Contents

1. In use-case diagram, what is system illustrated by?
   a) Oval **b) Box** c) Circle d) Triangle

2. UML supports _____ phases of software development
   a) Earlier b) Final c) Middle **d) All**

3. Requirement analysis _____
a) Delivers a system in a series of versions
b) Organizes abstraction
c) **Builds a bridge between user and developer**
d) Uses experimental software to better understand user requirements

4. What is type of software maintenance?
   a) Adaptive b) Corrective c) Perfective **d) Obsolescence**

5. Which of the following activities of SDLC involves choosing a system structure capable of satisfying requirement specification?

a) Requirement analysis **b) Design** c) Coding d) Testing

6. Pick up the odd one out of the following
a) Data flow diagram **b) Object identification**
c) Structural decomposition d) E-R diagrams

7. ---------- Lifecycle model describe how software system should be developed and describe how software are actually developed.
a) Prescriptive & Descriptive b) Prescriptive & Definitive
c) Descriptive & Prescriptive d) Descriptive & Intuitive

8. The requirement phase consist of
A) Problem analysis B) Requirement specification
C) Requirement validation D) Problem validation
a) A, B, C **b) A, B, C, D** c) A, B, D d) A, C, D

9. _____ is a method for estimating the software
a) COCOMO b) Function Point Analysis c) Use Case Estimation **d) All of the above**

10. The elements of the software architecture of a computing system include
1) Software components
2) Class diagrams
3) Connectors expressing relationships between software components
4) entity relationship diagrams
a) 1 & 2 **b) 1 & 3** c) 1, 3 & 4 d) 1, 2, 3 & 4

11. Ability of a software to perform intended function with minimum consumption of computing resources
a) Efficiency b) Robustness c) Reliability d) Correctness

12. Ability to deal with exceptional conditions e.g. invalid input, improper handling, power failure, disk crash etc.
a) Efficiency **b) Robustness** c) Reliability d) Correctness

13. The type of testing carried out along with coding is called
a) System testing **b) Unit testing** c) Pretesting d) Stress testing

14. Maintainability is the ease with which a software can
a) Be corrected if an error is encountered
b) Adapted if its environment changes
c) Enhanced if the customer desires a change in requirements
d) **All of above**

15. The type of software maintenance which is done to remove bugs or defects in the software is called
a) Corrective Maintenance b) Adaptive Maintenance
c) Regressive Maintenance d) Perfective Maintenance

16. RAD stands for
a) Rapid Application Development b) Random Access Disc
c) Random Application Driver d) Rapid Alignment Disc

17. Which of the following is not true about Component Assembly Model
a) It is similar to the Spiral Model
b) The technical framework for this model is provided by object technologies
c) Candidate classes are extracted from class library or developed
d) **Its productivity is low**

18. Which of the following is not true about the context diagram?
a) It does not show details of the functioning b) It shows major inputs & outputs of the system
c) It shows the external entities of the system **c) It shows the data stores of the system**

19. Data Items in a data dictionary are description of
a) Input data b) Data flows c) Data stores **d) All of the above**

20. The ways of describing specifications at different levels of detail include
a) Requirements definition b) Requirements specification
c) Both a and b options d) None of these options

21. Stable requirements are
a) Requirements related to the core activities of software customer
b) Requirements which are dependent on the environment where the delivered system is to be used
c) Both a and b options
d) None of these options

22. Functional Independence is not achieved by
a) Coupling b) Modularity c) Information Hiding d) Any of the above

23. If two modules are coupled without exchange of data or control information then they exhibit
a) Normal Coupling b) Stamp Coupling c) Control Coupling d) Common Coupling

24. Which of the following is a graphical tool for software design?
a) Data Flow Diagram b) Structure Chart c) Decision Tree **d) All of the above**

25. Changes made to the software to correct defects uncovered after delivery is called
a) Perfective maintenance b) Regressive maintenance
c) Adaptive maintenance **d) Corrective maintenance**

26. Arrange the following in the correct sequence of software estimation a. Schedule Estimation b. Effort
Estimation c. Cost Estimation d. Size estimation
a) B, C, A, D b) C, A, B, D **c) D, B, A, C** d) A, C, D, B

27. Final Function point count calculated for project will result in the smallest LOC if implemented in

a) Assembly b) C c) C++ **d) Visual Basic**

28. Project schedule can be illustrated using

a) DFD and ERD b) Bar chart c) Activity chart **d) Both b and c options**

29. Most of the project plans should include

a) Risk analysis b) Project organization c) Project schedule **d) All of the above**

30. _____ shows the dependencies between the different activities making up a project.

a) PERT chart b) Bar chart c) Staffing Plan d) Pi chart

31. Chief Programmer Teams are suitable for projects

a) With research orientation **b) With high modularity**

c) With high creativity d) None of these

32. Judging the seriousness of a risk by evaluating its probability along with its consequences is called

a) Risk analysis b) Risk Projection c) Risk Estimation **d) All of the above**

33. The RMMM plan is generally included in the

a) Feasibility Study **b) Project Plan** c) SRS Document d) Project Legacy

34. Invalid data Rect() puts WM_PAINT message in message queue.

a) True b) False c) Not Always

35. Update Window() paints the client area.

a) True b) False c) Not Always

36. HINSTANCE type variable stores id of running application

a) True b) False c) Not Always

37. The WM_INITDIALOG message is sent to the dialog box procedure immediately before a dialog box is is played.

a) True b) False c) Not Always

38. Send Message is not directly send to the window procedure.

a) True b) False c) Not Always

39. Icon is a Text resource.

a) True **b) False** c) Not Always

40. Sub classing means changing the behaviour of controls.

a) True b) False c) Not Always

41. CALLBACK functions are called by the operating systems.

a) True b) False c) Not Always

42. WINAPI is not related to calling conventions.
a) True **b) False** c) Not Always

43. Which of the following operations is provided by a common dialog box?
a) Choosing an ic b) Choosing a network drive.
c) Choosing a database. d) Choosing a font.

44. What is the primary difference between Send Message and Post Message?
a) Send Message is used for local queues, while Post Message issued for remote queues.
b) Send Message can only be used within a worker thread, while Post Message can be used at any time.
C) Send Message can only send messages to the application thread, while Post Message can send messages to any thread.
d) Send Message is called from within a Windows procedure, while Post Message is called from within message queues

45. Menu is ------
a) GDI Object **b) Resource** c) Picture

46. Following is not type of Device Context
a) Screen Device Context b) Window Device Context
c) Client area Device Context **d) View Device Context**

47. Modal Dialog Box is created on _____ &Mode less Dialog Box is created on _____.
a) Heap , stack **b) Stack , heap**

48. Which of the following are resources.
a) Menu b) Bitmap c) Status Bar Icon

49. _____ function creates model dialog box.
a) Create Dialog() **b) Dialog Box()** c) Dlg Box() d) Unknown

50. _____ is return type of window procedure.
a) Handle to the window **b) LRESULT** c) BOOL

51. To subclass window's background brush _____ API call is used.
a) Set Class Long()Set Class() b) Set Long Class() c) Settling()

52. The three classes of interface errors are:
a) Inter face misuse b) Interface misunderstanding c) Timing errors

53. _____ is first message passed to window procedure.
a) WM_PAINT b) WM_CREATE c) WM_SHOW d) WM_COMMAND

54. _____ function creates modeless dialog box.

a) Create Dialog()Dialog() b)Create Dialog Box() c)Dialog Box()

55. Write Windows messages in higher order
a) WM_TIMER b) Posted Message c) WM_LBUTTONDOWN d) Sent Message e) WM_PAINT
a) 1 , 2 , 3 , 4 , 5 b) 5 , 4 , 3 , 2 , 1 c) 2 , 3 , 4 , 5 , 1 d) 3 , 4 , 5 , 1 , 2

56. Write steps to create standard windows application
1. Initialise and Register Window class
2. Create window
3. Display Window
4. Message loop
5. WndProc

a) 1 , 2 , 3 , 4 , 5 b) 2 , 3 , 4 , 5 , 1 c) 3 , 4 , 5 , 1 , 2 d) 4 , 5 , 1 , 2 , 3

57. A windows program should have a message loop comprising of Get Message(), Dispatch Message() and Translate Message() to process messages from the message queue.
a) True b) False c) Not always

58. Get DC() is used to retrieve the device context handle for the windows client area when processing a WM_PAINT message.
a) True b) False c) Not always

59. If a printable key is pressed then WM_CHAR message will be generated and the ASCII code of the key will be stored in Parma.
a) True b) False c) Not always

60. Whenever WM_LBUTTONDOWN, WM_MOUSEMOVE, WM_RBUTTONDOWN messages are generated that time LOWORD (Param) and HIWORD (Param) consists of x and y coordinates of the mouse pointer.
a) True b) False c) Not always

61. Predefined controls send WM_COMMAND message whereas common controls send WM_NOTIFY message.
a) True b) False c) Not always

62. A Device Context is a GDI structure, which deals with text and graphics.
a) True b) False c) Not always

63. A Metafile is a collection of GUI functions that are encoded in a binary format.
a) True b) False c) Not always

64. A Clipboard is used to transfer information between applications or within application.
a) True b) False

65. Win Main is an entry point for windows application.
a) True b) False c) Not Always

66. Menu is GDI Object.

a) True b) False c) Not Always

67. WINAPI is a API function which explicitly calls Operating System to run Window Procedure.
a) True b) False c) Not Always

68. When function key(s) pressed on the keyboard that time WM_KEYDOWN message is generated.
a) True b) False c) Not Always

69. LRESULT is a return type of Dialog Procedure.
a) True b) False c) Not Always

70. Set Pixel is used to draw a particular pixel with a particular colour.
a) True b) False c) Not Always

71. GetROP2 () is used to get the current drawing mode.
a) True b) False c) Not Always

72. Palette is an attribute of a device context.
a) True b) False c) Not Always

73. Windows TIMER is not an input device.
a) True b) False c) Not Always

74. In MDI application the default window procedure for main Window is Def. WindowProc ().
a) True b) False c) Not Always

75. The WM_INITDIALOG message is sent to the dialog box procedure immediately before a dialog box is displayed.
a) True b) False c) Not Always

76. In MDI application child windows are created by mainframe windows.
a) True b) False c) Not Always

77. Cursor is a GDI Object.
a) True b) False c) Not Always

78. Sub Classing means changing the behaviour of the controls.
a) True b) False c) Not Always

79. Colour Dialog box is a common dialog box.
a) True b) False c) Not Always

80. If you want your window procedure to receive double click mouse message that time, you must include the identifier _____ in a window class structure before calling
a) RegisterClassEX (). b) CS_DBLCLKS c) CS_DBLCLICKS d) CS_DBLS
e) CS_DOUBLECLICKS

81. _____ is used to play the metafile.
a) Play Meta Play File Play Meta file b) Open Meta file

82. To use the windows common controls always include _____ .h header file.
a) COMMONCTL b) COMCTL c) COMMDLG d) COMMCTL

83. You can obtain the state of Shift keys by using _____ function.
a) Get Key State( ) b) Key get Value( ) c) Get State( ) d) Get Status( )

84. Entry point function of a DLL is _____.
a) Main( ) b) DLL Main( ) c) Start DLL( ) d) Run DLL ()

85. _____ is a function for creating a Thread.
a) New Thread( ) b) Thread ( ) c) Create Thread Instance ( ) d) Create Thread ( )

86. Pick up one of the testing methods given below that is part of white-box testing:
a) Equivalence partitioning b) Boundary value analysis c) Basis path testing

87. For drawing an Icon on client area of window _____ function is used.
a) Paint Icon( ) b) Paste Icon ( ) c) Draw Icon( ) d) Load Icon ( )

88. You can create a logical font by calling which of the following functions.
a) Create Font( ) b) CreateFontdirect( ) c) CreateFontIndirect( ) d) New Font ( )

89. Dynamic Linked Library is loaded in the memory at____
a) Static time b) Run time c) Load Time d) Compile Time.

90. Menu is _____
a) GDI Object b) Resource c) Picture d) Item

91. Which API call is used to check what type of data available in clipboard.
a) Is Clipboard Format Available ( ) b) Is Clipboard Contain Data ( )
c) Is Type of Data ( ) d) Set Clipboard Data ( )

92. Following option is not a mapping mode.
a) MM_ISOTROPIC b) MM_TEXT c) MM_BITMAP d) MM_HIMETRIC

93. Following is not a type of device context
a) Screen Device Context b) Window Device Context
c) Client Area Device Context d) View Device Context

94. Following is not a raster operation.
a) R2_COPYPEN b) R2_XORCOPYPEN
c) R2_NOT d) R2_YES

95. Every instance of a running program is_____ of virtual address space.
a) 4 GB b) 2 GB c) 6 GB d) 64 MB

96. Default size of heap is __
a) 2 MB b) 1 MB c) 32 MB d) None of the above

97. Following is not a bitmap related API call.
a) Paste Bit ( ) b) Bit Blt ( ) c) Stretch Blt ( ) d) Pat Blt ( )

98. Windows Message contains following information.
a) Visible property of a window b) Caption of window
c) Handle of window d) Root class of a window

99. _____ is a lowest priority message in Windows Programming. (Win 32 Programming)
a) WM_PAINT b) WM_COMMAND c) WM_CHAR d) WM_TIMER

100. SetROP2() function is used to change the Raster Operation the Device Context.
a) True b) False c) Not Always

101. Create Enh Meta File returns handle of the metafile
a) True b) False c) Not Always

102. Clipboard can store 'n' no of formats at a time.
a) True b) False c) Not Always

103. If 4 windows are running in a single application then there are 4 Message Queues.
a) True b) False c) Not Always

104. With Create Window _____ and _____ functions are used to display the window.
a) Display Window( ) , Update Window( ) b) Show Window( ), Dialog Box( )
c) Show Window( ) , Update Window( ) d) Show Window ( ) , Repaint Window ( )

105. The Windows system32 directory contains files which provides function to user application to perform certain task in the windows environment.
a) GDI32.DLL b) KERNEL32.DLL c) USER32.DLL d) WIN32.DLL

106. The layer between the application and different types of hardware
a) Application Layer b) GDI layer c) Data Layer Shell Layer

107. The Message received if the right mouse button is pressed in the non-client is
a) WM_RBUTTONDOWN b) WM_NCRBUTTONDOWN
c) WM_NCIRBUTTONDOWN d) WS_RBUTTONDOWN

108. In order to receive DoubleClick message a window must be created with which window style?
a) 1DB_DBCLK b) CS_DBLCLICK c) CS_DBLCLKS d) CS_DBLCLK

109. Which message helps in detecting mouse movement and finding mouse cursor position
a) WM_MOUSEMOVE b) WM_MOUSEPOS
c) WM_ONMOUSEMOVE d) None of these

110. When child Control in a dialog box is activated window sends which message?

a) WM_COMMAND b) Send Dlg Item c) WM_NOTIFY d) WM_ACTIVATE

111. Which function will test whether the message is the dialog box or the window?
a) Dlg Message() b) Send Dlg Message()
c) Translate Message() d) Is Dialog Message()

112. Which function creates a modal dialog box?
a) Create Dialog() b) Dialog Box() c) Do Modal() d) Create Dialog Box()

113. Which function creates a modeless dialog box?
a) Create Dialog() b) Do Modal() c) Dialog Box() d) Create Dialog Box()

114. Modal Dialog Box is destroyed by calling which function?
a) End Dialog() b) Destroy Dialog() c) End Dialog Box() d) End Modal()

115. Which function sends a message to controls in a dialog box?
a) Send Dlg Item Message() b) Send Dialog Message()
c) Send Dialog Item Message() d) none of these

116. The register() function takes a pointer to the Windlass structure as a parameter
a) True b) False

117. WM_CHAR is a combination of WM_KEYUP and WM_KEYDOWN.
a) True b) False

118. Only Modeless Dialog box can be moved on the screen.
a) True b) False

119. The ID value for the child window is passed by Param Parameter with the message.
a) True b) False

120. In which message it is better to initialize all the controls with in the dialog box.
a) WM_CREATE b) WM_INITDIALOG c) WM_INIT d) WM_COMMAND

121. The Copy Meta File function copies the content of a window-format Meta File to
a) Specified File b) Create Meta File
c) Copy Meta File d) Copy Data Get Meta File

122. Translate Message Detects a Keyboard action that translates to an ANSI Character
a) True b) False

123. Screen Coordinates are pixels measured from the upper left corner of the window's client area
a) True b) False

124. Select Object function obtains an object from Device Context
a) True b) False

125. Create pen Return handle to Old Pen
a) True b) False

126. Which function use to copy file from one Device context to another

127. Device Context Bit Create Compatible Dc Copy Copy Bit

128. Handle to BITMAP is
a) HBITMAP b) HACCEL c) HDC d) HBMP

129. To Create Thread Function used is
a) Begin Thread b) Create Thread c) do Thread d) Create

130. WM_CREATE Message is generated after Window is Displayed
a) True b) False

131. The Thread Control Panel is capable of performing the following action
a) Setting Thread Priority b) Suspending a Thread
c) Resuming Thread d) Terminating a Thread

132. Which values are used to Set thread priority
a) 15 b) -2 c) 4 d) -1

133. To display a modeless dialog which property u have to add in its resource files?
a) WM_SHOW b) WS_SHOW c) WS_VISIBLE d) WS_DISPLAY

134. A Mouse Click on Menu Bar generates:
a) WM_COMMAND b) WM_NOTIFY c) WM_CHAR d) WM_MENUCLICK

135. Change in the size of the status bar generates:
a) WM_RESIZE b) WM_SIZE c) WM_CHANGE d) WM_COMMAND

136. Get Text Matrix() determines the physical diminution of the font currently selected in the DC.
a) True b) False

137. Begin Paint() Prepares the windows client area for painting.
a) True b) False

138. Rectangle function takes :
a) 2 Parameters b) 5 Parameters c) 4 Parameters d) None Of the Above

139. The Windlass Structure must be registered with the window before it can be used to create a 1.window.
a) True b) False

140. To halt the execution of a thread:
a) Kill Thread() b) Suspend Thread() c) Terminate Thread() d) None of These

141. The following are the steps of SDLC

a) Analysis b) Design c) Testing **d) All of the above**

141. The SDLC Model most suitable for large projects with clear knowledge & priority of requirements is
a) Spiral Model **b) Incremental Model**
c) Waterfall Model d) Prototyping Model

142. Which of the following is not true about the Waterfall Model?
a) It is suited for small projects b) It does not consider risk handling
c) It gives efficient staff utilization d) It needs clarity of requirements at start.

