

Chapter- 3

01. [CHAPTER-3-1] Some of the tasks in the general problem-solving model are listed below. Which of the following list these tasks in the correct sequence?
- A) Problem definition, Finding solutions, Problem redefinition.
 - B) Data gathering, Finding solutions, Finding ideas.
 - C) Problem definition, Data gathering, Problem redefinition.**
02. [CHAPTER-3-2] Which of the following is a consequence of subdividing the development process?
- A) It makes it more difficult to manage a project.
 - B) It allows teams of developers with specialist skills to be allocated to a particular phase.**
 - C) It helps identify smaller tasks that can be completely finished.
03. [CHAPTER-3-3] Which of the following best describes the term life cycle model?
- A) It describes the way requirements for an application change at different stages in the life of the organization.
 - B) It describes how a computerized information system is used during its lifetime.
 - C) It describes the phases through which a development project passes from the inception of the idea to completion of the product and its eventual decommissioning.**
04. [CHAPTER-3-4] Which of the following is a true statement regarding a systems development project?
- A) A systems development project is only concerned with developing a software system.
 - B) A systems development project is only concerned with developing systems for controlling devices or machines.
 - C) A systems development project may not involve software development.**
05. [CHAPTER-3-5] Which of following describes Strategic Information Systems Planning?
- A) It is concerned with planning the implementation of information systems.
 - B) It is concerned with planning information systems development within the context of the organizational strategy.**
 - C) It is concerned with how information systems can support strategic planning in an organization.
06. [CHAPTER-3-6] Some of the phases of the Traditional Life Cycle are listed below. Which of the following lists is in the correct sequence?
- A) Construction, Installation and Testing.
 - B) Requirements analysis, Systems engineering, Design
 - C) Systems engineering, Requirements analysis, Design**

07. [CHAPTER-3-7] CORRECT Which of the following is true about system requirements?
A) They can be used to develop user acceptance tests.
B) They are mainly identified during systems engineering.
C) They change from one phase to another.
08. [CHAPTER-3-8] Which of following is true about the criteria for acceptance tests?
A) They are best identified at the end of the design phase.
B) They are best identified at the end of requirements analysis.
C) They are best identified at the beginning of the testing phase.
09. [CHAPTER-3-9] Which of the following statements is true about adaptive maintenance?
A) It is concerned with changing the system when requirements change.
B) It is concerned with ensuring the system data is adapted to suit changes in the organization.
C) It is concerned with maintaining the system so that it can adapt automatically to changes in the organization.
10. [CHAPTER-3-10] One of the major challenges during system installation is which of the following?
A) Ensuring that the new software is correctly installed to use the computer effectively.
B) Avoiding unnecessary disruption and minimizing the attendant risk of change.
C) Ensuring that both old and new systems run in parallel.
11. [CHAPTER-3-11] Which of following is true about software construction in the traditional life cycle?
A) Only one programming language could be used.
B) Relational database management systems are not used.
C) The design is used to develop program code.
12. [CHAPTER-3-12] Which of the following is a disadvantage of the traditional life cycle?
A) It does not allow the use of object-oriented technology.
B) Requirements change during development after the main system requirements have been agreed.
C) It separates requirements analysis and design.
13. [CHAPTER-3-13] Iteration is problematic during the traditional life cycle for which of the following reasons?
A) Architectural decisions are difficult to change.
B) Ad hoc coding solutions may be used to address changes in requirements.
C) Requirements will change during the project.

14. [CHAPTER-3-14] Which of the following statements is true about a prototype system?

- A) A prototype system is always discarded before the final production system is built.
- B) Rapid development tools are only used to build prototype systems.

C) A prototype system is incomplete or lacks the resilient construction of the final production system.

15. [CHAPTER-3-15] Which of the following is not an advantage of prototyping?

- A) Prototyping is easy to manage.
- B) Prototypes may be used to reduce misunderstandings about requirements.

C) Prototyping requires no analysis or design.

16. [CHAPTER-3-16] Which of the following is not a workflow in the Unified Software Development Process?

A) Construction.

- B) Implementation
- C) Test

17. [CHAPTER-3-17] User involvement in software development is important for which of the following reasons?

A) It is cheaper to have users as part of the project team rather than professional software developers.

B) Users understand why the requirements cannot be met.

C) Users can influence the way a project proceeds by identifying the most acceptable course of action from various alternatives.

18. [CHAPTER-3-18] Consider the following statements about CASE tools.

Current CASE tools can perform semantic checks on a set of diagrams modelling an information system.

Current CASE tools can perform syntactic and consistency checks on a set of diagrams modelling information system.

