SWR302-1

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1.	**QN=1 Which of the following techniques has the process as below?** **1. RETRIEVE relevant knowledge from other systems** **2. TRANSPOSE it to the target system** **3. VALIDATE the result, ADAPT it if necessary & INTEGRATE it with the system knowledge already acquired** **a. Scenarios** **b. Knowledge reuse** **c. Interview** **d. Data Collection**	b
2.	**QN=2 The following criteria are used for stakeholder analysis, except for** **a. Relevant position in the organization** **b. Level of domain expertise** **c. Create prototypes for system-to-be** **d. Effective role in making decisions about the system-to-be**	c
3.	**QN=3 Which is not an obstacle to effective knowledge acquisition?** **a. Distributed and conflicting knowledge sources** **b. Stable conditions** **c. Difficult access to sources** **d. Tacit knowledge and hidden needs**	b
4.	**QN=4 Which of the following is an elicitation technique that provides a concrete flavor of what the software will look like?** **a. Prototypes and mock-ups** **b. Background study** **c. Data collection** **d. Card sorts and repertory grids**	a
5.	**QN=5 Which is not a concept-driven acquisition technique?** **a. Interview** **b. Repertory grids**	a

c. Card sorts
d. Conceptual laddering

6. **QN=6 Which is not a artefact-driven elicitation technique?** d
a. Storyboards and scenarios for problem world exploration
b. Mock-ups and prototypes for early feedback
c. Knowledge reuse
d. Unstructured group sessions

7. **QN=7 Which is not an artefact-driven elicitation technique?** c
a. Background study
b. Data Collection
c. Group sessions
d. Questionnaires

8. **QN=8 Which is not a stakeholder-driven elicitation technique?** d
a. Interview
b. Group sessions
c. Observation and ethnographic studies
d. Stakeholder analysis

9. **QN=9 The following are obstacles to effective knowledge acquisition, except for** c
a. Distributed and conflicting knowledge sources
b. Difficult access to sources
c. Interacting with stakeholders
d. Obstacles to good communication

10. **QN=10 The following are obstacles to effective knowledge acquisition, except for** c
a. Sociopolitical factors
b. Difficult access to sources
c. Unstable conditions
d-v. Interacting with stakeholders

11. b

QN=11 _____ can be helpful for eliciting non-functional requirements related to usability, performance, and costs.
a. Questionnaires
b. Data Collection
c. Background study
d. Knowledge reuse

12. **QN=12 Which of the following is not an objective of domain understanding and requirements elicitation stage?** e
a. Understanding the system-as-is
b. Identify the problem and opportunities calling for q new system
c. Discover the expectations of stakeholders with respect to the new system
d. Explore alternative ways to develop the new system that could address those needs
e. Select the preferred proposal system

13. **QN=13 _____ shows aspects related to software functionalities.** b
a. A Software prototypes
b. A functional prototypes
c. A user interface prototypes
d. Screen mock-ups

14. **_____ is the requirement document item, which stating a problem world feature in a way that can not be precisely compared with alternative options, or can not be tested or verified in machine solution** c
a Omission
b Inadequacy
c Immeasurability
d Noise

15. **QN=2 _____, the system as it should be when the machine will be built and operated in it'— W0**

c. system-to-be-next
d. system-as-is

16. **QN=3 The machine's software to be developed or modified is just one component of the system-to-be that refers to**
a. software-as-is
b. software-to-be
c. system-to-be-next
d. system-as-is
b

17. **QN=4 Components pertaining to the machine's surrounding world will form**
a. Environment of system-to-be
b. Environment of system-as-is
c. Environment of software-as-is
d. Environment of software-to-be
d

18. **QN=5 In a _____ project, a brand new software solution is built from scratch to address problems with the system-as-is and exploit new opportunities from technology evolution or market conditions.**
a. greenfield
b. customer-driven
c. brownfield
d. market-driven
a

19. **QN=6 Requirements engineering is**
a. the processes involved in developing system design
b. the processes involved in developing system documents
c. the processes involved in developing and verifying system
d. the processes involved in developing system requirements
d

20. **QN=7 _____refer to "the contextual reasons for a new version of a system must be made explicit in terms of objectives" to be satisfied by**
c

a. the WHAT dimension
b. the WHO dimension
c. the WHY dimension
d. the HOW dimension

21. **QN=8 Which of the following is not a stage of requirement engineering process?** d
a. Domain understanding and elicitation
b. Evaluation and Negotiation
c. Specification and documentation
d. Requirement Traceability

22. **QN=9 _____ addresses the assignment of responsibilities for achieving the objectives, services, and constraints among the components of the system-to-be** b
a. the WHAT dimension
b. the WHO dimension
c. the WHY dimension
d. the HOW dimension

23. **QN=10 _____ Statements state properties about the system that hold regardless of how the system behaves. Such properties hold typically because of some natural law or physical constraint.** a
a. Descriptive
b. Description
c. Prescriptive
d. Prescription