143. Prototyping in software process may involve _____.
a) Throw - away prototyping b) Evolutionary
c) Both a and b options d) None of these

144. Which of the following model may require largest deployment of manpower
a) Incremental Model b) Waterfall Model
c) Component Assembly Model **d) RAD Model**

145. The majority of the lifetime of a program is spent in the _____ phase
a) Maintenance b) Analysis c) Design d) Testing

146. In Boehm's spiral model, each loop in the spiral represents _____ of the software process
a) Phase b) Design c) Documentation d) None of the above

147. Which of the following is seen in the DFD but not in the Context Diagram
a) Data Sources b) Data Flows **c) Data Stores** d) Users

148. Data flow cannot take place between
a) A store & a process b) External entity & process
c) Store & an external entity d) Process& process

149. "Balancing of DFD" is means
a) Conservation of inputs & outputs at various levels
b) Sub dividing a process into smaller sub processes
c) Labelling of all data items
d) Allowing data flows to take place only to or from processes

150. A data flow diagram is not a
a) Logical model of a system b) Good guide to a system
c) Representation of the physical system d) All of these options

151. DFDs, decision tables, decision trees are tools of
a) Requirements analysis b) Requirements modelling
c) Software Design **d) All of the above**

152. Which model used to show data processing at different levels of abstraction from fairly abstract to fairly detailed ?

a) Semantic Data Models b) Object Model **c) Data Flow Models** d) Service Usage Models

153._____ Models describe the logical structure of the data which is imported to and exported by the system.
a) Object **b) Semantic data** c) Data flow d) None of the above

154. Which of the following is true about E-R Diagrams?
a) They consist of object-relationship pairs b) It indicates cardinality of relationships
c) It indicates modality of relationships **d) All of the above**

155. Which of the following is not a characteristic of a good SRS document?
a) Unambiguous b) Verifiable **c) Redundant** d) Consistent

156. Find the odd one out
a) Axiomatic Specification b) Algebraic Specification
c) Z Specification **d) Data Flow Diagram**

157. Which is the most undesirable form of cohesion from the following options
a) Sequential **b) Coincidental** c) Temporal d) Communicational

158. The external interface design process should be _____
a) Developer centered **b) User centered**
c) Administrator centered d) Management centered

159. Which of the following is true with respect to function oriented & object oriented design methodologies
a) They vary in the basic abstractions they use
b) They vary in the way state information is maintained
c) They vary in the way functions are grouped
d) All of the above

160. In which of the following phases of a use-case driven process do you think use cases have a role? a) Requirements capture b) Analysis c) Design d) Implementation e) Test
a) A, B & C **b) A, B, C & D** c) B & D d) A, B, C, D & E

161. Which of the following is NOT true about comments
b) Comments should use problem domain terminology
b) They should explain the code at crucial places only
c) They should be used to document changes to the code
d) **They add up to the LOC size of the software**

162. Use of coding standards
a) Eases the task of integration of software modules
b) Enhances the software maintainability of the
c) Enhances reusability of the software
d) All of these options

162. _____ is a programming method which combines data and instructions for processing that data into a self-sufficient block that can be used in other programs.
a) Modular programming b) Top down design
c) Object oriented programming d) Structured programming

163. A test case design technique that makes use of a knowledge of the internal program logic
a) Black Box Testing **b) White Box Testing** c) Unit Testing d) None of these

164. Black box test cases can be derived from
a) Source code b) Flowchart **c) SRS Document** d) Pseudo code

165. Which of the following is true about Boundary Value Analysis?
a) It is an approach to designing black box test cases

b) It is complementary to Equivalence Class Portioning
c) It gives test cases based on the boundaries of the equivalence classes
d) **All of the above**

166. Cyclamate complexity is calculated from
a) Data Flow Graph b) Structure Chart
c) Control Flow Graph d) All of the above

167. Which of the following is true about McCabe`s Cyclamate Complexity of a Program
a) It is an indicator of the structural complexity of a program
b) It gives the maximum no of independent paths in a program
c) It is calculated from the no. of edges & nodes in the Control Flow diagram
d) **All of the above**

168. Effective Software Project Management focusses on
a) People b) Problem c) Process **d) All of above**

169. Which of the following is generally not a part of the SPMP document?
a) Configuration Management Plan b) Quality Assurance Plan
b) Risk Management Plan **d) Requirements Elicitation Plan**

170. Conversion of Adjusted Function Point Count to LOC count is dependent on
a) Team Size b) Project Duration **c) Programming Language** d) Cost Drivers

171. The critical path of PERT/CPM chart cannot be
a) The path with the longest duration
b) More than one unique path
c) **Path on which any delays are allowed**
d) Path with same earliest and latest starts for all activates

172. Which of the following are Software Risk Components
a) Performance b) Cost c) Schedule **d) All of the above**

173. The total float for an activity is
a) The total duration of the activity
b) The difference between the earliest finish time and earliest start time
c) **The difference between the latest finish time and the earliest finish time**
d) The difference between the latest finish time and the earliest start time

174. According to the staffing pattern of a software project follows the Rayleigh-Norden curve and peaks during the _____
a) Detailed design **b) Coding & Unit testing**
c) Integration Testing d) System Testing

175. Arrange the following activities in Risk Assessment in the correct sequence a. Prioritization b. Identification c. Analysis
a) b, a, c **b) b, c, a** c) a, b, c d) c, a, b

176. Risk of unrealistic estimates & schedules can be overcome by
a) Using objective methods of estimation rather than judgmental methods
b) Developing a culture of software reuse
c) Performing multisource estimations
d) **All of the above**

177 Under SCM the various SCIs are strictly maintained
a) By their respective authors b) By the appropriate team
c) In a central project database d) All of the above

178 Cleanroom Software Development process is based on
a) Formal Specification b) Static Verification c) Statistical Testing **d) All of the above**

179. Which one of the following is method is not used in describing complex system process
a) Decision table b) Structure English c) Finite automata **d) Binary tree**

180. c from the relationship
a) Productivity=KLOC/person-month b) Productivity=KLOC/defects
c) Productivity=KLOC/LOC d) Productivity=KLOC*person-month

181. The goal of coding is
a) To reduce the cost of testing b) To reduce the cost of maintenance
c) Both a & b d) None

182. Bottom of Form
Top of Form
Broad design of modules & their relationships is called
a) External design b) Detailed design **c) Architectural design** d) Process design

183. The choice of the Software Development Life Cycle Model to be followed for a project depends on
A) Initial Clarity of Requirements B) Size of the Project
C) Time Frame of the Project D) Clarity on Technical Issues
a) A, B & C only b) A, B & D only **c) A, B, C & D** d) A & D only

184. The SDLC Model most suitable for small projects with clear requirements is
a) Spiral Model b) Incremental Model **c) Waterfall Model** d) Prototyping Model

185. The Linear Sequential or Classic Life Cycle is also called
a) Waterfall Model b) Incremental Model c) Spiral model d) Prototyping Model

186. The waterfall model of the software process considers each process activity as a _____ phase
a) Separate b) Discrete **c) Both a and b options** d) None of the above

187. Which of the following is not a feature of RAD
a) Well understood, constrained & modularizable requirements
b) Component based construction & use of 4 GL
c) Use of multiple teams each developing separate function
d) **Project has high technical risks**

188. In the Spiral model the radius of the spiral at any point represents
a) The level of risk b) The progress made in the current phase
c) The cost incurred in the project till then d) None of these

189. _____ uses powerful development software and small, highly trained teams of programmers.
a) Prototyping **b) RAD** c) Coding d) Modeling

190. Planning the modular program structure & control relationships between modules is called
a) Architectural Design b) High Level Design c) System Design **d) All of the above**

191. Designers should aim to produce strongly _____ and weakly _____ designs
a) coupled, functional b) Maintainable, cohesive
c) Cohesive, coupled d) Coupled, cohesive

192. Use of global data areas or global variables may lead to
a) Stamp Coupling **b) Common Coupling**
c) Content Coupling d) Control Coupling

193. Function oriented design process consists of
a) Data Flow Design b) Structural decomposition
c) Detailed Design **d) All of the above**

194. Transform Analysis performed on a DFD identifies the
a) Afferent Branch b) Efferent Branch
c) Central Transform **d) All of the above**

195. The two questions "Are we building the right product?" &"Are we building the product right?" correspond to
a) Verification only b) Validation only
c) Validation & Verification respectively d) Verification &Validation respectively

196. Which of the following is not a White box testing method
a) Statement coverage **b) Error guessing**
c) Path coverage d) Condition Coverage

197. A Test case includes
a) Input b) Expected output c) Information of function under test **d) All of these options**

198. A stub is a dummy verion of the _____ module of the module under testing
a) Superordinate **b) Subordinate** c) Coordinate d) All of the above

199. A driver is a dummy version of the _____ module of the module under testing
a) Superordinate b) Subordinate c) Coordinate d) All of the above

200. _____ exercises the system beyond its maximum design load
a) Thread testing **b) Stress Testing** c) Back to back testing d) All of the above

201. Presenting the same tests to different versions of the system and compare outputs is called
a) Thread testing b) Stress Testing **c) Back to back testing** d) All of the above

202. Which of the following is not a part of Project Plan?
a) Risk Management Plan b) Personnel Plan
c) Project Mentoring Plan **d) Software Architecture Planning**

203. Which of the following is true for two projects of same category with the same estimated LOC size and using COCOMO for estimation
A) The initial effort estimate for both projects will be same as both have same LOC
B) The Effort Adjustment Factor will always be the same for both projects
C) The final effort estimate will always be the same for both projects
a) Only A is true. b) Only A & B are true c) Only C is true d) Neither A, B or C are true.

204. In COCOMO terminology a project with software being strongly coupled to complex hardware & stringent regulations on operating procedures is categorised as
a) Organic b) Semidetached **c) Embedded** d) Application

205. The minimum time required to finish the project can be estimated by considering the _____ path in the activity graph
a) Shortest **b) Longest** c) Average d) SPT

206. PERT/CPM cannot be used for
a) Scheduling of projects b) Monitoring & Control of projects
c) Optimizing Resource Utilization **d) Quality control of products**

207. Democratic team structure is suitable for projects
a) With strict deadlines b) With clearly known requirements
c) With research orientation d) None of these

208. _____ ensures that a set procedure is followed to make any changes to the software

a) Configuration Identification **b) Configuration Control** c) Base lining d) All of the above

209. Configuration Management is
a) Framework activity b) Umbrella activity
c) One time activity d) None of the above

210. CASE stands for
a) Computing Advanced System Engineering **b) Computer Aided Software Engineering**
c) Calculating Arithmetic System Engineering d) None of the above

211. Requirement phase is usually done by
a) System Analyst b) System Administrator c) System Engineer d) All

212. Which one of the following is not considered as parameter of function point
a) Number of input b) Number of interface
c) Number of file **d) Number of output data**

213. Cohesion is the concept which tries to capture this
a) Intra-Module b) Extra-Module c) Inner-Module d) Outer-Module

214. Functional approach is also known as
a) Glass box testing **b) Black box testing**
c) Input box testing d) Output box testing

215. Object oriented technology`s use of _____ facilitates reuse of the code and architecture while its _____ feature provides systems with stability, as a small change in requirements doesn`t require massive changes in the system.
a) Inheritance, Encapsulation b) Inheritance, Polymorphism
c) Encapsulation, Polymorphism d) Polymorphism, Abstraction

216. Which of the following steps do you think developers should take to create efficient compact applications?
a. Clearly define initial requirements of the system
b. concentrate earl development efforts on modeling implementation mechanisms
c. Analyze and manage risk throughout the development process
d. Leave all software testing until after system has been implemented
a) a, c b) a, b c) a., b, d d) a, b, c

217. Which of the following elements combine to form OOAD method
a. Notation b. Diagram c. Process d. View
a) a, c b) a, b c) a, b, d d) a, b, c

218. Which of the following are aims of UML?
a. To model system using OO concepts
b. To provide a process for software development
c.To support small-scale and large-scale analysis and design
d.To provide an insight into implementation mechanism
a) a, c b) a, b c) a, b, d **d) a, c, d**

219. Towards end of the design phase, _____ should be allocated to source code components.

a) Use cases b) Relationships c) Models **d) Classes**

220. What do you think is the first step you should take in designing any project?

a) Design a prototype
b) Create the test cases
c) Define problem domain and produce problem statement
d) Draw up a plan for entire project

221. Which of the following best describes what the problem domain is?

a) Kinds of resources available to development team
b) **Surroundings in which system operate**
c) Set of all functionality required of a system
d) List of technical details needed to implement project

222. If you are finding hard to identify the name of class and to write definition for it. What thing you should do?

a) Ignore class completely
b) **Do more analysis to get a better understanding of what is involved in the class**
c) Write a definition for the class even if it is not very good
d) Make it a friend class of some other main class

223. Which of the following statements are true of use cases and use case models?

a. Functionality of a use-case has to be complete from start to finish
b. Use case provide developers with classes and operations
c. Use cases outline functionality of the system
d. Use case models can be used to test the system

a) a, b, c b) a, b, c, d **c) a, c, d** d) a, c

224. Class diagram represents

a) Conceptual design b) Organization of objects
c) Set of actions d) State machine

225. Collaboration diagram represents

a) Organization of objects b) Messages on time scale
c) Conceptual design d) Set of actions

226. State chart diagram

a) Organization of objects b) Conceptual design c) Set of actions **d) State machine**

227. In OOD primary abstraction mechanism is _____

a) Function **b) Class** c) Object d) Hierarchy

228. Incremental model _____

a) **Delivers a system in a series of versions**
b) Works with encapsulation and inheritance to simplify flow of control

c) Builds a bridge between user and developer
d) Uses experimental software to better understand user requirements

229. Prototyping model _____
a) Delivers a system in a series of versions
b) Builds a bridge between user and developer
c) **Uses experimental software to better understand user requirements**
d) Works with encapsulation and inheritance to simplify flow of control

230. software re-engineering actually means reverse engineers re-engineering is a type of software maintenance elements of software architecture of a computing systems include
A. software components
B.class diagrams
C. connectors expressing relationships between software components
D. E-R diagram
a) A, B **b) A, C** c) A, C, D d) A, B, C, D

231. Project milestones are mainly divided in these two parts
a) DFD and SRS b) Interface design and implementation
c) Feasibility study and detailed design **d) Requirements and design**

232. Which is not part of testing?
a) White box testing b) Black box testing **c) Inner testing** d) Gorilla testing

233. Which is not part of phases of software development
a) High level design b) low level design
c) Mid-level design d) Replication, delivery, installation

234. Which software development model incorporates risk management?
a) Water fall model **b) Spiral model** c) Incremental model d) Object model

235. Largest time is spent on which of the software development phase?
a) Testing **b) Enhancement** c) Bug fixing d) Analysis and design

236. Simple SDLC contain
a) **Requirements, analysis, design, implementation, testing**
b) Analysis, design, implementation, testing, deployment
c) Analysis, design, implementation, testing, maintenance
d) Requirements, analysis, design, implementation, deployment

237. DFD is not a
a) **Logical model of system** b) Good guide to a system
c) Representation of physical stream d) All of the above

238. Productivity metrics
a) **Focuses on the output of the development process.**
b) Focuses on the characteristics of the software.
c) Provide indirect measure.
d) All.

239. Which is not a type of maintenance?
a) Adaptive b) Corrective c) Perfective **d) Obsolescence**

240. Adaptive Maintenance is
a) To improve the system in some way by changing its basic functionality
b) **The maintenance due to changes in the environment**
c) The correction of undiscovered system errors
d) None of the above

241. Which of the following activities involves choosing a system structure capable of satisfying the requirement Specification?
a) Requirements Analysis **b) Design** c) Coding d) Testing

242. Reliability in a software system can be achieved using the following strategies, EXCEPT
a) Fault avoidance b) Fault tolerance
b) **Fault detection** d) Fault rectification

243. The Software Development Life Cycle covers activities from
a) Feasibility Study to Installation **b) Requirements Phase to Testing**
c) Requirements Phase to Maintenance d) Project Initiation to Software Retirement

244. Identify the true statements about using a process for software development.
a) Processes usually divide software development into phases
b) Processes provide guidelines for what to do at each phase of development
c) Processes are used o
1) a and c 2) a and b **3) a, b and d** 4) a, c and d

245. Process visibility is enhanced by
a) Defining clear cut phases b) Producing documents related to each phase
c) Conducting reviews & checks **d) All of the above**

246. Which of the following activities is not considered as "Umbrella Activity"
a) S/W Quality assurance **b) Software Design**
c) S/W configuration management d) S/W Project Monitoring & Control

247. What is the primary purpose of the first stage of software analysis and design?
a) Determining system deployment b) Writing code
c) Capturing requirements d) Building GUIs

248. SDLC starts with _____ stage
a) User Requirement and Analysis b) Deployment c) Testing d) Design

249. The analysis phase takes an _____ approach to the system, ignoring its inner workings whereas the
design phase takes an _____ approach, making decisions on how the model will be implemented in code
a) White box & Black box **b) Black box & White box**
c) Top-Down & Bottom-Up d) Bottom-Up & Top-Down

250. The goal of _____ is to obtain a clear understanding of the system and its shortcomings and to determine opportunities for improvement
a) Feasibility study **b) Systems analysis**
b) c) Systems definition d) Systems study

251. The last step in System Development Life Cycle is _____
a) Analysis b) Implementation **c) Testing** d) Maintenance

252. The _____ phase of the systems life cycle contains periodic evaluations and updates of the system
preliminary
a) Investigation b) Systems analysis
c) Systems implementation **d) Systems maintenance**

253. During the _____ phase, the application is verified against the requirements
a) Analysis b) Design **c) Testing** d) Implementation

254. The type of software maintenance which is done to add new features to the product is called
a) Corrective Maintenance b) Adaptive Maintenance
c) Regressive Maintenance **d) Perfective Maintenance**

255. Because of the cascade from one phase to another, the model of software development process is known as
a) Evolutionary model b) Formal model
c) Waterfall model d) None of the above

256. Prototype may be used for
a) Risk Reduction b) Requirements Elicitation
c) User Interface Design **d) All of the above**

257. RAD Model is high speed implementation of
a) Waterfall Model b) Spiral Model
c) Prototyping model d) Component Assembly model

258. _____ means to build a model that can be modified before the actual system is installed
a) Maintenance **b) Prototyping** c) Implementation d) None of the above

259. A requirement may be a description of
a) Functionality to be provided b) Constraint on the software
c) External interface **d) All of the above**

260. DFD gives idea about flow of _____ & flowchart gives idea of the flow of _____
a) Processes, decisions b) Control, data c) Logic, control **d) Data, control**

261. Data Models do not consider
a) Attributes of the data object b) Relationships between data objects
c) Operations that act on the data d) Any of the above

262. Notations used to specify the external characteristics, architectural structure, and processing details of a software system include I. Data Flow Diagrams II. HIPO diagrams III. Structure Charts

a) I and II Only b) III Only **c) I, II and III** d) None of the above

263. Formal specification language consists of

a) Syntax b) Semantics c) Set of relations **d) All of the above**

264. The software architecture is best represented by

a) Context Diagram b) Flow Chart **c) Structure Chart** d) Data Flow Diagram

265. Using _____ a programmer can detail the logic of the program

a) **Pseudo code** b) Software c) Context diagram d) Data flow diagram

266. Which of the following is not true about a flow chart?

a) It shows the flow of control of a program
b) It is a tool for detailed design
c) Data interchange is not represented
d) It clearly separates various modules of the software

267. _____ involves modeling a system as a set of interacting functional units.

a) Object oriented decomposition b) Procedural decomposition
c) Functional decomposition d) None of the above

268. Typographical errors and/or incorrect use of the programming language is referred to as

a) Logic errors **b) Syntax errors** c) Run time errors d) A bug

269. Testing of software falls after _____ stage.

a) Designing b) Implementation c) Deployment **d) Coding**

270. Changes made to the software to accommodate changes to its environment is called

a) Perfective maintenance b) Regressive maintenance
c) Adaptive maintenance d) Corrective maintenance

271. Major changes made to software after long periods is also called software reengineering or

a) Perfective maintenance **b) Regressive maintenance**
c) Adaptive maintenance d) Corrective maintenance

272. Function Point Count is dependent on

a) Platform & Technology b) Team Size
c) H/W & Software Resources **d) Features & Functionalities**

273. In COCOMO terminology a project with mixed level of staff experience & part familiarity with the system being developed is categorized as

a) Organic **b) Semidetached** c) Embedded d) Application

274. The value of COCOMO cost driver attribute for higher than average Programmer Ability will be

a) Greater than 1 b) Equal to 1 **c) Less than 1** d) None of these

275. ____ And ____ are graphical notations which are used to illustrate the project schedule.
a) Bar chart and DFD b) ERD and Bar chart
c) Class diagram and activity networks **d) Bar char and activity networks**

276. Risk Assessment Table is based on categorization by
a) Risk Components b) Risk Impact **c) Both a and b options** d) None of the above

278. Risks arising out of frequent change requests are best mitigated by
a) User characterization **b) Strong SCM**
c) Multisource estimations d) Prescheduling key personnel

279. Automated SCM tools help solve problem of
a) Inconsistencies of SCIs b) Concurrent access to SCI
c) Instability of development environment **d) All of these options**

280. As per SEI CMM organizations which do not have any KPAs present & stable are considered at
a) Level 1 b) Level 2 c) Level 3 d) Level 4