Current CASE tools can perform syntactic checks on a set of diagrams modelling information system.

Which of the following is true?

A) Statements A, Band C are true.

B) Statements A and C are true.

C) Statements B and C are true.

19. [CHAPTER-3-19] Which of the following is an example of a systems development methodology?

A) The traditional life cycle

B) The Unified Modelling Language

C) The Unified Software Development Process.

Chapter- 4

20. [CHAPTER-4-1] Which of the following best describes an object?

- A) Part of a software system that is entirely unique.
- B) A concept, abstraction or thing in an application domain.**
- C) A program that represents something tangible in the problem domain.

21. [CHAPTER-4-2] Which of the following best describes abstraction?

- A) A representation of something tangible.
- B) A representation that can be stored in a software system.
- C) A representation that contains only relevant details**

22. [CHAPTER-4-3] Which of the following is not a reason for modelling objects?

- A) To produce a design for part of a software system.
- B) To understand an aspect of the application domain.
- C) To separate data from process**

23. [CHAPTER-4-4] What do all objects have?

- A) State, behaviour and identity.**
- B) Behaviour, data and identity.
- C) Instances, structure and similarity.

24. [CHAPTER-4-5] Which of the following best describes object state?

- A. The particular condition that an object is in at a given moment, determining its possible behaviours.**
- B. Which class the object belongs to.
- C. The semantics of the object

24. [CHAPTER-4-6] Which of the following best describes object behaviour?

- A) What the object is able to do to other objects.
- B) What the object is able to do for other objects.**
- C) What the object is able to do to itself.

25. [CHAPTER-4-7] Which of the following is a useful set of questions to ask when modelling an object, according to Rebecca Wirfs-Brock?

- A) Who am I, what can I do and what do I know?**
- B) Where am I, what am I and who do I know?
- C) What do I have, what can I get and what can I do?

26. [CHAPTER-4-8] Which of the following is not a description of a class?

- A) A set of objects that share the same behavior, attributes, relationships and semantics.
- B) An abstract descriptor for a set of instances with certain logical similarities to each other.
- C) A set of objects that collaborate together to achieve some common objective.**

27. [CHAPTER-4-9] Which of the following best describes the relationship between an object and its class?

- A) The structure and permitted behaviors of an object are defined by its class.**
- B) A class is a container that holds a collection of similar objects.
- C) An object is an implementation of a class.

28. [CHAPTER-4-10] What is generalization?

- A) A process of broadening the scope of an object, such that it becomes more generally useful.
- B) A kind of relationship between a more general element and a more specific element.**
- C) A process of collecting together objects into their respective classes.

29. [CHAPTER-4-11] Which of the following best describes a type?

- A) A description of a set of objects with similar behaviors.**
- B) A superclass in a generalization hierarchy.
- C) A class with a characteristic that distinguishes it from all other classes.

30. [CHAPTER-4-12] Which of the following is not an advantage of using generalization?

- A) Generalization helps to organize a model so that the degree of similarity between classes is made more explicit.
- B) A generalization hierarchy is easy to extend to fit a changing picture.
- C) Generalization helps to encapsulate classes and subsystems so that their implementation is hidden from other parts of the system.**

31. [CHAPTER-4-13] How does generalization differ from inheritance?

- A) It doesn't - they are the same thing.
- B) Inheritance is a mechanism by which some OO languages implement generalization.**
- C) With generalization each class has only one superclass, whereas with inheritance each class has two or more superclasses.

32. [CHAPTER-4-14] Which of the following is not a characteristic of a subclass?

- A) A subclass can only have superclasses, it cannot have subclasses of its own.**
- B) A subclass inherits all the characteristics of its superclass.
- C) A subclass includes at least one detail that is not shared by its superclass.

33. [CHAPTER-4-15] What is meant by 'transitive operation' in the context of generalization and inheritance?

- A) An operation in a superclass may be overwritten by a different operation in a subclass.
- B) An operation in a superclass may not be overwritten by a different operation in a subclass.

C) A subclass inherits characteristics from all its superclasses at all levels.

34. [CHAPTER-4-16] What is the significance of message-passing in an OO system?

- A) Messages represent input from users that tells the software system what to do.

B) Objects exchange messages in order to communicate with each other.

- C) Messages represent output to users that show the results of processing.

35. [CHAPTER-4-17] What is a message protocol or signature?

- A) A message protocol is a valid sequence of keystrokes by a user.

- B) A message protocol is a valid sequence of operations in a series of different objects.

C) A message protocol is the interface to an operation.

36. [CHAPTER-4-18] What is meant by multiple inheritance?