24. **QN=11 The following statement is an example of ____ statement:** b
- The same book copy can not be borrowed by two different people at the same time.
a. Prescriptive
b. Descriptive
c. Description
d. Prescription

25. c

QN=12 _____statements state desirable properties about the system that may hold or not depending on how system behaves
a. Descriptive
b. Description
c. Prescriptive
d. Prescription

26. **QN=13 _____is the requirement document item, which cannot be realistically implemented within assigned budget, schedule, or development platform.** d
a. Omission
b. Inadequacy
c. Immeasurability
d. Unfeasibility

27. **QN=1 The target of _____ is a set of low-risks, conflict-free requirements and assumptions that stakeholders agree on.** b
a. Domain Understanding and Elicitation
b. Requirements Evaluation
c. Requirements Specification
d. Requirements Validation

28. **QN=2 Which of the following items is not a type of inconsistency of requirements?** c
a. Terminology clash
b. Designation clash
c. Inconsistency management
d. Structure clash

29. **QN=3 _____. These are statements that can not be satisfied when taken together; their logical conjunction evaluates to false in all circumstances.** d
a. Weak conflict or divergence
b. Designation clash
c. Structure clash
d. Strong conflict

30. b

QN=4 The following sample statement is a _____ statement.

The staff's viewpoint in our library system might state, 'a borrower should return a borrowed book copy within two weeks'. A stakeholder having the borrower's viewpoint might state, 'a borrower should keep a borrowed book copy as long as he or she needs it'.
a. Strong conflict
b. Weak conflict or divergence
c. Structure clash
d. Designation clash

31. **QN=5 Risk management process contains the following stages, except for** c
a. Risk identification
b. Risk assessment
c. Risk resolution
d. Risk control

32. **QN=6 The goals of risk assessment is to assess likelihood of risks, _____, likelihood of consequences, to control high-priority risks** a
a. risk severity
b. risk resolution
c. risk control
d. risk management

33. **QN=7 Assume that risk (r) only cause one consequence (c). Give Likelihood (c) = 0.7, Severity (c) = 5, cost(cm) = 0.5. Exposure(r) =** b
a. 1.15
b. 3.5
c. 2.5
d. 0.35

34. **QN=8 The goals of _____ is to reduce high-exposure risks through countermeasures** a
a. Risk control

b. Risk assessment
c. Risk management
d. Risk identification

35. **QN=9 Which of the following items are not exploring risk countermeasures techniques?** d
a. Using elicitation techniques
b. Reusing known countermeasures
c. Using risk reduction tactics
d. Using design methodologies

36. **QN=10 Which of the following items is not a step in the process of risk management with DDP for RE?** d
a. Elaborate the Impact matrix
b. Elaborate the Effectiveness matrix
c. Determine optimal balance risk reduction vs. countermeasure cost
d. Quantitative reasoning for evaluating options

37. **QN=11 Give Evaluation Criteria (NFRs) of scheduling Meeting program to quantitative reasoning for evaluation options as below:** b

- Fast responds: (Significance weighting: 0.30; Option 1 score: 0.40)
- Realizable response: (Significance weighting: 0.50; Option 1 score: 0.80)
- Minimal inconvenience: (Significance weighting: 0.10; Option 1 score: 0.30)

Which of the following is a total score of option 1?
a. 0.52
b. 0.55
c. 0.57
d. 0.5

38. **QN=12 Which of the following items is a range of estimated score percentage of option (opt) on criterion (crit): Score (opt, crit) ?** a
a. 0-->1

b. 0-->0.99
c. 0-->10
d. 0-->100

39. **QN=13 Which of the following items is not a step of Value-cost prioritization process?** d
a. Estimate relative contribution of each requirement to project's value
b. Estimate relative contribution of each requirement to project's cost
c. Plot relative contributions on value-cost diagram
d. Build comparison matrix

40. **QN=1 ER diagram is made from three core constructs: entities, _____ and relationships.** d
a. Classes
b. Methods
c. Objects
d. Attributes

41. **QN=2 State machine diagram is made by two core constructs:** c
a. States, Relationships
b. States, Associations
c. States, Transitions
d. States, Operations

42. **QN=3 The data-activity duality principle requires actigram items to have some _____ in a datagram, and vice versa.** b
a. Countermeasures
b. Counterparts
c. Opponents
d. Companions

43. **QN=4 Actigrams (Datagrams) declare activities (data) by their input/output data (producing/consuming activities) and interconnect them through data (_____) dependency links.** d
a. Action

b. Value
c. Data
d. Control

44. **QN=5** a
In Figure 4.9, "DetermineSchedule - <<include>> - ResolveConflicts" means:
a. ResolveConflicts is a 'sub-operation' of DetermineSchedule.
b. ResolveConflicts is an 'alternative-operation' of DetermineSchedule.

