

Question Booklet Code :

Register
Number

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2019

COMPUTER SCIENCE

Time Allowed : 3 Hours]

[Maximum Marks : 300

Read the following instructions carefully before you begin to answer the questions.

IMPORTANT INSTRUCTIONS

1. The applicant will be supplied with Question Booklet 15 minutes before commencement of the examination.
2. This Question Booklet contains 200 questions. Prior to attempting to answer, the candidates are requested to check whether all the questions are there in series and ensure there are no blank pages in the question booklet. **In case any defect in the Question Paper is noticed, it shall be reported to the Invigilator within first 10 minutes and get it replaced with a complete Question Booklet. If any defect is noticed in the Question Booklet after the commencement of examination, it will not be replaced.**
3. Answer all questions. All questions carry equal marks.
4. You must write your Register Number in the space provided on the top right side of this page. Do not write anything else on the Question Booklet.
5. An answer sheet will be supplied to you, separately by the Room Invigilator to mark the answers.
6. You will also encode your Question Booklet Code with Blue or Black ink Ball point pen in the space provided on the side 2 of the Answer Sheet. If you do not encode properly or fail to encode the above information, action will be taken as per Commission's notification.
7. Each question comprises *four* responses (A), (B), (C) and (D). You are to select **ONLY ONE** correct response and mark in your Answer Sheet. In case you feel that there are more than one correct response, mark the response which you consider the best. In any case, choose **ONLY ONE** response for each question. Your total marks will depend on the number of correct responses marked by you in the Answer Sheet.
8. In the Answer Sheet there are **four** circles (A), (B), (C) and (D) against each question. To answer the questions you are to mark with Blue or Black ink Ball point pen **ONLY ONE** circle of your choice for each question. Select one response for each question in the Question Booklet and mark in the Answer Sheet. If you mark more than one answer for one question, the answer will be treated as wrong. *e.g.* If for any item, (B) is the correct answer, you have to mark as follows :

(A) ● (C) (D)
9. You should not remove or tear off any sheet from this Question Booklet. You are not allowed to take this Question Booklet and the Answer Sheet out of the Examination Hall during the time of examination. After the examination is concluded, you must hand over your Answer Sheet to the Invigilator. You are allowed to take the Question Booklet with you only after the Examination is over.
10. **Do not make any marking in the question booklet except in the sheet before the last page of the question booklet, which can be used for rough work. This should be strictly adhered.**
11. Applicants have to write and shade the total number of answer fields left blank on the boxes provided at side 2 of OMR Answer Sheet. An extra time of 5 minutes will be given to specify the number of answer fields left blank.
12. Failure to comply with any of the above instructions will render you liable to such action or penalty as the Commission may decide at their discretion.

SEAL

SPACE FOR ROUGH WORK

1. _____ is a connection among things.
- (A) Dependency (B) Association
(C) Relationship (D) Generalization
2. Which of the following phase, additional objects and classes are identified?
- (A) OOA – Object Oriented Analysis (B) OOD – Object Oriented Design
(C) Prototyping (D) Incremental testing
3. _____ is the property of object oriented systems that allows objects to be built from other objects.
- (A) Super class (B) Inheritance
(C) Sub class (D) Class
4. Graphically, which one of the following diagram is a collection of vertices and arcs?
- (A) Component (B) Deployment
(C) State chart (D) Interaction
5. Which of the following operation accesses the state of an object but does not alter the state?
- (A) Modifier (B) Selector
(C) Iterator (D) Constructor
6. _____ is a named property of a class that describes a range of values that instances of the property may hold.
- (A) Entity (B) Attribute
(C) Behaviour (D) property

7. A host needs a _____ to send an IP packet to the destination.
- (A) Physical subnet address only
 - (B) Topologically correct address
 - (C) Receiver's computer address only
 - (D) Logical router address
8. What is the expansion of HAWAII?
- (A) Handon-Aware wireless Access Internet Infrastructure
 - (B) Host-Aware wireless Access Internet Infrastructure
 - (C) Hopping off-Aware wireless Access Internet Infrastructure
 - (D) Hand off-Aware wireless Access Internet Infrastructure
9. _____ is needed to find a path between source and destination and forward the packets appropriately.
- (A) Tunneling
 - (B) Reverse Tunneling
 - (C) Routing
 - (D) Goal
10. Which is similar to an HTML page identified by a web address and the unit of content transmission?
- (A) WML deck
 - (B) WML host
 - (C) WML agent
 - (D) WML server
11. The default authentication algorithm HMAC-MDS produces a _____ message digest.
- (A) 256 - bit
 - (B) 512 - bit
 - (C) 128 - bit
 - (D) 64 - bit