281. In which of the following phases of use-case driven process do you think use cases have a role?
a. requirement capture
b. analysis
c. design
d. implementation
e. test
a) a, b, c b) a, b, c, d c) b, d **d) a, b, c, e**

282. Sequence diagram represents
a) Organization of objects **b) Messages on time scale**
c) Conceptual design d) Set of actions

283. Analysis takes place from _____ perspective and design takes place from _____ perspective
a) User, user **b) User, developer** c) Developer, user d) Developer, developer

284. The _____ phase of SDLC aims at ensuring software product is as per requirements.
a) Design b) Development **c) Testing** d) Deployment

285. Polymorphism _____
a) Organizes abstraction
b) Builds a bridge between user and developer
c) Delivers a system in a series of versions
d) **works with encapsulation and inheritance to simplify flow of control**

286. Spiral model incorporates risk management
a) True b) False

287. Storage management is not a part of version management

a) True **b) False**

288. Data flow diagrams are part of design phase of SDLC
a) True b) False

289. Which is an iterative process through which the requirements are translated to "blueprint" for constructing software
a) Testing b) Requirement analysis **c) Design** d) Maintenance

290. What manifests in the patterns of choices made among alternative ways of expressing an algorithm is
a) A data flow diagram b) Coding style c) A data dictionary **d) A flow chart**

291. Quality control
a) Focuses on inspections, testing and removal of defects before release
b) Is a set of planned and strictly and strategic actions to provide confidence that the product or service will satisfy given requirements for quality
c) Is to check system for its internal errors
d) All of the above

292. Which of the following types of test plans is most likely to arise from requirement specification process?
a) System integration testing plan **b) Acceptance test plan**
c) Sub-system integration test plan d) Module test plan

293. In project planning first thing is
a) Set objective or goal b) Develop strategies and policies
c) Decision making d) Find out requirement

294. Which of the following is not part of spiral model?
a) Planning b) Customer communication
c) Project documentation d) Engineering

295. Pick up one of the testing methods given below that is part of white-box testing
a) Euivalence partitioning b) Boundary value analysis
c) Basis and testing d) Debugging

296. Following are the different steps that is to be followed in design methodology arrange them in an order.
a) First level factoring b) factoring of input
c) Restate the problem d) Identifying the input and output
a) a, b, c, d **b) c, d, a, b** c) a, d, c, b d) a, c, b ,d

297. COCOMO is an effort estimation model in terms of _____
a) Cost **b) Person- Months** c) Both d) None of the above

298. Pick the odd one out
a) Component assembly model b) Spiral Model
c) Incremental Model d) Iterative Model

299. During Requirements Phase recording interface requirements of a software system does not include which of the following interfaces

a) User Interfaces b) Software Interfaces
b) c) Hardware Interfaces **d) Module Interfaces**

300. External Entities in a Context Diagram may be

A) People B) Other Software Systems C) Hardware D) Databases

a) Only A & D b) Only B & C c) Only A, B & D **d) A,B, C & D**

301. Example of a Semantic Data model is

a) Data flow diagram b) Context Diagram **c) Entity Relationship Diagram** d) All of the above

302. A system developed to give end users a concrete impression of the system capabilities is called

a) Semantics b) Model **c) Prototype** d) Abstraction

303. Planning the solution to a programming problem using a structured technique is called program

a) Coding b) Compiling c) Modeling **d) Design**

304. Conception & planning out of externally observable characteristics of a software is called

a) External Design b) User Interface Design
c) Both a and b options d) None of the above

305. A way of indicating the desired effect without establishing the actual mechanism

a) Procedural Abstraction b) Data Abstraction
c) Control Abstraction d) None of the above

306. The number & complexity of interconnections between two modules is an indicator of

a) Modularity b) Cohesion **c) Coupling** d) Abstraction

307. The method of deriving the structure chart from the DFD is called

a) Factoring b) Factor Analysis **c) Transform Analysis** d) All of the above

308. Which of the following is true about structure chart notations?

a) There should be only one module at the top
b) There should be at the most one control arrow between two modules
c) The sequence or order of tasks is not represented
d) **All of the above**

309. A programmer must follow the rules for coding a particular programming language. These rules are called:

a) Pseudo code b) Iteration **c) Syntax** d) Documentation

310. _____ is the process of locating and eliminating program errors.

a) Editing b) Correcting **c) Debugging** d) Testing

311. Changes made to the software to extend it beyond its original functionality is called

a) Perfective maintenance b) Regressive maintenance
c) Adaptive maintenance d) Corrective maintenance

312. COCOMO is categorizes as a _____estimation technique
a) Heuristic b) Empirical c) Analytical d) None of the above

313. Which of the following is true as per Putnam model
a) Staffing Pattern peaks at Coding & Unit testing
b) Schedule compression increases effort in proportion to fourth power
c) Expanding the schedule gives extreme saving in effort
d) **All of the above**

314. RMMM is a Risk Management methodology which focusses on
a) Risk avoidance by developing a risk mitigation plan
b) Continuous risk monitoring throughout the project
c) Actually managing the risks when they become a reality by contingency planning
d) All of the above

315. A change request has to be evaluated for
a) Its technical merit b) Cost & schedule impacts
c) Side effects **d) All of these options**

316. Software quality managers are responsible for ____.
a) Quality assurance b) Quality planning c) Quality control **d) All of the above**

317. Which of the following are possible actors?
a. data inputted
b. GUI component
c. Another system
d. A printer
a) A, B, C b) A, B, C, D **c) A, B, D** d) A, C

318. UML can be used as a way to represent only OO software systems
a) True **b) False**

319. Use cases can be included in any type of collaboration diagrams.
a) True **b) False**

320. Which of the following is reason of project failure?
a) Finite resources
b) **Inaccurate estimates of cost and time**
c) Others are competing to do the job cheaper and faster
d) None of the above

321. _____ is method for estimating software
a) COCOMO b) Function point analysis
c) Use case estimation **d) All of the above**

322. Pick up odd one out of the following

a) Component assembly model b) Spiral model
c) Incremental model d) Iterative model

323. Parts of design principle are
a) Correctness, robustness, efficiency, flexibility, understandable
b) **Correctness, robustness, efficiency, flexibility, reusability**
c) Flexibility, correctness, robustness, efficiency, standard
d) Flexibility, correctness, robustness, efficiency, security

324. Which of the following can be a reason for project failure?
a) Finite resources
b) Inaccurate estimates of cost & time
c) Others competing to do the job cheaper & faster.
d) None of the above

325. An approved feasibility study is a deliverable out of
a) Systems design **b) Preliminary investigation**
c) Systems development d) Systems analysis

326. Checklists, grid charts, and decision tables are all tools used in the _____ step
a) Preliminary investigation **b) Systems analysis**
c) Systems development d) Systems implementation

327. The present system is studied in depth during the _____ phase of the systems life cycle.
a) Preliminary investigation **b) Systems analysis**
b) Systems design d) Systems development

328. The SDLC Model most suitable for small projects with unclear requirements is but not many technical risks is
a) Spiral Model b) Incremental Model c) Waterfall Model **d) Prototyping Model**

329. Arrange the following Requirements sub phases in the correct order
A. Documentation B. Analysis C. Validation D. Elicitation
a) A, B, C, D **b) D, B, A, C** c) D, C, A, B d) B, A, D C

330. Automated CASE tools like PSL/PSA do not help in
a) Requirements Documentation b) Requirements Validation
c) Requirements Analysis **d) Requirements Elicitation**

331. The requirement engineering process has the following stages, except
a) Feasibility study b) Requirement analysis
c) Implementation d) Requirement definition

332. Concept of Abstraction is used in
a) Requirements phase b) Design Phase c) Testing Phase **d) All of the above**

333. The number of subordinate modules controlled by a module is called its
a) Control range **b) Fan out** c) Fan in d) Width

334. If two modules pass a data structure across their interface they exhibit
a) Stamp Coupling b) Data Coupling c) Content Coupling d) Control Coupling

335. The strength of relationship between which of the following elements of a module is examined to evaluate module cohesion
a) Function declarations, function definitions& calls b) Variable declarations
c) Data definitions **d) All of the above**

336. The graphical tool commonly used to represent the system architecture is called
a) Context Diagram **b) Structure Chart** c) Architectural Plan d) Event Table

337. The value of COCOMO cost driver attribute for lower than average Reliability requirement will be
a) Greater than 1 b) Equal to 1 **c) Less than 1** d) None of these

338. Example of Software Configuration Items (SCI) is
a) SRS b) Code c) User manual **d) All of the above**

339. Top of Form Which of the following factors of a Software Product may not contribute much to its maintainability?
a) Understand ability b) Flexibility **c) Security** d) Testability

340. Your Answer: The Software Life Cycle covers activities from
a) Feasibility Study to Installation b) Requirements Phase to Testing
c) Requirements Phase to Maintenance **d) Project Initiation to Software Retirement**

341. Any activity designed to keep programs in working condition, error free, and up-to-date, is referred to as _____
a) Maintenance b) Testing c) Debugging d) Coding

342. During the _____ phase of the systems life cycle, the new hardware and software are acquired and tested
a) Design b) Development **c) Implementation** d) Maintenance

343. E-R diagrams are used in
a) Database design b) Data Dictionary compilation
c) Architectural design d) Functional Design

344. The flow of data within a system is described by a _____
a) Data flow diagram b) Top-down analysis c) System flowchart d) Decision table

345. Formal specification techniques are based on
a) Set theory b) Logic c) Sequence **d) All of the above**

346. Using the name of a sequence of instructions in place of the sequence of instructions is an example of
a) Procedural Abstraction b) Data Abstraction
c) Control Abstraction d) None of the above

347. Providing a logical reference to the data object without concern for the underlying representation is
a) Procedural Abstraction **b) Data Abstraction**
c) Control Abstraction d) None of the above

348. A module whose all elements exhibit relationship which involves both data and control flow is said to be _____ cohesive
a) **Sequentially** b) Communicational c) Temporally d) Procedurally

349. The afferent branch of the DFD ends at the
a) Most Abstract Input b) Most Abstract Output
c) Middle of the central transform d) All of the above

350. I. Object-oriented software development creates better programs but is less efficient to use
II. Objectoriented software development is more efficient than traditional methods.
III. OOP is a process that organizes a program into objects that contain both data and the processing operations necessary to perform a task
a) I and II are correct b) II and III are correct
c) I and III are correct d) I, II and III are correct

351. The if-then-else construct is an example of the
a) Sequencing **b) Selection** c) Iteration d) All of the above

352. Proper program layout by proper usage of proper use of indentation, blank spaces, blank lines, parentheses improves
a) Efficiency of the program b) Size of the program
c) Maintainability of the program d) Reliability of the program

353. Static verification & validation is applied to
a) SRS b) Design c) Code **d) All of the above**

354. Static testing involves
a) Code Analysis b) Structural Analysis c) Data Flow Analysis **d) All of the above**

356. Statistical Testing is used for
a) For statistical software's only b) Only uncovering defects
c) Reliability estimation d) Efficiency estimation

357. Which of the following is NOT true about software testing
a) It follows a bottom up approach **b) Testing is planned after the coding phase**
b) Complete testing is not possible d) Testing only establishes presence of defects

358. Which of the following is NOT true with regard to Testing & Debugging
a) **Testing includes debugging** b) Debugging includes retesting
c) Testing only establishes presence of defects d) Debugging repairs the program defects

359. Purely black box testing would be used at which of the following levels?

a) Unit testing b) Module testing c) Integration Testing **d) Acceptance Testing**

360. Black box testing is more useful in locating
a) Functional Errors b) Performance Errors c) Interface Errors **d) All of these options**

361. Test Data includes
a) **Set of inputs** b) Set of expected outputs
b) c) Information of function under test d) All of these options

362. Testing strategies can be _____.
a) Top – down testing, Bottom – up testing b) Thread testing, Stress testing
c) Back – to – back testing **d) All of above**

363. A stub is a dummy version of the _____ module of the module under testing
a) Superordinate **b) Subordinate** c) Coordinate d) All of the above

364. Testing done with real data is called _____.
a) Data testing b) Unified testing c) Alpha testing **d) Beta testing**

365. The following are the testing strategies except
a) Top-down testing b) Thread testing **c) Stress testing** d) Verification testing

366. An example of an Empirical Software estimation technique is
a) COCOMO b) FPA **c) Delphi** d) Halstead`s Software Science

367. The Lines of Code (LOC) size do not include
a) Compiler Directives b) Declarations **c) Comments** d) All of the above

368. Repeatable level as per CMM model is
a) Level 1 **b) Level 2** c) Level 3 d) Level 4

369. The collection of computer programs, procedures, rules and associated document and data is called ----------
a) **Software** b) Hardware c) Both d) None

370. A context diagram contain
a) Only one process b) More than one process
c) At least one process d) None

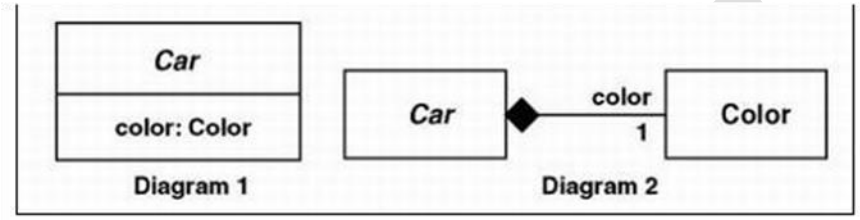
371. The spiral model is both suitable for
a) Development type projects b) Enhancement type project **c) Both** d) None

372. Three major factor of software engineering are
a) Cost, Correctness, Reliability **b) Cost, Schedule, Reliability**
b) Cost, Quality, Correctness d) Cost, Portability, Reliability

373. Data flow can take place between
a) Process to Process b) File to File c) Process to File d) External Entity to Process
a) A, B, C b) B, C, D **c) A, C, D** d) A ,B, D

374. Match the level testing can work on
1) Acceptance Testing 2) System Testing 3) Integration Testing 4) Unit Testing
a) Client Needs b) Requirements c) Design d)Code
a) 1-a, 2-b, 3-c, 4-d b) 1-d, 2-b, 3-c, 4-a c) 1-a, 2-b, 3-d, 4-c d) 1-a, 2-c, 3-b, 4-d

375. The first step in the project planning is:
a) Size of the product b) Select team organizational mode
c) Determine the Project constraints d) Establish objectives and scope



a) 1: An aggregation, 2: A composition. b) 1: An attribute, 2: An aggregation.
c) 1: An aggregation, 2: An attribute. **d) 1: An attribute. 2: A composition.**

376. Phase containment of errors means.
a) Detect errors to the closest point of errors.
b) Stop errors during software projects deployment.
c) Stop errors during software projects coding
d) None of the above.

377. The most commonly used model in today's development is
a) Waterfall model b) Spiral model
c) Iterative waterfall model d) None of the above.

378. What is "Customer must have at least a Pentium machine to access this software" in context of Software Requirements,
a) **Assumption** b) Objective c) Business Problem d) All of the above

379. For a Leave Application System, an "Employee" can use the system to request for leaves and a "Manager can approve/reject the leaves. The data will be stored within a "Leave database" as part of this system. In this scenario, identify the valid actors from the following for this system.'
i) Employee ii) Manager iii) Leave Database iv) Leave Application System
a) None of the above b) i, ii c) iii, IV d) All of the above

380. A timing constraint placed on the system or the use of a specific language during development, is an example of
a) Functional requirements **b) Non-functional requirements**
c) Requirements definition d) None of the above

381. What is a Requirement definition?
a) What software provides. **b) Requirements in SRS**
c) What customer wants? d) All of the above

382. Which of the following is a tool in design phase?
a) Abstraction b) Refinement c) Information hiding **d) All the above**

383. The data flow diagram
a) Depicts relationships between data objects depicts relationships between data objects
b) Depicts functions that transform the data flow
c) **Indicates how data are transformed by the system**
d) d) Both b and c

384. Content testing uncovers
a) Syntactic errors **b) Semantic errors** c) Structural errors d) All of the above

385. Which of these are standards for assessing software processes?
a) SEI R b) SPICE **c) ISO 9001** d) Both b and c

386. Methods of Project Monitoring are
a) Time sheet b) Earned value method c) Design Constraints **d) Both a & b**

387. Risk projection attempts to rate each risk in two ways
a) Likelihood and cost **b) Likelihood and impact**
c) Likelihood and consequences d) Likelihood and exposure

388. Effective risk management plan needs to address which of these issues?
a) Risk avoidance b) Risk monitoring c) Contingency planning **d) All of the above**

389. To quantify a risk we need to do the following
a) Determine the possibility of risk happening **b) Both a and b.**
c) Determine consequences of the problem associated with that risk. d) None of the above.

390. Deliverable for a software Project is
a) Source Code b) Design Documents
c) Requirement Documents and Test Plans **d) All of the above**

391. Scoping is done during,
a) Proposal Stage **b) Requirements gathering stage**
c) Design Stage d) Coding Stage

392. A software engineer is measuring the quality of a software system. He is concerned with the 'reliability' and the "validity' of his measurements. Which of the following is true?
a) Reliability refers to the extent to which the measurement represents the actual quality of the system and validity refers to the consistency of the quality measurements
b) **Reliability refers to the consistency of her quality measurements and validity refers to the extent to which the measurement represents the actual quality of the system.**

c) Reliability refers to the accuracy of her quality measurements and validity refers to the extent to which the measurement follows a quality standard.
d) Reliability refers to the concurrency of her quality measurements and validity refers to the extent to which the measurements are consistent with established norms.