45. **QN=6** c
In Figure 4.9, "DenyRequest - <<extend>> - AskConstraints" means:
a. DenyRequest is a sub-operation of AskConstraints.
b. DenyRequest is an alternative operation of AskConstraints.
c. DenyRequest is an alternative operation of AskConstraints, when the condition named Unauthorized holds.
d. None of the others

46. **QN=7** a
Figure 4.10 shows an Event Trace Diagram specifying a meeting scheduling scenario. The first event is meetingRequest, _____ by an Initiator instance and _____ by a Scheduler instance.
a. controlled/monitored
b. monitored/controlled
c. requested/responded
d. responded/requested

47. **QN=8 In state machine diagram, the event occurrence is a _____ condition for transition firing, whereas a guard is a _____ condition for firing.** a
a. sufficient/necessary
b. necessary/sufficient

48.	**QN=9** **In figure 4.11, the "Planning" state (source state) changes to "MeetingScheduled" state (target state) if _____ (the event) occurs and only if _____ (the guard condition) is true.** **a. scheduleDetermination/[No conflicts]** **b. [No conflicts]/scheduleDetermination**	a
49.	**QN=10** **In figure 4.15, the ER diagram is a confusing requirement.** **a. True** **b. False**	a
50.	**QN=11 A_____ is captured by a sequence of state transitions for the system items that the component control** **a. Behavior** **b. State** **c. SM state transition** **d. SM trace** **e. SM State**	a
51.	**QN=12 Which of the following are differences of problem diagram comparing with context diagram?** **a. A rectangle with double vertical stripe represent the machine to be built** **b. A rectangle with a single vertical stripe represent the component to be designed** **c. Shared phenomena are controlled/monitored by components** **d. An interface can be declared separately the exclamation mark after a component name prefixing**	abd
52.	**QN=13 A_____ diagram can be further detailed by indicating explicitly which component controls a shared phenomena, which component constitutes the machine needs to be built, and which components are affected by which requirements.** **a. context**	d

b. Frame
c. Problem
d. state machine
e. entity-relationship

53. **QN=1 Which one of the following activities should not be done in the phase "Defect evaluation at review meetings" of "Requirements inspection & review process":**
a. The defects found by each inspector are collected and discussed by the meeting participants
b. The meeting participants keep only defects on which all agree
c. Each inspector reads the RD or part of it individually to look for defects.
d. The team documents the conclusions in an inspection report

c

54. **QN=2 Requirements Inspection process uses _____ guidelines to make it more effective in finding defects.**
a. WHY-WHAT-WHO
b. WHY-WHAT-WHO-HOW
c. WHAT-WHO-WHEN-WHERE
d. None of the others

c

55. **QN=3 The phase "Individual reviewing", inspectors reads the Requirement Document for defects. They can operate this phase in which of the following modes?**
a. Free mode, process-based mode, checklist-based mode
b. Free mode, guideline-based mode, checklist-based mode
c. Free mode, guideline-based mode, process-based mode
d. Free mode and checklist-based mode

a

56. **QN=4 Because the requirements errors are the most expensive, numerous and persistent software er-**

b

rors, so "requirements inspection & review process" should be applied as soon as possible.
a. TRUE
b. FALSE

57. **QN=5 "Queries on a requirements database" technique for "Requirements quality assurance" work on parts of the Requirements Document that are specified in terms of the _____.** c
a. Structured natural language
b. Unrestricted natural language
c. Diagrammatic notations
d. None of the others

58. **QN=6 Which one of the following modes of individual reviewing rely on lists of specific issues to address while searching for defects?** b
a. Checklist-based mode
b. Checklist-based and Process-based modes
c. Free mode
d. None of the others

59. **QN=7 Domain-specific checklists specialize the defect-based ones to the specific constructs of the structured, semi-format or formal specification language used in the requirement document.** b
a. TRUE
b. FALSE

60. **QN=8 For a binary decision table with N entry conditions, there must be _____ columns for the table to list all possible combinations of conditions exhaustively.** a
a. 2^N
b. 2xN
c. N^2
d. None of the others

61. **QN=9 In requirements validation by specification animation, the _____ is an execution of the software** a

model, and an animation is a visualization of the simulated model in its environment.
a. Simulation
b. Scenarios
c. Validation
d. Animator

62. **QN=10 _____ form an effective technique for quality assurance, it is the widest in scope and applicability.**
a. "Requirements inspection and reviews"
b. "Queries on a requirements database"
c. "Requirements validation by specification animation"
d. None of the others

a

63. **QN=11 Which of the following questions are in the checklist used for verifying "Poor structuring" defect type (choose three)?**
a. Is the structuring rule for organizing these RD sections apparent?
b. Does this RD item cover unrelated requirements?
c. Does this RD item mix requirements and assumptions together?
d. Would there be alternative sensible choices?
e. Does this statement entail a premature design choice?

abc

64. **QN=12 Which of the following questions are in the checklist used for verifying "Over specification" defect type (choose two)?**
a. Is the structuring rule for organizing these RD sections apparent?
b. Does this RD item cover unrelated requirements?
c. Would there be alternative sensible choices?
d. Does this RD item mix requirements and assumptions together?
e. Does this statement entail a premature design choice?