A) Multiple inheritance signifies that a class simultaneously belongs to more than one generalization hierarchy.

- B) Multiple inheritance signifies that a class has more than one superclass.

- C) Multiple inheritance signifies that a class can have different superclasses at different times.

37. [CHAPTER-4-19] Which of the following best describes encapsulation?

- A) The implementation of an object can only be changed by its original programmer.

B) Data within an object can only be accessed by passing a valid message to one of its own operations.

- C) Data within an object can only be accessed by passing a valid message to its class.

38. [CHAPTER-4-20] Which of the following best describes an object's interface?

- A) The view that an object presents to users of the system.

- B) The links that an object has with other objects.

C) The complete set of signatures for all the object's operations.

39. [CHAPTER-4-21] Which of the following best describes polymorphism?

- A) The capacity of an object to behave in different ways at different times according to its current state.

B) The capacity of different objects to respond to a similar message in appropriate but different ways.

- C) The capacity of an object to send different messages to different objects according to their class.

40. [CHAPTER-4-22] Which of the following is a valid reason why it is difficult to design event-driven software in a procedural manner?

- A) It is difficult to anticipate and design for all possible sequences of use.**
- B) Procedurally designed programs are not capable of responding quickly to events.
- C) Procedural programs are only suitable for record-based data structures.

41. [CHAPTER-4-23] Which of the following is not an advantage of modular software design?

- A) Modular systems are typically more reliable in use.
- B) Modular systems can be implemented in small, manageable chunks.
- C) Modular systems are independent of the operating system that they run on.**

Chapter- 5

42. [CHAPTER-5-1] Which of the following is not a reason for using a model?

- A) A model is quicker and easier to build than the real thing
- B) We can use a model in simulations to test our ideas
- C) We can use a model instead of building the real thing**

43. [CHAPTER-5-2] Which of the following is not a model?

- A) Concorde**
- B) A scale model of Concorde to use in a wind tunnel
- C) An engineer's drawing of a cross-section through the fuselage of Concorde

44. [CHAPTER-5-3] Analysts and designers use models that consist of which of the following?

- A) Diagrams and text**
- B) Only diagrams
- C) Only text

45. [CHAPTER-5-4] Which of the following do analysts and designers use diagrams for?

- A) To communicate ideas
- B) To understand structures and relationships
- C) Both 1 and 2**

46. [CHAPTER-5-5] Which of the following do analysts and designers use diagrams for?

- A) To ensure that users don't understand the specification for a system
- B) To communicate ideas to users and other analysts and designers**
- C) Neither A nor B

47. [CHAPTER-5-6] Why are systems analysis and design diagram standards important?

- A) They promote communication between team members**
- B) They provide work for international standards committees
- C) They prevent systems analysts' clothes from shrinking in the wash

48. [CHAPTER-5-7] Which of the following are the rules that modelling techniques should enforce?

- A) Simplicity of representation, external consistency, completeness and network representation
- B) Simplicity of representation, internal consistency, completeness and hierarchical representation**
- C) Simplicity, internal consistency, completeness and hierarchical symbols

49. [CHAPTER-5-8] Which of the following is not an element of UML diagram notation?

- A) Icon
- B) Vertex**
- C) String

50. [CHAPTER-5-9] Which of the following is true?

- A) Icons can contain two-dimensional symbols
- B) 2. Two-dimensional symbols can contain icons**
- C) An icon contains at least one vertex and one string

51. [CHAPTER-5-10] Which of the following is true?

- A) A model consists of one and only one diagram
- B) A diagram contains at least one model
- C) A model contains diagrams**

52. [CHAPTER-5-11] Which of the following is the UML notation for a model?

- A) ``
- B) ``
- C) ``**

53. [CHAPTER-5-12] Which of the following does the Figure below show?

`
`

- A) A model.
- B) A sub-system
- C) A package**

54. [CHAPTER-5-13] As a model is developed it, which of the following does it become?

- A) More abstract
- B) More detailed**
- C) Less formal

55. [CHAPTER-5-14] Which of the following is not a purpose for using activity diagrams?

- A) To show the sub-systems that make up a system
- B) To model a task
- C) To describe the logic of an operation

Chapter- 6

56. [CHAPTER-6-1] Which of the following is not a reason for analysing the current system (if it exists)?

- A) The analyst needs to know about problems with and defects in the current system.
- B) **The analyst must not lose sight of his or her objectives.**
- C) Much of the functionality of the existing system will be required in the new system.

57. [CHAPTER-6-2] Which of the following is not an example of a functional requirement?

- A) **Security considerations.**
- B) Details of data that must be held in the system.
- C) Descriptions of the processing that the system will be required to carry out.