393. Quality attributes are the overall factors that affect
a) Run-time behaviour b) System design c) User experience **d) All of the above**

394. Testing is a
a) **Process of executing a program with intent of finding an error** b) Process of removing error
c) Process of testing software d) All of the above

396. Black box testing checks the following errors
a) Incorrect function b) Interface errors
c) Both a & b **d) None of the above**

397. A method of estimating the amount of functionality required for a project is
a) WBS Estimation b) UCP Estimation **c) FP Estimation** estimation d) COCOMO

398. Scheduling begins with _____
a) Risk identification **b) Process decomposition**
c) FP Estimation d) COCOM0 estimation

399. Aggregation represents
a) Is a relationship b) Part of relationship c) Composed of relationship d) None of above

400. Modules X and Y operate on the same input and output data. The cohesion is said to be
a) Sequential **b) Communicational** c) Procedural d) Logical

401. Estimates are made in a project primarily on
a) Size b) Cost c) Both a and b. d) None of the above

402. SPMP document is made at the end of
a) **Project planning** b) Project monitoring
c) Project control d) None of the above

403. While gathering the requirements on OO way (using RUP UML), the very first thing we should do it
a) Start gathering functional requirements
b) List down all the Users of the System (called as Actors)
c) Start gathering non-functional requirements
d) Create Test plan

404. What is the solution to "Yes-But Syndrome" in requirements gathering?
a) Improve technical skills **b) Seek customer feedback early**
c) Learn a tool for requirements d) None of the above

405. Which of the following statements is true regarding scenarios?
a) Scenarios are instances of a use case. b) Scenarios are generalizations of many use cases.

c) A use case is an instance of a scenario. d) None of the above

406. Which of the following is true about a Build?
a) A Build represents an operational version of a system or a part of the system that demonstrates a subset of the capabilities provided in the final product.
b) A Build constitutes an integral part of the iterative development lifecycle and provides review points.
c) Each Build is placed under configuration control in case there is a need to roll back to an earlier version when added functionality causes breakages or when there is otherwise some form of compromised Build integrity.
d) **All of the above**

407. What is the Cost of quality, Failure cost, prevention cost, and appraisal cost?
a) 120, 35, 37, 50 b) 37, 95, 120, 40 **c) 95, 37, 13, 45** d) 120, 13, 45, 40

408. Prevention cost iv) Efforts spent on reviews and testing
a) a-iv b-iii c-ii d-I b) a-iv b-ii C-iii d-I **c) a-ii b-iv c-i d-iii**

Top of Form
409. Software Engineering is concerned with_____.
a) Process b) Methods c) Tools **d) All of the above**

410. Static verification of code is not likely to reveal
a) Logic errors b) Syntax errors **c) Performance errors** d) Coding standard violations

411. Which factor among the following has least effect on the testability of a software?
a) Decomposability **b) Efficiency** c) Understand ability d) Observability

412. Identification of inputs which cause anomalous behaviour in the outputs indicating the existence of defects is
a) Static Testing b) White Box Testing **c) Black Box Testing** d) Interface testing

413. In unit testing which of the following is the strongest testing strategy?
a) Statement coverage b) Branch Coverage c) Condition Coverage **d) Path coverage**

415. Selection of test paths according to definition& usage of different variables in the program is called
a) Path coverage testing b) Condition Coverage testing
c) **Data Flow Testing** d) Branch Coverage Testing

416. Compared to small team projects large team projects are
a) More sensitive to programmer ability **b) less sensitive to programmer ability**
c) Not sensitive to programmer ability d) None of these

417. Which version of COCOMO develops estimates for large projects as sum of estimates of its various subsystems by considering the differences in the complexities of its various sub systems?
a) Basic COCOMO b) Intermediate COCOMO
c) Complete COCOMO d) None of the above

418 Structural approach is also known as
a) Glass box testing b) Black box testing
c) Input box testing d) Output box testing Top of Form

419. Ability of a software to perform stated function under stated condition for a stated period of time
a) Efficiency b) Robustness **c) Reliability** d) Correctness

420. Among the following types which is the most undesirable form of coupling
a) Stamp Coupling b) Common Coupling c) Content Coupling **d) Control Coupling**

421. Which of the following would NOT appear as a symbol on a flowchart?
a) **Data type** b) Decision c) Input/output d) Processing

422. All of the following are control structures used in structured programming, EXCEPT
a) Iteration b) Selection c) Sequence **d) Go to**

423. In _____, the tester can analyse the code and use knowledge about the structure of a component to derive test data
a) Black box **b) White box** c) Stress testing d) None of the above

424. What are the components of a thin client model in Client/Server architecture?
a) Client (Presentation) –Server (Data Management, Application Processing)
b) Client (Application Processing) – Server (Data Management)
c) Client (Data Management) –Server (Application Processing)
d) Client (Application Processing) – Server- Client (Data Management)

425. Iterative method contains the feature of
a) Water fall method **b) Prototype method** c) Both d) None

426. Which of following order is true in software engineering life cycle
a) **SRS, Design, Coding, Testing** b) Design, Coding, Testing, SRS
c) SRS, Design, Testing, Coding d) Coding, Testing SRS, Design

427. Which is the most commonly used debugging approach?
a) Brute force b) Back tracking c) Cause elimination d) None of the above

428. Four important characteristics of a software product are
a) Dependability, usability, reliability, robustness
b) Maintainability, dependability, efficiency, usability
c) Supportability, maintainability, visibility, rapidity
d) None of the above

429. Enough time will be left at the end of the project to uncover errors that were made Because we rushed through the _____ process. The moral is: Don't rush
Through it! _____ is worth the effort. (Clue: both the blanks to be filled by
The same word)

a) Coding b) Design c) Testing d) None of the above

430. Who should perform the validation test?
a) Software developer b) Software user
b) c) A group of developers and users d) None of the above

431 Find the activity, which is not part of version management
a) Controlled change b) Storage management c) Coding standard d) None of the above

432. Testing
a) Installs guilt b) Is punishment c) Is to find errors d) None of the above

433. Which is more important?
a) Product b) Process c) Quality d) None of the above

434. The sooner you begin _____, the longer it will take to get done.
a) Coding b) Testing c) Design d) None of the above

435. Verification is to check
a) Whether we are building the right product
b) Whether we are building the product right
c) Neither of the above
d) None of the above

436. Pick up the correct sequence of processes
a) Requirements, Analysis, Test case design, Design
b) **Requirements, Analysis, Design, Test case design**
c) Requirements, Test case design, Analysis, Design
d) None of the above

437. A software quality assurance activity that is performed by software engineers
a) Coding b) Formal technical reviews c) Design d) None of the above

438. In what manner, coding and testing are done
a) Top-down b) Bottom-up c) Cross-sectional d) Adhoc

439. Which of the following is generally not contained in a feasibility document
a) Problem descriptions b) Project name
c) Feasible alternative solutions d) Data-flow diagrams

440. The initiation of a systems investigation may result from
a) An analysis investigation b) A manager's formal request
c) Scheduled system review d) All of the above

441. Which of the following is not a factor in the failure of a systems development Project?
a) Inadequate user involvement b) Failure of systems integration
c) Size of the company d) Continuation of a project that should have been cancelled

442. "The probability of failure free operation of a computer program in a specified Environment for a specified time" is the definition for
a) Quality b) Reliability c) Operability d) None of the above

443. The four icons used in building Data Flow Diagram are
a) Flow, Source, Store, Process b) Flow, Process, Source, Store
c) Flow, Process, Source/Destination, Store d) Source, Process, Destination, Store

444. Which of the following is (are) not a tool for Application Prototyping?
a) Application generates b) Third generation language
c) Screen generators d) Report generators

445 All of the following tools are used for process description except
a) Structured English b) Decision tables c) Pseudo code Data Dictionaries

446. Which of the following activities does not belong to the Implementation phase of the SDLC?
a) File conversion b) Program testing c) User training d) All of the above

447. Which of the following is not true of the conversion phase of the development life Cycle?
a) The user and systems personnel must work closely together
b) Steps must be taken to phase out the old system
c) Documentation should be emphasized
d) The non-machine components of the system should be considered

448. Benchmarking is used
a) To select computer systems b) To maintain files is p-to-date condition
c) For application proto-typing d) For system acceptance

449. Which is the first phase of the Waterfall software process model?
a) Design b) Prototype c) Testing d) Requirement

450. What is the purpose of use cases in UML?
a) Requirements of capture
b) Define how the software system will be used
c) Describe what the user expects to do with the system
d) Make clear what the stakeholders needs are

451. With their correct characteristics:
Y1: Risks are assessed and activities put in place to reduce the key risks
Y2: Specific objectives for the phase are identified
Y3: The project is reviewed and the next phase of the spiral is planned
Y4: A development model for the system is chosen which any can be of
The generic models
a) X1-Y3 X2-Y1 X3-Y2 X4-Y4 b) X1-Y2 X2-Y3 X3-Y4 X4-Y1
c) X1-Y2 X2-Y1 X3-Y4 X4-Y3 d) X1-Y3 X2-Y2 X3-Y1 X4-Y4

452. Indicate what information is provided by Functional requirements?

X1: The constraints on the services or functions offered by the system such as Timing constraints
X2: How the system should behave in particular situation
X3: The constraints on the development process, standards
X4: How the system should react to particular inputs

a) X2, X4 b) X1, X2, and X4 c) X1, X3 d) X2, X3, and X4

453. Function point is
a) A pointer to a function
b) A point where the function is written in a code
c) A method of estimating the amount of functionality required for a program
d) A function named "point"

454. A system version
a) Is an instance of a system deployed at the client side
b) Is an instance of a system that differs in some way from other instances
c) Should either include new functionalities or should be intended for a different hardware platform
d) Is created to fix reported faults as part of development process

455 What is synchronization control in configuration management?
a) It governs which software engineer have the authority to access & modify a
b) Particular configuration object
c) It helps to ensure that parallel changes performed by two different people don't overwrite one another
d) It synchronizes two different system versions to form a single versions
e) It helps to synchronize the source code files to form deployable version

456 The currently known containment effectiveness of faults introduced during each Constructive phase of software development for a particular software product is Ratio of
(Actual project duration) to (estimated project duration)
(Number of pre-release Defects) to (number of pre-release Defects) to (number of pre-release Defects + number of post release Defects)
(Number of phase i errors) to (number of phase i errors + number of phase i defects)
(Number of failure) to (Execution time)

457 SRS is maintained in configuration environment as
a) Software design baseline b) Software development baseline
c) Software artefact's d) Software product baseline

458 Following is the SCM audit tool
a) Requirement metrics b) PERT charts c) Source Code d) Design Document

459 Delphi method of cost estimation uses
a) Functional point analysis b) SLOC expressed in KDSI
c) PERT model using effort calculations d) Decomposition method of cost estimation

460 Validate that the functions meet started requirements or not is called as _____

a) Unit testing b) System testing c) Integration Testing d) Acceptance Testing

461 What do you mean by incremental testing?

a) White box testing b) Black box testing c) Top-down testing d) Independent testing

462 Verification should be performed for _____

a) Requirements b) Design c) Code construction d) All of the above

463 Validation is mostly used to determine the _____ of the final software/program.

a) Correctness b) Consistency c) Completeness d) Quality

464. Quality control procedures are _____

a) Preventive costs b) Appraisal costs c) Failure costs d) None of the above

465. Who should be involved in determined risk management?

a) Customer b) Management c) Development team d) All of the above

466. Which of the following is an attribute of Quality?

a) Process b) Product c) Standard d) Policy

467. The system design SDLC phase is immediately followed by _____

a) Program and training b) Initiation c) Standard d) Policy

468. Resource planning, audit planning, estimation, scheduling are the some of the tasks carried out in_____

a) Initiation phase b) System design phase c) Definition phase d) Evaluation phase

469 System reviews and software testing are examples of _____

a) Quality control b) Quality assurance c) Quality audits d) None of the above

470. _____ is done without executing the code.

a) Registration b) Unit c) System d) Static

471. Which of the following is not a white box testing technique?

a) Statement coverage b) Equivalence Partitioning
c) Decision/condition coverage d) Multiple condition coverage

472. Which of the following task is not performed by v & v management?

a) Create the software v & v plan b) Conduct the management review of v & v
c) Support management and technical reviews d) Conduct in-process reviews

473. A standard must be _____

a) Measurable, Attainable and critical b) Smart, Measurable and Time-bound

b) Measurable, Achievable and Clear d) Approved, Available and Attainable

474. Which are the four primary standards of ISO 9000?
a) ISO 9000, ISO 9001, ISO 9004, ISO 10010 b) ISO 9000, ISO 9001, ISO 9006, ISO 10011
c) ISO 9000, ISO 9001, ISO 9004, ISO 10011 d) ISO 9000, ISO 9001, ISO 9004, ISO 10054

475. Cost of quality includes _____
a) Preventive, Corrective & control b) Preventive, detective & control
c) Preventive, appraisal & failure d) None of the above

476. AQL stands for?
a) Allowable quality level b) Allocated quality level
c) Acceptable quality level d) Allowed quality level

477. Quality assurance is a function responsible for _____.
a) Controlling quality b) Managing quality c) Inspections d) Removal of defects

478. _____ is used to perform structured analysis and to document the result.
a) DFD b) UML c) COCOMO d) None of the above

479. Reverse engineering of data focuses on _____
a) Database structures b) Internal data structures c) Both 1 & 2 d) None of the above

480. System Test will not include_____
a) Approach b) Risks c) Suspension and Resumption criteria d) None of the above

481. As series of definable, repeatable and measurable tasks leading to useful result is called _____
a) Program b) Process c) Activity d) Controller

482. The first step in project planning is to _____
a) Determine the budget b) Determine the project constraints
c) Establish the objectives and scope d) Select a team organizational model

483. Which of the following is a characteristic of a good decision?
a) Includes test cases for all components
b) Exhibits strong coupling between its modules
c) Implements all requirements in the analysis model
d) Incorporates source code for descriptive purposes

484. Which of the following characteristics of a strong deign?
a) Low coupling b) High cohesion c) Modular d) All of the above

485. Which of the following is a disadvantage of outsourcing?
a) Reduces technical know-how for future innovation
b) Increases degree of control
c) Increases vulnerability of strategic information
d) Increases dependency on other organizations

486. If a linear process models all steps come after finishing of a step then that model called_____
a) Spiral b) Prototype c) Water fall model d) None of the above

487. Cyclamate Complexity method comes under which of the following testing method?
a) White box b) Black box c) Green box d) Yellow box

488. Which of the following provides the foundation for team development?
a) Motivation b) Organizational development
c) Conflict management d) Individual development

489. Which of the following is a key to effective software engineering?
a) Good skills b) Good design c) Good Management d) None of the above

490. Estimation for the satisfaction of the identified user needs is known as _____
a) Feasibility study b) Requirements evolution
c) Requirements capture d) None of the above

491. Translating the algorithm into a programming language occurs at the _____ step of the SDLC
a) Debugging b) Coding c) Testing and Documentation d) Algorithm Development

492. Who designs and implement database structures?
a) Programmers b) Project managers c) Technical writers d) Database administrators

493. The _____ determines whether the project should go forward or not
a) Feasibility assessment b) Opportunity identification
c) System evaluation d) Program specification

494. Actual programming of software code is done during the _____ step in the SDLC
a) Maintenance and Evaluation b) Design
c) Analysis d) Development and Documentation

495. Evolutionary software process models _____
a) Are iterative in nature
b) Can easily accommodate product requirements changes
c) Do not generally produce throwaway systems
d) All of the above

496. Which of the following is not a part of testing?
a) White box testing b) Black box testing c) Inner testing d) Gorilla testing

497. Quality assurance_____
a) Focuses on removal of defects before release
b) Is a set of planned and systematic actions to provide confidence that a product or service will satisfy given requirements for quality
c) Is to check the system for its interface errors
d) None of the above

498. _____ is the chain of activities that determines the duration of the project
a) Object points b) LOC c) Lines of code d) Critical path

499. Debugging is a consequence of _____
a) An unsuccessful test
b) An error in design
c) A successful test
d) A metric that describes the degree to which a software product meets its requirements

500. In object-orientation, polymorphism means _____
a) There can be many objects in the design
b) Methods can be changed in many ways
c) Many ways can be instantiated of a class
d) Objects can implement the same method in many ways

501. The spiral model of software development_____
a) Ends with the delivery of the software product
b) Is more chaotic than the incremental model
c) Includes project risks evaluation during each iteration
d) All of the above

502. The objective of software project planning is to _____
a) Convince the customer that a project is feasible
b) Enable a manager to make reasonable estimates of cost and schedule
c) Make use of historical project data
d) Determine the probable profit margin prior to bidding on a project

503. Which of the following is not a section in the standard for SQA plans recommended by IEEE?
a) Documentation b) Reviews and audits c) Test d) Budget

504. Which of the following tasks is not part of software configuration management?
a) Change control b) Reporting c) Statistical quality control d) Version control

505. How many steps are in the program development life cycle (PDLC)?
a) 4 b) 5 c) 6 d) 10

506. _____ is a measure of independence of a module or component?
a) Cohesion b) Coupling c) Loop coupling d) Loop cohesion

507. The purpose of requirement phase is _____
a) To freeze requirements b) To understand user needs
c) To define the scope of testing d) All of the above

508. A modular design has _____
a) High cohesion, low coupling and high abstraction
b) High cohesion, low coupling and low abstraction
c) Low cohesion, low coupling and high abstraction
d) High cohesion, high coupling and high abstraction

509. The outcome of the analysis phase is
a) **Sufficient understanding of the problem to write a design specification.**
b) Sufficient understanding of the problem to write a formal description of it.
c) Sufficient understanding of the problem to suggest a solution (or solutions)
d) Sufficient understanding of the problem to write a code specification.

510. Corrective maintenance is related to
a) Making the system more functional
b) **Correcting the fault that could not be found during testing**
c) Making the system work in new environment
d) All of the above

511. Testing is done with the objective of _____.
a) **Finding new errors in the software** b) Correcting errors in the software
c) Both 1 and 2 d) None of the above

512. If a software had 5 failures in 100 tests during 10 days of testing (Assume 10 tests Per day), what would be a good estimate of the reliability of the software over the Next week? (Assume 5 working days in a week)
a) 0.0275 b) 0.5987 **c) 0.0769** d) 0.9500

513. A requirements specification is
a) A general list of things that the proposed software ought to do
b) **A precise and mathematical list of things that the proposed software ought to do**
c) A formal list of things that the proposed software must do
d) A list of software and hardware resources needed for completing the proposed system

514. Which of the following is the input to the feasibility study?
a) Outline description of the system
b) Set of preliminary business requirements
c) How the system is intended to support business process
d) **All of the above**

515. Assuming that the tests are representative of the operational situation, then calculate the Reliability of a software system that has had 10 failures in 200 test cases.
a) 0.95 b) 0.9 c) 0.1 d) 1

516. A critical task is one with_____
a) Minimum slack time b) Maximum slack time **c) No slack time** d) None of the above

517. Which of the following is identified as critical for success in software development process?
a) Adopting SDLC configuration management b) Adopt Continuous risk management
c) Both 1 and 2 d) Choice 2 only

518. How maintainability can be achieved?
a) Through Error recovery
b) When the S/W process evolves to reflect changed organizational requirements or identified process improvements

c) Both 1 and 2
d) None of the above

519. Which testing methods are used by end-users who actually test software before they use it?
a) White Box testing **b) Alpha and Beta testing** c) Black box testing d) Trial and Error testing

520. What do you mean by non-functional requirements?
a) User requirements
b) Requirements definition
c)**A timing constraint placed on the system or the use of a specific language during Development**
d) None of the above

521. The project plan should be regularly revised during the project.
a) Yes b) No
c) It cannot be changed, it is to be followed d) It is made only once at the start of project

522. A program's control flow structure indicates_____
a) Correct program
b) **The sequence in which the program's instructions are executed**
c) High-level language programming
d) All of the above

523. Bar charts and activity networks are graphical notation which are used to illustrate the
a) Project Plan b) Project dependencies **c) Project Schedule** d) Project Risk Analysis

524. Which factor is not contributing to software crisis?
a) Larger problem sizes b) Skill shortage
c) Low productivity improvements **d) None of the above**

525. Spiral mode_____
a) Is an example of exploratory programme
b) **Is characterized by the assessment of management risk items**
c) Both 1 and 2
d) None of the above

526. Cohesion is_____
a) Measure of quality
b) Concept related to testing
c) Understandability
d) **Measure of closeness of the relationships between the system's components**

527. Which term defines the process of project compliance with policies and procedures?
a) Quality control b) Quality assurances
c) Quality audits **d) Quality control management**

528. Which of these terms apply to identify quality standards and how to satisfy them?
a) Quality projections **b) Quality management** c) Quality overview d) Quality planning

529. Acceptance test plan is_____
a) Most likely to arise from the requirements specification process
b) Most likely to arise from the System integration
c) Both 1 and 2
d) None of the above

530. Visibility of design means_____
a) Efficient design b) Less complex design
c) Good quality, consistent document **d) None of above**

531. Project quality management includes _____
a) All activities of the performing organization that determines policies and responsibilities of a project
b) Performance quality control
c) Error detection
d) None of the above

532. Important distinction between the spiral model and other software process model is
a) Explicit consideration of planning next phase
b) Explicit consideration of Validation
c) **Explicit consideration of Risk Assessment and Reduction**
d) Explicit consideration of Objective setting

533. Capability maturity model_____
a) Gives description for software process
b) **States what activities are necessary for success**
c) Describes how activities are to be performed
d) Compare essential difficulties of software

534. Validations is to check_____
a) Whether we are building the product right **b) Whether we are building the right product**
c) The methodology of software development d) The methodology of software testing

535. Which lifecycle model would you use for developing a commercial web site that requires About 8 months of effort from a team of 6 people?
a) Opportunistic **b) Waterfall** c) Incremental d) Spiral

536. Deliverables are usually milestones but milestones need not be deliverables
a) **True** b) False c) May be true d) None of the above

537. The execution of every possible test case is called as _____
a) Static analysis b) Dynamic testing c) Structural testing **d) Exhaustive testing**

538. Configuration Management is not related with
a) Controlling changes to the source code
b) **Choice of hardware configuration for an application**
c) Controlling documentation for an application
d) Maintaining versions of software

539. Which of the following statement is correct?
a) The project schedule is usually represented a set of charts showing the work.
b) The project schedule is usually represented as a set of charts showing the activities Dependencies and staff allocations
c) The project schedule is usually represented as a set of charts showing the work breakdown and activities dependencies
d) **The project schedule is usually represented as a set of charts showing the work Breakdown, activities dependencies and staff allocations**

540. Which is true about regression testing?
a) Regression testing is carried out if the system underline is an upgraded or corrected Version
b) Regression testing checks that there is no side effect after changes
c) **Both 1 and 2**
d) None of the above

541. Which of the following is true about integration testing?
a) Integration testing aims to find out the errors related to various module interfaces
b) Integration testing is a kind of testing, which is carried out while constructing or integrating the system
c) **Integration testing is a kind of testing, which is carried out after constructing or integrating the system**
d) Both 1 & 2

542. Which of the following is not a queued message?
a) WM_TIMER b) WM_QUIT c) WM_COMMAND **d) None of these**

543. Which of the following is not a resource?
a) Bitmap b) Dialog box Template c) Html document **d) None of these**

544. Which of the following the resource?
a) Bitmap b) Html document c) Dialog templates d) All of the above.

545. Which function is used to compare the regions?
a) Equal to b) EqualRgn c) CompareRgn d) CmpRgn

546. Which of the following is non queen message?
a) WM_COMMAND b) WM_QUIT c) WM_TIMER d) All of the above

547. Which function is used to convert white to black and black to white?
a) Convert b) Invert c) Insert d) None of above

548. Which API is used to copy and stretch the bitmap?
a) Bible b) StretchBlt c) Patblt d) None of above

549. Which of the following is a resource?
a) Bitmap b) Dialog box template c) Html document **d) All of the above**

550. By default polygon is?
a) Dot-dash **b) Solid** c) Transparent d) None of the above

551. Begin thread present in which header file?
a) Winuser.h b) Window's **c) Process's** d) None of the above

552. What function to stretch the bitmap is used?
a) Stroll () b) Bit blt **c) Stretchable ()** d) Bitmap

553. Which of the following not Virtual key?
a) VK_PREV b) VK_NEXT c) VK_UP d) None

554. Which of the following is the blocking function?
a) Get message () b) Post quit message ()
c) Dispatch message () d) Translate message ()

555. To achieve a good design, different modules should have _____.
a) Weak cohesion and low coupling b) Weak cohesion and high coupling
c) Strong cohesion and low coupling d) Strong cohesion and high coupling

556. Spiral model _____
a) Is an example of exploratory programming?
b) **Is characterized by the assessment of management risk items.**
c) Both 1 and 2
d) None of the above

557. Cohesion is _____.
a) Measure of quality
b) Concept related to testing
c) **Understand ability**
d) Measure of closeness of the relationships between the system's components.