ce

65. **QN=13 Which of the following questions are in the checklist used for verifying "Ambiguity" defect type (choose two)?**
a. Can this statement be interpreted differently in different relevant contexts?
b. Is the structuring rule for organizing these RD sections apparent?
c. Are there other statements using this term with different meaning?
d. Does this RD item cover unrelated requirements?
e. Does this RD item mix requirements and assumptions together?
ac

66. **QN=1 Which one of the following links is not a traceability type?**
a. Anticipation link
b. Use link
c. Revision link
d. Variant link
e. Derivation link
f. Dependency li
A

67. **QN=2 Traceability relies on the existence of _____ between items that we can follow backwards, towards source items, and forwards, towards target items.**
a. Dependency links
b. Transitions
c. Associations
d. None of the others
a

68. **QN=3 To document assumption and requirement changes, we may assign qualitative levels of _____ to the statements, or levels of _____ in the case of multiple variants.**
a. Stability / Commonality
b. Revisions / Variants
c. Derivations / Dependencies
d. None of the others
a

69. **QN=4 In "Traceability management process", which one of the following phases is concerned with four issues: the link granularity, link semantic richness, link accuracy and link overhead?**
a. Define traceability policy
b. Establish traceability links
c. Exploit traceability links
d. Maintain traceability links
b

70. **QN=5 Which one of the following activities should be done in "Change evaluation & prioritization" phase of "Change Control" process?**
a. The team in charge of the project handles all approved changes to produce a new system version.
b. The review board is responsible to assess the merits, feasibility and cost of the proposed changes in the change request. Some proposed changes are approved, others are rejected and others are deferred.
c. The team in charge of project maintains a wishlist of possible changes. At certain time intervals, the team consolidates the wishlist into a change request.
d. None of the others.
b

71. **QN=6 Dependency is the most general type of traceability link that can be specialized into _____ and _____ links within a single version.**
a. Use / Derivation
b. Variant / Revision
c. Revision / Derivation
d. None of the others
a

72. **QN=7 Traceability management process composes of 4 phases:**
a) Exploit traceability links
b) Establish traceability links
c) Maintain traceability links
d) Define traceability policy
Which one is the appropriate order of these phases:
a. a, b, c, d
c

b. b, a, c, d
c. d, b, a, c
d. d, c, a, b

73. **QN=8 Traceability management refers to the process of establishing, recording, exploiting and maintaining traceability _____ in a traceability _____.** d
a. Lines / Graph
b. Relationships / Graph
c. Connections / Graph
d. Links / Graph

74. **QN=9 _____ requires us to identify likely changes, assess their likelihood and document them in the Requirement Document.** a
a. Change anticipation
b. Change assessment
c. Change validation
d. None of the others

75. **QN=10 In a Change Control process, the necessity, feasibility, benefits, impact and cost of the requested changes are evaluated by a _____** b
a. Inspector
b. Review board
c. Stakeholder
d. None of the others

76. **QN=11 Which of the following actions does the review board need to do when reviewing changes of require-ments (Choose three)?** abc
a. Understand the context of the requested change.
b. Assess the benefits of proposed change.
c. Estimate the cost and feasibility of the changes
d. Maintains a wishlist of possible changes (identified by insiders or collected from outsiders)
e. Consolidates the wishlist into a change request

77. **QN=12 Which of the following are activities to be done in "Change Consolidation" stage of change control** acd

process (choose three)?
a. Baselining of the new version of the RD for sharing among project members until the next version is baselined
b. Prioritize the accepted changes.
c. Forward propagation of all RD changes downward to software lifecycle items along vertical links of traceability graph.
d. Updating of the traceability graph.
e. Detect potential conflicts among the proposed changes.

78. **QN=13 Which of the following are activities to be done in "Change Evaluation and prioritization" stage of change control process (choose two)?** be
a. Baselining of the new version of the RD for sharing among project members until the next version is baselined
b. Prioritize the accepted changes.
c. Forward propagation of all RD changes downward to software lifecycle items along vertical links of traceability graph.
d. Updating of the traceability graph.
e. Detect potential conflicts among the proposed changes.

79. **QN=1 Unlike domain properties and _____, goals may be refined, negotiated, assigned as responsibilities to agents and transformed in case of conflict or overexposure to risks.** d
a. assumptions
b. expectations
c. requirements
d. hypotheses

80. **QN=2 Behavioral goals are used for building _____ specifications of the system.** a
a. Operational
b. Non-functional

c. Critical
d. None of the others

81. **QN=3 An expectation is a goal assigned to a single agent of the _____.** b
a. problem world
b. environment
c. system-to-be
d. system-as-is

82. **QN=4 Which one of the following statements is a "soft goal"?** c
a. If a book is requested then within a week a copy of the book is borrowed by the requesting patron.
b. If a train is at a platform then within 5 minutes the train is at the next platform.
c. The meeting scheduler software should be easy to use by administrative staff.
d. If a meeting is requested then sooner-or-later the meeting takes place and is attended by all important invited participants.

