COMBINED TECHNICAL SERVICES EXAMINATION

(NON-INTERVIEW POSTS)

COMPUTER BASED TEST

PAPER – II – COMPUTER SCIENCE

(PG DEGREE STANDARD) (CODE: 287)

1. The performance of a pipeline is expressed in terms of its

(A) Hit ratio
(B) Speedup ratio
(C) Miss ratio
(D) Control ratio
(E) Answer not known

2. A commercial computer with vector instructions and pipelined floating-point arithmetic operations is referred as

(A) Personal computer
(B) Mini computer
(C) Mainframe computer
(D) Super computer
(E) Answer not known

3. A typical super computer has a basic cycle time of ———— ns.

(A) 4 to 10 ns
(B) 4 to 20 ns
(C) 4 to 30 ns
(D) 4 to 40 ns
(E) Answer not known

4. If a thread is blocked because of data dependencies or memory latencies, that thread is skipped and ready thread is executed is known as

(A) Blocked multithreaded
(B) Simultaneous multithreading
(C) Single-threaded scalar
(D) Interleaved multithreading
(E) Answer not known

5. The address generated by a segmented program is called a

(A) Logical address
(B) Virtual address
(C) Memory address
(D) Physical memory address
(E) Answer not known

6. In ———— mapping method of cache memory, each word of cache can store two or more words of memory under the same index address.

(A) Direct mapping
(B) Indirect mapping
(C) Associate mapping
(D) Set-Associative mapping
(E) Answer not known

7. When a ———— occurs in the local cache, the processor initiates a memory read to read the line of memory containing the missing address.

(A) Read hit
(B) Read miss
(C) Write hit
(D) Write miss
(E) Answer not known

8. Which memory writing speed is comparable to the writing time of a hard disk?

(A) Flash
(B) EPROM
(C) PROM
(D) ROM
(E) Answer not known

9. Expand TLB

(A) Translation Local Buffer
(B) Translation Logical Buffer
(C) Translation Look aside Buffer
(D) Translation Look Back Buffer
(E) Answer not known

10. Which one of the following is true for a typical RISC architecture?

(A) Makes use of micro programmed control unit
(B) Makes use of Hardwired control unit
(C) Much smaller cache than CISC processor
(D) Supports many addressing modes
(E) Answer not known

11. The transfer of new information to be stored into the memory is called a ———— operation.

(A) READ
(B) WRITE
(C) CONTROL
(D) HALT
(E) Answer not known

12. After fetching the instructions from the memory, the binary code of the instructions is stored in which one of the following?

(A) Accumulator
(B) Again in memory
(C) Instruction pointer
(D) Instruction Register
(E) Answer not known

13. When an instruction is required to be brought from memory to CPU, on which one of the following bus is used to bring it?

(A) Address Bus
(B) Data Bus
(C) Control Bus
(D) Peripheral Bus
(E) Answer not known

14. The Von Neumann bottleneck can be attributed to which one of the following?

(A) Mismatch between the speeds of the primary and secondary storages
(B) Mismatch between the speed of CPU and primary storages
(C) Slow speed of Input/Output devices
(D) Low clock speed
(E) Answer not known

15. Which of the following in computer is justified by the principle of locality?

(A) Virtual memory
(B) Cache memory
(C) Auxiliary memory
(D) Primary memory
(E) Answer not known

16. What is an instruction cycle?

(A) Fetch, Decode, Execute and Store with pipeline
(B) Fetch, Decode, Execute and Store without pipeline
(C) Fetch, Decode, Execute and Store
(D) Execute an instruction
(E) Answer not known

17. Zero-address instructions in a stack-organized computer are ——— instructions.

(A) Implied mode
(B) Immediate mode
(C) Direct mode
(D) Register mode
(E) Answer not known

18. Computers alleviate the problem of addressing a large memory with a short word by using a technique that actually arose in a large computer. What is the name of the technique?

(A) Paging
(B) Segment
(C) Indexed Addressing
(D) Relative Addressing
(E) Answer not known

19. What is the time taken to execute an 'n' cycle instruction if 'i' operations are performed without using pipeline?

(A) (n. i) cycles
(B) (n –1) cycles
(C) (n +1) cycles
(D) (n + i –1) cycles
(E) Answer not known

20. ——— in which the address field contains the effective address of the operand.

(A) Implied Addressing
(B) Immediate Addressing
(C) Direct Addressing
(D) Indirect Addressing
(E) Answer not known

21. ———— is sometimes referred to as diminishing increment sort.

(A) Insertion sort
(B) Shell sort
(C) Heap sort
(D) Merge sort
(E) Answer not known

22. A ———— tree is a complete binary tree in which each node has a smaller key than its children.

(A) Red-black tree
(B) Heap tree
(C) Skewed tree
(D) AVL tree
(E) Answer not known

23. How many passes does bubble sorting technique require to sort an array on 'n' elements?

(A) 1
(B) n
(C) n – 1
(D) n – 2
(E) Answer not known

24. In which sort the memory requirement is doubled?

(A) Insertion sort
(B) Shell sort
(C) Heap sort
(D) Merge sort
(E) Answer not known

25. The worst case and average case running time of a heap sort is

(A) $O(n \log n)$ and $O(n^2)$
(B) $O(n \log n)$ and $O(n \log n)$
(C) $O(n^2)$ and $O(n \log n)$
(D) $O(\log n)$ and $O(n \log n)$
(E) Answer not known

26. The result of evaluating the postfix expression 5, 4, 6,+, *, 4, 9, 3, 1, +, *

(A) 600
(B) 350
(C) 680
(D) 700
(E) Answer not known

27. The maximum number of nodes that is possible in a path starting from the root node to a leaf node is called the ———— of a tree.