12. While users of a network cannot rely on an infrastructure, it is too expensive or there is none at all, the alternative is
- (A) Logical Architecture Network (B) Storage Network
 (C) Mobile Ad-hoc Network (D) Virtual Network
13. The mobile node is responsible for an ongoing discovery process. It must determine if it is attached to its
- (A) Foreign network (B) Home network
(C) Care-of-address network (D) Internetwork
14. The WAP architecture is designed to cope with the two principal limitations of wireless _____ : the limitations of the mobile node and the low data rates of wireless digital networks.
- (A) web access (B) node access
(C) server access (D) mobile access
15. A clear advantage of on-demand protocol is _____ as long as there is only light traffic and low mobility.
- (A) comparability (B) multiability
(C) activity (D) scalability
16. _____ allows the encapsulation of packets of one protocol suite into the payload portion of a packet of another protocol suit.
- (A) IP-in-IP encapsulation
(B) Minimal encapsulation
 (C) Generic routing encapsulation
(D) Formal encapsulation

17. A noise capable to canceling other noises and producing silence
- (A) pink
 - (B) white
 - (C) green
 - (D) black
18. _____ operator enlarges the boundaries of foreground pixels.
- (A) Dilation
 - (B) Erosion
 - (C) Opening
 - (D) Closing
19. A 15-inch monitor with an aspect ratio of 4:3 has a pixel addressability of 800×600 . Calculate its resolution
- (A) 66.67 dpi
 - (B) 50 dpi
 - (C) 88.89 dpi
 - (D) 40 dpi
20. Which one of the following is an example of video editing programs?
- (A) Goldwave
 - (B) Adobe Lab
 - (C) XARA 3D
 - (D) Pinnacle studio

28. The cardinality of binary alphabet in formal language is _____.
- (A) One
 - (B) Two
 - (C) Three
 - (D) Four
29. Which of the following is not a permutation of 001?
- (A) 001
 - (B) 010
 - (C) 011
 - (D) 100
30. A designer knows, what he has arrived at, not, when there is no longer anything to add, but when there is no longer anything to take away?
- (A) Efficiency
 - (B) Simplicity
 - (C) Generality
 - (D) Perfection
31. Divide and conquer principle is expressed by _____, when the sub problems are of the same types as original problem.
- (A) A sorting algorithm
 - (B) A selection algorithm
 - (C) A recursive algorithm
 - (D) A deterministic algorithm

32. If 'Top' points at the top of the stack and 'Stack []' is the array containing stack elements, then which of the following statements correctly reflect the push operation for inserting 'item' into the stack?
- (A) $top = top + 1 ; stack [top] = item;$ (B) $stack [top] = item; top = top + 1;$
 (C) $stack [top + -] = item;$ (D) Both (A) and (C) are correct
33. The statement
 $f1.write ((char \forall) \text{ and } obj1, \text{ size of } (obj 1));$
 which one of the following is correct for the above statement?
- (A) Writes the member functions of obj1 to f1
 (B) Write the data in obj1 to f1
 (C) Write the member function and data of obj1 to f1
 (D) Write the address of obj1 to f1
34. Which of the following is not an inherent application of stack
- (A) Reverse a string (B) Evaluation of post fix expression
 (C) Recursion Implementation (D) Job scheduling
35. What is an another name of exchange sort?
- (A) Insertion sort (B) Bubble sort
 (C) Shell sort (D) Heap sort
36. How many private member functions are allowed in a class?
- (A) Only 1 (B) Only 7
 (C) Only 255 (D) As many as required
37. What is the worst case time complexities of a Quick sort?
- (A) $O(n)$ (B) $O(n \log n)$
 (C) $O(\log n)$ (D) $O(n^2)$

44. What is the name of the dump, that writes the 0^{th} block to n^{th} block from disk to tape in order?

- (A) local dump
(B) global dump
(C) logical dump
(D) physical dump

45. Which of the following service not supported by the operating system?

- (A) Protection
(B) Accounting
(C) Compilation
(D) I/O Operation

46. Find the correct matching pair

- | | |
|--------------------------|----------------|
| (a) Disk scheduling | 1. Round Robin |
| (b) Batch processing | 2. SCAN |
| (c) Time sharing | 3. LIFO |
| (d) Interrupt processing | 4. FIFO |

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

47. A situation in which two or more processes continuously change their stages in response to changes in the other process(es) without doing any useful work is called as

- (A) Deadlock
(B) Starvation
(C) Race condition
(D) Linelock

48. What are the characteristics of tightly coupled system?

- (i) Same clock, shared memory
(ii) Communication via shared memory
(iii) Multi processors and sharing devices
(iv) Different clock
(A) i
(B) i, ii and iii
(C) ii and iii
(D) i, ii and iv