558. The data items that are exchanged between the different functions are represented as
a) Design phase **b) DFDs** c) ER Diagram d) Data Structure

559. Which of the following software development life cycle shows high amount of risk analysis?
a) Water fall model **b) Spiral model** c) V – Shaped model d) Incremental model

560. Design phase will usually be _____.
a) Bottom-up **b) Top-down** c) Random d) Centre fringing

561. Software engineering principles are based on _____.
a) Error correction b) Error prevention c) Error detection **d) None of the above**

562. Which of the following are SDLC process models?
a) Waterfall b) V-shape c) Spiral **d) All of the above**

563. Deployment of a system refers to
a) Activities performed in system testing
b) Implementing the design into executable codes
c) **The transition of the system from its development phase to the operational phase.**
d) None of the above

564. Please match the Spiral model sectors: (X-Y)
X1: Objective setting
X2: Risk assessment and reduction
X3: Development and validation
X4: Planning with their correct characteristics:
Y1: Risks are assessed and activities put in place to reduce the key risks
Y2: Specific objectives for the phase are identified
Y3: The project is reviewed and the next phase of the spiral is planned
Y4: A development model for the system is chosen which can be any of the generic models
a) X1-Y3, X2-Y1, X3-Y2 X4-Y4 **b) X1-Y2, X2-Y3, X3-Y4 X4-Y1**
b) c) X1-Y2, X2-Y1, X3-Y4 X4-Y3 d) X1-Y3, X2-Y2, X3-Y1 X4-Y4

565. The requirement should specify _____
a) Why **b) What** c) How d) All of the above

566. V Shape Model_____
a) Builds the throwaway version intend to test concept & requirements
b) Adds risk analysis, and 4gl RAD prototyping to the waterfall model
c) **Is a variant of the Waterfall that emphasizes the verification and validation?**
d) None of the above

567. Just as the entry point to a C program is the function main(), the entry point to a Windows program is _____.(Win Main())

568. The three main Windows libraries are _____, _____ & _____. (Kernel.32, User32, GDI32)

569. The size of Unicode character is ___ bits. (32)

570. Create Window () function sends the _____ message. (WM_CREATE)

571. Update Window () function sends the _____ message. (WM_PAINT)

572. Post Quit Message () function posts the _____ message. (WM_QUIT)

573. Get Message () function retrieves a message from the _____. (Message queue)

574. Translate Message () function is used for _____ translation. (Keyboard)

575. Window procedure function is a _____ function. (CALLBACK)

576. TA program can call its own window procedure by using the _____ function. (Send Message)

578. Dispatch Message () function passes the MSG structure back to _____. (Windows)

579. The very first message that a window procedure receives is _____. (WM_CREATE)

580. Register Class () associates a window procedure to the _____. (window class)

581. Everything that happens to a window is relayed to the _____ in the form of message. (Window Procedure)

582. _____ API is used for sub classing. (Set Window Long())

583. _____ API is used for character translation of keystrokes. (Translate Message())

584. Message _____ occurs when the user clicks an item on the menu bar or presses a menu key.(WM_INITMENU)

585. _____ API is used to kill a modal dialog box. (End Dialog())

586. _____, _____ and _____ are windows resources defined in a .Res file. (Any three of these –ICON / CURSOR / STRINGTABLE / DIALOG / MENU / BITMAP)

587._____ API is used to set the text of an edit control. (Set Window Text())

588. _____ And _____ are GDI objects.
(Any two from Brush / Pen / Region / Font / Palette / Bitmap)

589. When there is no message in the queue, Peek Message () function returns ____.
a) True b) False

590. System keystrokes are generated for keys typed in combination with the ____ key. (Alt)

591. System keystroke messages are _____ and _____. (WM_SYSKEYDOWN, WM_SYSKEYUP)

592. The virtual key code is stored in the _____ parameter of the WM_KEYDOWN message. (wParam)

593. The repeat count field is stored in the _____ parameter of the keystroke messages. (lParam)

594. _____ Function is used for checking the type of information available in clipboard. (Is Clipboard Format Available ())

595. _____ Function is used to open the clipboard. (Open Clipboard())

596. _____ Function is used to clear the clipboard. (Empty Clipboard ())

597. _____, _____ and _____ are windows resources defined in a .Res file. (Any three of these -ICON / CURSOR / STRINGTABLE / DIALOG / MENU / BITMAP)

598. _____ Function is used to clear the clipboard. (Empty Clipboard())

599. Get Message () returns_____, when it retrieve WM_QUIT message form the messagqueue. (0)
(window class)

600. Window messages are defined in both windows.h and _____ header files. (winuser.h)

601. The repeat count field is stored in the _____ parameter of the keystroke messages. (lParam)

602. Software acts with a dual role as –
a) Application software and embedded software
b) Embedded software and Product-line software
c) **Software product and Environment or application tool for software product development**
d) Application software and Data storage

603. Software Engineering encompasses -
a) **Process, Methods, and Tools** b) Process, Product, and Methods
c) Methods, Tools, and People d) People, Process, and Product

604. Which one of the following is correct list of prescriptive process model?
a) Waterfall, Incremental, Spiral, b) Waterfall, V-shaped, Prototyping
c) Prototyping, Spiral, Adaptive S/w development **d) Waterfall, Incremental, V-shaped**

605. Customer needs important functionality to be implemented at earliest?
a) Waterfall b) Prototyping **c) Incremental** d) RAD

606. Risk analysis and 4gl RAD prototyping is added to the waterfall model to form a -------- model
a) Spiral b) Prototyping c) V-shaped d) RAD

607. ------ model is a variant of the Waterfall model, which also emphasizes the verification and validation
a) Waterfall b) Prototyping c) Incremental **d) V-shaped**

608. Requirement should specify
a) Hardware required to complete the project
b) Resource requirement
c) **A precise and mathematical list of things that describes what proposed software should provide**
d) Description of how to develop the system

609. Stakeholders are asked to rank / prioritise requirements & discuss conflicts in priority in ------- stage of requirement engineering.
a) Conflict resolution b) Elaboration c) Specification **d) Negotiation**

610. Use-cases are defined from ------ point of view
a) An actor's b) A function's c) An actor and functions d) None of the above

611. Product requirements, Organizational requirements, & External requirements are example of
a) Domain requirements **b) Non-functional requirements**
c) Functional requirements d) None of the above

612. Which of the following models collectively form the design model?
a) Data design, Architectural design, Interface Design, Component Design
b) Data design, Architectural design, System design, Program design
c) Architectural design, Interface Design, Functional design, Class design
d) None of the above

613. Which of the following is FALSE statement?
a) Abstractions allows designers to focus on solving a problem without being concerned about irrelevant lower level details
b) Modularity is ability to understand the software by examining its components independently
c) **Control hierarchy represents the procedural aspects of the software**
d) None of the above

614. Coupling is --
a) Qualitative indication of the degree to which a module focuses on just one thing
b) **Qualitative indication of the degree to which a module is connected to other modules & to outside world**
c) Both 1 & 2
d) None of the above

615. Validation process checks –
a) Whether we are building the right product b) Whether we are building the product
c) Whether we are building the product right d) Whether we are testing the product

616. Smoke testing is an ----- testing approach, which is used when software is being developed
a) Unit testing b) Regression testing **c) Integration testing** d)Acceptance testing

617. ------- is conducted at developer's site by end-users
a) Beta testing **b) Alpha testing** c) White box testing d)None of the above

618. Unit testing is
a) A Black box testing **b) A White box testing**
c) An User Acceptance Testing d) Not a testing

619. ---- provides the maximum number of test cases that will be required to guarantee that every statement in program has been executed at least once.
a) Independent Program paths **b) Cyclamate complexity**
c) Graph Matrices d) None of the above

618. Reliability is indicated by following attributes -

a) Maturity, fault tolerance, recoverability b) Understand ability, learnability, accuracy
b) Suitability, accuracy, compliance d) All of the above

619. Warranty work is an example of -----
a) Prevention cost **b) External failure cost** c) Internal failure cost
d) Appraisal Cost e) All of the above

621. Match the following
a) Internal failure cost i) Efforts spent in post-delivery defect fixing
b) Appraisal Cost ii) Efforts spent in pre-delivery defect fixing
c) External failure cost iii) Efforts spent on quality planning, tools development & training
d) Prevention cost iv) Efforts spent on reviews and testing
a) a-iv b-iii c-ii d-I b) a-iv b-ii c-iii d-i
c) a-I b-iii c-ii d-iv **d) a-ii b-iv c-i d-iii**

622. There are --- levels of CMMi
a) 5 b) 3 c) 1 d) 6

623. The objective of project planning is to provide
a) Hardware & software requirement
b) Framework that helps to make reasonable estimates of resources, cost and schedule
c) Only the list of risks identified
d) None of the above

624. Pick up the correct statement from following
a) Project estimates should not be updated during project development
b) Project estimates should be updated only at the end of the project
c) **Project estimates should be updated as the project progresses**
d) None of the above

625. The purpose of project management is –
a) Prediction and prevention b) Prediction and reaction
c) Recognition and reaction d) None of the above

626. Software project management is ------- within SDLC
a) A phase **b) An umbrella activity** c) A milestone d) None of the above

627. Which one of the following is FALSE STATEMENT?
a) Gantt charts are often used for displaying the project schedule
b) Gantt chart shows both planned and actual schedule information
c) **CPM is used for finding total project cost**
d) Critical path is the longest path through the network diagram

628. In Software project management, 4 Ps have to be managed in following order -
a) Project, People, Product, Process b) Process, Problems, People, Product
c) People, Product, Process, Project d) Product, People, Process, Problem

629. Scheduling begins with ------Risk identification

a) Process decomposition **b) FP Estimation** c) COCOMO estimation

630. One of the limitations of FP analysis is
a) Evaluation effort is small b) Facilitates verification
c) Does not provide phase-wise break up d) None of the above

631. Which one of the followig nis true?
a) Deliverables are usually milestones but milestones need not be deliverables
b) All milestones are deliverables
c) Deliverables & Milestones are always deliverables
d) None of the above

632. Risk assessment is done in
a) Analysis Phase b) Design Phase c) Coding Phase **d) All phases of the project**

633. Risk score (or Risk Exposure) is a product of
a) Probability of occurrence and Impact on project should the risk occur
b) No. of resources on project and daily per person rate
c) Probability of occurrence and total No of resources
d) None of the above

631. Risk assessment Process involves
a) Risk identification, Treating problems, Issue resolution
b) Identify problems, Resolve problems, Report problem
c) **Risk Identification, Assessment & Measurement, Planning, Tracking, Control**
d) None of the above

632. In Risk management, the purpose of Risk Assessment is
a) **To convert risk data into decision making information**
b) To shift the impact of the threat to a third-party
c) To reduce probability and impact
d) To define roles and responsibilities

633. Software requirements should not be
a) Functional b) Ambiguous c) consistent

634. The decision logic is expressed by
a) Data flow diagram b) Flow chart c) Structure chart

635. Validation is to check
a) Whether we are building the product right
b) Whether we are building the right product
c) The methodology of software development

636. Corrective maintenance is to
a) Improve the system in some way without changing its functionality
b) Correct the undiscovered errors
c) Make changes in the environment

637. Analysis phase is
a) Not to actually solve the problem
b) Not to determine exactly what must be done to solve the problem
c) To move quickly to program design

638. Object models
a) Should include details of the individual objects in the system
b) Are part of design?
c) Are natural ways of reflecting the real world entities that are manipulated by the system?

639. The three classes of interface errors are:
a) Interface misuse, interface misunderstanding, timing errors
b) Interface misunderstanding, interface coupling, data transfer errors
c) Interface coupling, timing errors, interface parameter errors

640. Find the activity which is not part of version management
a) Controlled change b) Storage management c) Coding standard

641. Which is the non-technical factor of maintenance cost?
a) Program age b) Programming style c) Program validation

642. Software quality assurance is
a) A multi-tiered testing strategy
b) A measurement and reporting mechanism
c) An activity that is applied throughout the software process.

643. Most common but least effective way of debugging is
a) Brute force b) Backtracking c) Cause elimination

644. Equivalence partitioning is
a) A white-box testing method
b) A black-box testing method
c) Neither white-box nor black-box testing method

645. Doing what is said one would do, is the definition for
a) Reliability b) Quality c) Software plan

646. The typical elements of the requirements engineering process are
i) Problem analysis ii) Software design iii) Analysis of staffing needs
iv) External behaviour specification
a) i and iv b) ii and iii c) i, iii and iv d) i, ii and iii

647 In object models, information hiding conceals
a) Operations b) Attributes c) Methods d) State and behaviour

Fill in the blanks :

648. _____ is an iterative process through which the requirements are translated into 649. A "blueprint" for constructing the software.

Answers the followings in brief:

650. Explain the concept of black box.
651. What are the qualities of software?
652. Give the various steps in prototyping.
653. What are the various fact-finding Techniques?
654. What are the types of decision tables?
655. What are the structures of Structured English?
656. Give a brief note on acceptance testing.
657. Define coupling and cohesion.
658. What is maintenance? Explain about various types of maintenance.
659. Differentiate between Decision Tree and Decision Table.
660. Give the coding guidelines.
661. Give the debugging approaches.
662. Why Software doesn't wear out.
663. Explain about Dos and Don'ts of good coding style.
664. Give the contents of SRS document.
665. Explain briefly about SEI CMM.
666. What is feasibility study? Explain about various aspects of feasibility.
667. Define normalization and explain about first three normal forms. 668. What is changeover? What are the types of changeover?
669. Differentiate between Black Box and White Box testing
670. Explain about Interview as a Fact Finding technique
671. What are the various factors that influence software cost-estimation?
672. Write a short note on structured charts.
673. Explain about the various concepts of a system.
674. Give Salient features of CASE tools.
675. Explain about various stages of software Development according to classical life cycle.

Answers the followings in detail:

675. Compare and contrast the two life cycle models viz. Waterfall and Spiral models. (Mention at least three distinct aspects).
677. State the importance of requirements management in a software development
678. Discuss and compare the coupling and cohesion in software design
679. Discuss the trade-off between error checking execution time / memory space overhead.
680. How can the overhead be reduced or eliminated?
681. Give some reasons for using global variables than parameters. What are the potential Problems created by the use of global variables?
682. Explain why it is very difficult to produce a complete and consistent set of requirements.
683. Discuss the differences between object-oriented and function-oriented design strategies
684. Explain why maximising cohesion and minimising coupling leads to more maintainable Systems 685. Show using a small example, why it is practically impossible to exhaustively test a Code.
686. List at least five distinct tests to exercise the various features of the PowerPoint Software used for slide preparation and projection.
687. Develop a high level data flow diagram for an airline reservation system

688 Develop test plan for the library management system (List at least five test cases). 689. Rewrite the following requirements so that they may be objectively validated. You may 690. Make any reasonable assumptions about the requirements.

a) The software system should provide acceptable performance under maximum load Conditions
b) Structured programming should be used for program development
c) The software must be developed in such a way that it can be used by inexperienced Users.

691. Model the data processing which might take place in an electronic mail system that can Send and receive messages from remote computers.
692. Discuss the advantages of incremental model as compared to water fall model.
693. Can a program be correct and still not be reliable? Explain
694. Discuss how you would approach the top-down design of a software system.
695. Discuss at least three reasons that would highlight the importance of software Maintenance.
696. Compare and contrast the white-box and black-box testing methods. 697. Discuss the importance of documentation in software development. 698. Discuss the pros and cons of the COCOMO model for cost estimation 699. Make a structure chart for the following:
700. Given an array of integers, arrange them in ascending order using quick sort method.
701. Develop a software review checklist for use by the designer and the implementer. What issues are important to each of these roles?
702. Develop an architecture and also flow diagrams (up to 2 levels) for the following:
"Consider the automation of the transaction at the registration counter of a post-office. A Scanner is provided to capture the "from" and "to" addresses from the envelop. The clerk uses your software to issue receipts to the customers. This is expected to reduce the Waiting time at the counter."
Suppose that a 50-KDSI (Thousands of delivered source instructions) application Program can be purchased for Rs. 2,000,000/-. Assuming that your in-house programmers Cost Rs.30, 000/- per programmer month (including overheads), would it be more cost Effective to buy the product or to build it?

A Manager decides to use the reports of code inspections as an input to the staff Appraisal process. These reports show who made and who discovered program errors. Is This ethical managerial behaviour? Would it be ethical if the staff were informed in advance? That this would happen? What difference might it make to the inspection process?

Apply a "stepwise refinement process" to develop three different levels of procedural Abstraction for developing a cheque writer that, given a numeric rupees amount, will print the amount in words that is normally required on a cheque.

703. Derive a set of test cases for a code which sorts arrays of integers. Draw a flow graph for an algorithm of your choice and derive its cyclamate complexities
A university intends to procure an integrated student management system holding all Details of registered 1students including personal information, courses taken, and Examination marks achieved. The alternative approaches to be adopted are either Buy a database management system and develop an in-house system based on this database.
a) Buy a system from another university and modify it to local requirements
b) Join a consortium of other universities, establish a common set of requirements and
c) Contract a software home to develop a single system for all of the universities in the Consortium. Identify two possible risks in each of these strategies.

704 Consider the error messages produced by MS-DOS or UNIX or WINDOWS operating System. Suggest how they might be improved.

