Question Paper Preview

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Display Number Panel: Yes
Group All Questions: No

Question Number : 1 Question Id : 2203602641 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A bag contains 10 red balls and 15 blue balls. Two balls are drawn at random. The probability that one of them is blue and the other is red is ____.

Options :

1. $\frac{1}{2}$

2. $\frac{3}{5}$

3. $\frac{3}{8}$

4. $\frac{2}{5}$

Question Number : 2 Question Id : 2203602642 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A random variable X follows uniform distribution over (–3, 3) then $P[|X-2|<2] =$ _____.

Options :

1. $\frac{5}{6}$

2. $-\frac{2}{3}$

3. $\frac{1}{2}$

4. $\frac{1}{3}$

Question Number : 3 Question Id : 2203602643 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If B is a Boolean algebra and $a, b \in B$, then $b.(a + (a'.(b + b'))) =$ _____.

Options :

1. $b.a$

2. b

3. a

4. 1

Question Number : 4 Question Id : 2203602644 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The set of all odd integers under multiplication is _____.

Options :

1. a group

2. not a group

3. not a monoid

4. not a semigroup

Question Number : 5 Question Id : 2203602645 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The recurrence relation that determines the sequence $7, \frac{14}{5}, \frac{28}{25}, \frac{56}{125}, \cdots$ is _____.

Options :

1. $2a_n - 5a_{n-1} = 0,\ a_0 = 7$

2. $a_n = a_{n-1} - \frac{2}{5}, a_0 = 7$

3. $a_n = a_{n-1} + \frac{2}{5},\ a_0 = 7$

4. $a_n = \left(\frac{2}{5}\right) a_{n-1}\ ,\ a_0 = 7$

Question Number : 6 Question Id : 2203602646 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The number of 4-digit binary sequences having even number of 1's is _____.

Options :

1. 16

2. 4

3. 8

4. 15

Question Number : 7 Question Id : 2203602647 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The Eigen values of $A = \begin{bmatrix} 2 & -1 \\ -4 & 5 \end{bmatrix}$ are _____.

Options :

1. 2 and 5

2. 8 and –1

3. 1 and 6

4. 4 and 3

Question Number : 8 Question Id : 2203602648 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The equation $x = \cos x$ has _____ in $[0, \pi]$.

Options :

1. no solution

2. exactly one solution

3. exactly two solutions

4. infinite number of solutions

Question Number : 9 Question Id : 2203602649 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

One root of the equation $x^3 - 10x^2 + 31x - 30 = 0$ is 3 then the other roots are _____.

Options :

1. –2 and 5

2. 2 and –5

3. 2 and 5

4. –2 and –5

Question Number : 10 Question Id : 2203602650 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The function $f(x) = |x+1|$ in the interval $[-2, 0]$ is _____.

Options :

1. continuous and differentiable

2. continuous and but not differentiable

3. neither Continuous nor differentiable

4. differentiable but not Continuous

Question Number : 11 Question Id : 2203602651 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Let G be a simple undirected graph with some odd degree vertices. Add a node V to G and make it adjacent to each odd degree vertex of G. The resultant graph is _____.

Options :

1. Regular

2. Complete

3. Hamiltonian

4. Euler

Question Number : 12 Question Id : 2203602652 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Let G = <V, E> be any connected undirected edge-weighted graph. The weights of the edges in E are positive. Which of the following statements are true?

S1: The path between a pair of vertices in a minimum spanning tree of an undirected graph is necessarily the shortest (minimum weight) path.

S2: Minimum Spanning Tree of G is always unique and shortest path between a pair of vertices may not be unique.

Options :

1. Only S1

2. Only S2

3. Both S1 and S2

4. Neither S1 nor S2

Question Number : 13 Question Id : 2203602653 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Let G be a complete undirected graph with 6 vertices. If the vertices of G are labeled, then the number of distinct cycles of length 4 in G is equal to _____ .

Options :

1. 15

2. 30

3. 45

4. 360

Question Number : 14 Question Id : 2203602654 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following algorithms cannot be used to find spanning tree of a graph?

Options :

1. Kruskal's algorithm

2. Prim's algorithm

3. Breadth first search

4. Euler's algorithm

Question Number : 15 Question Id : 2203602655 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

How many edges are there in a forest of t trees containing a total of n vertices?

