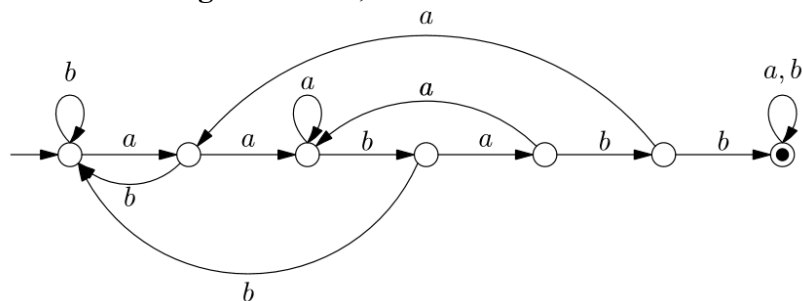


**MCQ Type Entrance Test 2019 for Admission to M. Phil. / Ph.D. Course
(Full Time / Part Time) in Computer Science, Madurai Kamraj University,
Madurai**

51. A B-tree is of depth '3' and order '12' and its leaf nodes contains 5 elements each. The number of elements that can be held in this tree is
- 20
 - 41
 - 720
 - 8640
52. Which of the following expressions is equivalent to the expression, $(A + B) * C - (D - E) * (G + G)$
- $- * + A B C * - D E + F G$
 - $- * + * A B C - D E + F G$
 - $- * + A B C * - + D E F G$
 - $- * + - A B C * D E + F G$
53. Which one of the following array elements represents a binary min heap?
- 25 17 14 12 10 8
 - 14 17 25 10 12 8
 - 12 10 8 25 14 17
 - 8 10 12 25 14 17
54. Which one of the following is true for the languages that use heap allocation in the runtime environment?
- The languages which use dynamic scoping
 - The languages which allow dynamic data structures
 - The languages which use global variables
 - The languages which support recursion
55. In reference to LR parsers, choose the correct answer from the following:
- LR, SLR, Canonical and LALR parsers are equally powerful.
 - LALR parser is less powerful than canonical LR parser.
 - LALR parser is less powerful than SLR parser.
 - LALR parser is more powerful than canonical LR parser.
56. In reference to the DFA given below, choose the correct answer from the following:



- The given DFA accepts only strings with substring as "aababb".

- (b) The given DFA accepts only strings with prefix as “aababb”.
 - (c) The given DFA accepts only strings with suffix as “aababb”.
 - (d) The given DFA accepts only strings with infix as “aababb”.
- 57. Code optimization by a compiler is carried out on the intermediate code because:**
- (a) It elevates the portability of the compiler to other targeted processors.
 - (b) The information required for optimization from the front end may not be available.
 - (c) The analysis of the program on its intermediate code is more precise as compared to its equivalent machine code.
 - (d) Machine code can be easily understood but its parsing cannot be used as optimization information.
- 58. The maximum number of unique memory locations a microprocessor with 64 bit data bus and 32 bit address bus can accommodate is:**
- (a) 2^{64}
 - (b) 2^{32}
 - (c) 64^2
 - (d) 32^2
- 59. A running process in a virtual memory architecture requires a minimum number of page frames. This number depends upon:**
- (a) Number of processes in the RAM
 - (b) Virtual memory size
 - (c) Page frame size
 - (d) Instruction set architecture
- 60. P: Good notebooks are not cheap.
Q: Cheap notebooks are not good.
L: P implies Q
M: Q implies P <>
N: P is equivalent to Q**
- Considering the statements given above, which of the statements given below is correct?**
- (a) Only the statement **L** is true
 - (b) Only the statement **M** is true
 - (c) Only the statement **N** is true
 - (d) The statements **L, M** and **N** are true
- 61. The full form of MIMD is:**
- (a) Multiple Instruction Minimum Data
 - (b) Minimum Instruction Multiple Data
 - (c) Multiple Instruction Multiple Data
 - (d) Minimum Instruction Minimum Data
- 62. Which of the following correspond to Von Neumann Architecture?**
- (a) MISD
 - (b) SISD
 - (c) MIMD
 - (d) SIMD
- 63. A logical binary relation \square is defined as follows:**

A	B	$A \square B$
T	T	T
T	F	T
F	T	F
F	F	T

If \sim represents a unary negation operator having precedence over \square , which of the following statements is equivalent to $A \wedge B$?