705. Develop at least two levels of procedural abstraction for implementing the savings bank Transactions in a banking system.

706. Draw a flow graph for the following and find its cycloramic complexity: Given 1000numbers, arrange them in ascending order using any one of the sorting methods.

707. Oxford College of Commerce is an undergraduate college. The college receives sufficiently large number of application for admission to FY, SY and TY B. Com. Classes.

708. The college has decided to computerize its admission procedure. The standard admission Procedure requires adhering to the norms set by concerned government agencies, the University and the college administration. The procedure also involves disbursing admission Forms at a cost, collecting duly completed forms, preparing merit lists and admitting the Students as per norms, notifying student, collecting fees, preparing and submitting reports to concerned authorities. By carefully studying the case you are required to solve the following:

a) Draw a context level and first level DFD b) Identify the various reports required

709. Discuss the advantages and disadvantages of using the "antibugging" technique to provide built-in debugging assistance to uncover errors.

710. Contract a software home to develop a single system for all of the universities in the Consortium. Identify two possible risks in each of these strategies.

711. Design test cases for the following problem: Given a quadratic equation, solve it to find the roots.

712. Draw the context level diagram for a payroll system

713. Prepare Context diagram for the saving bank deposit and withdrawal system in a nationalized bank. Also draw the first level DFD for the same.

714. Rational College of Commerce is an undergraduate College. The college receives sufficiently large number of applications for admission to FY, SY and TY. B com classes.
The college has decided to computerize its admission program. The standard admission Procedure requires adhering to the norms set by concerned government agencies, the University and the college administration. The procedure also involves disbursing admission Forms at a cost, collecting duly completed forms, preparing merit list and admitting students As per norms, notifying students, collecting fees, preparing and submitting reports to the concerned authorities
You are required to identify:
(i)Entities:

a) Processes b) Data flows c) Data Stores

715. Which SDLC Model is best suited when only part/some of the requirements are known at the beginning

a) Waterfall Model b) Incremental Model c) Prototype Model d) Spiral Model

716. In case of Bank, what will be the relationship between "Opening of Account" use case and "Deposit" Use case?
a) Uses b) Extends c) Includes d) None of the above

717 _____is an entity that is extemal to the system & directly interacts with the system and deriving some benefits from the interaction.
a) Actor b) Use case c) Class d) Relationship

718. Review activity of any software is under which kind of Testing?
a) Black Box Testing b) Static Testing c) Dynamic Testing d) White Box Testing

719. Equivalence Petitioning is a test case generation technique, for_____ kind of Testing Technique.
a) Static Testing b) White Box Testing c) Black Box Testing d) Red Box Testing

720. In the Project Management Triangle. Which parameter is most important?
a) Time b) Scope c) Cost d) All of the above are equally important

721. Quality assurance help for
a) Process improvement b) Testing
c) Removal of defects before release d) All of the above

722. Refers to the support phase of software development.
a) Adaption b) Enhancement c) Maintenance d) Actions

723. Which one of the following is the process of factoring the design module?
a) Software re-engineering b) Configuration management
c) Software maintenance d) software Refactoring

724. Which of the following process is not part of Project Risk Management?
a) Risk Identification b) Effort estimation
c) Risk Analysis d) Risk Response Development

725. Enhances performance 8. Functionality of the software after delivery.
a) Re-design b) Re-engineering c) Maintenance d) Post checking

726. Which of the following is not a stage of requirement engineering process?
a) Feasibility study b) Requirement analysis
c) Requirement definition d) Implementation

727. Which of the following meetings is not part of Scrum?
a) Product review meeting b) Sprint review meeting
c) Sprint planning meeting d) Sprint retrospective meeting

728. In Scrum, the prioritized work to be done is referred to as
a) Sprint planning b) Product backlog c) Sprint retrospective d) Standup meetings

729. Software risk impact assessment should focus on consequences affecting _____
a) Planning resources oost & schedule b) Marketability oost & personnel

c) Business, technology & process schedule
d) Performance support, oost &

730. The process starting with the terminal modules is called_____
a) Top-down integration
b) Bottom-up integration
c) Module integration
d) None of the above

731. To check whether we are developing the right product according to the customer requirements or not. This is known as static process.
a) Validation b) Quality Assurance c) Verification d) Quality Control

732. A reliable system will be one:
a) That is unlikely to be completed on sdtedule
b) That is unlikely to cause a failure
c) That is likely to be fault-free
c) That is likely to be liked by the users

733. To test a function, the programmer has to write a passes it test data.
a) Stub b) Proxy c) Driver d) None of the above

734. When a new testing tool is purchased.it should be used first by:
a) A small team to establish the best way to use the tool
b) Everyone who may eventually have some use for the tool
c) The independent testing team
d) The vendor contractor to write the initial scripts

735. Pick up IEEE the best definition of software engineering?
a) Set of computer programs. Procedures and possibly associated document conoemed with the operation of data processing.
b) Software engineering is Design Coding Development
c) Software engineering implement a single independent function
d) Software engineering is the establishment and use of sound engineering practice in order to produce
economical and reliable software that will perform n efficiently on real machine

736. Agile methods are known as
a) Predictive b) Adaptive c) Process Oriented d) Short term process methods.

737. The identification of stakeholders and user classes in requirements engineering is carried out in
a) Elicitation b) Analysis c) Verification d) Specification

738. Which among the following gives a chronological record of relevant details about the execution of tests?
a) Test incident report b) Test log c) Test summary report d) None of the above

739. What is not included in a System Requirement Specification Document?
a) Scope b) Specific Requirements c) Design Solutions d) References

740. Project risk factor is considered in
a) Spiral Model b) Waterfall Model

c) Prototyping Model d) Iterative enhancement Model

741. Formal Reviews of an individual product used to evaluate correctness based on its input criteria are
a) Inspections b) Checkpoint review c) Testing d) Walkthrough

742. Which of the below listed processes is not part of Project Planning
a) Identify Constraints b) Identify Algorithms c) Identify Risks d) Identify Milestones

743. Which Agile principle can help in chaordic situation?
a) Incremental Delivery b) Continuous Integration
c) PMO Policy d) Latest Technology

744. Which of c the Unified Process model for software development?
a) Inception phase b) Elaboration phase
c) Consumption phase d) Validation phase

745. Which of the following is not one of Hookers core principles of software engineering practice?
a) All design should be as simple as possible, but no simpler
b) A software system exists only to provide value to its users.
c) Pareto principle (20% of any product requires 80% of the effort)
d) Remember that you produce others will consume

746. Which of the following is valid reason(s) for collecting customer feedback concerning delivered software? a) Allows developers to make changes to the delivered increment
b) Delivery schedule can be revised to reflect changes
c) Developers can identify dwanges to incorporate into next increment
d) All of the above

747. Which of the following is not generally considered a player in the software process?
a) Customers b) End-users c) Sales people d) Project managers

748. Does an organization develop one lifecycle model?
a) For all the projects b) For each project c) For each do main

750. Find the odd one out of the following:
a) Step wise refinement b) Structural design c) Information hiding

751. Corrective main ten acne is to
a) Improve the system in some way without changing its functionality
b) Correct the undiscovered errors
c) Make changes in the environment

752. Analyse is phase is
a) Not to actually solve the problem
b) Not to determine exactly what must be done to solve the problem
c) To move quickly to program design

Basic

Q.1 From the following which quality deals with maintaining the quality of the software product?
a. Quality assurance **b. Quality control** c. Quality efficiency d. None of the above

Q.2 Function-oriented design is comprised of many smaller sub-systems is known as, Functions.
a. Yes b. No

Q.3 State if the followings are true or false.
For scheduling a project, it is necessary to:
1) Break down the project tasks into smaller, manageable form.
2) Find out various tasks and correlate them.
3) Estimate time frame required for each task.
4) Divide time into work-units.
a. True b. False

Q. 4 Software project manager is engaged with software management activities. He is responsible for _____ .
a. Project planning. b. Monitoring the progress
c. Communication among stakeholders **d. All mentioned above**
e. None of the above

Q.5 Software is not considered to be collection of executable programming code, associated libraries and documentations.
a. True **b. False**

Q.6 Which quality deals with the maintaining the quality of the software product?
a. Quality assurance **b. Quality control** c. Quality Efficiency d. None of the above

Q.7 Choose the correct option according to given below statement.
Statement 1: Umbrella activities are independent of any one framework activity and occur throughout the process.
Statement 2: software quality assurance, software configuration management are umbrella activity.
Statement 3: software quality assurance, software configuration management are not umbrella activity.
a. Only statement 1 is correct. **b. Statement 1 and statement 2 are correct .**
c. Only statement 3 is correct. d. Statement 1 and statement 3 are correct.

Q.8 The interviews, which are held between two persons across the table is _____.
a. Written b. Non-structured c. Group **d. One-to-one**

Q.9 Which of these primary objectives have to be achieved for the requirement model?
a. To describe what the customer requires
b. To establish a basis for the creation of a software design
c. To define a set of requirements that can be validated once the software
d. All mentioned above

Q.10 When elements of module are grouped because the output of one element serves as input to another element and so on, it is called _____ .

a. Functional Cohesion b. Communicational cohesion
c. Sequential cohesion d. Procedural cohesion

Q.11 The spell check feature in word processor is a module of software.
a. True b. False

Q.12 CASE tools cannot be grouped together if they have similar functionality, process activities and capability of getting integrated with other tools.
a. True **b. False**

Q.13 Which tool consist of programming environments like IDE, in-built modules library and simulation tools?
a. Web development tools **b. Prototyping tools**
c. Programming tools d. Design tools

Q.14 Which depicts flow of control in program modules?
a. Flowchart b. DFD c. Both A & B d. None of the above

Q.15 Abbreviate the term HIPO.
a. Hierarchical Input Process Output b. High-level Input Process Output
c. Huge Input Process Output d. None of the above

Q.16 The total number of distinct operator and operand occurrences measures are used in _____ .
a. Lawrence theory **b. Halstead's theory** c. Kyburg, H. E. d. Jech, T.

Q.17 Hazard analysis focuses on the identification and assessment of potential hazards that can cause the _____ .
a. External problems b. Internal problems c. Both A & B d. None of the above

Q.18 Which model gives the overall reliability of the system that is projected and certified?
a. Sampling model b. Component model
c. Certification model d. Both A & B

Q.19 Which class gives a content or function change that corrects an error or enhances local content or functionality in change management?
a. Class 1 b. Class 2 c. Class 3 d. Class 4

Q.20 Which aspect is important when the software is moved from one platform to another?
a. Maintenance b. Operational **c. Transitional** d. All of the above

Q.21 A software project manager is a person who undertakes the responsibility of carrying out the software project.
a. True b. False

Q.22 From the following methods which size of the software product can be calculated?
a. Counting the lines of delivered code b. Counting delivered function points
c. Both A and B d. None of the above

Q.23 Which chart is a tool that depicts project as network diagram that is capable of graphically representing main events of project in both parallel and consecutive way?

a. PERT chart b. Gantt chart c. Both A & B d. None of the above

Agile Software Development

1. Select the option that suits the Manifesto for Agile Software Development

a) Individuals and interactions b) Working software

c) Customer collaboration d) Responding to change **e) All of the mentioned**

2. Agile Software Development is based on

a) Incremental Development b) Iterative Development c) Linear Development

d) Waterfall Model **e) Both a and b**

3. Which on of the following is not an agile method?

a) XP **b) 4GT** c) AUP

4. Agility is defined as the ability of a project team to respond rapidly to a change.

a) True **b) False**

5. How is plan driven development different from agile development?

a) Outputs are decided through a process of negotiation during the software development process.

b) Specification, design, implementation and testing are interleaved

c) **Iteration occurs within activities**

6. How many phases are there in Scrum?

a) Two **b) Three** c) Four d) Scrum is an agile method which means it does not have phases.

7. Agile methods seem to work best when team members have a relatively high skill level.

a) True b) False

8. Which of the following does not apply to agility to a software process?

a) Uses incremental product delivery strategy b) Only essential work products are produced

c) Eliminate the use of project planning and testing

9. Which three framework activities are present in Adaptive Software Development (ASD)?

a) Analysis, design, coding b) requirements gathering, adaptive cycle planning, iterative development

c) speculation, collaboration, learning

10. In agile development it is more important to build software that meets the customers' needs today than worry about features that might be needed in the future.

a) True b) False

11. Agile is

a) Sequential b) Iterative c) Incremental **d) Both b & c**

12. What is/are advantage/s of Agile testing?
a) Saves time
b) requires less planning and creates less documentation
c) Regular feedback from end users
d) Solves issue in advance by daily meeting
e) All the above

13. Who will test the system in agile development?
a) software tester b) Developer c) Business Analyst **d) All the above**

14. When acceptance testing is performed in Agile development?
a) On request of customer b) After system is ready
c) At the end of each iteration d) Daily

15 .In agile development, lengthy documentation is created.
a) True **b) False**

16. Which skill are required by Agile tester?
a) Domain knowledge
b) Keen to learn and adopt new technology
c) Effective communicator who maintains good relationship with development teeam
d) All the above

17. Who is responsible for sprint meeting?
a) Product owner b) Scrum team **c) Scrum master** d) All the above

18. Who prioritizes product backlog?
a) Product owner b) Scrum team c) Scrum master d) All the above

19. Arrange following scrum practices according to the order in which they are carried out.
1. Sprint planning
2. Daily scrum meet
3. Sprint retrospective meet
4. Sprint review meet
5. Sprint

a) 1,5,2,3,4 **b) 1,5,2,4,3** c) 1,2,5,4,3 d) 1,3,2,4,5

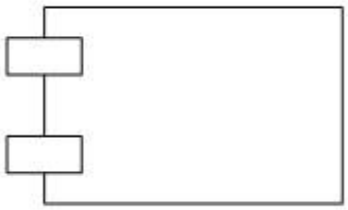
UML – 1

1. Which of the following UML diagrams has a static view?
a) Collaboration **b) Use case** c) State chart d) Activity

2. What type of core-relationship is represented by the symbol in the figure below?

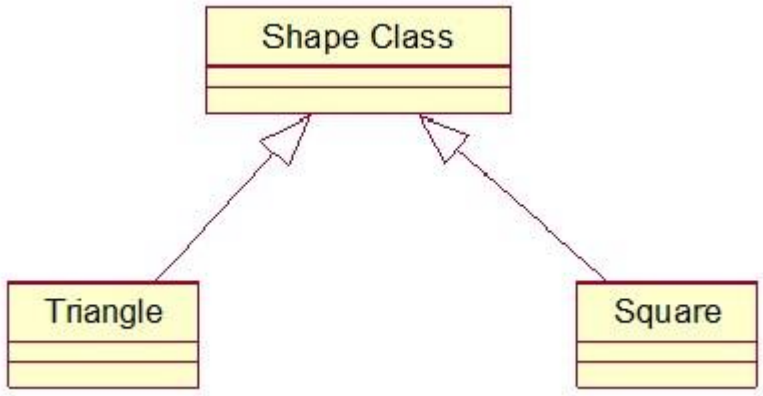
a) Aggregation b) Dependency c) Generalization d) Association

3. Which core element of UML is being shown in the figure?



a) Node b) Interface c) Class **d) Component**

4. What type of relationship is represented by Shape class and Square?



a) Realization **b) Generalization** c) Aggregation d) Dependency

5. Which diagram in UML shows a complete or partial view of the structure of a modelled system at a specific time?

a) Sequence Diagram b) Collaboration Diagram c) Class Diagram **d) Object Diagram**

6. Interaction Diagram is a combined term for

a)**Sequence Diagram + Collaboration Diagram** b) Activity Diagram + State Chart Diagram
c) Deployment Diagram + Collaboration Diagram d) None of the mentioned

7. Structure diagrams emphasize the things that must be present in the system being modelled.

a) True b) False

8. Which of the following diagram is time oriented?

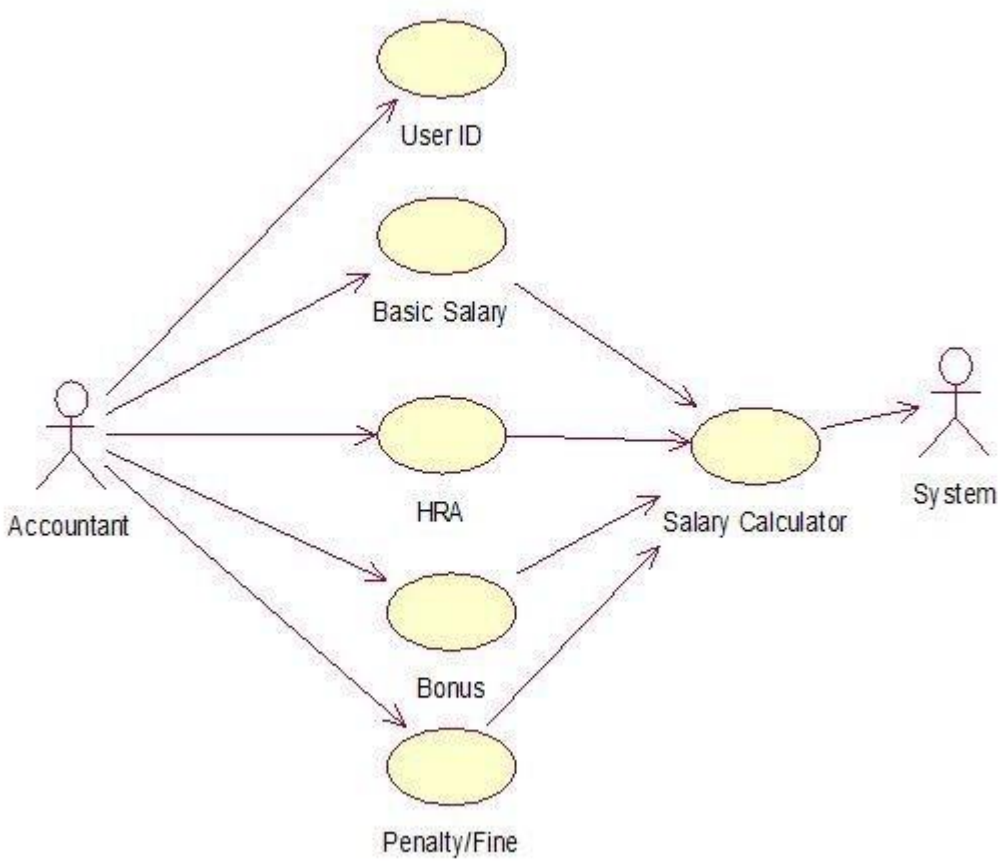
a) Collaboration **b) Sequence** c) Activity