Options :

1. nt

2. $n - t$

3. $n + t$

4. n/t

Question Number : 16 Question Id : 2203602656 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If P: $\neg p \rightarrow (q \rightarrow r)$ and Q: $q \rightarrow (p \vee r)$ then P and Q are

Options :

1. tautologies

2. logically equivalent

3. P is a tautology and Q is not

4. neither P nor Q are tautologies

Question Number : 17 Question Id : 2203602657 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following propositions is a tautology?

a) $(p \vee q) \rightarrow p$

b) $p \vee (q \rightarrow p)$

c) $p \vee (p \rightarrow q)$

d) $p \rightarrow (p \rightarrow q)$

Options :

1. a

2. b

3. c

4. d

Question Number : 18 Question Id : 2203602658 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is a valid conclusion from the premises $P \vee Q$, $Q \rightarrow R$, $P \rightarrow M$ and $\sim M$?

Options :

1. $R \wedge (P \wedge Q)$

2. $P \wedge (Q \vee R)$

3. $P \vee (Q \wedge R)$

4. $R \wedge (P \vee Q)$

Question Number : 19 Question Id : 2203602659 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The characteristic equation of a T flip-flop is _____.

Options :

1. $Q(t + 1) = TQ' + T' Q$

2. $Q(t + 1) = TQ + T'Q'$

3. $Q(t + 1) = TQ$

4. $Q(t + 1) = T'Q'$

Question Number : 20 Question Id : 2203602660 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

An OR gate can be imagined as _____.

Options :

1. switches connected in series

2. switches connected in parallel

3. MOS transistors connected in series

4. MOS transistors connected in parallel

Question Number : 21 Question Id : 2203602661 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following expressions represents exclusive NOR of x and y?

(i) $xy + x'y'$ (ii) $x' \oplus y'$ (iii) $x \oplus y'$ (iv) $x' \oplus y$ (v) $x'y + x'y'$

Options :

1. (i), (ii) and (iv) only

2. (i), (iii) and (v) only

3. (i), (ii) and (iii) only

4. (i), (iii) and (iv) only

Question Number : 22 Question Id : 2203602662 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which one of the following Boolean expressions is logically equivalent to

$xy + x(wz + wz')$

Options :

1. $x(y + z)$

2. $x(y + z')$

3. $x(y + w)$

4. $y(x + z')$

Question Number : 23 Question Id : 2203602663 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In order to perform the function of two input OR gate, what is the minimum number of two-input NAND gates required?

Options :

1. Four

2. Three

3. Two

4. One

Question Number : 24 Question Id : 2203602664 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

How many NAND gates are required to implement the simplified minterm of the following Boolean expression?

$$XY'Z + X'YZ + XY'Z' + X'YZ' + X'Y'Z + X'Y'Z'$$

Options :

1. One

2. Two

3. Three

4. Four

Question Number : 25 Question Id : 2203602665 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A simplified form of the following Boolean function $F(A,B,C) = \Sigma(0,2,4,5,6)$ is

Options :

1. $F = BC + AC'$

2. $F = C' + AB'$

3. $F = BC + AC$

4. $F = A' + BC$

Question Number : 26 Question Id : 2203602666 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The addition of 4-bit, two's complement, binary numbers 1101 and 0100 results in

Options :

1. 0001 and an overflow

2. 1001 and no overflow

3. 0001 and no overflow

4. 1001 and an overflow

Question Number : 27 Question Id : 2203602667 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In *write-back* method_____.

Options :

1. only the cache location is updated during a write operation.

2. only the main memory location is updated during a write operation.

3. both the cache and main memory locations are updated during a write operation.

4. the cache is initialized to zero.

Question Number : 28 Question Id : 2203602668 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In which addressing mode, the effective address of the operand is generated by adding a constant value to the contents of a register?

Options :

1. absolute mode

2. immediate mode

3. indirect mode

4. index mode

Question Number : 29 Question Id : 2203602669 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Comparing the time T_1 taken for a single instruction on a pipelined CPU with time T_2 taken on a non- pipelined but identical CPU, we can say that

Options :

1. $T_1 \leq T_2$

2. $T_1 \geq T_2$

3. T_2 is T_1 plus the time taken for one instruction fetch cycle

4. T_1 is T_2 plus the time taken for one instruction fetch cycle

Question Number : 30 Question Id : 2203602670 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which addressing mode is most suitable to change the normal sequence of execution of instructions?

Options :

1. Relative

2. Indirect

3. Register

4. Immediate

Question Number : 31 Question Id : 2203602671 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Principle of locality justifies the use of _____.

Options :

1. Cache

2. DMA

3. Disk

4. RAM

Question Number : 32 Question Id : 2203602672 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In daisy-chaining priority, all the devices that request an interrupt _____.

