TNPSC
JSO

Previous Year Paper
(Computer Science) 24
Aug, 2019

Question Booklet Code : [redacted]

Register Number | | | | | | | | | |

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 Ⓐ, Ⓑ, Ⓒ and Ⓓ 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, Ⓑ is the correct answer, you have to mark as follows :

   Ⓐ ● Ⓒ Ⓓ

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 – Objeced 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

21. The ARPANET computer Network was launched in the year ————————.

(A) 1960 (B) 1969

(C) 1972 (D) 1979

22. ———————— is an identifier that is intended to be associated with a particular resource on the WWW.

(A) URI (B) URL

(C) URN (D) ISBN

23. When you connect to your ISP using a telephone line and modem, that type of connection is called the ————————

(A) Internet Connection (B) Telnet Connection

(C) WAIS Connection (D) Dial–Up Connection

24. ———————— is a file that has been encoded as text, so that it can be included in an e–mail message.

(A) Attachment (B) Text

(C) Cipher text (D) Plain text

25. Pegasus uses ———————— for formatting, which not every email program supports.

(A) HTML (B) XML

(C) MIME (D) RTF

26. ———————— is an incoming mail server

(A) Pop (B) Pop3

(C) Both (A) and (B) (D) SMTP

27. The <HEAD> element include ———————— element which specifies an absolute URI address

(A) <BASE> (B) <ISINDEX>

(C) <LINK> (D) <a>

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 refect 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 ∀) and obj1, 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) $O(n^2)$

38. All the child nodes of a parent node are referred as ————

(A) Neighbors
(B) Siblings
(C) Internal nodes
(D) leaf nodes

39. The traversal operation on a binary tree is used to visit each node in the tree exactly ————

(A) Once
(B) twice
(C) thrice
(D) more

40. ———— is the operator used to create memory dynamically in C++

(A) new
(B) malloc
(C) create
(D) ++

41. What is meant by input-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

42. Which algorithm is a well-known scheduling algorithm and is designed especially for time sharing systems?

(A) Event-driven Scheduling
(B) Round Robin Scheduling
(C) FCFS Scheduling
(D) Event-Robin Scheduling

43. Which one of the following statement is true with respect to C++?

(A) The index number of array starts from 0
(B) The index number of array starts from 1
(C) The index number of array starts from 2
(D) The index number of array starts from –1

44. What is the name of the dump, that writes the o^{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

50. Consider the grammar
$S \rightarrow ABSc / Abc$
$BA \rightarrow AB$, $Bb \rightarrow bb$
$Ab \rightarrow ab$, $Aa \rightarrow aa$
Which of the following sentences can be derived by this grammar
(A) abc
(B) aab
(C) abcc
(D) abbc

51. The content of the symbol table is
(A) Object code of the program
(B) Information about source program constructs
(C) Parser tree of the program
(D) Both (A) & (C)

52. If a string is parsed of a parser, the parser can generate
(A) An intermediate code
(B) Error message
(C) Parse tree
(D) Either (A) or (B)

53. Identifier table is created during ———— Phase.
(A) Syntax
(B) Code Generation
(C) Lexical
(D) Interpretation

54. Choose any one of the machine - dependent phases.
(A) Lexical
(B) Syntax
(C) Code generation
(D) Interpretation

55. What is syntax Analysis?
(A) "Recognizing and separating the basic syntactical constructs".
(B) Separating the characters
(C) Separating the words
(D) Separating the uniform symbols

56. In a uniprocessor system, concurrent processes cannot have overlapped execution; they can be
(A) interfaced
(B) interleaved
(C) intermodified
(D) inter swapped

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 loosly 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

	(a)	(b)	(c)	(d)
(A)	4	1	3	2
(B)	2	4	3	1
(C)	2	3	4	1
(D)	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. Given $A \rightarrow BC$, $E \rightarrow CF$, $B \rightarrow E$, $C \rightarrow EF$

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) $\{AB\}^+ = \{A,F\}$

70. Match the following cloud computing platforms with year of launch:

(a)	Amazon web services	1.	2009
(b)	Azure	2.	2008
(c)	Google App Engine	3.	2006
(d)	Blue cloud	4.	2008

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

71. Find the name of the popular hybrid cloud?

(A) Open stack
(B) Force.Com
(C) Eucalyptus
(D) Amazon Aws

72. ———————— is a model for enabling ubiquitous, convenient on-demand network access to a shared pool of configurable computing resources that can be rapidly provisioned and released with minimal management effort.