83. **QN=5 _____ are used as criteria for selecting system options among multiple alternatives.** d
a. Maintain goals
b. Avoid goals
c. Achieve goals
d. Soft goals

84. **QN=6 Goals are generally found by top-down _____ of higher-level concerns and by bottom-up _____ from lower-level material such as scenario examples and operational descriptions.** a
a. Refinement / abstraction
b. Abstraction / refinement
c. Generalization / specialization
d. Specialization / generalization

85. **QN=7 In the goal model, the finer-grained a goal is, the _____ are required to satisfy it.** d

a. fewer requirements
b. better agents
c. more agents
d. fewer agents

86. **QN=8 Goals provide a basic abstraction for addressing the _____ dimension of requirements engineering.** a
a. WHY
b. WHO
c. WHAT
d. HOW

87. **QN=9 Goals provide a precise _____ for requirements completeness and pertinence.** d
a. Evidence
b. Criterion
c. Tool
d. Role

88. **QN=10 A goal refinement graph show the refinement and contribution links among goals. _____ appear as leaf nodes in this graph.** c
a. Soft goals
b. Domain properties
c. Requirements
d. Behavior goals

89. **QN=11 Which of the following items are not non-functional goals (Choose two)?** ae
a. Information
b. Compliance
c. Safety
d. Security
e. Satisfaction

90. **QN=12 _____ prescribe different types of protection of agent assets against unintended behaviors.** c
a. Accuracy goals

b. Information goals
c. Security goals
d. Stimulus-response goals

91. **QN=13 _____ refers to the use of goals for requirements elicitation, evaluation, negotiation, elaboration, structuring, documentation, analysis and evolution.** b
a. Goal
b. Goal-oriented RE
c. Requirement Engineering
d. Requirement Management

92. **QN=1 An AND-refinement states that the parent goal can be satisfied by satisfying ___ sub-goals in the refinement.** b
a. one of
b. all
c. some of

93. **QN=2 An AND-refinement of a goal G into sub-goals G1, G2, ..., Gn should be** c
a. Complete, inconsistent, minimal
b. Complete, accuracy, coverage
c. Complete, consistent, minimal
d. None of others

94. **QN=3 Which one of the following statements about the leaf nodes in goals refinement trees is false?** d
a. They are nodes that need not be refined further.
b. They are nodes whose responsibility can be assigned to single software agents.
c. They are nodes whose responsibility can be assigned to single environment agents.
d. They can not be domain properties or hypotheses.

95. **QN=4 The goal model captures _____ and_____** ac
a. responsibility links between goals and conceptual objects
b. obstruction links between goals and obstacles

c. reference links from goals to system agents
d. operationalization links between goals and system operations
e. coverage links between goals and scenarios

96. **QN=5 To start building a goal model, we may obtain _____ goals. Once these goals are obtained, we may build refinement and abstraction paths in a goal diagram** d
a. Behaviour
b. Soft
c. Critical
d. Preliminary

97. **QN=6 The goals G1, G2, ..., Gn are divergent in a domain Dom if we can find a feasible boundary condition B under which the goals cannot satisfied the arguments** b
a. {G1, G2, ..., Gn, B, Dom} |= true
b. {G1, G2, ..., Gn, B, Dom} |= false
c. {G1, G2, ..., Gn, B, Dom} |= G
d. {G1, G2, ..., Gn, B, Dom} |` G

98. **QN=7 A goal model makes it possible to capture _____ alternative options** b
a. only one kind of (Alternative goal refinements)
b. two kinds of (Alternative goal refinements, Alternative responsibility assignments)
c. three kinds of (Alternative goal refinements, Alternative goal contributions, Alternative responsibility assignments)
d. None of the others

99. **QN=8 We can build refinement and abstraction paths in a goal diagram by recursively asking ___ and ___ questions about available goals, respectively** c
a. WHY / HOW
b. WHY / WHAT
c. HOW / WHY
d. WHAT / WHY

100. **QN=9**
Figure 9 shows the _____

a. Unrealizability-driven refinement pattern.
b. Unmonitorability-driven refinement pattern.
c. Divide-and-conquer refinement pattern.
d. None of the others
e. Milestone-driven refinement pattern

c

101. **QN=10 Figure 10**
a. Case-driven refinement pattern
b. Guard-introduction pattern
c. Divide-and-conquer pattern
d. Milestone-driven refinement pattern

d

102. **QN=11 Given figure 8-11 below.**
Which of the followings is a pattern used in the figure?
a. Case-driven refinement pattern
b. Guard-introduction pattern
c. Divide-and-conquer pattern
d. Milestone-driven refinement pattern

b

103. **QN=12 Which refinement pattern is applied for the goal refinement in the figure 8-12?**

[CopyBorrowedIfAvailable]
Def A book has a copy available for the requesting borrower

[CopyDueSoonIfNotAvailable]
Def A book without any copy available for loan shall have a copy available within 15 days for the requesting borrower
a. Case-driven refinement pattern
b. Guard-introduction pattern

a

c. Divide-and-conquer pattern
d. Milestone-driven refinement pattern

104. **QN=13 Peter is responsible for goals discovery in RE. He uses some words like "in order to, so as to, so that,.. etc." to search goals in documents. Which of the followings is a Heuristic rules that Peter is using?** b
a. Analyze current objectives & problems in system-as-is
b. Search for goal-related keywords
c. Instantiate goal categories
d. By abstraction
e. By refinement