49. A _____ is a collection of processors that do not share memory or a clock.

- (A) Distributed system
(B) Multiprocessor system
(C) Multitasking system
(D) Time sharing system

57. What is the another name of pipeline stall?
- (A) Resource hazards (B) Data hazards
 (C) Pipeline bubble (D) Loop bubble
58. Consider a 3 address register RISC instruction set architecture, which one of the following correctly characterizes an effort of doubling the number of registers in the processor?
- (A) Instruction size would remain unaffected
 (B) Instruction size would increase by 1 bit
 (C) Instruction size would increase by 2 bits
 (D) Instruction size would increase by 3 bits
59. In cray-1 super computer, how many distinct functional units uses vector processing in parallel?
- (A) 4 (B) 8
 (C) 12 (D) 16
60. Data transfer over the system by should be _____ when each data item is transferred during a time slice known in advance to both source and destination units.
- (A) Synchronous (B) Asynchronous
 (C) Serial (D) Parallel
61. A K-bit field can specify any one of _____ registers when using Register mode Addressing.
- (A) K (B) $2(K)$
 (C) 2^K (D) K^2
62. Which one is not a non-volatile memory?
- (A) PROM (B) Flash
 (C) EPROM (D) SRAM
63. Which one is called loosely coupled MIMD computers?
- (A) Centralized (B) Distributed
 (C) Multiprocessor (D) Multi computers

64. A relation is said to be in _____ if and only if it should have single valued attributes.

- (A) 1 NF (B) 2 NF
(C) 3 NF (D) 4 NF

65. Match the following symbols with the corresponding operations.

- | | |
|---------------------------------|-------------|
| (a) Select operation | 1. Π |
| (b) Project operation | 2. ρ |
| (c) Cartesian-Product operation | 3. \times |
| (d) Rename operation | 4. σ |

- | | | | | |
|---|-----|-----|-----|-----|
| <input checked="" type="checkbox"/> (A) | (a) | (b) | (c) | (d) |
| (B) | 4 | 1 | 3 | 2 |
| (C) | 2 | 4 | 3 | 1 |
| (D) | 2 | 3 | 4 | 1 |
| | 4 | 2 | 3 | 1 |

66. Which one of the following command not in DML?

- (A) DROP (B) SELECT
(C) UPDATE (D) INSERT

67. _____ are the logical tables of data extracted from existing tables.

- (A) Fields (B) Records
(C) Views (D) Queries

68. Who developed the E-R Model?

- (A) E.F. Codd (B) P.P. Chen
(C) Bipin Desai (D) Chopra

69. $A \rightarrow BC$

Given $E \rightarrow CF$

$B \rightarrow E$

$C \rightarrow EF$

Compute the closure, X^+ of the set of attributes $\{A, B\}$ under the given set of FDs.

- (A) $\{AB\}^+ = \{A, B, C, E, F\}$ (B) $\{AB\}^+ = \{A, E, C\}$
(C) $\{AB\}^+ = \{A, E\}$ (D) $\{AB\}^+ = \{A, F\}$

76. Match the following NIST standard with its Personal Identity Verification (PIV) specification.

- | | |
|-----------------|--|
| (a) SP-800-104 | 1. Guidelines for the accreditation of PIV card issues |
| (b) SP-800-116 | 2. PIV card to Reader Interoperability Guidelines |
| (c) SP-800-79-1 | 3. A scheme for PIV visual card topography |
| (d) SP-800-96 | 4. A recommendation for the use of PIV credentials in Physical Access Control System (PACS). |

- | | (a) | (b) | (c) | (d) |
|---|-----|-----|-----|-----|
| (A) | 4 | 1 | 2 | 3 |
| (B) | 1 | 3 | 2 | 4 |
| <input checked="" type="checkbox"/> (C) | 3 | 4 | 1 | 2 |
| (D) | 2 | 1 | 4 | 3 |

77. Name the standard for RBAC proposed by NIST and further adopted by ANSI, International Committee for IT standards.

- | | |
|--|--------------------------|
| <input checked="" type="checkbox"/> (A) ANSI INCITS 359-2004 | (B) ANSI INCITS 358-2001 |
| (C) ANSI INCITS 369-2004 | (D) ANSI INCITS 378-2004 |

78. What is MGF in RSA-PSS digital signature algorithm?

- | | |
|--|----------------------------|
| (A) Monitor granting factor | (B) Mask ground function |
| <input checked="" type="checkbox"/> (C) Mask generation function | (D) Mask granting function |

79. If the maximum depth of the tree is m and there are b legal moves at each point, what is the time complexity of the minimax algorithm?