(A) Level
(B) Height
(C) Weight
(D) Degree
(E) Answer not known

28. In ———— traversal work at a node is performed before its children one processed.

(A) Pre order
(B) Post order
(C) In order
(D) In and out order
(E) Answer not known

29. What is the efficiency of Queue data structure in Delete operation?

(A) $O(1)$
(B) $O(n)$
(C) $O(\log n)$
(D) $O(n \log n)$
(E) Answer not known

30. What is meant by output-restricted deque?

(a) Insertion at one end

(b) Insertion at both end

(c) Deletion at one end

(d) Deletion at both end

(A) Both (a) and (d) are correct

(B) Both (a) and (c) are correct

(C) Both (b) and (c) are correct

(D) Both (b) and (d) are correct

(E) Answer not known

31. If a pop operation is performed on an empty stack, which of the following conditions will occur?

(A) Overflow

(B) Underflow

(C) Array out of bound

(D) No data found

(E) Answer not known

32. If 2, 1, 5, 8 are the stack contents with element 2 being at the top of the stack, then what will be the stack contents after following operations:

(i) PUSH (11)

(ii) POP ( )

(iii) POP ( )

(iv) POP ( )

(v) PUSH (7)

(A) 11, 2, 1

(B) 8, 11, 7

(C) 7, 5, 8

(D) 5, 8, 7

(E) Answer not known

33. Which of the following is not a stack application?

(A) Message Queuing
(B) Recursion execution
(C) Expression Evaluation
(D) Tower of Hanoi problem
(E) Answer not known

34. Which one of the following is true to access the records in sequential files?

(A) Records are accessed one by one
(B) Records are accessed directly
(C) Records are accessed with unique key
(D) Records are accessed with primary key
(E) Answer not known

35. What is the name of the function, which returns a pointer to the first occurrence of S2 in S1?

(A) Strcmp (s1, s2)
(B) Strcat (s1, s2)
(C) Strchr (s1, s2)
(D) Strstr (s1,s2)
(E) Answer not known

36. ———— is the data structure, used for spell checker.

(A) File
(B) Table
(C) Set
(D) Record
(E) Answer not known

37. Resizing of array in C++ possible by using

(A) Dynamic vectors
(B) Dynamic arrays
(C) STL vectors
(D) Linked arrays
(E) Answer not known

38. Which one of the following is wrong statement related with pointer variable?

(A) The symbol * located before the pointer variable

(B) The symbol * located between the data type and pointer variable

(C) The symbol * located immediately after the data type

(D) The symbol * located after the pointer variable

(E) Answer not known

39. Which one of the following is not a user defined type?

(A) Structure

(B) Union

(C) Class

(D) Array

(E) Answer not known

40. Web linked pages are the applications of

(A) Record

(B) File

(C) Set

(D) Table

(E) Answer not known

41. Match the following

(a)	Network model	1.	Tables
(b)	Relational model	2.	Facts, Rules
(c)	Object-relational model	3.	Files, Records
(d)	Deductive model	4.	Objects, functions and Rules

	(a)	(b)	(c)	(d)
(A)	2	1	3	4
(B)	2	4	3	1
(C)	3	1	4	2
(D)	3	2	4	1

(E) Answer not known

42. _____ locking is easy to implement but it is restrictive to yield optimal concurrency conditions.

(A) Number
(B) Binary
(C) Share
(D) Exclusive
(E) Answer not known

43. When a transaction never progresses then we say that it is

(A) Aborted
(B) Starved
(C) Shared
(D) Locked
(E) Answer not known

44. During pessimistic approach, what is the order of operation execution?

(A) Read, Validate, Compute, Write
(B) Validate, Compute, Read, Write
(C) Read, Compute, Validate, Write
(D) Validate, Read, Compute, Write
(E) Answer not known

45. In which one of the following strategies, Data allocation involves?

(A) Replication
(B) Duplication
(C) Selection
(D) Sharing
(E) Answer not known

46. Find the wrong statement related to attributes.

(A) Simple attributes are not sub divided into parts
(B) Composite attributes are sub divided into parts
(C) Multi value attributes have more than one value
(D) Attribute takes a "empty" value when an entity does not have a value for it
(E) Answer not known

47. The situation that some buckets are assigned more records than are others, so a bucket may overflow even when other buckets still have space is known as

(A) Insufficient buckets
(B) Bucket skew
(C) Bucket overflow
(D) Bucket chaining
(E) Answer not known

48. ———— constraint in CREATE-TABLE command ensures that the user always type the data for that column.

(A) Check
(B) Not null
(C) Reference
(D) Unique
(E) Answer not known

49. Which normal form satisfies the condition that, it cannot be further non-loss decomposed?

(A) 3 NF
(B) 4 NF
(C) BCNF
(D) 5 NF
(E) Answer not known

50. The process of normalization is

(A) Reversible
(B) Non-reversible
(C) Iterative
(D) Recursive
(E) Answer not known

51. When matching records are only displayed from both the tables, it is called as

(A) Self-join
(B) Inner-join
(C) Outer-join
(D) Equi join
(E) Answer not known

52. In order to perform union operation on two relations, both operand and relations must be

(A) Union compatible
(B) Set compatible
(C) Difference compatible
(D) Selection compatible
(E) Answer not known

53. A buffer used to store results of the recent query is called as

(A) Cursor
(B) Trigger
(C) Package
(D) Exception
(E) Answer not known

54. The first generation of DBMS is represented by systems

(A) Hierarchical and CODASYL systems
(B) Network model
(C) Relational model
(D) Distributed model
(E) Answer not known

55. Data should be correct with respect to the real world entity that they represent, is known as

(A) Persistence
(B) Validity
(C) Consistency
(D) Independence
(E) Answer not known

56. Who proposed the Reflexivity, and transitivity axioms?

(A) Armstrong
(B) Williams Jack
(C) Gehrke
(D) Kifer
(E) Answer not known

57. The model which is useful for representing records which have many-to-many relationships is known as

(A) Relational Data Model
(B) Hierarchical Data Model
(C) Network Data Model
(D) Both (A) and (B)
(E) Answer not known

58. ———— is defined as the data about data.

