

CSE

Sr. No.	Question	Option A	Option B	Option C	Option D
1	If F1, F2 and F3 are propositional formulae such that $F1 \wedge F2 \rightarrow F3$ and $F1 \wedge F2 \rightarrow F3$ are both tautologies, then which of the following is TRUE?	Both F1 and F2 are tautologies	The conjunction $F1 \wedge F2$ is not satisfiable	Neither is tautologies	None of these
2	Suppose the predicate $F(x, y, t)$ is used to represent the statement that person x can fool person y at time t . which one of the statements below expresses best the meaning of the formula $\forall x \forall y \exists t (\neg F(x, y, t))$?	Everyone can fool some person at some time	No one can fool everyone all the time	Everyone cannot fool some person all the time	No one can fool some person at some time
3	Consider the assertions given below : A : CDF is a monotonously increasing function B : PDF is a derivative of CDF & is always positive Which among them is correct according to the properties of PDF?	A is true & B is false	A is false & B is true	Both A & B are true but B is a reason for A	Both A & B are false since B is not a reason for A
4	About the independent events A and B it is known that $P(A B) = 0.2$ and $P(B A) = 0.5$. Compute the probability $P(A \cup B)$.	0.7	0.2	0.4	0.6
5	Let X and Y be two Bernoulli distributed random variables. Furthermore, $P(X = 0; Y = 0) = 0.3$, $P(X = 0; Y = 1) = 0.2$, and $P(X = 1; Y = 0) = 0.2$.	X and Y are uncorrelated and independent.	positively correlated and dependent.	negatively correlated and dependent.	X and Y are correlated and independent.
6	Discrete probability distribution depends on the properties of _____	Data	Machine	Discrete Variables	Probability Function
7	If we have $f(x) = 2x$, $0 \leq x \leq 1$, then $f(x)$ is a:	Probability density function	Probability distribution	Distribution function	Continuous random variable
8	If $f : X \rightarrow Y$ and $a, b \in X$, then $f(a - b)$ is equal to	$f(a) - f(b)$	$f(a) \cdot f(b)$	a proper subset of $f(a) \cdot f(b)$	$f(b) - f(a)$
9	Three boys and four girls sit in a row with all arrangements equally likely. Let x be the probability that no two boys sit next to each other. What is x ?	1/7.	2/7.	3/7.	4/7.
10	How many combinations are possible while selecting four letters from the word 'SMOKEJACK' with the condition that 'J' must appear in it?	81	$8!/2!$	$3!/2!$	41
11	Which of the following statements for a simple graph is correct?	Every path is a trail	Every trail is a path	Every trail is a path as well as every path is a trail	Path and trail have no relation
12	For which of the following combinations of the degrees of vertices would the connected graph be eulerian?	1,2,3	2,3,4	2,4,5	1,3,5
13	An isomorphism of graphs G and H is a bijection f the vertex sets of G and H. Such that any two vertices u and v of G are adjacent in G if and only if	$f(u)$ and $f(v)$ are contained in G but not contained in H	$f(u)$ and $f(v)$ are adjacent in H	$f(u * v) = f(u) + f(v)$	$f(u) = f(u)^2 + f(v)^2$