105. **QN=1 Obstacle analysis is a _____ of risk analysis aimed at identifying, assessing and resolving the possibilities of breaking assertions in the system's goal mod** b
a. assertion-based form
b. goal-based form
c. obstacle-based form
d. requirement-based form

106. **QN=2 An obstacle is a pre-condition for _____ of some goal, hypothesis or questionable domain property used in the goal model.** b
a. satisfaction
b. non-satisfaction
c. Weakness
d. Divergent

107. **QN=3 Goals and obstacles are dual notions. Therefore, we can derive obstacle categories from _____.** c
a. Goals
b. Goal model
c. Goal categories
d. Goal obstructions

108. **QN=4 In obstacle diagram, leaf obstacles are connected to countermeasure goals through** d

_____.
a. Responsibility links
b. Realizability links
c. Feasibility links
d. Resolution links

109. **QN=5 Goal obstruction propagates _____ along goal AND-refinement trees** b
a. top-down
b. bottom-up

110. **QN=6 not (if A then B) amounts to:** b
a. not A and not B
b. A and not B
c. not A and B
d. not A or not B

111. **QN=7 Like in any risk management process, obstacle analysis is an iteration of _____ cycles.** b
a. Elicit - Evaluate - Control
b. Identify - Assess - Control
c. Plan - review - evaluate - consolidate
d. None of the others

112. **QN=8 An AND-refinement of obstacle O into sub-obstacles O1, O2,..., On should meet the following conditions:** a
1) {O1, O2, ..., On, Dom} |` false complete AND-refinement
2) {O1, O2, ..., On, Dom} |= O consistent AND-refinement
3) {O1,..., O(j-1), O(j+1), ..., On, Dom} |` O minimal AND-refinement
Which pair of the arguments is wrong?
a. 1 & 2
b. 1 & 3
c. 2 & 3
d. All of arguments are true

113. c

QN=9 Which one is the "domain completeness" condition for OR-refinement of obstacle O into alternative sub-obstacles Oi:
a. {Oi, Dom} |` false.
b. {Oi, Dom} |= O
c. {not O1, not O2, ..., not On, Dom} |= not O
d. {Oi, Oj, Dom} |= false (i ` j)

114. **QN=10** b
figure 9.9 - Breaking goals and domain hypotheses in the airbus A320 braking logic
(A) / (B) should be.
a. Not ReverseThrustEnabled / Not WheelsTurning
b. ReverseThrustEnabled And Not WheelsTurning / WheelsTurning And Not ReverseThrustEnabled
c. ReverseThrustEnabled IF WheelsTurning / WheelsTurning IF Not ReverseThrustEnabled
d. None of the others

115. **QN=11 Obstacles completeness can show about _____ and_____ (Choose two)** ac
a. what we know about the domain and how adequate our knowledge is
b. existential property capturing unadmissible behavior (negative scenario)
c. obstacle analysis may help elicit and validate relevant domain properties
d. condition on system for violation of corresponding assertion

116. **QN=12 Which conditions does a statement about an obstacle to an assertion need to meet?** bcd
a. {not O1,..., not On, Dom } |= G
b. {O, Dom } |= not G
c. {O, Dom } |` false
d. O can be satisfied by some system behavior

117. **QN=13 OR-refinement of obstacle O should be ...** abde
a. {subOi, Dom } |= O
b. {subOi, subOj, Dom } |= false

c. {subO1,..., subOj-1, subOj+1 , ..., subOn, Dom } |= O
d. {not subO1,..., not subOn, Dom } |= not O
e. {subOi, Dom } |` false

118. **QN=1 An object model provides a _____ of the system-as-is and system-to-be.** c
a. Intentional view
b. Functional view
c. structural view
d. behavioral view

119. **QN=2 A/an _____ is a discrete set of instances of a domain-specific concept that are manipulated by the modelled system** d
a. System state
b. State variable
c. Object class
d. Conceptual object

120. **QN=3 The features shared by object instances include.** c
a. common vocabularies, glossary of terms, object's attributes and definition
b. goals, agents, operations and behavior models
c. object's definition, type, individual attributes, associations, domain invariants
d. None of the others

121. **QN=4 An entity is _____.** d
a. An autonomous and active object
b. A conceptual object dependent on other objects that it links.
c. An instantaneous object
d. None of the others

122. **QN=5 The association is also called under synonymous term _____** b
a. 'relation'
b. 'relationship'

c. 'linked object'
d. none of the others

123. **QN=6 Each linked object in an association plays specific _____ in the association** b
a. Relation
b. Role
c. Link
d. none of the others

124. **QN=7 The multiplicity on one side of an association specifies the minimum and maximum number of object instances on _____ that may be associated.** b
a. the other side
b. this side
c. both sides
d. None of the others