(A) Information
(B) Knowledge
(C) Intelligence
(D) Metadata
(E) Answer not known

59. In ———— organization the data are shared, secured and has quick access time.

(A) File
(B) Data base
(C) Computer
(D) Network
(E) Answer not known

60. In ———— phase, a transaction may release locks, but may not obtain any new locks.

(A) Normalization
(B) Growing
(C) Rollback
(D) Shrinking
(E) Answer not known

61. What tag is used to display picture?

(A) < picture >
(B) < src >
(C) < img >
(D) < img map >
(E) Answer not known

62. A html tag with an attribute is used to add a link that jumps within the page is

(A) < A > tag with href attribute
(B) < A > tag with ref attribute
(C) < A > tag with name attribute
(D) < A > tag with hlink attribute
(E) Answer not known

63. TIM stands for

(A) Telecommunications Information Mark up
(B) Telecommunications Industry Mark up
(C) Telecommunications Interchange Mark up
(D) Telecommunications International Mark up
(E) Answer not known

64. The ———— attribute is set to the URL of the target resource.

(A) SRC
(B) HREF
(C) LINK
(D) URL
(E) Answer not known

65. The expansion of MIME is

(A) Multimedia Internet Mail Extension
(B) Multipurpose Information Mail Extension
(C) Multipurpose Internet Mail Extension
(D) Multipurpose Internet MultiMedia Extension
(E) Answer not known

66. Which protocol is used by mail servers receive and store e-mail messages in mailboxes?

(A) SMTP
(B) POP
(C) FTP
(D) UDP
(E) Answer not known

67. Which of the following allows thousands of Internet users to participate in real time text-based chat?

(A) Usenet
(B) I & C
(C) AOL chat rooms
(D) Web-based chat
(E) Answer not known

68. In which year Jarkko Oikarinen developed Internet Relay Chat?

(A) 1986
(B) 1987
(C) 1988
(D) 1989
(E) Answer not known

69. Which programs support the users, for purchasing products in online?

(A) Secured programs
(B) Wallet programs
(C) Online programs
(D) Digital certificate programs
(E) Answer not known

70. _____ are the virtual locations on IRC network where users meet to talk to one another.

(A) Channels
(B) Frames
(C) Web Directory
(D) Search Engines
(E) Answer not known

71. _____ is a Metasearch engine which gets its results from other search engines.

(A) Yahoo
(B) Bing
(C) Ask
(D) Mamma
(E) Answer not known

72. Which technique removes the "dead air" or blank space from the front of a recording and any unnecessary extra time off the end is your first sound editing task?

(A) Splicing
(B) Assembly.
(C) Trimming
(D) Normalize
(E) Answer not known

73. _____ is the process of adjusting the volume of different frequency bands within an audio signal.

(A) Volume adjustment
(B) Up sampling and down sampling
(C) Fade-ins and fade-outs
(D) Equalization
(E) Answer not known

74. Which one of the following is a vector graphics format?

(A) JBIG
(B) JPEG
(C) EPS
(D) PNG
(E) Answer not known

75. What is the name for spacing between character pairs in Text?

(A) Ascender
(B) Descender
(C) Tracking
(D) Kerning
(E) Answer not known

76. The process of removing foreground regions is

(A) Dilation
(B) Erosion
(C) Thinning
(D) Skeletonization
(E) Answer not known

77. _____ consists of multiple drawings, where each one a little different from the others and when shown in rapid sequence, the drawing appears to move

(A) Graphics based Animation
(B) Cel based Animation
(C) Multimedia based Animation
(D) Computer based Animation
(E) Answer not known

78. A monitor can display 8 shades of red, 4 shades of blue and 16 shades of green calculate bit-depth.

(A) 7
(B) 8
(C) 9
(D) 10
(E) Answer not known

79. _____ Multimedia communication services were designed to provide basic data communication services such as email and general file transfers.

(A) Telephone networks
(B) Data networks
(C) Broadcast television networks
(D) Integrated services digital networks
(E) Answer not known

80. Which of the following denotes a set of techniques and algorithms using which, the file size of the image can be reduced maintaining their qualities?

(A) Image Restoration
(B) Image Enhancement
(C) Image Segmentation
(D) Image Compression
(E) Answer not known

81. Find out the correct encryption equation of Caesar Cipher algorithm.

(A) $C = E(k, p) = (p + k) \bmod 26$
(B) $C = E(k, p) = (p + k) \bmod 22$
(C) $C = E(k, p) = (p + k) \bmod 32$
(D) $C = E(k, p) = (p + k) \bmod 30$
(E) Answer not known

82. What is the block length used by Advanced Encryption Standard (AES)?

(A) 64 bits
(B) 128 bits
(C) 192 bits
(D) 256 bits
(E) Answer not known

83. In access control, a capability ticket specifies

(A) unauthorized objects and operations for a particular system
(B) authorized objects and operations for a particular user
(C) unauthorized operations for a group of users
(D) authorized objects and operations for a group of users
(E) Answer not known

84. Find the correct threat action using the following statement "Sensitive dates are directly released to an unauthorized entity"

(A) Exposure
(B) Intrusion
(C) Interception
(D) Inference
(E) Answer not known

85. _____ is a project undertaken by UC Berkeley, which aims at creation of programming frame work designed for cloud.