- (a) $(\sim A \square B)$
 - (b) $\sim (A \square \sim B)$
 - (c) $\sim (\sim A \square \sim B)$
 - (d) $\sim (\sim A \square B)$
64. The minimum integer that can be stored in an 8-bit register in 2's complement is:
- (a) 0
 - (b) -256
 - (c) -128
 - (d) -127
65. Having a linear transfer function as well as the constant of proportionality as 2, the weights associated with a 4-input neuron are 1, 2, 3 and 4. The output for the inputs of 4, 10, 5 and 20 respectively is:
- (a) 221
 - (b) 238
 - (c) 255
 - (d) 272
66. Which of the following is true for a perceptron?
- (a) It is an auto-associative neural network.
 - (b) It is a double layer auto associative neural network.
 - (c) It is a neural network with feedback.
 - (d) It is a single layer feed-forward neural network with preprocessing.
67. Bounded waiting is defined in reference to:
- (a) Any process should have a limited waiting time to access the critical section.
 - (b) Operating system waiting for any process to start within a specified period of time.
 - (c) Any process should have a limited execution time in the critical section so that other processes can also use the critical section.
 - (d) None of the above
68. Which of the following is true for Bakery algorithm in reference to critical section problem?
- (a) All the processes are allocated a number (may not be unique) and the process with the highest value is served next.
 - (b) All the processes are allocated a unique number and the process with the highest value is served next.
 - (c) All the processes are allocated a number (may not be unique) and the process with the lowest value is served next.

- (d) All the processes are allocated a unique number and the process with the lowest value is served next.
69. **Which of the following basic system calls is used for the signal operation of the semaphore?**
- (a) Continue()
 - (b) Start()
 - (c) Wakeup()
 - (d) Hold()
70. _____ **is also known as bounded buffer problem.**
- (a) Readers – writers problem
 - (b) Producer – Consumer problem
 - (c) Dining – Philosophers problem
 - (d) All of the above
71. **A process cannot continue with its normal execution if a resource is preempted from the process. In such condition, the process has to be:**
- (a) Rolled back
 - (b) Aborted
 - (c) Dequeued
 - (d) Interrupted
72. **The address generated by the microprocessor is known as _____ address and the address loaded into the Memory Address Register (MAR) is known as _____.**
- (a) Physical, Logical
 - (b) Physical, Physical
 - (c) Logical, logical
 - (d) Logical, Physical
73. **Identify the correct statement in reference to first fit, best fit and worst fit strategies of memory management in an operating system.**
- (a) These strategies are used to select a process from the queue for execution.
 - (b) These strategies are used to select a free hole from a set of available holes.
 - (c) These strategies are used to select a page segment from which the next process needs to be executed
 - (d) All of the above
74. **A process in a 'BLOCKED' state waiting for some I/O service would return to _____ state after the completion of the said I/O service.**
- (a) Ready state
 - (b) Execution state
 - (c) Terminated state
 - (d) Deadlock state
75. **Preemptive SJF scheduling is also known as:**
- (a) EDF scheduling
 - (b) HHRN scheduling
 - (c) SRTN scheduling
 - (d) Fast SJF scheduling
76. **Which of the following is used to solve the problem of priority inversion?**
- (a) Priority Inversion Protocol

- (b) Priority Inheritance Protocol
 - (c) Both Priority Inversion Protocol and Priority Inheritance Protocol
 - (d) None of the above
77. _____ system call will not return an error.
- (a) ioctl
 - (b) fork
 - (c) open
 - (d) getpid
78. When LRU page replacement algorithm with 4 frames is used with the following page reference string, there will ___ number of page faults.
- (a) 4
 - (b) 7
 - (c) 10
 - (d) 12
79. The device controllers use _____ to request an interrupt service.
- (a) Delayed interrupt
 - (b) Maskable interrupt
 - (c) Non maskable interrupt
 - (d) Master-slave interrupt
80. Which of the following defines the maximum number of frames per process?
- (a) The instruction set of the microprocessor
 - (b) Version of the operating system being used
 - (c) The quantum of available virtual memory
 - (d) The quantum of available physical memory
81. Which one of the following is an ISO standard for Computer Graphics?
- (a) Graphics Kernel System
 - (b) Graphics Kernel Standard
 - (c) Graphical Kernel System
 - (d) Graphical Kernel Standard
82. The basic picture element in volume graphics is _____.
- (a) Pixel
 - (b) Vixel
 - (c) Voxel
 - (d) Vgixel
83. Which of the following justifies the use of principle of locality of reference?
- (a) Virtual Memory
 - (b) Interrupts
 - (c) Main memory
 - (d) Cache memory
84. There exist functional dependencies which are valid during the time associated with them. These are called _____.
- (a) Clocked functional dependencies
 - (b) Temporal functional dependencies
 - (c) Timed functional dependencies
 - (d) Time stamped functional dependencies
85. Which one of the following is not an algorithm for association rules in data mining?