125. **QN=8 An attribute is _____.** a
a. An intrinsic feature of an object regardless of other objects in the model
b. A relevant feature of an object, including the association with other objects in the model
c. A quantitative feature of an object
d. none of the others

126. **QN=9 A specialization link may be introduced in a model between an object SubOb and an object SuperOb if every current instance of _____ is a current instance of _____ as well.** b
a. SuperOb / SubOb
b. SubOb / SuperOb

127. **QN=10 In specialization, the object SubOb plays the role _____ whereas the object SuperOb plays the inverse role _____.** b
a. Generalizes / Specializes
b. Specializes / Generalizes
c. IsA / SubClassOf
d. SubClassOf / IsA

128. **QN=11 An_____ link may be introduced between an object Ob and objects PartOb1,... PartObn if every current instance of Ob is a tuple of current instances of PartOb1, ..., PartObn.** a
a. aggregation
b. composition
c. association
d. combination

129. **QN=12 _____ is a particular case of aggregation whether the composite object Ob and its parts PartObi appear and disappear together in the system.** b
a. aggregation
b. composition
c. association
d. combination

130. **QN=1 An agent model captures the ____-dimension of requirements engineering** b
a. WHY
b. WHO
c. WHAT
d. HOW

131. **QN=2 An agent is an _____ system component play a role in goal satisfaction.** a
a. Active
b. Passive
c. Instantaneous
d. none of the others

132. **QN=3 Which of the following statements about agent capabilities is wrong?.** b
a. An agent monitors an attribute of an object if its instances can get the value of this attribute from object instances
b. An agent monitors an association if its instances can control this association holds between object instances

c. An agent controls an attribute of an object if its instances can set values for this attribute on object instances
d. An agent controls an association if its instances can create and delete association instances

133. **QN=4 A goal under the responsibility of an agent must be realizable by the agent in view of its _____.** b
a. Responsibilities
b. Capabilities
c. Realizabilities
d. None of the others

134. **QN=5 Agent capabilities are defined in terms of the system variables that the agent can _____ and _____** c
a. Assign / evaluate
b. Specify / realize
c. Monitor / control
d. none of the others

135. **QN=6** c
In figure 11.4, what is the name of the annotation attached to the link between the agent and the operation in the agent model?
a. Responsibility instance declaration
b. Capability instance declaration
c. Performance instance declaration
d. none of the others

136. **QN=7 Which one of the following statements is the definition of "capability instance declaration" (CID)?.** b
a. It annotating a performance link in an agent diagram makes precise which agent instance is performing the operation on which input/output object instance
b. It annotating a monitoring or control link makes precise which agent instance is monitoring or controlling the attribute/association of which object instance

c. It annotating a responsibility link in an agent diagram makes it precise which agent instance is responsible for which goal instantiation to specific object instances
d. None of the others

137. **QN=8 In the agent model, an agent ag1 is said to depend on another agent ag2 for a goal G under the responsibility of ag2, if ___'s failure to get G satisfied can result in ___'s failure to get one of its assigned goals satisfied**
a. ag1 / ag2
b. ag2 / ag1 — b

138. **QN=9 What is an agent-goal co-refinement process?**
a. A process in which an agent and its assigned goals are refined in parallel into finer-grained agents, sub-goals and responsibility assignments
b. A process in which agents and assigned goals are generalized in parallel into coarse-grained agents and abstract goals
c. Both of above statements are wrong — a

139. **QN=10**
In figure 11.6, "Train" and "TrainInfo" are classified as
a. Agents
b. Events
c. Entities
d. Associations — c

140. **QN=1 A/An _____ designates an object instance to which the operation applies. The state of this instance affects the application of the operation.**
a. State variable
b. Input variable
c. Out variable
d. None of the others — b

141. **QN=2 A particular application of the operation yields a state _____ from a state in InputState to a state** — c

in OutputState.
a. transformation
b. exchange
c. transition
d. none of the others

142. **QN=3 Domain pre- and post-conditions are prescriptive.** b
a. True
b. False

143. **QN=4 The specification of an operation therefore includes a set of prescriptive conditions on operation applications. These conditions are aimed at ensuring that _____.** b
a. the operation is dependent on the goals
b. the goals underlying the operation are satisfied
c. the operation associates with the goals
d. None of the others

144. **QN=5 Which one of the following statements about required condition is true?** d
a. Required pre-condition captures an obligation.
b. Required trigger condition captures an additional effect.
c. Required post-condition captures a permission.
d. none of the others

145. **QN=6 The operation is not applied if a trigger condition becomes true in a state where the operation's domain pre-condition is not true.** a
a. True
b. False

146. **QN=7 Which one of the following statements is false?** c
a. An operation may operationalizes multiple goals.
b. A goal may be operationalized by multiple operations.
c. Multiple agents perform an operation.
d. An agent may perform multiple operations.