(A) Grid batch
(B) Boom and Bloom
(C) Orleans
(D) SAGA
(E) Answer not known

86. Which is the open source tool deployed by the private cloud?

(A) Eucalyptus
(B) Amazon AWS
(C) Microsoft Azure
(D) IBM Blue cloud
(E) Answer not known

87. Match the following cloud computing components and their vendors

(a) Computer Hardware	1. EMC
(b) Infrastructure	2. VM ware
(c) Platform virtualization	3. Juniper networks
(d) Storage	4. Dell

	(a)	(b)	(c)	(d)
(A)	4	3	2	1
(B)	3	4	1	2
(C)	1	3	2	4
(D)	2	1	4	3

(E) Answer not known

88. ———— is where physical server space is rented and kept at a vendor's data warehouse. As the customer, you can install any legal software to the server and allow access to your staff and clients as you see fit.

(A) Software as a Service (SaaS)

(B) Platform as a Service (PaaS)

(C) Infrastructure as a Service (IaaS)

(D) Application as a Service (AaaS)

(E) Answer not known

89. Match the following service providers with the corresponding service models :

(a)	IaaS	1.	Open stack
(b)	PaaS	2.	Micro soft office 365
(c)	SaaS	3.	Heroku

	(a)	(b)	(c)
(A)	1	3	2
(B)	2	1	3
(C)	1	2	3
(D)	3	1	2

(E) Answer not known

90. In ———— information is represented as a set of nodes connected to each other by a set of labelled arcs.

(A) Frames
(B) Semantic nets
(C) Production systems
(D) Artificial intelligence
(E) Answer not known

91. Which relationship relates a class to a set of subclasses , the union of which is equal to it?

(A) is-covered-by
(B) mutually-disjoint-with
(C) is-partitioned-by
(D) uniformly-disjoint-with
(E) Answer not known

92. The inferential adequacy property of knowledge representation is

(A) the ability to manipulate the representational structures in such a way as to derive new structures corresponding to new knowledge inferred from old

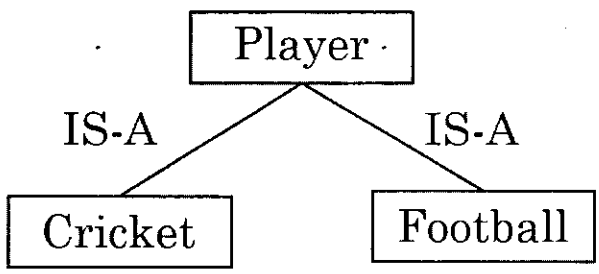
(B) the ability to acquire new information easily

(C) the ability to incorporate into the knowledge structure additional information in the most promising directions

(D) the ability to represent all of the kinds of knowledge that are need in that domain

(E) Answer not known

93. Name the knowledge representation used in the following figure.



(A) Relational knowledge

(B) Inheritable knowledge

(C) Inferential knowledge

(D) Procedural knowledge

(E) Answer not known

94. Name the threshold value that a minimizing node represents the beta in alpha-beta pruning.

(A) Middle bound

(B) Upper bound

(C) Lower bound

(D) Minimum bound

(E) Answer not known

95. "Every game of skill is susceptible of being played by an automaton" who said the above quote?

(A) Alen Turing
(B) Claude Shannon
(C) Charles Babbage
(D) Arthur Samuel
(E) Answer not known

96. General problem solver was developed by

(A) Simon and Newell
(B) Newell, Simon and Shaw
(C) Ernst and Alen turing
(D) Robert Weiner , Alen turing and Claude Shannon
(E) Answer not known

97. Write the two requirements of a good control strategy of production systems in AI.

(A) it causes motion and be non systematic
(B) it causes motion and be systematic
(C) it is fixed and be systematic
(D) it causes fixed and be non systematic
(E) Answer not known

98. Which one of the following graph formation operators, modifies a graph by replacing a type label of a concept with a sub type or a specialization from generic to individual by inserting a referrent of the same concept type?

(A) Copy
(B) Join
(C) Simplify
(D) Restrict
(E) Answer not known

99. What was the name of a flat area of the search space in which a whole set of neighboring states have the same value?

(A) A plateau
(B) A ridge
(C) A foothills
(D) ascent
(E) Answer not known

100. Which of the following is not partially commutative and non-monotonic production system?

(A) Theorem proving
(B) Robot navigation
(C) Chemical synthesis
(D) Bridge
(E) Answer not known

101. $A^k(i, j) = \min\left\{A^{k-1}(i, j), A^{k-1}(i, k) + A^{k-1}(k, j)\right\}$, where $k \geq 1$ is releated

(A) Single source shortest path problem
(B) All-pairs shortest path problem
(C) Spanning tree problem
(D) Minimum spanning tree problem
(E) Answer not known

102. In 0/1 Knapsack problem, *xi'* values can be

(A) Either 1 or partial
(B) Either 1 or negative values
(C) Either 0 or 1
(D) Any positive value
(E) Answer not known

103. Which of the following is not an application of Dynamic programming?

(A) Multi stage graphs
(B) Finding shortest path
(C) The 8-Queens problem
(D) Travelling salesperson problem
(E) Answer not known

104. Only one decision sequence is ever generated in

(A) The Divide and conquer method
(B) The Greedy method
(C) The Dynamic programming method
(D) The Back tracking method
(E) Answer not known

105. There are n programs that are to be stored on a computer tape of length l. Let $n = 3$ and $(l_1, l_2, l_3) = (5, 10, 3)$. Using optimal storage on tape problem, find out the optimal ordering of storing programs on tapes.