58. [CHAPTER-6-3] Which of the following describes a functional requirement.

- A) The system must be capable of responding to all queries within 5 seconds.
- B) Users of the system will make 50% fewer errors than with the existing system.
- C) **The system must allow users to enter details of advertising campaigns.**

59. [CHAPTER-6-4] Which of the following is not an example of a non-functional requirement?

- A) Volume of data.
- B) Performance requirements.
- C) **The content of printed reports required from the system.**

60. [CHAPTER-6-5] Which of the following describes a non-functional requirement?

- A) **The system must be capable of holding 500Mb of data initially, growing by 100Mb per year.**
- B) The system must produce a report of all advertising campaigns for a particular client.
- C) The system must allow users to enter details of clients.

61. [CHAPTER-6-6] Which of the following is not the kind of information gathered to understand usability requirements?

- A) The characteristics of the users of the system.
- B) The context in which the system will be used.
- C) **The volume of data in the existing system.**

62. [CHAPTER-6-7] Which of the following lists only contains systems analysis fact-finding techniques?

- A) **Sampling, questionnaires, interviewing, reading and observation.**
- B) Use case modelling, interviewing, class diagramming, observation and knowledge acquisition.
- C) Sampling, background reading, interviewing, use case modelling and activity diagramming.

62. [CHAPTER-6-8] Which fact-finding technique is most suitable to be used in the initial stages of fact-finding and particularly where the analyst is not familiar with the organization that is being studied?

- A) **Background reading.**
- B) Interviewing.
- C) Questionnaires.

63. [CHAPTER-6-9] Which of the following is a valid reason for using interviewing as a fact-finding technique?

- A) The interviewer can gather statistical data about documents.
- B) **The interviewer can respond flexibly to the interviewee's responses.**
- C) Interviews take very little time.

64. [CHAPTER-6-10] In which of the following circumstances is it not appropriate to use questionnaires?

- A) The views and knowledge of a large number of people must be obtained.
- B) The people who work for the organization are geographically dispersed.
- C) **There is a need to check how people actually carry out their work.**

65. [CHAPTER-6-11] Which of the following categories of people are not likely to be involved in a steering committee?

- A) Senior managers.
- B) **System testers.**
- C) Representatives of users.

66. [CHAPTER-6-12] Which of the following does the figure below show?

**
 **

- A) An actor.
- B) **A use case**
- C) An activity

67. [CHAPTER-6-13] Which of the following does the figure below show?



- A) **An actor.**
- B) A use case.
- C) A user.

68. [CHAPTER-6-14] Which of the following is not a purpose for using use cases?

- A) To document the scope of the system.
- B) To provide a high-level view of system functionality from the users' perspective.
- C) **To describe the logic of operations.**

69. [CHAPTER-6-15] Which of the following pairs lists valid dependencies to show on a use case diagram?

- A) **«extend» and «include».**
- B) «extend» and «retract».
- C) «exclude» and «include».

70. [CHAPTER-6-16] Which of the following is the correct name for the symbols placed round stereotyped names such as «extend»?

- A) Guillemots.
- B) Parakeets.
- C) **Guillemets.**

71. [CHAPTER-6-17] Which of the following describes the figure below?



- A) Check campaign budget extends Print campaign summary.
- B) Check campaign budget includes Print campaign summary.
- C) **Print campaign summary extends Check campaign budget.**

72. [CHAPTER-6-18] Which of the following statements is true?

- A) Actors are linked to use cases by inheritance.
- B) **Actors are linked to use cases by communication associations.**
- C) Actors are linked to use cases by «uses» dependencies.

73. [CHAPTER-6-19] Which of the following is shown in a use case diagram by a rectangle surrounding a group of use cases?

- A) The class that implements the use cases.
- B) **The system or sub-system that the use cases belong to.**
- C) The package that contains the use cases.

74. [CHAPTER-6-20] Which of the following is the best definition of an actor?

- A) An actor represents a user of the system.
- B) An actor represents a role played by a user of the system.
- C) An actor represents a role played by a user of the system or by an external system.**

75. [CHAPTER-6-21] Which of the following is true?

- A) An Extend dependency means that the functionality of one use case optionally extends the functionality of another at a particular point or points in its execution.**
- B) An Extend dependency means that the functionality of one use case always extends the functionality of another at a particular point or points in its execution.
- C) An Extend dependency means that the functionality of one use case inherits the functionality of another at a particular point or points in its execution.

76. [CHAPTER-6-22] Which of the following is true?