(A) Mobile computing
(B) Biocomputing
(C) Network computing
(D) Cloud computing

73. This programming model has been widely applied in parallel databases, search engines and scientific computing and it is adopted into the cloud environment? What is the name of the model?

(A) Bulk Synchronous Parallel (BSP) model
(B) Map Reduce Model
(C) Simple API for Grid Applications (SAGA)
(D) Transformer

74. Specific security mechanism notarization is

(A) enables selection of particular physically secure routes for certain data
(B) the use of a trusted third party to assure certain properties of a data exchange
(C) the insertion of bits into gaps in a data stream to frustrate traffic analysis attempts
(D) to ensure the identify of an entity by means of information exchange

75. The weakness in a system's design, implementation, operation and management that could be exploited to violate the system's security policy is called

(A) vulnerability
(B) validity
(C) advarsary
(D) atomicity

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
(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.

(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
(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) $O(bm)$ (B) $O(b^m)$
(C) $O(m^b)$ (D) $O(m)$

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

(A) $f(n) = h(n)$ (B) $f(n) != h(n)$
(C) $f(n) > h(n)$ (D) $f(n) <= h(n)$

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

(A) Fice-like (B) Array-like
(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 (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 natures that form more complex states and events by combining primitive ones?

(A) Discrete math's

(B) Fluent calculcus

(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 prunning

(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) Certainity

(C) Uncertainity

(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 part, destination IP address, destination part), 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
(B) Tim Berners –Lee
(C) Andreessen
(D) Eric Bina

127. What is the output of the following tags
<FRAMESET COLS = "20%, *">
</FRAMESET>
(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) $\Sigma \times Q \to \Sigma$
(B) $Q \times Q \to \Sigma$
(C) $Q \times \Sigma \to Q$
(D) $\Sigma \times \Sigma \to Q$

129. Find a reduced grammar equivalent to the grammar
$S \to aAa$
$A \to bBB$
$B \to ab$
$C \to aB$
(A) $S \to aAa \quad A \to bab$
(B) $S \to aA \quad A \to b$
(C) $S \to aAa \quad A \to bBB \quad B \to ab$
(D) $S \to aAa \quad A \to bCa \quad C \to aab$

130. A Pushdown Automata
(A) A automata with input and processor
(B) A automata together with a simple memory
(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

132. Which one of the following lies in the possibility of making the transition from an algorithm to a program either incorrectly or very inefficiently?

(A) Correctness
(B) Peril
(C) Opportunity
(D) Efficiency

133. Which one of the following is used for modeling a wide variety of applications like transportation, communication, social and economic networks and project scheduling?

(A) Sorting
(B) Searching
(C) String processing
(D) Graph

134. The worst case complexity of Merge sort algorithm is

(A) $O(n \log n)$
(B) $O(n^3)$
(C) $O(n \log n^*)$
(D) $O(n^2)$

135. In binary search the best case analysis of successful search is

(A) $\theta(1)$
(B) $\theta(n^2)$
(C) $\theta(n^3)$
(D) $\theta(n)$

136. In asymptotic notation the function $f(n) = O(g(n))$

(A) iff there exist positive constants C and no such that $f(n) \geq c * g(n)$ for all $n, n \geq n0$
(B) $f(n) \geq C * (n + n0) * g(n)$ for all $n \geq n0$
(C) $f(n) \geq C * (n - n0) * g(n)$ for all $n \geq n0$
(D) iff there exist positive constants C and no such that $f(n) \leq c * g(n)$ for all $n, n \geq n0$

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 printers, 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. _____ 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)	(b)	(c)	(d)
(A)	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) Kerbaros realm
(B) Kerbaros interrealm
(C) Kerbaros credential
(D) Kerbaros 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 = effort/size

(B) P = size/effort

(C) P = size/time

(D) P = 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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SEAL