UML – 2

1. How many diagrams are here in Unified Modelling Language?

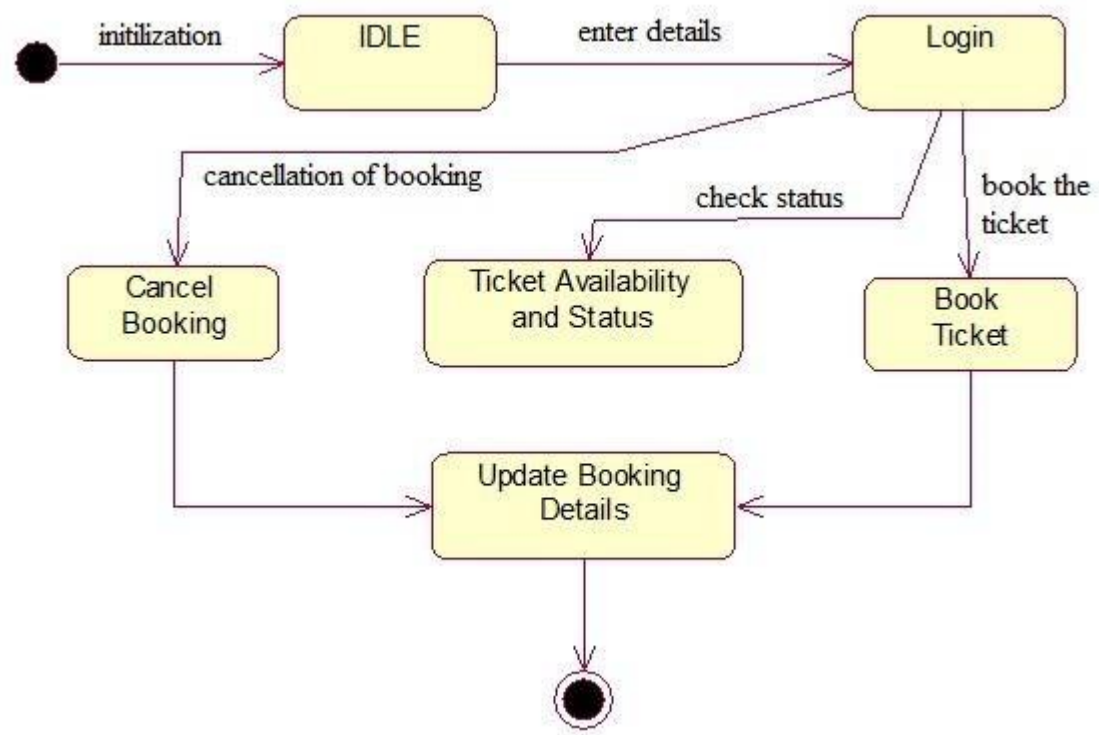
a) Six b) seven c) eight d) nine

2. Which UML diagram is shown below?



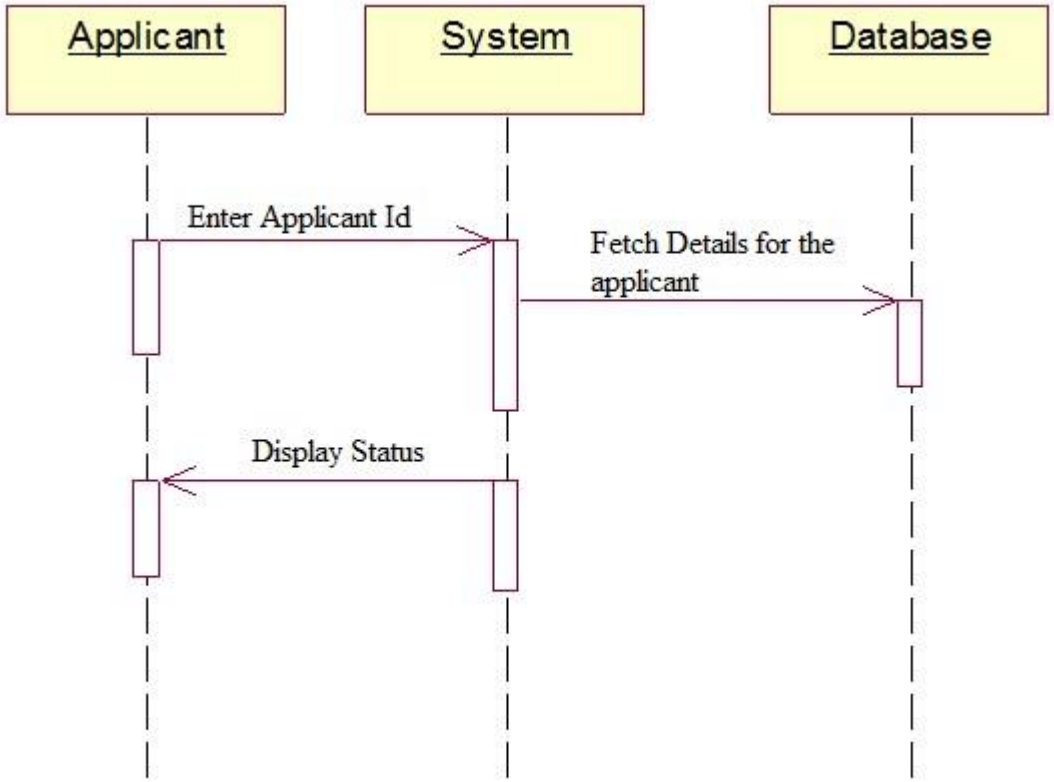
a) **Use Case** Diagram b) Collaboration Diagram c) Class Diagram d) Object Diagram

3. Which UML diagram is shown below?



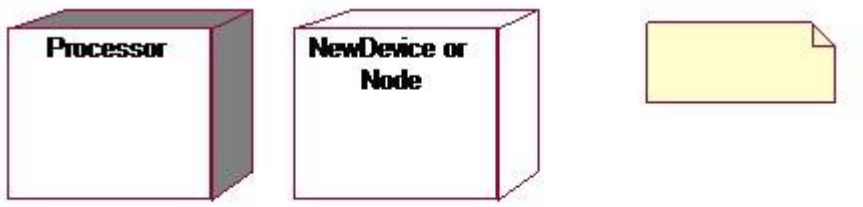
a) Use Case **b) State Chart** c) Activity d) Object Diagram

4. Which UML diagram is shown below?



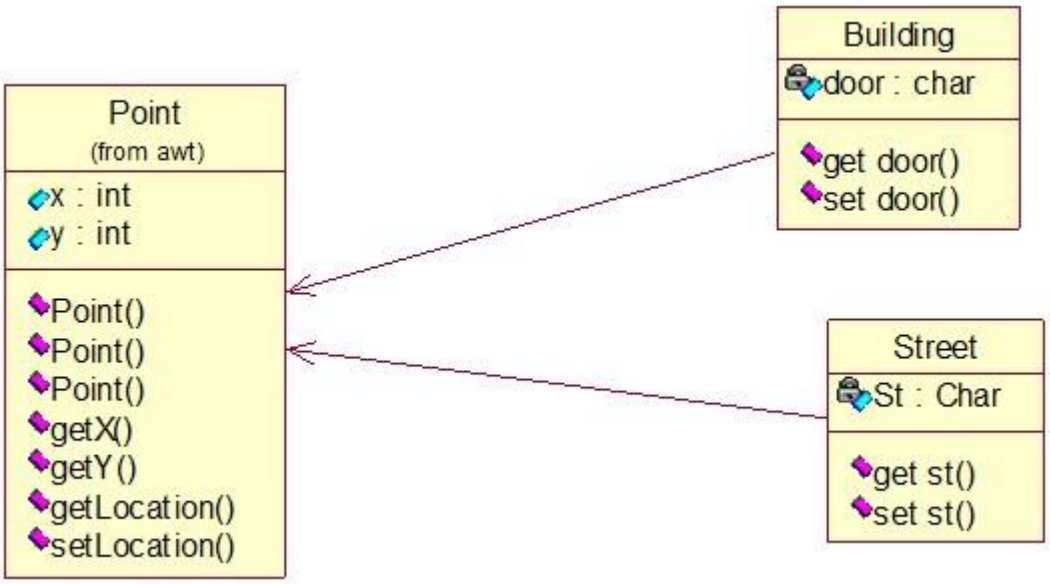
a) Use Case Diagram b) Collaboration Diagram **c) Sequence Diagram** d) Object

5. Which UML diagram's symbols are shown below?



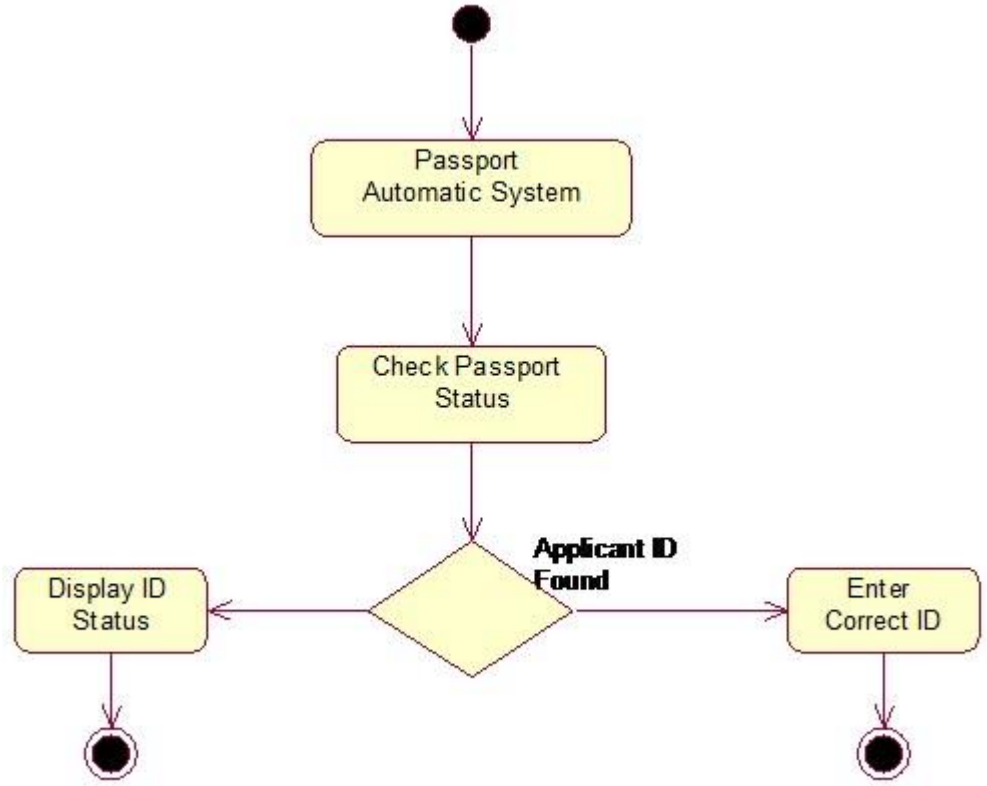
a) Deployment diagram b) Collaboration Diagram c) Component Diagram d) Object Diagram

6. Which UML diagram is shown below?



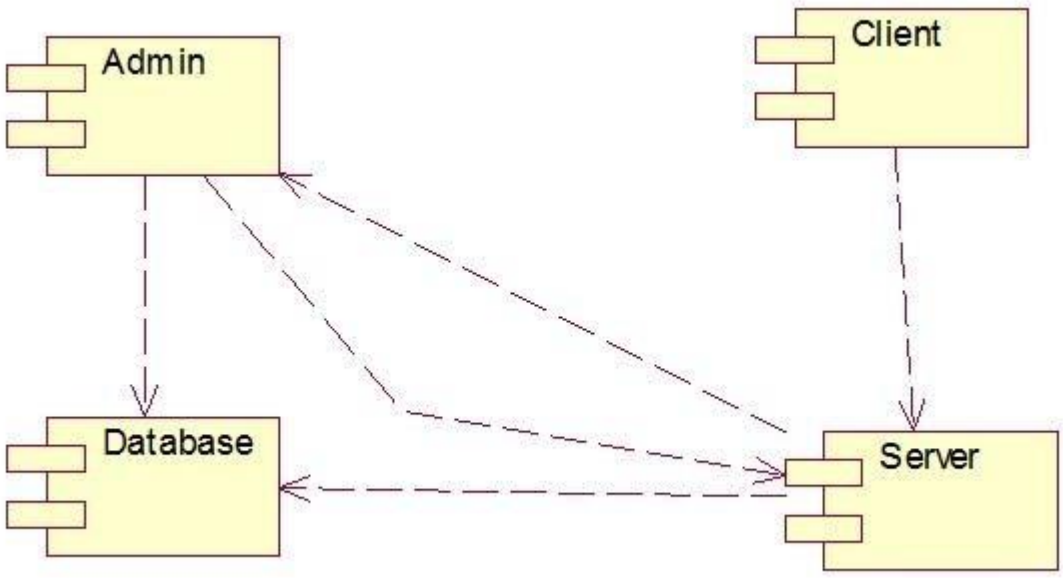
a) Deployment diagram b) Collaboration Diagram c) Object Diagram **d) Class Diagram**

7. Which UML diagram is shown below?



a) Activity b) State chart c) Sequence d) Collaboration

8. Which UML diagram is shown below?



a) Component b) Deployment c) Use Case d) DFD

Software Testing Techniques – 1

1. Which of the following term describes testing?

a) Finding broken code **b) Evaluating deliverable to find errors** A stage of all projects d) None of the mentioned

2. What is Cyclomatic complexity?
a) Black box testing **b) White box testing** c) Yellow box testing d) Green box testing

3. Lower and upper limits are present in which chart?
a) Run chart b) Bar chart c) Control chart d) None of the mentioned

4. Maintenance testing is performed using which methodology?
a) Retesting b) Sanity testing **c) Breadth test and depth test** d) Confirmation testing

5. White Box techniques are also classified as
a) Design based testing technique **b) Structural testing** c) Error guessing

6. Exhaustive testing is
a) always possible and impossible b) practically possible **c) impractical but possible** d) impractical

7. Which of the following is/are White box technique?
a) Statement Testing b) Decision Testing c) Condition Coverage **d) All of these**

8. What are the various Testing Levels?
a) Unit Testing b) System Testing c) Integration Testing **d) All of the mentioned**

9. Boundary value analysis belong to?
a) White Box Testing **b) Black Box Testing**

10. Alpha testing is done at
a) **Developer's end** b) User's end

Software Testing Techniques – 2

1. The testing in which code is checked
a) Black box testing **b) White box testing** c) Red box testing d) Green box testing

2. Testing done without planning and Documentation is called
a) Unit testing b) Regression testing **c) Adhoc testing** d) None of the mentioned

3. Acceptance testing is also known as
a) Grey box testing b) White box testing c) Alpha Testing **d) Beta testing**

4. Which of the following is non-functional testing?
a) Black box testing **b) Performance testing** c) Unit testing d) None of the mentioned

5. Beta testing is done at
a) User's end b) Developer's end

6. SPICE stands for

a) Software Process Improvement and Compatibility Determination
b) Software Process Improvement and Control Determination
c) **Software Process Improvement and Capability Determination**
d) None of the mentioned

7. Unit testing is done by
a) Users **b) Developers** c) Customers

8. Behavioural testing is
a) White box testing **b) Black box testing** c) Grey box testing

9. Which of the following is black box testing
a) Basic path testing **b) Boundary value analysis**
c) Code path analysis d) None of the mentioned

10. Which of the following is not used in measuring the size of the software
a) KLOC b) Function Points **c) Size of module**

Life Cycle Models

1. Build & Fix Model is suitable for programming exercises of _____ LOC (Line of Code).
a) 100-200 b) 200-400 c) 400-1000 d) above 1000

2. RAD stands for
a) Relative Application Development
b) Rapid Application Development
c) Rapid Application Document

3. Which one of the following models is not suitable for accommodating any change?
a) Build & Fix Model b) Prototyping Model c) RAD Model **d) Waterfall Model**

4. Which is not one of the types of prototype of Prototyping Model?
a) Horizontal Prototype b) Vertical Prototype **c) Diagonal Prototype** d) Domain Prototype

5. Which one of the following is not a phase of Prototyping Model?
a) Quick Design **b) Coding** c) Prototype Refinement d) Engineer Product

6. Which of the following statements regarding Build & Fix Model is wrong?
a) No room for structured design b) Code soon becomes unfix-able & unchangeable
c) Maintenance is practically not possible **d) It scales up well to large projects**

7. RAD Model has
a) 2 phases b) 3 phase **c) 5 phases** d) 6 phases

8. What is the major drawback of using RAD Model?
a) Highly specialized & skilled developers/designers are required.
b) Increases re-usability of components.
c) Encourages customer/client feedback.
d) Both a & c.

9. SDLC stands for
a) Software Development Life Cycle b) System Development Life cycle
c) Software Design Life Cycle d) System Design Life Cycle

10. Which model can be selected if user is involved in all the phases of SDLC?
a) Waterfall Model b) Prototyping Model **c) RAD Model** d) both b & c

Function Oriented Software Design

1. Choose the option that does not define Function Oriented Software Design.
a) It consists of module definitions **b) Modules represent data abstraction**
c) Modules support functional abstraction

2. Which of the following is a complementary approach to function-oriented approach?
a) Object oriented analysis b) Object oriented design
c) Structured approach **d) Both a and b**

3. Function-oriented design techniques starts with functional requirements specified in
a) SDD **b) SRS** c) None of the mentioned

4. Structured Analysis is based on the principles of
a) Top-down decomposition approach b) Divide and conquer principle
c) Graphical representation of results using DFDs **d) All of the mentioned**

5. Which of the following is/are true with respect to functions?
a) A function such as "search-book" is represented using a circle.
b) Functions represent some activity
c) Function symbol is known as a process symbol or a bubble in DFD
d) **All of the mentioned**

6. Which of the following is not a use of a CASE tool?
a) Support structured analysis and design (SA/SD) b) Maintains the data dictionary
c) Checks whether DFDs are balanced or not **d) It complies with the available system.**

7. What DFD notation is represented by the Rectangle?
a) Transform **b) Data Store** c) Function d) None of the mentioned.

8. Structural decomposition is concerned with function calls.
a) True b) False

9. A function-oriented design focuses on the entities in the system rather than the data processing activities.
a) True **b) False**

10. In DFDs, user interactions with the system is denoted by
a) Circle b) Arrow c) Rectangle d) Triangle

Project Management

1. Which of the following is not project management goal?
a) Keeping overall costs within budget.
b) Delivering the software to the customer at the agreed time.
c) Maintaining a happy and well-functioning development team**.**
d) **Avoiding costumer complaints.**

2. Project managers have to assess the risks that may affect a project.
a) True **b) False**

3. Which of the following is not considered as a risk in project management?
a) Specification delays b) Product competition **c) Testing** d) Staff turnover

4. The process each manager follows during the life of a project is known as
a) Project Management b) Manager life cycle
b) **c) Project Management Life Cycle** d) All of the mentioned

5. A 66.6% risk is considered as
a) very low b) low c) moderate **d) high** e) very high

6. Which of the following is/are main parameters that you should use when computing the costs of a software development project?
a) Travel and training costs
b) Hardware and software costs
c) **All of the mentioned**
b) effort costs (the costs of paying software engineers and managers)

7. Quality planning is the process of developing a quality plan for
a) team **b) project** c) customers d) project manager

8. Which of the following is incorrect activity for the configuration management of a software system?
a) **Internship management** b) Change management c) Version management d) System management

9. Identify the sub-process of process improvement
a) Process introduction **b) Process analysis** c) De-processification d) Process distribution

10. An independent relationship must exist between the attribute that can be measured and the external quality attribute.
a) True **b) False**

Project Planning

1. Which of the following is an important factor that can affect the accuracy and efficacy of estimates?
a) Project size b) Planning process c) Project complexity d) Degree of structural uncertainty

2. What describes the data and control to be processed?
a) Planning process **b) Software scope**
c) External hardware d) Project complexity

3. A number of independent investigators have developed a team-oriented approach to requirements gathering that can be applied to establish the scope of a project called
a) JAD b) CLASS **c) FAST** d) None of the mentioned

4. CLSS stands for
a) Conveyor line sorting system b) Conveyor line sorting software
c) Conveyor line sorting speed d) Conveyor line sorting specification

5. The project planner examines the statement of scope and extracts all important software functions which is known as
a) Association **b) Decomposition** c) Planning process d) All of the mentioned

6. The environment that supports the software project is called
a) CLSS **b) SEE** c) FAST d) CBSE

7. Which of the following is not an option to achieve reliable cost and effort estimate?
a) Base estimates on similar projects that have already been completed
b) Use one or more empirical models for software cost and effort estimation
c) Use relatively simple decomposition techniques to generate project cost and effort estimates.
d) **The ability to translate the size estimate into human effort, calendar time, and dollars.**

8. What can be used to complement decomposition techniques and offer a potentially valuable estimation approach in their own right?
a) Automated estimation tools
b) Empirical estimation models
c) Decomposition techniques
d) **Both Automated estimation tools and Empirical estimation models**

9. Which of the following is not achieved by an automated estimation tools?
a) Predicting staffing levels b) Predicting software cost
c) Predicting software schedules **d) Predicting client's demand**

10. Software project estimation can never be an exact science, but a combination of good historical data and systematic techniques can improve estimation accuracy.
a) True b) False

Software Process and Product – 1

1. Which one of the following is not a software process quality?
a) Productivity **b) Portability** c) Timeliness d) Visibility

2. _____&_____ are two kinds of software products.
a) CAD, CAM b) Firmware, Embedded **c) Generic, Customised**

3. Software costs more to maintain than it does to develop.
a) True b) False

4. Which one of the following is not an application of embedded software product?
a) key pad control of a security system

b) **pattern recognition game playing**
c) digital function of dashboard display in a car

5. Purpose of process is to deliver software
a) in time b) with acceptable quality c) that is cost efficient **d) both a & b**

6. The work associated with software engineering can be categorized into three generic phases, regardless of application area, project size, or complexity namely the_____ phase which focuses on what, the_____ phase which focuses on how and the_____ phase which focuses on change. i. support ii. development iii. definition
a) 1, 2, 3 b) 2, 1, 3 **c) 3, 2, 1** d) 3, 1, 2

7. Which of the following activities of a Generic Process framework provides a feedback report?
a) Communication b) Planning c) Modelling & Construction **d) Deployment**

8. Process adopted for one project is same as the process adopted from another project.
a) True **b) False**

9. Which one of the following is not an Umbrella Activity that complements the five process framework activities and help team manage and control progress, quality, change, and risk?
a) Re-usability management b) Risk management
c) Measurement **d) User Reviews** e) Software quality assurance

10. Four types of change are encountered during the support phase. Which one of the following is not one that falls into such category?
a) Translation b) Correction c) Adaptation d) Prevention

Software Process and Product – 2

1. If a software production gets behind schedule, one can add more programmers and catch up.
a) True **b) False**

2. Choose an internal software quality from given below:
a) scalability b) usability **c) reusability**
d) reliability

3. RUP stands for_____ created by a division of _____.
a) Rational Unified Program, IBM b) Rational Unified Process, Infosys
c) Rational Unified Process, Microsoft **d) Rational Unified Process, IBM**

4. The RUP is normally described from three perspectives-dynamic, static & practice. What does static perspective do? **a) It shows the process activities that are enacted.**
b) It suggests good practices to be used during the process.
c) It shows the phases of the model over time.