- A) An Include dependency means that the functionality of one use case optionally includes the functionality of another at a particular point or points in its execution.
- B) An Include dependency means that the functionality of one use case always includes the functionality of another at a particular point or points in its execution.**
- C) An Include dependency means that the functionality of one use case inherits the functionality of another at a particular point or points in its execution.

77. [CHAPTER-6-23] What is shown in the following diagram?

**
**

- A) A data flow from one actor to another.
- B) An inheritance relationship between two actors.**
- C) An Extend dependency between two actors.

78. [CHAPTER-6-24] Which of the following is true based on the diagram below?

**
**

- A) Campaign Manager can use the same use cases as a Campaign Staff and one or more additional ones.**
- B) Campaign Staff can use the same use cases as a Campaign Manager and one or more additional ones.
- C) Only Campaign Manager actors exist, as Campaign Staff is an abstract actor.

79. [CHAPTER-6-25] Which of the following is the term for a textual description of a use case?

- A) Behaviour description.
- B) Use case activity.
- C) Use case description.**

80. [CHAPTER-6-26] Which of the following is not a reason for using prototyping during use case development?

- A) To clarify requirements.
- B) To test the architecture of architecturally significant use cases.
- C) To get the user interface development started before the class diagramming is begun.**

81. [CHAPTER-6-27] Which of the following is true?

- A) Business use cases are shown in grey.
- B) Business use cases show actors outside the organization interacting with the organization.**
- C) Business use cases are always produced after ordinary use cases have been produced.

Chapter- 7

82. [CHAPTER-7-1] Which of the following is not a good reason for constructing a requirements model?

- A) It can show the business situation in enough detail to check that the requirements have been captured fully and correctly.
- B) It can demonstrate that all the use cases have been drawn using the correct notation.**
- C) It can be organized in such a way that it will be useful later for designing the software.

83. [CHAPTER-7-2] Which of the following statements best describes what a class diagram can include?

- A) Only classes.
- B) Only classes and their relationships.
- C) Classes, instances and their relationships.**

84. [CHAPTER-7-3] Which is the correct name for "a possible set of classes, together with an understanding of how those classes might interact to deliver the functionality of a use case"?

- A) A use case class diagram.
- B) A realization.
- C) A collaboration.**

85. [CHAPTER-7-4] What is the significance of the dependency arrow in this diagram?






- A) It shows that elements within the collaboration (the dotted ellipse) may reference elements within the use case (the solid ellipse).**
- B) It shows that the collaboration (the dotted ellipse) cannot be implemented until the use case (the solid ellipse) has been implemented.
- C) It shows the direction of the flow of control when the software executes.

86. [CHAPTER-7-5] One of the following is not a difference between a class diagram and a collaboration diagram. Which one?

- A) A collaboration diagram shows object interaction, while a class diagram ignores this.
- B) A class diagram shows more of the structural details than the collaboration diagram.
- C) A class diagram shows the names of the classes, while the collaboration ignores these.**

87. [CHAPTER-7-6] Which of these figures is a collaboration diagram?

- A) 
- B) **
- C) 

88. [CHAPTER-7-7] Which of these is the correct set of analysis class stereotypes in standard UML?

- A) Interface, control and entity.
- B) Boundary, control and entity.**
- C) Interface, sequence and entity.

90. [CHAPTER-7-8] One of the following is not an advantage of stereotyping analysis classes. Which one?

- A) The resulting packages can form a basis for the system's architecture.
- B) It can be useful to differentiate classes that have broad similarities in the way that they behave.
- C) Once a class is stereotyped, its behaviour is likely to become more predictable.**




91. [CHAPTER-7-9] What do boundary classes represent?

- A) Customers and suppliers of the business.
- B) People who will use the system.
- C) Interaction between the system and its actors.**

92. [CHAPTER-7-10] What is the significance of the double colon in the class name: User Interface::AddAdvertUI?

- A) The class called AddAdvertUI is in the package called User Interface.**
- B) User Interface is the stereotype of a class called AddAdvertUI.
- C) User Interface and AddAdvertUI are two alternative names for the same class.




93. [CHAPTER-7-11] Which one of these is not a permitted symbol for a boundary class?

- A) **
- B) 
- C) 

94. [CHAPTER-7-12] What are entity classes?

- A) Classes that contain data.
- B) Classes that contain persistent data.
- C) Classes that represent something or some concept in the application domain.**

95. [CHAPTER-7-13] One of these is not a permitted symbol for an entity class. Which one?

- A) 
- B) **
- C) 

96. [CHAPTER-7-14] What do control classes represent?

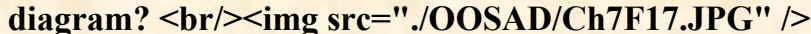
- A) The calculation and scheduling aspects of the logic of the use case.**
- B) Classes that interact with the users of the system.
- C) Classes that control the storage of persistent data.