(A) 1, 2, 3
(B) 2, 1, 3
(C) 3, 1, 2
(D) 3, 2, 1
(E) Answer not known

106. ———— is an algorithm design method that can be used when the solution to a problem can be viewed as the result of a sequence of decisions.

(A) Divide and conquer
(B) Greedy method
(C) Dynamic programming
(D) Back Tracking
(E) Answer not known

107. Rules that involve the meaning of words in a context free languages are called

(A) Syntax
(B) Semantics
(C) Syntactic
(D) Generative
(E) Answer not known

108. A context-free grammar, is a collection of three things :

(A) Semantics, syntax and alphabets
(B) Terminals, Non-terminals and productions
(C) Strings, languages and grammars
(D) Starting symbol, ending symbol and rules
(E) Answer not known

109. Write the CFG productions for the language over $\sum = \{a, b\}$

$L = \{a^n b^m a^{2n} \mid n, m \geq 0\}$

(A) $S \rightarrow aSaa \mid B, B \rightarrow bB \mid \in$
(B) $S \rightarrow aSa \mid B, B \rightarrow bB \mid \in$
(C) $S \rightarrow abS \mid \in$
(D) $S \rightarrow aaSa \mid B, B \rightarrow Bb \mid \in$
(E) Answer not known

110. A push down automation is specified by a

(A) Three-tuple
(B) Four-tuple
(C) Five-tuple
(D) Six-tuple
(E) Answer not known

111. A production of the form

One Non terminal ——→ One Non terminal

is called

(A) A null production
(B) A invalid production
(C) A unit production
(D) A semi-unit production
(E) Answer not known

112. Determining how a sentence can be formed from the rules of grammar is called

(A) Language
(B) Parsing the sentence
(C) Contex free grammar
(D) Semantics
(E) Answer not known

113. Convert the following right-linear grammar to left linear grammar.

$S \rightarrow bB$ $B \rightarrow bC$

$B \rightarrow aB$ $C \rightarrow a$

$b \rightarrow b$

(A) $S \rightarrow Ca \mid Bb\ C \rightarrow Bb\ B \rightarrow Ba \mid b$
(B) $S \rightarrow Bb \mid Ca\ C \rightarrow Bb\ B \rightarrow b$
(C) $S \rightarrow Bb\ B \rightarrow Ba \mid b$
(D) $S \rightarrow Ca\ C \rightarrow Bb\ B \rightarrow b$
(E) Answer not known

114. What is the name of a production of the form $A \rightarrow B$, where both A and B are non-terminals in CFG?

(A) Special production
(B) Unique production
(C) Continuous production
(D) Unit production
(E) Answer not known

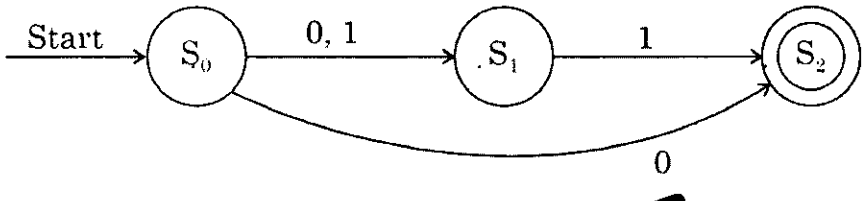
115. ———— served as the input language for many systems that process strings.

(A) Programming languages
(B) Strings
(C) Regular sets
(D) Regular expressions
(E) Answer not known

116. The production of the form $A \rightarrow B$, where A and B are non terminals is called

(A) Greiback normal form
(B) Unit production
(C) Chomskhy normal form
(D) Null production
(E) Answer not known

117. Determine the language recognized by the following



(A) {0, 011, 0011}
(B) {0, 01, 11}
(C) {0, 10, 11, 01}
(D) {0, 101, 11,00}
(E) Answer not known

118. Which automata has the power to be in several states at once?

(A) Deterministic finite automata

(B) Non-deterministic finite automata

(C) Push down automata

(D) Non-finite automata

(E) Answer not known

119. The state for which there are no outgoing transitions and leads to some non-final state is called as

(A) Start state

(B) Accepting state

(C) Sink state

(D) Intermediate state

(E) Answer not known

120. Which automation can only access the information on its stack in a last-in-first-out way?

(A) Linear bounded automation

(B) Deterministic finite automation

(C) Push down automation

(D) Non-deterministic finite automation

(E) Answer not known

121. Which order of operations taken by safety algorithm to decide whether a state is safe?

(A) $M^2 \times n^2$

(B) $M + n$

(C) $M \times n$

(D) $M \times n^2$

(E) Answer not known

122. Distributed system should

(A) Meet prescribed time constraints
(B) Aim better resource sharing
(C) Aim better system utilization
(D) Aim low system overhead
(E) Answer not known

123. In distributed systems, link and site failure is detected by

(A) Polling
(B) Handshaking
(C) Token passing
(D) Message sending
(E) Answer not known