- | | |
|--------------|--|
| (A) $O(bm)$ | <input checked="" type="checkbox"/> (B) $O(b^m)$ |
| (C) $O(m^b)$ | (D) $O(m)$ |

80. What is the heuristic function of greedy-first search?

- | | |
|---|----------------------|
| <input checked="" type="checkbox"/> (A) $f(n) = h(n)$ | (B) $f(n) \neq h(n)$ |
| (C) $f(n) > h(n)$ | (D) $f(n) \leq h(n)$ |

81. Frames are general _____ structures which consist of a collection of slots and slot values.

- | | |
|---|----------------|
| (A) Fice-like | (B) Array-like |
| <input checked="" type="checkbox"/> (C) Record-like | (D) Set-like |

82. Name the threshold value that maximizing node represents the alpha in alpha-beta pruning.

- | | |
|-------------------|---|
| (A) Maximum value | (B) middle value |
| (C) upper bound | <input checked="" type="checkbox"/> (D) lower bound |

83. What are the production systems that are useful for solving ignorable problems?

- I - Partially commutative
- II - Not partially commutative
- III - Monotonic Production system
- IV - Non monotonic production system

- (A) I and II are correct (B) I and III are correct
(C) II and III are correct (D) I and IV are correct

84. What was the nature that forms more complex states and events by combining primitive ones?

- (A) Discrete math's (B) Fluent calculus
(C) Formal theory (D) Substantial calculus

85. Which search is equal to minimax search but eliminates the branches that can't influence the final decision?

- (A) Alpha-Beta pruning
(B) Greedy Best-first-search
(C) Breadth-first-search
(D) Depth first-search

86. In project planning, the activity's float measure 0 represents the completion of project

- (A) Critical (B) Non critical
(C) Delayed (D) Quick

87. If the risk becomes a reality, **unwanted consequences** will occur. What it is?

- (A) Gain
- (B) Certainty
- (C) Uncertainty
- (D) Loss

88. Which of the following formula is used to calculate the Return On Investment (ROI)?

- (A) $ROI = \frac{\text{total profit}}{\text{total investment}} \times 100$
- (B) $ROI = \frac{\text{average annual profit}}{\text{average annual investment}} \times 100$
- (C) $ROI = \frac{\text{average annual profit}}{\text{total investment}} \times 100$
- (D) $ROI = \frac{\text{total investment}}{\text{total profit}} \times 100$

89. _____ reflects the number of different ways of meeting requirements.

- (A) PREC
- (B) FLEX
- (C) RESL
- (D) TEAM

90. Which one of the following is false of a project charter?

- (A) It identifies the high level time schedule for the project
- (B) It provides an overview of the resource and budget for the project
- (C) It lists the stakeholders and their responsibilities towards the project
- (D) It lists the project maintenance

91. What is Case-Based reasoning?
- (A) target – parameter + source – parameter
 - (B) target – parameter * source – parameter
 - (C) target – parameter – source – parameter
 - (D) target – parameter / source – parameter
92. The information processing size is initially measured in (Unadjusted Function Points (UFPs) to which a Technical Complexity Adjustment (TCA) can then be applied by
- (A) Albercht
 - (B) Parkins
 - (C) Brooks
 - (D) Hamids
93. What assess the risk and your plans for risk mitigation and revise these when you learn more about the risk?
- (A) Risk monitoring
 - (B) Risk planning
 - (C) Risk avoidance
 - (D) Risk identification
94. _____ risk threatens the quality and timeliness of the software to be produced.
- (A) Project Risk
 - (B) Technical Risk
 - (C) Business Risk
 - (D) Known Risk

95. _____ is a proven and well-accepted engineering technique.
- (A) Designing (B) Analysing
 (C) Modeling (D) Testing
96. Which diagram is an interaction diagram that emphasizes the time ordering of messages?
- (A) Collaboration diagram
 (B) Sequence diagram
(C) Class diagram
(D) Object diagram
97. Which of the following stereotype that not apply to dependency relationships?
- (A) Bind (B) Derive
 (C) Utility (D) Use
98. Which of the following language is untyped yet supportive of dynamic typing?
- (A) Ada (B) C++
(C) Java (D) Smalltalk
99. Find the one which is not associated with others.
- (A) Sequence diagram (B) Class diagram
(C) Collaboration diagram (D) State chart diagram
100. _____ is the graphical representation of work flows in stepwise.
- (A) State chart diagram (B) Activity diagram
(C) Semantic diagram (D) Use case diagram