147. **QN=8 An operationalization diagram is an annotated graph showing the system operations, their _____ to goals in the goal model and input/output links to objects in the object model.**
a. performance links
b. operationalization links
c. capability links
d. None of the others
b

148. **QN=9 A use case diagram provides an outline view of an operation model by showing the operations that an agent performs together with _____ with other agents.**
a. interaction links.
b. responsibility links
c. operationalization links
d. None of the others
a

149. **QN=10 In _____ scheme, the agent instance applies the operation when it is really obliged to do so; that is, when one of the operation's required trigger conditions becomes true.**
a. an eager behaviour
b. a lazy behaviour
b

150. **QN=1 In scenario diagram, an interaction is a/an _____.**
a. Active object
b. Passive object
c. Instantaneous object
d. None of the others
c

151. **QN=2 In positive scenario, the sequence of interactions illustrates a possible way of satisfying an obstacle to a goal.**
a. True
b. False
b

152. a

QN=3 External events: the agent associated with the State Machine does not controls.
a. True
b. False

153. **QN=4 In an SM diagram, a transition is labelled by _____ from a source state to a target state.** a
a. an event
b. an action
c. an operation
d. None of the others

154. **QN=5 Which one of the following statements about required condition is true? In a state machine diagram, a guard condition captures a _____ condition for state transition.** a
a. necessary
b. sufficient

155. **QN=6 The initial states of the instance correspond to the states where it disappears from the system.** b
a. True
b. False

156. **QN=7** b
In figure 13.6, the pair of object instances [PatrID, self] is called:
a. the parameters of event checkOut
b. the attributes of event checkOut
c. the guard conditions of event checkOut
d. None of the others.

157. **QN=8 For stepwise refinement of a state diagram, we decompose a state into sequential or parallel sub-states.** a
a. true
b. false

158. a

QN=9 Which part of Figure 13.4 is called "episode"?.
a. (A)
b. (B)

159. **QN=10 A scenario is a temporal sequence of interaction events among agent.** b
a. True
b. False

160. **QN=11 Which of the followings are not strengths of goal model?** cd
a. satisfaction arguments
b. concrete examples
c. expressive (functional, non-functional; alternative options)
d. acceptance test data

161. **QN=12 Which of the followings are strengths of state machines model?** bd
a. expressive (functional, non-functional; alternative options)
b. visual abstraction of explicit behaviors of any agent instance in a class
c. acceptance test data
d. code generation

162. **QN=13 Which of the following are semantic rules used to define sequential state decomposition?** ac
a. The instance modelled by the diagram is in the super-state if and only if it is in one (and only one) of the sequential sub-states
b. The instance modelled by the diagram is in the super-state if and only if it is in each of the concurrent sub-states
c. An incoming transition to the super-state is by default inherited by every sequential sub-states as an incoming transition to it.

163. **QN=1 A meta-model is a conceptual model for the meta-level, the highest level, thus consisting of con-** b

cepts, relationships, attributes and constraints defined in all levels (meta-, domain- and instance-level).
a. True
b. False

164. **QN=2 System model is made up of five views. Which one of the following view captured by goal model:** d
a. Structural view
b. Functional view
c. Behavioural view
d. None of the others

165. **QN=3 The instance level is made of concepts that are instances of meta-level abstractions.** b
a. True
b. False

166. **QN=4 Two meta-attributes are mandatory for any meta-concept whatever view it refers to:** c
a. "Name" and "Category"
b. "Identifier" and "Name"
c. "Name" and "Def"
d. "Identifier" and "Issue"

167. **QN=5 In figure 14.4, which one of the following word is the name of (A):** a
a. Association
b. Relationship.
c. ConceptualObject.
d. None of the others.

168. **QN=6 In figure 14.6, which one of the following word is the name of (B):** b
a. Responsibility
b. Operationalization
c. Performance
d. Capability

169. **QN=7 In figure 14.7, which one of the following word is the name of (C):** a

a. BehaviourModel
b. OperationModel
c. GoalModel
d. AgentModel

170. **QN=8 Which one of the following object is the root meta-concept:** c
a. ObjectModel
b. OperationModel.
c. SystemModel.
d. None of the others.

171. **QN=9 The name of elements defined in a package are _____.** a
a. local to the package and its descendants.
b. public to all packages.
c. None of the others.

172. **QN=10 To facilitate model configuration and evolution, we should specify _____ among packages.** c
a. Generalization links.
b. Inheritance links.
c. Dependency links.
d. None of the others.

173. **QN=11 All of the following statements about structural consistency of the goal and object models are correct, EXCEPT?** d
a. Every conceptual item referred to in a goal specification in the goal model must appear as an attribute or object in the object model
b. Every goal in the goal model must concern at least one object in the object model
c. For every object in the object model, there must be at least one goal in the goal model concerning with it
d. Every goal in the goal model must be existent in the object model

174. **QN=12 All of the following statements about structural consistency of the goal and behavior models are** b

incorrect, EXCEPT?
a. Every conceptual item referred to in a goal specification in the goal model must appear as an attribute or action in the behavior model
b. Every scenario in the behavior model must be covered by at least one goal in the goal model
c. For every SM state in the goal model, there must be at least one goal in the goal model refer to it
d. Every goal in the goal model must concern at least an action or an event in the behavior model