5. The only deliverable work product for a successful project is the working program.
a) True **b) False**

6. Which phase of the RUP is used to establish a business case for the system?

a) Transition b) Elaboration c) Construction **d) Inception**

7. Which one of the following is not a fundamental activity for software processes in software engineering?
a) Software Verification b) Software Validation c) Software design and implementation
d) Software evolution e) Software specification

8. A general statement of objectives is the major cause of failed software efforts.
a) True b) False

9. The longer a fault exists in software
a) the more tedious its removal becomes b) the more costly it is to detect and correct
c) the less likely it is to be properly corrected **d) All of the mentioned**

10. Component-based Software Engineering allows faster delivery.
a) **True** b) False

11. Arrange the following steps to form a basic/general Engineering Process Model. i. Test ii. Design iii. Install iv. Specification v. Manufacture vi. Maintain
a) 2, 4, 5, 1, 6, 3 **b) 4, 2, 5, 1, 3, 6** c) 2, 4, 5, 1, 3, 6 d) 4, 2, 5, 1, 6, 3

Requirement Engineering

1. What are the types of requirements?
a) Availability b) Reliability c) Usability d) Flexibility **e) All of the mentioned**

2. Select the developer specific requirement?
a) Portability b) Maintainability c) Availability **d) Both a and b**

3. Which one of the following is not a step of requirement engineering?
a) Elicitation **b) Design** c) Analysis d) Documentation

4. FAST stands for
a) Functional Application Specification Technique b) Fast Application Specification Technique
c) Facilitated Application Specification Technique d) None of the mentioned

5. QFD stands for
a) quality function design b) quality function development
c) quality function deployment d) none of the mentioned

6. A Use-case actor is always a person having a role that different people may play.
a) True **b) False**

7. The user system requirements are the parts of which document?
a) SDD **b) SRS** c) DDD

8. A stakeholder is anyone who will purchase the completed software system under development.

a) True **b) False**

9. Conflicting requirements are common in Requirement Engineering, with each client proposing his or her version is the right one.

a) **True** b) False

10. Which is one of the most important stakeholder from the following?

a) Entry level personnel b) Middle level stakeholder c) Managers **d) Users of the software**

Software Metrics

1. Which of the following is the task of project indicators:

a) help in assessment of status of ongoing project. b) Track potential risk **c) both a and b** d) none of the mentioned

2. Which of the following does not affect the software quality and organizational performance?

a) Market b) Product c) Technology d) People

3. The intent of project metrics is:

a) Minimization of development schedule b) For strategic purposes

c) Assessing project quality on ongoing basis **d) Both a and c**

4. Which of the following is not a direct measure of SE process?

a) Efficiency b) Cost c) Effort Applied d) All of the mentioned

5. Which of the following is an indirect measure of product?

a) Quality b) Complexity c) Reliability **d) All of the Mentioned**

6. In size oriented metrics, metrics are developed based on the _____.

a) Number of Functions b) Number of user inputs **c) Number of lines of code** d) Amount of memory usage

7. Which of the following is not an information domain required for determining function point in FPA?

a) Number of user Input b) Number of user Inquiries c) Number of external Interfaces **d) Number of errors**

8. Usability can be measured in terms of:

a) Intellectual skill to learn the system

b) Time required to become moderately efficient in system usage

c) Net increase in productivity

d) All of the mentioned

9. A graphical technique for finding if changes and variation in metrics data are meaningful is known as

a) DRE (Defect Removal Efficiency) b) Function points analysis

c) Control Chart d) All of the mentioned

10. Defects removal efficiency (DRE) depends on:
a) E – errors found before software delivery b) D – defects found after delivery to user
c) Both E and D d) Varies with project

Software Maintenance – 1

1. Software Maintenance includes
a) Error corrections b) Enhancements of capabilities
c) Deletion of obsolete capabilities **d) All of the mentioned**

2. Maintenance is classified into how many categories?
a) Two b) Three **c) Four** d) Five

3. The modification of the software to match changes in the ever changing environment, falls under which category of software maintenance?
a) Corrective **b) Adaptive** c) Perfective d) Preventive

4. How many phases are there in Taute Maintenance Model?
a) Six b) Seven **c) Eight**
d) Nine

5. What type of software testing is generally used in Software Maintenance?
a) Regression Testing b) System Testing c) Integration Testing d) Unit Testing

6. Regression testing is a very expensive activity.
a) True b) False

7. Selective retest techniques may be more economical than the "retest-all" technique. How many selective retest techniques are there?
a) Two **b) Three** c) Four
d) Five

8. Which selective retest technique selects every test case that causes a modified program to produce a different output than its original version?
a) Coverage b) Minimization **c) Safe**

9. _____ measures the ability of a regression test selection technique to handle realistic applications.
a) Efficiency b) Precision **c) Generality** d) Inclusiveness

10. Which regression test selection technique exposes faults caused by modifications?
a) Efficiency b) Precision c) Generality **d) Inclusiveness**

Software Maintenance – 2

1. The process of generating analysis and design documents is known as
a) Software engineering b) Software re-engineering **c) Reverse engineering** d) Re-engineering

2. What is a software patch?
a) Required or Critical Fix **b) Emergency Fix**
c) Daily or routine Fix d) None of the mentioned

3. Which one of the following is not a maintenance model?
a) Waterfall model b) Reuse-oriented model
c) Iterative enhancement model d) Quick fix model

4. What does ACT stands for in In Boehm model for software maintenance?
a) Actual change track b) Annual change track
c) Annual change traffic d) Actual change traffic

5. Choose the suitable options with respect to regression testing.
a) It helps in development of software b) It helps in maintenance of software
c) both a and b d) none of the mentioned

6. What are legacy systems?
a) new systems **b) old systems** c) under-developed systems d) none of the mentioned

7. Which of the following manuals is not a user documentation?
a) Beginner's Guide b) Installation guide c) Reference Guide **d) SRS**

8. Which of the following manuals is a user documentation?
a) SRS -Software Requirement Specification b) SDD -Software Design Document
c) System Overview

9. The process of transforming a model into source code is known as
a) Forward engineering b) Reverse engineering c) Re-engineering d) Reconstructing

10. How many stages are there in Iterative-enhancement model used during software maintenance?
a) Two **b) Three** c) Four d) Five

Software Configuration Management – 1

1. Which of the following categories is part of the output of software process?
a) computer programs b) documents that describe the computer programs
c) data **d) All of the mentioned**

2. Which is a software configuration management concept that helps us to control change without seriously impeding justifiable change?
a) Baselines b) Source code c) Data model d) None of the mentioned

3. Software Configuration Management can be administered in several ways. These include
a) A single software configuration management team for the whole organization
b) A separate configuration management team for each project
c) Software Configuration Management distributed among the project members d) All of the mentioned

4. What combines procedures and tools to manage different versions of configuration objects that are created during the software process?
a) Change control **b) Version control** c) SCIs d) None of the mentioned

5. What complements the formal technical review by assessing a configuration object for characteristics that are generally not considered during review?
a) Software configuration audit b) Software configuration management
c) Baseline d) None of the mentioned

6. Which of the following is the process of assembling program components, data, and libraries, and then compiling and linking these to create an executable system?
a) System building b) Release management
c) Change management d) Version management

7. Which of the following option is not tracked by configuration management tools?
a) Tracking of change proposals b) Storing versions of system components
c) Tracking the releases of system versions to customers **d) None of the mentioned**

8. Which of the following is not a Software Configuration Management Activity?
a) Configuration item identification **b) Risk management**
c) Release management d) Branch management

9. The definition and use of configuration management standards is essential for quality certification in
a) ISO 9000 b) CMM c) CMMI **d) All of the mentioned**

10. What involves preparing software for external release and keeping track of the system versions that have been released for customer use?
a) System building **b) Release management** c) Change management d) Version management

Software Configuration Management – 2

1. Which of the following process ensures that versions of systems and components are recorded and maintained?
a) Code line **b) Configuration control** c) Version d) Workspace

2. Which of the following process is concerned with analysing the costs and benefits of proposed changes?
a) Change management b) Version management
c) System building d) Release management

3. Which of the following is not a Version management feature?
a) Version and release identification **b) Build script generation**
c) Project support d) Change history recording

4. Which method recommends that very frequent system builds should be carried out with automated testing to discover software problems?
a) Agile method b) Parallel compilation method
c) Large systems method d) All of the mentioned

5. Which of the following is not a build system feature?
a) Minimal recompilation b) Documentation generation
c) Storage management d) Reporting

6. Which of the following is a collection of component versions that make up a system?
a) Version b) Code line **c) Baseline** d) None of the above

7. Which of the following is a configuration item?
a) Design specification b) Source code c) Test specification d) Log information
e) All of the mentioned

8. Which of the following is a part of system release?
a) electronic and paper documentation describing the system
b) packaging and associated publicity that have been designed for that release
c) an installation program that is used to help install the system on target hardware
d) **all of the mentioned**

9. A sequence of baselines representing different versions of a system is known as
a) System building **b) Mainline** c) Software Configuration Item(SCI) d) None of the above

10. Which of the following term is best defined by the statement "The creation of a new code line from a version in an existing code line"?
a) Branching b) Merging c) Code line d) Mainline

Risk Management

1. Risk management is one of the most important jobs for a
a) Client b) Investor c) Production team **d) Project manager**

2. Which of the following risk is the failure of a purchased component to perform as expected?
a) Product risk b) Project risk c) Business risk d) Programming risk

3. Which of the following term is best defined by the statement: "There will be a change of organizational management with different priorities."?
a) Staff turnover b) Technology change **c) Management change** d) Product competition

4. Which of the following term is best defined by the statement: "The underlying technology on which the system is built is superseded by new technology."?
a) Technology change b) Product competition
c) Requirements change d) None of the mentioned

5. What assess the risk and your plans for risk mitigation and revise these when you learn more about the risk?
a) Risk monitoring b) Risk planning c) Risk analysis d) Risk identification

6. Which of the following risks are derived from the organizational environment where the software is being developed?
a) People risks b) Technology risks c) Estimation risks **d) Organizational risks**

7. Which of the following risks are derived from the software or hardware technologies that are used to develop the system?
a) Managerial risks **b) Technology risks** c) Estimation risks d) Organizational risks

8. Which of the following term is best defined by the statement: "Derive traceability information to maximize information hiding in the design."?
a) Underestimated development time b) Organizational restructuring **c) Requirements changes** d) None of the above

9. Which of the following strategies means that the impact of the risk will be reduced?
a) Avoidance strategies **b) Minimization strategies**
c) Contingency plans d) All of the above

10. Risk management is now recognized as one of the most important project management tasks. **a) True** b) False

11. Every risk has 100% likelihood. True or false.
a) True **b) False**

12. Risk management is responsibility of the
a) Customer b) Investor c) Developer **d) Project team** e) Production team

13. Risk is expressed in terms of probability and impact.
a) True b) False

14. .RE represents what
a) Risk expense b) Related expense **c) Risk exposure** d) Risk evaluation

15. As a tester which of the following will come under product risk if you are testing an e-commerce website?
a) Shortage of testers
b) Many changes in SRS that caused changes in test cases
c) Delay in fixing defects by development team
d) Failure to transfer a user to secure gateway while paying
e) All of the above

16. Which of the following technique will ensure that impact of risk will be less?
a) Risk avoidance technique b) Risk Mitigation technique
c) Risk contingency technique d) All of the above

17. What is associated with product risk?
a) Control of test item b) Negative consequences
c) non-availability of test environment **d) Test object**

18. Risk management is important part of a project management. True or false.
a) True b) False

19. After deployment of a system, a software is incorrectly performing one of its major functionality. Who is going to determine how badly it will hamper the organization?
a) QA personnel b) Developer c) Technical people **d) Business analyst**

10. Which is/are ways to deal with risk?
a) Mitigate b) Contingency c) Transfer d) Ignore **e) All of the above**

User Interface Design

1. Which of the following is golden rule for interface design?
a) Place the user in control b) Reduce the user's memory load
c) Make the interface consistent **d) All of the mentioned**

2. Which of the following is not a design principle that allow the user to maintain control?
a) Provide for flexible interaction
b) Allow user interaction to be interrupt-able and undo-able
c) Show technical internals from the casual user
d) Design for direct interaction with objects that appear on the screen

3. Which of the following is not a user interface design process?
a) User, task, and environment analysis and modelling
b) Interface design
c) Knowledgeable, frequent users
d) Interface validation

4. When users are involved in complex tasks, the demand on _____ can be significant.
a) short-term memory b) shortcuts
c) objects that appear on the screen d) all of the mentioned

5. Which of the following option is not considered by the Interface design?
a) the design of interfaces between software components
b) the design of interfaces between the software and human producers and consumers of information
c) **the design of the interface between two computers**
d) all of the mentioned

6. A software might allow a user to interact via
a) keyboard commands b) mouse movement
c) voice recognition commands **d) all of the mentioned**

7. A software engineer designs the user interface by applying an iterative process that draws on predefined design principles.
a) True b) False

8. What incorporates data, architectural, interface, and procedural representations of the software?
a) Design model b) user's model c) mental image d) system image

9. What establishes the profile of end-users of the system?
a) Design model **b) user's model** c) mental image d) system image

10. What combines the outward manifestation of the computer-based system, coupled with all supporting information that describe system syntax and semantics?
a) Mental image b) interface design **c) system image** d) interface validation.

DevOps

Q.1) Which one of the following methodologies does least impact the establishment of DevOps methodology?

a) Lean Manufacturing.
b) Agile Software Delivery.
c) Waterfall Software Delivery.
d) Continuous Software Delivery.

Q.2) In typical IT organizations why is there a typical conflict between development and operations teams?

a) Because they come from different backgrounds.
b) Because development team knows more about software products and services.
c) Because operations team knows more about test and production environments.
d) Because they have conflicting business goals and priorities.

Q.3) Which one of the following techniques makes DevOps a successful methodology to develop and deliver software?

a) DevOps enables you to organize your teams around your organizational mission.
b) DevOps enables you to create your software with built-in quality and monitoring.
c) DevOps enables you to quickly identify, fix and learn from errors.
d) All above choices.

Q.4) Which one of the following statements about DevOps is incorrect?

a) DevOps is only suitable for start-up companies.
b) DevOps is suitable for brownfield software products and services.
c) DevOps is suitable for greenfield software products and services.
d) Some of the most exemplary DevOps initiatives started in companies with giant and mature IT organizations.

Q.5) How does a DevOps organization act in principle when it comes to financing its work?

a) It finances special projects to serve its clients.
b) It finances products and services to serve its clients.
c) It finances teams in matrix organizations and these teams are responsible for handling their own budgets.
d) It finances development and operations teams separately, so they take care of their own business.

Q.6) In a DevOps organization which one of the following elements does not directly contribute to your value stream?

a) DevOps team
b) Stakeholders of downstream work centers.
c) Errors, incidents and fixes.
c) Clients.

Q.7) Why is it a good idea to limit batch size of your continuous DevOps deliveries?

a) You will be quicker to identify root causes of issues and resolve them.
b) By continuously delivering in production, your team will have the constant pride of contributing your organizational mission.
c) Potentially required rollbacks from your production systems will be less cumbersome.
d) All above choices.

Q.8) What is trunk in trunk based DevOps delivery?

a) Developers collaborate on code in a single branch called "trunk".

b) Trunk is a special private branch in a developer workstation.
c) Trunk is the process of merging code in DevOps deliveries.
d) Trunk is a special source code version controlling system which stores mission critical special projects of your DevOps organization.

Q.9) Which one of the following is not one of the DevOps principles for good test automation?
a) Test Automation should give quick and early feedback about your quality of work.
b) Never mix test driven development (TDD) together with your test automation approach.
c) Tests should generate consistent, deterministic and repeatable results provided same conditions for different test runs.
d) With your test automation, avoid slow and periodic feedback. What you need is fast feedback whenever you or your developer attempts to check-in code to your trunk.

Q.10) Which one of following release patterns does not enable you to do low risk DevOps code deployments in your production systems?
a) Canary Deployment Pattern (The Dark Launch).
b) Blue-Green Deployment Pattern.
c) Cluster Immune System Release Pattern.
d) Big bang code deployments of fully tested and validated releases.

Q.11) What is one of best techniques to convert normal changes into standard changes?
a) Use your track record of successful automated deployments with standard changes.
b) Negotiate with release managers.
c) Publicly complain about bureaucracy and make everyone be aware of it.
d) Make sure normal changes are very carefully deployed to your production systems.

Q.12) What is a widely used reusable asset to reinforce information security of deliverables from your DevOps team?
a) Data storage systems.
b) Handling the logging of sensitive client information.
c) Data transfer between clients and software.
d) All above choices.

Q.13) What is not one of major benefits of designing a safe system of work culture?
a) Complexity of your systems will be managed, so problems in designs and operations will be quickly detected.
b) DevOps team does no longer need to be careful and mindful to ensure quality.
c) Problems are quickly resolved while they are small. Resolving problems will result in spontaneous construction of new organizational knowledge and experience.
d) Leaders in your DevOps organization develop other leaders who create and continuously improve safe systems of work.

Q.14) What is telemetry?
a) Telemetry is a widely known SaaS tool to plan and execute DevOps projects.
b) Telemetry is a communication tool used by DevOps teams at geographically distributed locations.
c) Telemetry is the process of recording the behaviour of your systems.
d) Telemetry is a tool to design, code and execute automated unit tests.

Q.15) In terms of fixing errors in your production systems what is the major benefit of using feature toggles embedded in configurations of your software applications?

a) This is easiest way to fix a problem. It doesn't require an urgent code deployment.

b) You don't have to very urgently correct erroneous pieces in your deployment.

c) Your DevOps team can take time to properly identify root cause of an issue and improve their techniques to ensure such a problem will not likely happen again in the future.

d) All above choices.