101. Which is a semantically closed abstraction of a system in UML?
 (A) Diagram (B) View
 (C) Model (D) Subsystem
102. The different modules of classes and their relationships are represented in
 (A) Component diagram (B) Interaction diagram
 (C) Collaboration diagram (D) State chart diagram
103. A TCP connection is identified by the tuple (Source IP address, Source port, destination IP address, destination port), also known as a
 (A) Data pair (B) Packet pair
 (C) Sacket pair (D) IP pair
104. Which one is correct for triangular routing?
 (A) CN to MN, HA to COA/MN, CN back to MN
 (B) MN to HA, CN to COA/MN, CN back to MN
 (C) CN to HA, HA to COA/MN, MN back to CN
 (D) CN to HA, HA to COA/MN, CN back to MN
105. MAC/LLC protocol stands for
 (A) Modem Access Control/ Logical Link Control
 (B) Media Access Control/ Logical Link Control
 (C) Mobile Access Control/ Logical Link Control
 (D) Monitor Access Control/ Logical Link Control
106. The Home Agent sets up _____ containing the mobile node's home IP address and the current care of address.
 (A) Pointers binding (B) Mobility binding
 (C) Agent's binding (D) Network binding

107. _____ allows messages to be sent to all nodes in a specific Region.
- (A) Nemocast (B) Spatiocast
 (C) Geocast (D) Aerocast
108. Which algorithm allows the server and client to authenticate each other and to negotiate an encryption?
- (A) Internet message access protocol (B) Session Initiations protocol
 (C) Handshake protocol (D) Post office protocol
109. Which protocol defines a server push operation, to sends unrequested content to a client device?
- (A) Wireless session protocol
(B) Wireless Transaction protocol
(C) Wireless Access protocol
(D) Wireless application protocol
110. _____ is a last alternative to forward a packet across an unknown topology.
- (A) Filtering (B) Flooding
(C) Unicasting (D) Multicasting
111. _____ is needed in mobile network to find a path between source and destination and to forward the packets appropriately
- (A) Comparing (B) Routing
(C) Synchronizing (D) Encrypting

112. The library _____ has been defined for interaction with a user.
- (A) String (B) URL
(C) WML Browser (D) Dialogs
113. A mobile node move from one network to another due to some _____ mechanism, without the IP level being aware of it. The agent discovery process is intended to enable the agent to detect such a move.
- (A) exchange (B) interchange
(C) discovery (D) handoff
114. _____ provides security services between the mobile device (client) and the WAP gateway.
- (A) WTP (B) WAE
(C) WSP (D) WTLS
115. A technique found in most 3D software is when the generating curve is pushed straight back in space. The trace left by the curve as it moves through space becomes the surface
- (A) lathing (B) extrusion
(C) lofting (D) trimming
116. Which one is done on a computers using Non Linear Editing (NLE) software such as Avid, Premiere and Final cut?
- (A) cutting (B) editing
(C) trimming (D) blank space removal
117. Which files are used for ringtones on Apple's iphone?
- (A) FLV (Flash Video Files) (B) SWF (Shock Wave Flash)
(C) AAC (Advanced Audio Coding) (D) M4R file
118. _____ amplifiers use 100% of the input cycle for generating the output.
- (A) Class-A (B) Class-B
(C) Class-AB (D) Class-C

119. Which one of the multimedia presentation types uses interactivity to control progress as with a video game?
- (A) Linear (B) Non-Linear
(C) Sequential (D) Network
120. What is the name for the thin strips of lead inserted between the lines by traditional typesetters?
- (A) Kerning (B) Attributes
(C) Leading (D) Condensed
121. _____ were designed to use as public switched networks to support a wide range of multimedia communication applications.
- (A) telephone networks (B) data networks
(C) broadcast television networks (D) broadband multiservice networks
122. Which one of the following is how quickly the sound fades away?
- (A) Envelope (B) Attack
(C) Decay (D) Sustain
123. For applications that demand a high bit rate over long distances, _____ is often used as the transmission medium.
- (A) Two wire open lines (B) Twisted pair lines
(C) Coaxial cable (D) Optical fiber
124. In multipoint conferencing, _____ is used with circuit-switched networks such as a PSTN or an ISDN.
- (A) Continuous presence mode (B) Voice-activated switching mode
(C) Centralized mode (D) Decentralized mode
125. Which of the following search engine is used to search people?
- (A) Big foot (B) Yahoo
(C) Web crawler (D) Alta vista