97. [CHAPTER-7-15] One of the following cannot directly affect the state of an object. Which one?

- A) A change in the value of one of its attributes.
- B) The creation or destruction of another object of the same class.**
- C) The creation or destruction of a link with another object.

98. [CHAPTER-7-16] What is the difference between a link and an association?

- A) A link connects two instances, while an association connects two classes.**
- B) A link is a transient association.
- C) A link is an association between two entity classes.

99. [CHAPTER-7-17] What is the significance of the directional arrow indicated on this diagram? 

- A) It shows the direction in which you should read the name of the association.
- B) It shows the direction in which messages can be sent along the association.
- C) It shows the order in which the objects will be connected when a link is created.**

100. [CHAPTER-7-18] What is the significance of the multiplicity of an association?

- A) It denotes the number of different classes that can be linked together.
- B) It constrains the number of objects of one participating class that can be linked to an object of the other class.**
- C) It constrains the number of times that an object of one participating class can be linked during its lifetime.

101. [CHAPTER-7-19] Which of the following answers is the correct interpretation of the association multiplicities shown on this diagram?

**
**

- A) A staff member need not be associated with any grades, or it can be associated with an indeterminate number of grades; a grade must be associated with one or more staff members.
- B) A grade cannot be associated with a staff member but a staff member can be associated with a grade.
- C) A grade need not be associated with any staff members, or it can be associated with an indeterminate number of staff members; a staff member must be associated with one or more grades.**

102. [CHAPTER-7-20] How do operations differ from methods?

- A) A method is a particular implementation of an operation.
- B) An operation is a particular implementation of a method.
- C) Some object-oriented programming languages have methods, while other have operations.

103. [CHAPTER-7-21] When do we not need to represent the whole system as a class in the analysis model?

- A) When the users have not stated that this is a requirement.
- B) When the system does not need to interact directly with other systems.
- C) When the system does not need to encapsulate data or behaviour that applies only to the system as a whole.**

104. [CHAPTER-7-22] What is a domain class model?

- A) A class model that does not include either boundary or control classes.
- B) An analysis class model that is independent of any particular use cases.**
- C) A class model that has been implemented in a particular domain.

105. [CHAPTER-7-23] One of the following is a bad guideline for deciding the class where an operation should be located. Which one?

- A) The operation represents a service that objects of that class should provide to objects of other classes.
- B) The operation needs to access or update data that is stored in another class that has an association with that class.**
- C) The operation needs to access or update data that is stored in an attribute of that class.

106. [CHAPTER-7-24] What is the main purpose of the Class-Responsibility-Collaboration technique?

- A) To decide which team members will be responsible for developing each part of the software.**
- B) To decide which classes of the system should be responsible for each use case.
- C) To decide how responsibilities should be distributed among the classes of the system.

106. [CHAPTER-7-25] Why is it often difficult to determine the most appropriate choice of responsibilities for each class?

- A) **Because there may be several alternatives that appear equally justified.**
- B) Because the developers may not know enough about how the users want the system to be designed.
- C) Because members of the development team are often lazy and avoid responsibility as much as they can.

107. [CHAPTER-7-26] The requirements of different use cases may suggest different operations for the same class. How do we resolve this?

- A) We split the class so that there is one for each use case, and model each class with the particular operations required for its use case.
- B) **We include in the class all the operations that are suggested by all the use cases.**
- C) We model the class with only that subset of operations that applies to all use cases.

108. [CHAPTER-7-27] Which of the following is an advantage of the use of a control class in realizing a use case?

- A) **A control class prevents users from being able to change the way that the entity classes work.**
- B) A control class reduces the need for entity classes to know anything about other entity classes unless this is directly relevant to their own responsibilities.
- C) A control class allows the system to communicate with other systems on different networks.

Chapter- 8



109. [CHAPTER-8-1] Which of the following best describes the advantages of using software components, assuming that suitable components are available?

- A) The users are more likely to get what they want.
- B) **The project is more likely to be completed in less time and at a lower cost.**
- C) The software is more likely to be capable of running on different hardware platforms.

110. [CHAPTER-8-2] What is meant by the NIH syndrome?

- A) **Some software developers are not inclined to trust software that was written elsewhere.**
- B) Some project managers are not inclined to trust programmers who were trained elsewhere.
- C) Many users are not inclined to trust software that was written elsewhere.

111. [CHAPTER-8-3] One of the following is not a reason why object-oriented approaches support software reuse. Which one?