124. At a particular time of computation the value of a counting semaphore is 7. Then 20 P operations and 'x' V operations were completed on this semaphore. If the final value of the semaphore is 5, 'x' will be

(A) 18
(B) 15
(C) 22
(D) 13
(E) Answer not known

125. An operating system contains 3 user process each require 2 units of resource R. The minimum number of units of R such that no deadlock will ever occur is

(A) 3
(B) 4
(C) 5
(D) 6
(E) Answer not known

126. If we preempt a resource from a process, the process cannot continue with its normal execution and it must be

(A) Aborted
(B) Terminated
(C) Rolled back
(D) Queued
(E) Answer not known

127. Thrashing refers to

(A) Moving page from primary to secondary memory
(B) Moving page from secondary to primary memory
(C) A program causing page faults every few instructions
(D) Demand paging scheme
(E) Answer not known

128. A situation, where several processes access and manipulate the same data concurrently and the out come of the execution depends on a particular order in which the access takes place, is called

(A) Critical section
(B) Synchronization
(C) Race condition
(D) Critical condition
(E) Answer not known

129. Which of the following page replacement algorithms suffer from Belady's anomaly?

(A) Optimal replacement
(B) LRU
(C) FIFO
(D) Both (A) and (C)
(E) Answer not known

130. A working set (t, k) at an instant of time t, is the set of

(A) k future references that the operating system will make

(B) Future references that the operating system will make in the next 'k' time units

(C) k references with high frequency

(D) Pages that have been referenced in the last k time units

(E) Answer not known

131. In scheduling algorithms, an algorithm is designed especially for time-sharing systems, the CPU schedular goes around the queue, allocating the CPU to each process for a time interval is called

(A) Round-Robin scheduling

(B) First-come, first served scheduling

(C) Shortest-job-first scheduling

(D) Priority scheduling

(E) Answer not known

132. Match the following

(a)	Senior Manager	1.	Who must plan, motivate, organize and control the practioners
(b)	Project Manager	2.	Who specify the requirements for the software
(c)	Practitioner	3.	Who define the business issues that often have a significant influence on the project
(d)	Customer	4.	Who do software work

	(a)	(b)	(c)	(d)
(A)	2	1	4	3
(B)	3	4	1	2
(C)	3	1	4	2
(D)	4	1	2	3

(E) Answer not known

133. ———— code is a sequence of statements, typically of the general form $A := B$ op C.

(A) One-Address
(B) Two-Address
(C) Three-Address
(D) Four-Address
(E) Answer not known

134. A table which is created by lexical analysis to represent the program as a string of tokens is called

(A) Identifier table
(B) Terminal symbol table
(C) Lexical table
(D) Uniform symbol table
(E) Answer not known

135. During pass 1 of a design of assembler, a data structure which is used to record essential information about each label and its corresponding value, is called

(A) Pseudo-Op table
(B) Literal table
(C) Identifier table
(D) Symbol table
(E) Answer not known

136. The grammer

$E \rightarrow E + E | E * E | a$, is

(A) Unambiguous
(B) Ambiguous
(C) Ambiguous or not depends on the given sentence
(D) Context free and context sensitive
(E) Answer not known

137. A table which stores all the terminal symbols used in a program is called

(A) Identifier table
(B) Uniform symbol table
(C) Terminal symbol table
(D) Literal table
(E) Answer not known

138. ———— memory management will interact with information management to access and store copies of the job's address space on secondary storage.

(A) Paged
(B) Demand-paged
(C) Segmented
(D) Segmented and Demand-paged
(E) Answer not known

139. A task comparative sort algorithm is due to D. L. Shell is referred to as

(A) Quick sort
(B) Insertion sort
(C) Bubble sort
(D) Shell sort
(E) Answer not known

140. The ———— component of the editor actually performs the setting of the current editing and viewing pointers

(A) Editing
(B) Traveling
(C) Viewing
(D) Display
(E) Answer not known

141. ———— is a transaction-oriented protocol based on the concept of a request and reply, Each WSP Protocol Data Unit (PDU) consists of a body, which may contain WML

(A) SNMP
(B) WAP
(C) WTA
(D) WSP
(E) Answer not known

142. Which one is not a library class of WML script?

(A) Common network services
(B) Network specific services
(C) Repository services
(D) Public services
(E) Answer not known

143. Which of the following is not defined for WML script?

(A) Float
(B) URL
(C) WML Browser
(D) Proto type
(E) Answer not known

144. Find out the two limitations of the WAP architecture in wireless web access.

(A) The limitation of home agent, the low data rates
(B) The limitations of mobile node, the low data rates
(C) The limitations of foreign agent, the low data rates
(D) The limitations of mobile network, the low data rates
(E) Answer not known

145. Which alternative addresses, the peer may use to access this session service user? It can be used to facilitate a switch to a news bearer when a session is resumed.