126. Who initially defined HTML?
 (A) Urbana-Champaign
 (C) Andreessen
 (B) Tim Berners-Lee
 (D) Eric Bina
127. What is the output of the following tags
 $\langle \text{FRAMESET COLS} = "20\%, *"\rangle$
 $\langle / \text{FRAMESET} \rangle$
 (A) Divide the page into two horizontal frames with 20% of page size for frame1 and remaining size for frame2
 (B) Divide the page into two vertical frames with 20% of the page size for frame1 and remaining size for frame2
 (C) Divide the page into two horizontal equal size frames
 (D) Divide the page into two vertical equal size frames
128. In a finite automata transition function maps
 (A) $\Sigma \times Q \rightarrow \Sigma$
 (C) $Q \times \Sigma \rightarrow Q$
 (B) $Q \times Q \rightarrow \Sigma$
 (D) $\Sigma \times \Sigma \rightarrow Q$
129. Find a reduced grammar equivalent to the grammar
 $S \rightarrow aAa$
 $A \rightarrow bBB$
 $B \rightarrow ab$
 $C \rightarrow aB$
 (A) $S \rightarrow aAa \quad A \rightarrow bab$
 (C) $S \rightarrow aAa \quad A \rightarrow bBB \quad B \rightarrow ab$
 (B) $S \rightarrow aA \quad A \rightarrow b$
 (D) $S \rightarrow aAa \quad A \rightarrow bCa \quad C \rightarrow aab$
130. A Pushdown Automata.
 (B) A automata together with a simple memory
 (A) A automata with input and processor
 (C) A automata with output and processor
 (D) A non deterministic finite automata
131. For a standard Turing machine
 (A) $\Sigma = T$
 (B) $T \subseteq \Sigma$
 (C) $\Sigma \subseteq T$
 (D) Σ is a proper subset of T

137. Heap sort algorithm is based on
- (A) Fibonacci heap (B) Binary tree
 (C) Priority Queue (D) FIFO
138. If two sets S1 and S2 do not have any common element, then what is the name of the set?
- (A) Null set (B) Subset
 (C) Union (D) Disjoint
139. A _____ of two sets is formed by adding to one set all the elements from a second set that do not already appear in the first set.
- (A) Union (B) Intersection
(C) Difference (D) Subset
140. An _____ data type is user-defined type which provides a way for attaching names to numbers.
- (A) Structure (B) Union
(C) Class (D) enumeration
141. _____ are pointers, functions, arrays and references.
- (A) Basic data types (B) User defined data types
 (C) Derived data types (D) Enumerated data types
142. Which is the correct syntax to call a member function using pointers?
- (A) Pointer -> fuction () (B) Pointer . function ()
(C) Pointer :: function () (D) Pointer : function ()

143. At a maximum, how many elements would the linear searching technique require to traverse in an n -element array?
- (A) 0 (B) 1
 (C) n (D) $n-1$
144. Which of the following decides if a function that is declared inline is indeed going to be treated as inline in the executable code?
- (A) Compiler
(B) Linker
(C) Loader
(D) Preprocessor
145. What is an efficiency of stack data structure for insertion operation?
- (A) $O(1)$ (B) $O(n)$
(C) $O(\log n)$ (D) $O(n \log n)$
146. _____² are called single line abbreviations for groups of instructions.
- (A) Micro (B) Macros
(C) Mini (D) Microprocessor
147. The string representing a program can be partitioned into a sequence of substrings called
- (A) Alphabets (B) Tokens
(C) Constructs (D) Data elements
148. In a compiler, one of the following has reduced memory space and time
- (A) Lexical Analysis
(B) Syntax Analysis
(C) Code generation
 (D) Machine dependent optimization

149. A thread is considered to be _____ if the ratio of its voluntary sleep time versus its run times is below certain threshold.
- (A) Interleaving (B) Intertasking
(C) Interoperating (D) Interactive
150. Error handling and I/O interrupt handling are the functions of
- (A) I/O device handler
(B) I/O traffic controller
(C) I/O scheduler
(D) I/O dispatcher
151. A pointer indicates the position or frame at the top of the stack is called
- (A) Super pointer (B) Stack pointer
(C) System Pointer (D) Address Pointer
152. Another name of binary search
- (A) Linear search (B) Unified search
 (C) Logarithmic search (D) Fast search
153. Which algorithm is responsible to determine where a new copy of the coordinator should be restarted when the coordinator process fails due to some reasons?
- (A) Bully Algorithm (B) Ring Algorithm
 (C) Election Algorithm (D) Wait-die Algorithm
154. What is the formula to calculate an effective physical address in program relocation?
- (A) Effective physical address = logical address / (Contents of Relocation Register)
(B) Effective physical address = logical address * (Contents of Relocation Register)
 (C) Effective physical address = logical address + (Contents of Relocation Register)
(D) Effective physical address = logical address - (Contents of Relocation Register)