14	BCD input 1000 is fed to a 7 segment display through a BCD to 7 segment decoder/driver. The segments which will lit up are_____	a,b,d	a,b,c	all	a,b,g,c,d
15	In the expression $A + BC$, the total number of minterms will be	3	2	5	4
16	The ability to shift or rotate in the same instruction along with other operation is performed with the help of	Switching circuit	Barrel switcher circuit	Integrated Switching circuit	Multiplexer circuit
17	The BEQ instructions is used _____	to check the equality condition between the operands and then branch	to check if the Operand is greater than the condition value and then branch	to check if the flag Z is set to 1 and then causes branch	None of the mentioned
18	In a microprocessor system with memory mapped I/O	Devices have 8-bit addresses	Devices are accessed using IN and OUT instructions	There can be a maximum of 256 input devices and 256 output devices	Arithmetic and logic operations can be directly performed with the
19	To overcome the lag in the operating speeds of the I/O device and the processor we use	Buffer spaces	Status flags	Interrupt signals	Exceptions
20	Dijkstra algorithm is also called the _____ shortest path problem.	multiple source	single source	single destination	multiple destination
21	In linked lists, there are no NULL links in	single linked list	linear doubly linked list	circular linked list	linked list
22	The order with which the nodes are inserted affects the running time of the _____ search algorithm.	AVL Tree	Red-Black Tree	Binary Search Tree	Binary Heap Tree
23	In C Language which operator has the highest precedence	Relational	Equality	Logical	Arithmetic
24	Which of the following statements is true?	Recursion uses less memory compared to iteration	Recursion is always better than iteration	Recursion uses more memory compared to iteration	Iteration is always better and simpler than recursion
25	Euler's circuit problem belong to _____ class	P	NP	Partition	Complete
26	The choice of polynomial class has led to the development of an extensive theory called _____	computational complexity	time complexity	problem complexity	decision complexity
27	Which of the following is not a backtracking algorithm	Knight tour problem	N queen problem	M coloring problem	Tower of hanoi
28	An undirected graph G has n nodes. Its adjacency matrix is given by an $n \times n$ square matrix whose (i) diagonal elements are 0's and (ii) non-diagonal elements are 1's. which one of the following is TRUE?	Graph G has no minimum spanning tree (MST)	Graph G has a unique MST of cost n-1	Graph G has multiple distinct MSTs, each of cost n-1	Graph G has multiple spanning trees of different costs

29	A bottom-up parser generates:	Left-most derivation in	Right-most derivation in	Left-most derivation	Right-most derivation
30	Given an arbitrary non-deterministic finite automaton (NFA) with N states, the maximum number of states in an equivalent minimized DFA is at least	N^2	2^N	2N	N!
31	The identification of common sub-expression and replacement of run-time computations by compile-time computations is	local optimization	loop optimization	constant folding	data flow analysis
32	The method which merges the bodies of two loops is	Constant folding	Loop jamming	Loop unrolling	None of these
33	Which of the following is NOT true of deadlock prevention and deadlock avoidance schemes	In deadlock prevention, the request for resources is always granted if the resulting state is safe	In deadlock avoidance, the request for resources is always granted if the result state is safe	Deadlock avoidance is less restrictive than deadlock prevention	Deadlock avoidance requires knowledge of resource requirements a priori
34	What is the swap space in the disk used for	Saving temporary html pages	Saving process data	Storing the super-block	Storing device drivers
35	Which process is busy swapping pages in and out	Division	External fragmentation	Thrashing	Compaction
36	Relational calculus is a	Procedural language	Non-procedural language	Data definition language	Data manipulation language
37	If attributes A and B determine attribute C, then it is also true that	A C.	B C.	(A,B) is a composite determinant.	C is a determinant.
38	User datagram protocol is called connectionless because	all UDP packets are treated independently by transport layer	it sends data as a stream of related packets	it is received in the same order as sent order	it sends data very quickly
39	What are the Methods to move data through a network of links and switches?	Packet switching and Line switching	Circuit switching and Line switching	Line switching and bit switching	Packet switching and Circuit switching
40	Closed-Loop control mechanisms try to	Remove after congestion occurs	Remove after sometime	Prevent before congestion occurs	Prevent before sending packets

Answer Key

Question No.	Write Answer
1	B
2	B
3	C
4	D
5	B
6	A
7	A
8	C
9	B
10	D
11	A
12	A
13	B
14	C
15	D
16	B
17	C
18	D
19	B
20	B
21	C
22	C
23	D
24	C
25	A
26	A
27	D
28	C
29	B
30	B
31	C
32	B
33	A
34	B
35	C
36	B
37	C
38	A
39	D
40	A