(A) Foreign address
(B) Home address
(C) Aliases
(D) Server address
(E) Answer not known

146. What are the values of the first byte of each message of alert protocol?

I. Warning

II. Fatal

III. Critical

IV. Series

V. Error

(A) I, II and III are correct
(B) I, II and IV are correct
(C) III, IV and V are correct
(D) II, IV and V are correct
(E) Answer not known

147. Which provides security services between the mobile device and the WAP gateway?

(A) Wireless Transport Layer Security (WTLS)
(B) Wireless Transaction Protocol Security (WTPS)
(C) Wireless Session Layer Security (WSLS)
(D) Wireless Datagram Layer Security (WDLS)
(E) Answer not known

148. The WAP forum published its first set of specifications in

(A) February 1974
(B) March 1986
(C) April 1998
(D) May 2010
(E) Answer not known

149. The use of an outer IP datagram with a different destination IP address is known as

(A) Encapsulation
(B) Tunneling
(C) Reverse tunneling
(D) Minimal encapsulation
(E) Answer not known

150. In mobile communication system minimal encapsulation does not work with ———— packets.

(A) Already defragmented
(B) Already fragmented
(C) Already fusion
(D) Already integration
(E) Answer not known

151. What is required to participate in a multi-cast group for the MN?

(A) Tunneling
(B) Packet
(C) Binding cache
(D) Reverse tunneling
(E) Answer not known

152. The encapsulated packed will be decapsulated by

(A) Home network
(B) Home agent
(C) Foreign agent
(D) Foreign network
(E) Answer not known

153. ———— is used to forward IP datagrams from a home address to a care-of-address.

(A) Routing
(B) Tunneling
(C) Reverse tunneling
(D) UDP datagram
(E) Answer not known

154. One of the first ad-hoc wireless network, the packet radio network allowed ———— nodes in the ad-hoc network.

(A) Upto 98
(B) Upto 138
(C) Upto 178
(D) Upto 228
(E) Answer not known

155. Which one denotes the validity of the registration in seconds?

(A) Preparation time
(B) Execution time
(C) Life time
(D) Registration time
(E) Answer not known

156. ———— encapsulation method allows encapsulation of packets of one protocol suite into the payload portion of a packet of another protocol suite.

(A) Minimal
(B) IP-in-IP
(C) Optional
(D) Generic routing
(E) Answer not known

157. MAC protocol comes under the which layer is OSI model.

(A) Network layer
(B) Physical layer
(C) Data link layer
(D) Session layer
(E) Answer not known

158. Foreign agents are expected to issue agent advertisement messages periodically is called as

(A) Agent solicitation
(B) Gram-Schmidt procedure
(C) Agent session intiation
(D) Handshake solicitation
(E) Answer not known

159. Once a mobile node has recognized that it is on a foreign network and has acquired a ————————, it needs to alert a home agent on its home network and request that the home agent forward its IP traffic

(A) Home network address
(B) Foreign network address
(C) Care-of-address
(D) Internet address
(E) Answer not known

160. If the care-of-address is co-located, the mobile node send the request for registration directly to

(A) The foreign agent
(B) The home agent
(C) Both the foreign agent and the home agent
(D) Either foreign agent or home agent
(E) Answer not known

161. Which one of the following is calculated by

(Potential damage) × (Probability of occurance) = ?

(A) Resource allocation
(B) Risk exposure
(C) Activity planning
(D) Effort estimation
(E) Answer not known

162. ———————— is the discipline of identifying, monitoring and limiting risks.

(A) Risk Analysis
(B) Risk Estimation
(C) Risk Management
(D) Risk Exposure
(E) Answer not known

163. What is optimistic time in PERT?

(A) Longest time
(B) Shortest time
(C) Idle time
(D) No time
(E) Answer not known

164. Which one of the following risk is associated with technology that might affect product development

(A) Requirement changes
(B) Estimation risk
(C) Organizational risk
(D) Managerial risk
(E) Answer not known

165. Which are the two main approaches to the identification of risk?

(A) Index and content
(B) Format and frame work
(C) Check list and brainstorming
(D) Planning and Implementation
(E) Answer not known

166. What is the risk prevention principle that encourages the free flow of information between all project levels?

(A) Integrate management
(B) Forward-looking view
(C) Open communication
(D) Teamwork
(E) Answer not known

167. Putnam adapted the ———— curve to relate the number of delivered lines of code to the effort and the time required to develop the project.

(A) Rayleigh – Putnam
(B) Rayleigh – Norden
(C) Putnam – Norden
(D) Capers Jones – Putnam
(E) Answer not known

168. What is the name of the process that ensures resource demand does not exceed resource availability

(A) Resource leveling
(B) Resource smoothing
(C) Resource aggregation
(D) Resource verification
(E) Answer not known

169. The technical assessment is adopted in

(A) Cash flow forecasting
(B) Development cost
(C) Cost-benefit analysis
(D) Setup cost
(E) Answer not known

170. ———— refers to a quantifiable outcome of the software project.

(A) Quantity
(B) Size
(C) Quality
(D) Time
(E) Answer not known

171. In COCOMO estimation model, which one of the following can be estimated?

(A) Effort
(B) Lines of code
(C) Function point
(D) Size
(E) Answer not known

172. What is Weinberg's Zeroth law of reliability?

(A) Putting more reliable people on a late job make it later

(B) If a system does not have to be reliable, it can meet any other objective

(C) Work expands to till the time available

(D) Any think that can go wrong, will go wrong

(E) Answer not known

173. The function points are equivalent to ———— for any given project.

(A) Function count * Technical complexity factor

(B) Function count / Technical complexity factor

(C) Technical complexity factor / Function count

(D) Function count + Technical complexity factor

(E) Answer not known

174. What is the cost monitoring technique to compare the expected project performance with the actual project performance?

(A) To-Complete Performance Index (TCPI)

(B) Variance analysis

(C) Performance review

(D) Forecasting

(E) Answer not known

175. In unified process, one of its phases encompasses the customer communication and modeling activities of the generic process model. The name of that phase is known as

(A) Construction phase
(B) Transition phase
(C) Production phase
(D) Elaboration phase
(E) Answer not known

176. ———— include the salaries and other employment costs of the staff involved in the development project and all associated costs.