155. In segment memory scheme, the offset 'd' of the logical address must be,
- (A) Greater than segment limit (B) Between 0 and segment limit
 (C) Between 0 and segment number (D) Greater than the segment number
156. _____ is stored in a separate hardware register and contains the status information that characterizes the state of the CPU.
- (A) Program counter (B) Program status word
 (C) Supervisor Mode (D) Accumulator
157. Which year, the concept of stored program computers was proposed by John von Neumann?
- (A) 1942 (B) 1945
 (C) 1947 (D) 1949
158. In which technique allows the DMA controller to transfer one data at a time, after which it must return center of the buses to the CPU.
- (A) Burst transfer (B) Interrupt cycle
 (C) Cycle stealing (D) Bus grant
159. _____ occurs when two instructions that are already in the Pipeline need the same resource.
- (A) Structural hazard (B) Data hazard
 (C) Branch hazard (D) Control hazard
160. What is the name of the bus that was designed mainly for the special purpose of Video and Audio data transfer?
- (A) Universal Serial Bus (B) SCSI
 (C) SATA (D) Firewire
161. In which instruction breaks the normal sequence of the instruction Stream, causing difficulties in the operation of the instruction pipeline?
- (A) move instruction (B) data manipulation instruction
 (C) data transfer instruction (D) branch control instructions

162. In which method, asynchronous data transfers employs a single control line to time each transfer
- (A) two-wire control (B) hand shaking control
 (C) strub control (D) asynchronous control
163. _____ is defined as the software system that allows to define create, maintain and control access to the data base.
- (A) Database management system (B) Database Information system
 (C) Database Computer system (D) Database Recovery system
164. A _____ key of a relation is a set of one or more attributes whose values are guaranteed to identify tuples in the relation uniquely.
- (A) Unique (B) Primary
 (C) Foreign (D) Super
165. Which one leads to higher storage and access cost?
- (A) data redundancy (B) data Isolation
 (C) data binding (D) data dependency
166. Which rule is proposed that "If $\alpha \rightarrow \beta$ holds and γ is a set of attributes, then $\gamma\alpha \rightarrow \gamma\beta$ holds".
- (A) Reflexivity rule (B) Augmentation rule
 (C) Transitivity rule (D) Union rule
167. A _____ model database is defined as a database that allows you to group its data items into one or more independent tables that can be related to one another by using fields common to each related table.
- (A) Object (B) Hierarchical
 (C) Network (D) Relational
168. Which one is defined as a set of all possible values that an attribute may validly contain?
- (A) Tuple (B) Cardinality
 (C) degree (D) domain

169. The process of not allowing a block to be written back to disk during updation on the block is known as
- (A) Pinned (B) Buffer replacement strategy
 (C) Forced blocks (D) Slotted – page structure
170. _____ is the process of managing simultaneous execution of transactions in a multi processing system.
- (A) Transaction control (B) Concurrency control
 (C) Lock control (D) Starvation control
171. Match the following :
- | | |
|--|-------------------|
| (a) The Block residing on the disk | 1. Buffer Block |
| (b) The blocks residing temporarily in main memory | 2. Physical Block |
| (c) Both the blocks are at the same location | 3. Disk Buffer |
| (d) The area of memory where blocks are reside temporarily | 4. Mirrored Disk |
- (A) (a) (b) (c) (d)
2 1 4 3
(B) 1 2 3 4
(C) 1 3 2 4
(D) 2 3 1 4
172. Which protocol has the principle that “We must have a prior knowledge about the order in which the transactions will be accessed”?
- (A) Time stamp – based protocols (B) Graph – based protocols
 (C) Tree protocol (D) TCP/IP protocol
173. Find out the odd one from the following.
- (A) Intraprocedure is to identify persists only during the execution of a multiple procedure.
(B) Intra program is to identify persists only during the execution of a single program or query.
(C) Inter program is to identify persists from one program execution to another
(D) Persistent is to identify persists not only among program executions.
174. Which is a key characteristics of Iaas that enables the user to obtain resources?
- (A) Self – service provisioning (B) Renting
 (C) Dynamic scaling (D) Service levels