- A) Object-oriented development encourages the encapsulation of the internal details of components.
- B) Object-oriented models are organized in a way that makes it easier to find suitable components.
- C) Object-oriented development encourages developers to share ideas with developers in other teams.**

112. [CHAPTER-8-4] Which of the following best describes composition?

- A) A package of model elements.
- B) A set of realizations for a single use case.
- C) A relationship between a whole and its parts.**

113. [CHAPTER-8-5] Which of the following best describes how composition differs from aggregation?

- A) A part cannot be removed from a composition, whereas a part can be removed from an aggregation.
- B) A part can belong to only one composition, whereas a part can belong to more than one aggregation.**
- C) A part that belongs to a composition cannot have associations with any other classes, whereas a part that belongs to an aggregation can have associations with other classes.

114. [CHAPTER-8-6] How does generalization increase the opportunities for software reuse?

- A) A generalization hierarchy can be extended to include new subclasses with minimal effort.**
- B) Generalization aids the encapsulation of software components.
- C) Generalization allows a group of software components to be treated as a single whole.

115. [CHAPTER-8-7] What does it mean to say that an operation has been redefined?

- A) The definition of the operation in a subclass overrides the superclass definition of the same operation.**
- B) The definition of the operation has been changed because users have changed their minds about the requirements.
- C) The method that implements the operation does not follow the original definition of the operation.

116. [CHAPTER-8-8] How do abstract and concrete classes differ from each other?

- A) Abstract classes represent intangible concepts in the application domain, whereas concrete classes represent physical things.
- B) Abstract classes are superclasses, whereas concrete classes are subclasses.
- C) Abstract classes have no instances, whereas concrete classes have instances.**

117. [CHAPTER-8-9] Which of the following best describes multiple inheritance?

- A) Multiple inheritance occurs when a subclass is removed from one generalization hierarchy and added to another.
- B) Multiple inheritance occurs when a subclass inherits from more than one generalization hierarchy.**
- C) Multiple inheritance occurs when a subclass inherits characteristics from more than one level of superclass.

118. [CHAPTER-8-10] Which of the following is the best description of a software development pattern?

- A) The way that a particular software developer tends to solve problems.
- B) The core of a solution to a software development problem that occurs over and over again.**
- C) A particular approach to software development, such as the object-oriented approach or the structured approach.

119. [CHAPTER-8-11] What is the role of encapsulation in reuse?

- A) Encapsulation means that it is not necessary for other developers to know how a software component works internally.**
- B) Encapsulation means that software components can work more efficiently.
- C) Encapsulation means that there is no need for software developers to document their work.

120. [CHAPTER-8-12] How does composition support software reuse?

- A) A composite structure is capable of performing more than one task, and thus it is useful in more than one context.
- B) Composition structures are easy to extend with minimal effort.
- C) Composite structures encapsulate their sub-components, making it easy to treat the composite as a single whole.**

Chapter- 9



121. [CHAPTER-9-1] Which of the following is true?

- A) Identifying what messages are passed between objects is a straightforward process.
- B) Message passing is a metaphor used to describe object interaction.**
- C) Message passing is only concerned with query operations.

122. [CHAPTER-9-2] Which of the following is true about boundary objects?

- A) The identification and specification of boundary objects is purely a design activity.
- B) The identification and specification of boundary objects is part of requirements specification.
- C) The identification and specification of boundary objects is considered in both analysis and design but in different ways.**

123. [CHAPTER-9-3] Which is the correct UML definition of a collaboration?

- A) A collaboration describes the messages between objects.
- B) A collaboration describes objects that share functionality.
- C) A collaboration describes the structure of instances playing roles in a behaviour and their relationships.**

124. [CHAPTER-9-4] An interaction sequence diagram drawn during analysis differs from one drawn during design which of the following ways?

- A) It normally does not include design objects or detailed specifications of message signatures.
- B) It does not include boundary objects.
- C) It does not include control objects.

125. [CHAPTER-9-5] On the following figure which symbol represents a process activation on a sequence diagram?



- A) 1
- B) 2**
- C) 3

127. [CHAPTER-9-6] Which of the labelled symbols in the following diagram represents a synchronous message?



- A) 1**
- B) 2
- C) 3

128. [CHAPTER-9-7] What is meant by the term ‘thread of control’ in the context of concurrent behaviour?

- A) A thread of control is a weak part of the control system.
- B) A thread of control is the mechanism that controls concurrent behaviour.
- C) A thread of control is an execution pathway that may occur simultaneously with other execution pathways.**

129. [CHAPTER-9-8] Which of the following is an appropriate way of managing complex behaviour on an interaction sequence diagram?