(A) Development costs
(B) Setup costs.
(C) Operational costs
(D) Maintenance costs
(E) Answer not known

177. ———— the degree of uncertainity that the product will meet its requirements and be fit for its intended use.

(A) Cost risk
(B) Performance risk
(C) Support risk
(D) Schedule risk
(E) Answer not known

178. The technique which is used by Structured Systems Analysis and Design Methodology (SSADM) for identifying, modeling and documenting the business events which influence each entity and the sequences in which these events occurs.

(A) Data flow modelling
(B) Logical data modelling
(C) Physical data modelling
(D) Entity/Event modelling
(E) Answer not known

179. ———— model was the first process model to be introduced.

(A) Waterfall
(B) Spiral
(C) V-process
(D) Incremental delivery
(E) Answer not known

180. ———— can affect accuracy and efficiency of estimates.

(A) Project complexity
(B) Project size
(C) Structural uncertainty
(D) Historical information
(E) Answer not known

181. Which of the following class denotes a family of classes, whose structure and behavior are defined independent of the formal class parameters?

(A) Super class
(B) Sub class
(C) Final class
(D) Template class
(E) Answer not known

182. In the sequence diagram, A synchronous message is shown as a

(A) Solid line with an open arrowhead
(B) Solid line with filled overhead
(C) Dashed line with an open arrowhead
(D) Dashed line with a filled overhead
(E) Answer not known

183. ———— specifies how many instances of one class may relate to a single instance of associated class.

(A) Degree
(B) Relational value
(C) Cardinality
(D) Connection value
(E) Answer not known

184. The use of ———— relationship states that a change in specification of one thing may affect another thing that uses it.

(A) Dependency
(B) Generalization
(C) Association
(D) Relationship
(E) Answer not known

185. Which are structural relationships among instances?

(A) Dependencies
(B) Associations
(C) Generalization
(D) Visualization
(E) Answer not known

186. Match the following

(a)	Aggregation	1.	Association attribute
(b)	UML class diagram	2.	Term of Association
(c)	Qualifier	3.	Specifies the range of allowable associated classes
(d)	Multiplicity	4.	Object modeling

	(a)	(b)	(c)	(d)
(A)	3	4	2	1
(B)	2	4	1	3
(C)	3	4	1	2
(D)	2	3	4	1

(E) Answer not known

187. Which of the following is a set of objects that share a common structure, common behavior and common semantics?

(A) Variable
(B) Structure
(C) Union
(D) Class
(E) Answer not known

188. ———— is a description of set of sequence of action that a system performs that yields an observable result of value to a particular actor.

(A) Use case
(B) Interface
(C) Activity
(D) Collaboration
(E) Answer not known

189. Which of the following diagram is used to show the allocation of artifacts to nodes in the physical design of a system?

(A) Class
(B) Component
(C) Deployment
(D) Package
(E) Answer not known

190. The use of visual notation to represent or model a problem can provide us several benefits relating to

(i) Familiarity
(ii) Maintenance
(iii) Clarity
(iv) Simplification

(A) (i) and (ii) only
(B) (iii) and (iv) only
(C) (i), (ii) and (iii) only
(D) (i), (ii), (iii) and (iv)
(E) Answer not known

191. Match the following view constructs with UML diagrams.

(a)	Use case view	1.	Interaction diagrams
(b)	Design view	2.	Activity diagrams
(c)	Process view	3.	Component diagrams
(d)	Implementation view	4.	State chart diagrams

	(a)	(b)	(c)	(d)
(A)	2	4	1	3
(B)	1	3	4	2
(C)	4	1	3	2
(D)	3	2	1	4

(E) Answer not known

192. Match the following

(a)	Package Diagram	1.	Shows the internal structure of components and their dependencies with other components
(b)	Component Diagram	2.	Provides the visual depiction of the flow of activities
(c)	Activity Diagram	3.	Traces the execution of scenario in the same context as an object diagram
(d)	Sequence Diagram	4.	Provides the means to organize the artifacts of the development process to clearly present the analysis of the problem space and the associated design

	(a)	(b)	(c)	(d)
(A)	4	3	2	1
(B)	3	4	2	1
(C)	2	4	1	3
(D)	4	1	2	3

(E) Answer not known

193. ———— defines the outside (actors) and inside (use case) of the system behavior.

(A) Use case model
(B) Domain object model
(C) Analysis object model
(D) Test model
(E) Answer not known

194. Which year the Object Management Group (OMG) consortium adopted the UML as a standard?

(A) 1997
(B) 1987
(C) 1999
(D) 1989
(E) Answer not known

195. Which one captures the intended behavior of the system, that are developing without having to specify how that behavior is implemented?

(A) Collaborative
(B) Use case
(C) Deployment
(D) State machine
(E) Answer not known

196. Which of the following is an essential elements of component diagram?

(A) Interfaces
(B) Nodes
(C) Connections
(D) Visibility
(E) Answer not known

197. Which of the following is not an object oriented programming language?

(A) Lua
(B) Eiffel
(C) Scala
(D) Ada83
(E) Answer not known

198. ———— is an interaction between users and a system.

(A) Aggregation
(B) Association
(C) Use case
(D) Attribute
(E) Answer not known

199. ———— are scenarios for understanding system requirements.

(A) Objects
(B) Use cases
(C) Classes
(D) Activities
(E) Answer not known

200. One general rule for ———— is that use names with which the users (or) clients are comfortable.

(A) Naming attributes
(B) Naming classes
(C) Naming Entities
(D) Naming activities
(E) Answer not known