- (a) Dynamic Itemset Counting
 - (b) A priori
 - (c) Gama foundation
 - (d) FP-Tree Growth
- 86. In Java, an object that stores a group of other objects is known as:**
- (a) Class
 - (b) Collection object
 - (c) Wrapper
 - (d) Package
- 87. Which of the following packages makes the Thread Class available in Java?**
- (a) java.lang package
 - (b) java.awt package
 - (c) java.io package
 - (d) None of the above
- 88. In Java, when a method has the same name as that of the class and it does not have any return type, this method is called _____.**
- (a) new
 - (b) static method
 - (c) constructor
 - (d) destructor
- 89. In an Applet class, which of the following methods displays its result on the screen?**
- (a) main() method
 - (b) paint() method
 - (c) applet() method
 - (d) drawString() method
- 90. What is autoboxing in Java?**
- (a) It converts a primitive type data into corresponding wrapper class object instance.
 - (b) It converts a primitive data type into a corresponding wrapper class.
 - (c) It converts any data type into a corresponding wrapper class object.
 - (d) None of the above
- 91. Which of the following hidden surface algorithms does not employ image space approach?**
- (a) Depth buffer
 - (b) Depth short
 - (c) Scan line
 - (d) Back face removal
- 92. Which of the following four options represent the correct categories of orthographic projection?**
- (a) Cavalier, cabinet
 - (b) Isometric, dimetric, trimetric
 - (c) Isometric, cavalier, trimetric
 - (d) Cavalier, cabinet, isometric
- 93. Which of the following is related to the hue of the color?**
- (a) Luminance

- (b) Wavelength
 - (c) Saturation
 - (d) Incandescence
- 94. Which of the following scenarios is best suited for neural networks?**
- (a) What-if questions scenario
 - (b) Loop questions scenario
 - (c) If-then-Else questions scenario
 - (d) All of the above
- 95. What is the maximum number of signals that a neuron can transmit at a time?**
- (a) Unlimited
 - (b) 1
 - (c) 2
 - (d) 4
- 96. The technique of solving an empirical problem using a membership function is based upon _____.**
- (a) Data
 - (b) Knowledge
 - (c) Information
 - (d) Experience
- 97. In a fuzzy set, if no membership function has a value equal to '1', it is known as _____.**
- (a) Convex fuzzy set
 - (b) Concave fuzzy set
 - (c) Subnormal fuzzy set
 - (d) Normal fuzzy set
- 98. The best way to protect the information on your computer when you are working on it and suddenly you have to move away from it for a short period of time is _____.**
- (a) Shut down the computer.
 - (b) Lock the computer with password.
 - (c) Activate the screen saver
 - (d) Keep it on and just move away.
- 99. Which of the following is said to occur when multiple internal variables change due to change in one input variable?**
- (a) Trigger
 - (b) Race condition
 - (c) Hold delay
 - (d) Interrupt
- 100. Which one of the following synonym can be used for referential integrity constraints?**
- (a) Subset dependencies
 - (b) Superset dependencies
 - (c) Functional dependencies
 - (d) Database dependencies

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51	c	61	c	71	a	81	a	91	d
52	a	62	b	72	d	82	c	92	b
53	d	63	d	73	b	83	d	93	b
54	b	64	c	74	a	84	b	94	a
55	b	65	b	75	c	85	c	95	b
56	a	66	d	76	b	86	b	96	d
57	c	67	a	77	d	87	a	97	c
58	b	68	c	78	c	88	c	98	b
59	d	69	c	79	b	89	b	99	b
60	d	70	b	80	d	90	a	100	a