the activities of Project Planning Software scope with an example.

93. Describe the process of risk analysis and management.

94. Discuss the following:

95. Software requirement specification   b. Specification Review

96. Explain Software Design Documentation in detail.

97. a. Discuss the various Software faults and failures.

   b. Write short notes on Automated Testing Tools.

98. Discuss briefly the information flow software measure, object oriented software metrics.

99. a. Explain in detail metrics for testing.

   b. Write short notes on Software maintenance.

100. Develop your own metrics for maintainability, correctness, reliability, availability and usability of Software.

101. Describe evaluating products, processes and resources in detail.

102. Discuss improving prediction, products and processes in detail

103. Explain in detail about the capability maturity model integration.

104. Explain the specialized process models with neat diagram.

105. What are the steps to build the analysis model in requirements engineering?

106. a. Draw the use-case diagram for safe home security function.

   b. What Information is produced as a consequence of requirements gathering?

107. Enumerate the role of quality function deployment.

108. Briefly discuss the software design concepts in detail.

109. Explain the following: a. cohesion   b. coupling

110. Discuss the Test Strategies for Conventional Software.

111. a. What are the characteristics of testability?

   b. Briefly explain the control structure testing.

112. Explain the software configuration management process in detail.

113. a. What are the roles of a software quality assurance group?

      b. List out the elements of a configuration management system.

114. Highlight the software configuration management features in detail.

115. Explain the Evolutionary process models.

116. Describe any two software cost estimation techniques.

117. What are the hierarchies of system engineering?

118. Explain any two-system modeling.

119. Describe the various design concepts.

120. Explain component level design.

121.   Explain black box testing and white box testing.

122. Describe basic path control structure testing.

123.   Describe the process of SCM.

124.   Explain software reviews and technical reviews.

125. Discuss about tracking progress in detail.

126. Give a detailed account on the following:

          a. Risk management   b. Waterfall model

127. Investigate the various techniques to express requirements.

128. Examine the various ways to improve the design.

129. Draw any four UML Diagrams for any one application of your choice.

130. Discuss about automated testing tools in detail.

131. Discuss the different aspects of training in detail.

132. Discuss the various problems related to maintenance.

133. Explain the various product quality models in detail.

134. Give a detailed account on the following:

          a. Improving resources   b. Improving process

135. Briefly explain the role of the development team with a neat sketch.

136. List out the characteristics of a good process model. Which characteristics are essential for processes to be used on projects where the problem and solution are not well under stood?

137. List out the types of requirements.

138. Discuss the various issues that are to be considered in Trade-off analysis.

139. Explain the guide lines of programming in detail.

140. Discuss the various steps of unit testing.

141. With a neat sketch explain the various steps involved in the testing process.

142. Discuss the different types of Training and Training Aids.

143. Compare and contrast the Mc call, Boehm and ISO 9126 quality models. How do they differ from the developers point of view? From the users point of view?

144. Discuss Wasserman's eight steps towards a more mature discipline of software engineering.

145. Discuss about any three life cycle models in detail.

146. a. Critically analyze about various forms of tracking progress of a project.

      b. Discuss the Key project activities.

147. Discuss about requirement document, participants and validation in detail.

148. Explain about characteristics of good design.

149. Discuss about O O design with UML diagrams.

150. Explain about test planning and testing tools.

151. Discuss about performance testing and function testing in detail.

152. Discuss about various types of training and documentation in detail.

153. Explain about evaluation and process technique in detail.

154. Discuss about improving process, products and resources in detail.

155. Explain in detail about the following models with neat diagrams.

      a. water fall model   b. spiral model.

156. Explain about risk management.

157. Explain about the requirement process.

158. Briefly explain the characteristics of good design.

159. Explain about OO system design with an example.

160. Explain about integration testing.

161. Explain about the principles of system testing.

162. Explain in details about maintenance techniques and tools.

163. Explain about product quality models.

164. Explain software measurement validation.

165.   a. Discuss about the properties of process modeling.

b. Briefly explain the members of the development team.

166.   Explain in detail the following software process models with a neat diagram.

a. Operational specification model   b. Transformational model

167.   Briefly explain the various techniques for improving design.

168.   Discuss in detail about the cohesion and coupling with a suitable example.

169.   Explain the following in detail.

a. Internal documentation   b. External documentation

170.   Discuss in detail the various automated testing tools.

171.   Explain the various types of performance tests in detail.

172.   a. Discuss about the automated maintenance tools.

b. What are the four major aspects of maintenance? Explain.

173.   Briefly explain the levels of Capability Maturity Model with a neat diagram.

174.   Discuss in detail the Wasserman's eight steps to Maturity.

175.   Explain water fall approach to develop a software.

176.   Discuss in detail any one technique for effort estimation.

177.   Describe in detail the types of requirements process.

178.   Discuss the principles of decomposition and modularity.

179.   List and explain the different OO measurements.

180.   Explain in detail the various factors related to testing OO systems.

181.   Explain reliability, availability and maintainability of a system.

182.   Describe the tools and techniques used for maintenance of the system.

183.   Explain in detail how to evaluate products.

184.   Discuss the various ways to improve processes and resources.

185.   Describe the phases involved in prototype life-cycle model.

186.   Describe the phased life cycle model.

187.   Give the importance of decision table with an example.

188.   In software design, explain the notations that are used for representation.

189.   Mention object oriented concepts in software engineering and explain.

190.   Explain the primary responsibility of software quality assurance group.

191.   What are the two kinds of activities in system testing? Briefly explain them.

192. Discuss the guidelines for a good document.

193. How do we evaluate software processes and products? Explain in detail.

194. Brief about the advances in software engineering.

195. Elaborate on the various ways of tracking the progress of a project.

196. With suitable examples elaborate on the characteristics of requirements.

197. Write in detail the characteristics of a good design.

198. A product is to be installed to control elevators in a building with m floors. The problem concerns the logic required to move elevators between floors according to the following constraints:

    Each elevator has a set of m buttons, one for each floor. These illuminate when pressed and cause the elevator to visit the corresponding floor. The illumination is canceled when the elevator visits the corresponding floor.