- A) A group of objects can be represented by a single lifeline.**
- B) Some messages are omitted to reduce the complexity.
- C) Some objects are omitted from the diagram to reduce the complexity.

130. [CHAPTER-9-9] Collaboration diagrams differ from interaction sequence diagrams in the following way?

- A) Collaboration diagrams cannot show the design detail that can be shown on a sequence diagram.
- B) Collaboration diagrams only show the collaboration and not the sequence in which the messages are sent.
- C) Collaboration diagrams show the links between the objects.**

131. [CHAPTER-9-10] In a collaboration diagram one message has the sequence number 5.1.1. Which of the following sequence numbers indicates the message that must be the immediate successor?

- A) A message with the sequence number 5.1.2.
- B) A message with the sequence number 5.1.1.1.**
- C) A message with the sequence number 5.2.1.

132. [CHAPTER-9-11] Which of the following is a disadvantage of collaboration diagrams?

- A) A collaboration diagram can only be used during analysis.
- B) A collaboration diagram cannot include guard conditions.
- C) A collaboration diagram is difficult to read if there are many messages between two objects.**

133. [CHAPTER-9-12] An interaction diagram should be consistent with the associated class diagram in various ways. Which of the following statements is true?

- A) It is always correct to show a message between two objects if there is an association between their classes.
- B) The sending object must have the object reference of the receiving object before sending an object-scope message.**
- C) A message should not be shown between two objects if there is no association between their classes.

Chapter- 10

134. [CHAPTER-10-1] What is the advantage of using contracts in operation specification?

- A) A contract cannot be broken and thus the software will be more reliable in operation.
- B) A contract encourages encapsulation by concentrating on the service that an object will provide to other objects and by ignoring the way that the service is to be achieved.**
- C) A contract encourages better design and testing by specifying exactly how an object will achieve a service that it is to provide to other objects.

135. [CHAPTER-10-2] One of the following would not normally be included in a contract. Which one?

- A) The operation signature.
- B) Events that the operation will transmit to other objects.
- C) The object identifiers of other objects to which events will be transmitted.**

136. [CHAPTER-10-3] How does an algorithmic technique differ from a non-algorithmic technique?

- A) Algorithmic techniques describe the internal logic of an operation, while non-algorithmic techniques do not.**
- B) Algorithmic techniques describe only the external interface of an operation, whereas non-algorithmic techniques also describe the internal details.
- C) Algorithmic techniques are used to describe algorithmically complex operations, while non-algorithmic techniques are used to describe only simple operations.

137. [CHAPTER-10-4] Only one of the following is an algorithmic technique. Which one is it?

- A) Decision table.
- B) Activity diagram.**
- C) Pre- and post-condition pair.

138. [CHAPTER-10-5] Only one of the following is a non-algorithmic technique. Which one is it?

- A) Activity diagram.
- B) Structured English.
- C) Decision table.**

139. [CHAPTER-10-6] One of the following is not a control structure in Structured English. Which one?

- A) GoTo.**
- B) Iteration.
- C) Selection.

140. [CHAPTER-10-7] How does pseudo-code differ from Structured English?

A) The syntax and vocabulary of Structured English resemble those of a specific programming language, while pseudo-code is language-neutral.

B) The syntax and vocabulary of pseudo-code resemble those of a specific programming language, while Structured English is language-neutral.

C) Pseudo-code is useful only for procedural programming languages, such as C, while Structured English is useful for any programming language, including object-oriented languages.

141. [CHAPTER-10-8] Which is the best description of the meaning of the following example of Structured English?

```
<br/>
```

A) Get all the advert costs and apply the overhead rate to each in turn, then work out the total cost of the campaign by adding these together, compare to the campaign budget and produce a warning if the budget has been exceeded.

B) For each advert in turn, get the cost, apply the overhead rate, compare to the budget and produce a warning if the budget has been exceeded, then do the same for the next advert.

C) Work out the total cost of the campaign by accumulating the cost of each advert in turn, apply the overhead rate to the total, compare this to the campaign budget and produce a warning if the budget has been exceeded.

142. [CHAPTER-10-9] Which of the following best describes the main use of OCL?

A) OCL is used to describe the interaction between objects in more detail than is shown graphically in an interaction sequence diagram.

B) OCL is used specifically to document operation specifications.

C) OCL is used to give precise definition to any constraints in a UML model that cannot be expressed clearly and unambiguously in a graphical notation.

143. [CHAPTER-10-10] What do OCL statements generally contain?

A) A context, a property of the context and an operation on that property.

B) Sequence, selection and iteration structures.

C) Operation intent, operation signature and logic description.