175. Attack initiated by an entity outside the security perimeter is called
 (A) security attack (B) perimeter attack
 (C) outside perimeter attack (D) outside attack
176. _____ is a circumstance or event that results in control of system services or function by an unauthorized entity.
 (A) Disclosure (B) Disception
 (C) Disruption (D) Userpation
177. Who developed the Hill Cipher algorithm?
 (A) Lester Hill (B) Caesar Hill
 (C) Feistel Hill (D) Claude Hill
178. Find out the correct decryption equation of Caesar cipher algorithm
 (A) $P = D(K, C) = (C - K) \bmod 26$ (B) $P = K(D, C) = (K - C) \bmod 26$
 (C) $P = C(K, D) = (K - C) \bmod 22$ (D) $P = D(K, C) = (C - K) \bmod 28$
179. _____ is the technique of Cracking the Cipher-text without knowing the key.
 (A) Cracking (B) Cryptography
 (C) Cryptanalysis (D) Crypto-hacking
180. The cryptology is
 (A) the areas of enciphering and encryption together
 (B) the areas of deciphering and decryption together
 (C) the areas of cryptography and cryptanalysis together
 (D) the areas of cryptographic system and a cipher together
181. Which is a set of managed nodes that share the same Kerberos database?
 (A) Kerberos realm (B) Kerberos interrealm
 (C) Kerberos credential (D) Kerberos claimant
182. Pick up the example of static biometrics is
 (A) voice pattern (B) handwriting characteristics
 (C) typing rhythm (D) finger print

183. Knowledge representation is used in If-Then rule
 (A) Relational Knowledge (B) Inheritable Knowledge
 (C) Inferential Knowledge (D) Procedural knowledge
184. _____ is a special kind of local maximum. It is an area of the search space that is higher than surrounding areas and itself has a scope
 (A) A plateau (B) A vidge
 (C) A local minimum (D) Both (A) and (B)
185. _____ is a production system in which the application of a value never prevents the later application of another rule that could also have been applied at the time, the first rule was selected.
 (A) Monotonic production system
 (B) Non-monotonic production system
 (C) Partically commutative production system
 (D) Commutative production system
186. Find out a depth. First, depth limited search procedure.
 (A) Intersection (B) Maxmin
 (C) Minimax (D) Partitioned
187. If a class is-covered-by a set of S of mutually disjoint classes, then S is called a _____ of the class.
 (A) Mutually-covered (B) Uniformly-covered
 (C) Disjoint (D) Partition
188. A useful variation on simple hill climbing considers all the moves from the current state and selects the best one as the next state is known as _____
 (A) Gradient search (B) Best-first search
 (C) Breadth-first search (D) Linear search

189. What is the Parkinson's law?

- (A) Putting more people on a late job makes it later
- (B) Work expands to fill the time available
- (C) If a system does not have to be reliable, it can meet any other objective
- (D) Anything that can go wrong, will go wrong

190. A payback period means

- (A) A time taken to find the net profit
- (B) A time taken to break even the initial investment
- (C) A time taken to calculate the operation cost
- (D) A time taken to find the setup cost

191. Which one of the following is an investigation to decide whether a prospective project is worth starting?

- (A) Feasibility study
- (B) Planning
- (C) Project execution
- (D) Maintenance

192. Loc of the product comes under which type of approach?

- (A) Direct
- (B) Indirect
- (C) Coding
- (D) Design

193. What is the rule which defines that "user requirements creep in at an average rate of 2% per month from the design through coding phases" stated by Capers Jones?
- (A) Project duration estimation
 - (B) Defect removal efficiency
 - (C) Function point equivalence
 - (D) Rate of requirements creep
194. What is the activity recommended by ISO 12207 standard that test the components together to see if they meet the overall requirements?
- (A) Requirement analysis
 - (B) Architecture design
 - (C) Integration
 - (D) Installation
195. One of the activity-on-arrow network rules is wrong.
- (A) A project network may have only one start and end node
 - (B) A link has duration
 - (C) Nodes have no duration
 - (D) A network may contain loops
196. What is the meaning of activity's float?
- (A) Difference between finished dates and earliest dates
 - (B) Difference between its earliest and latest finished dates
 - (C) Difference between mid dates and finished dates
 - (D) Difference between mid dates and earliest dates

197. How to calculate productivity?

- (A) $P = \text{effort/size}$
- (B) $P = \text{size/effort}$
- (C) $P = \text{size/time}$
- (D) $P = \text{effort/time}$

198. Which one of the following project parameters is usually the first to be estimated by a Project Manager?

- (A) Cost
- (B) Size
- (C) Duration
- (D) Effort

199. State the role of Transition Manager.

- (A) Maximize the effort
- (B) Minimize the cost and risk
- (C) Improve the project's efficiency
- (D) Maximize the quality

200. A cash flow forecast indicates on _____ and _____.

- (A) Expenditure and income
- (B) Expenditure and raw material cost
- (C) Production cost and income
- (D) Income and Operational

SPACE FOR ROUGH WORK

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