    Each floor, except the first floor and top floor has two buttons, one to request and up-elevator and one to request a down-elevator. These buttons illuminate when pressed. The illumination is canceled when an elevator visits the floor and then moves in the desired direction. When an elevator has no requests, it remains at its current floor with its doors closed.

    Draw a   (i) Use Case diagram   (ii) Sequence diagram

199. Elaborate on unit testing.

200. Explain the types of performance tests.

201. Describe the considerations in training and reference documents.

202. Explain the process maturity models.

203. Elaborate on the ways to improve processes.

204. What is called a software risk? Explain the process of risk identification in detail.

205. Define software process model. Explain any one of it with a neat diagram.

206. xplain the following a) System Engineering Hierarchy b) System Modelling.

207. Illustrate the Software Requirements Specification details.

208. Write about the following design concepts.

    a.   Abstraction   b.   Refinement   c.   Modularity

    d.   Software Architecture   e.   Structural Partitioning

209. Explain the concept of User Interface Design activities.

210. Explain in detail Software Testing strategies.

211. Describe about Black-Box Testing.

212. Explain in detail about building the quality assurance plan.

213. Explain Software Configuration Management (SCM) principles in detail.

214. Explain the following:

     a. Waterfall Model   b. Incremental Model

     c. Spiral Process Model

215. Explain about the Software Cost Estimation.

216. a. Discuss the steps required to initiate Requirements Engineering.

     b. Define and explain about the Quality Function Deployment.

217. Write a short note on developing a Use-Case.

218. Explain about the Requirements Engineering tasks.

219. Explain the different elements of Design Model.

220. Explain about the User Interface Design.

221. Write short notes on the following:

     a. Basis Path Testing   b. Control Structure Testing

     c. Graph-based Testing Methods   d. Equivalence Partitioning

     e. Boundary Value Analysis

222. Explain the following Testing:

     a. Alpha and Beta Testing   b. Recovery Testing

     c. Security Testing   d. Stress Testing   e. Performance Testing

223. Discuss in detail about the following:

     a. Software Quality Concepts.   b. Software Quality Assurance.

224. Explain about the following reviews: a.

     a. Software Review   b. Technology Review

225. Explain in detail about:

     a. Spiral Model   b. Win-Win Spiral Model.

226. Define agile view of process and define the principles to achieve agility.

227. Explain the concept of following requirement engineering task.

     a. Specification   b. Requirement Management

228. Discuss about the system engineering hierarchy.

229.   Define design engineering and explain the design concepts.

230.   Explain the concept of component level design.

231.   Discuss the following testing mechanisms.

     a.   Stress testing   b.   Black box   c.   White box

232.   Discuss about control structure testing.

233.   Explain quality concepts in detail.

234.   What is SQA? Discuss about the activities of SQA.

235.   Illustrate about the waterfall model and also discuss about the benefits and drawbacks of using this model.

236.   What is the difference between static and dynamic modeling? Explain how each type of modeling is useful.

237.   Explain in detail about the types of requirements.

238.   Discuss about the object orientation program design.

239.   Describe about the internal and external documentation.

240.   Explain about performance testing and also list out the types of performance tests.

241.   Discuss about the various types of training and also give some guidelines for training.

242.   Explain in detail about Capability Maturity Model (CMM).

243.   Discuss about the improving products by using inspection and reuse.

244.   Define Software Engineering. Explain it with a system approach and an engineering approach.

245.   Discuss the tools and techniques used in project management.

246.   Explain different types and characteristics of requirements.

247.   Explain evaluation and validation with relevant example.

248.   Explain the salient features of OO program design.

249.   List and discuss the issues in testing OO systems.

250.   Write down the principles of system testing. Briefly discuss each principle.

251.   Explain in detail, the various factors for testing the safety critical system.

252.   Discuss the different approaches for evaluating products.

253.   Describe in detail, the general improvement guidelines.

254. Explain the following agile process models:

      i.   Extreme programming

      ii.   Scrum

      iii.   Adaptive software development.

255. Discuss about the following software process models

    a. Prototyping model

    b. Spiral model.

256. How to build the analysis model? Discuss about the elements present in the analysis model.

257. Explain about the steps of requirement engineering tasks.

258. Define design engineering and explain the design concepts.

259. Explain about the architectural design.

260. Discuss about basic path testing.

261. What are the fundamentals of software testing and discuss the characteristics of a good test?

262. Discuss on formal technical reviews.

263. Explain in detail about the SCM process.

264. Explain any three popular software process models and bring out their commoalities and differences

265. a .Write short notes on components of coupling.

    b. Explain about the various types of cohesion.