Options :

1. should be connected in serial

2. should be connected in zig-zag

3. should be connected in parallel

4. need not be connected

Question Number : 33 Question Id : 2203602673 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The number of memory references required to execute immediate addressing mode is _____.

Options :

1. 0

2. 1

3. 2

4. 3

Question Number : 34 Question Id : 2203602674 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A 5 × 32 decoder can be constructed by using _____ .

Options :

1. five 3 × 8 decoders

2. five 3 × 8 decoders and one 2 × 4 decoder

3. two 4 × 16 decoders

4. four 3 × 8 decoders and one 2 × 4 decoder

Question Number : 35 Question Id : 2203602675 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In a magnetic disk memory the access time is equal to _____.

Options :

1. seek time

2. seek time – transfer time

3. seek time + transfer time

4. transfer time – seek time

Question Number : 36 Question Id : 2203602676 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The number of values returned by a function are _____.

Options :

1. zero

2. one

3. two

4. dependent on the number of parameters

Question Number : 37 Question Id : 2203602677 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which hashing technique records the bucket depth?

Options :

1. linear probing

2. linear hashing

3. extensible hashing

4. open addressing

Question Number : 38 Question Id : 2203602678 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In a do-while loop, the body of the loop gets executed at least _____time(s).

Options :

1. 2

2. 1

3. 0

4. 3

Question Number : 39 Question Id : 2203602679 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The time complexity for evaluating a postfix expression is _____.

Options :

1. O(n)

2. $O(2^n)$

3. $O(n^2)$

4. O(log n)

Question Number : 40 Question Id : 2203602680 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following recurrence relation is true for the Tower of Hanoi problem, where T(n) denotes the number of moves that are to be made with 'n' discs?

Options :

1. $T(n) = 2T(n-2) + 2$

2. $T(n) = 2T(n-1) + n$

3. $T(n) = 2T(n-1) + 1$

4. $T(n) = 2T(n/2) + 1$

Question Number : 41 Question Id : 2203602681 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the output of the following program?

```
#include<stdio.h>
 void main()
{       int i = 5; j = 10;
        if((i = 10) && (j = 15))
        printf("hello world"); }
```

Options :

1. hello world

2. No output

3. compilation error

4. undeclared identifier if

Question Number : 42 Question Id : 2203602682 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the output of the following program?

```
#include<stdio.h>
 void main()
{       int i = 0;
        for(;i < 5; i++)
{       printf("%d", i);}}
```

Options :

1. 01234

2. 5

3. 1234

4. 6

Question Number : 43 Question Id : 2203602683 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct statements from the following variable declarations and definitions in C.

(i) int var_9 = 1;

(ii) int 9_var = 2;

(iii) int_ = 3;

Options :

1. both (i) and (ii) are valid

2. only (i) is valid

3. both (i) and (iii) are valid

4. (i), (ii) and (iii) are valid

Question Number : 44 Question Id : 2203602684 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the minimum possible time complexity required to make one max-heap of size n from elements of two max heaps of size n each?

Options :

1. O(n)

2. O(log n)

3. O(n log n)

4. $O(n^2)$

Question Number : 45 Question Id : 2203602685 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Given the preorder traversal ABDGCEHIF and post order traversal GDBHIEFCA, find the in-order traversal of the tree.

Options :

1. DGBAHEICF

2. DBEFCHGIA

3. DEBHFIGCA

4. EBDFHGIAC

Question Number : 46 Question Id : 2203602686 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which type of linked list contains a pointer to the next as well as previous node in the sequence?

Options :

1. Singly linked list

2. Circular linked list

3. Doubly linked list

4. Sequential

Question Number : 47 Question Id : 2203602687 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Pre-order traversal is also called as _____ traversal.

Options :

1. Depth-first

2. Breadth-first

3. Level order

4. In order

Question Number : 48 Question Id : 2203602688 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The difference between the external path length and the internal path length of binary tree with 'n' nodes is _____.

Options :

1. 1

2. n

3. n + 1

4. 2n

Question Number : 49 Question Id : 2203602689 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which function in 'C' can allow bi-directional access?

Options :

1. void func (int x)

2. int func ()

3. void func (int x, int y)

4. void func (int * ax, int * by)

Question Number : 50 Question Id : 2203602690 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following algorithm solves the problem of finding the shortest path from a point in a graph to a destination?

Options :

1. Prim's

2. Dijkstra's

3. Kruskal's

4. Bellman Ford

Question Number : 51 Question Id : 2203602691 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The correct hierarchical relationship among Context Free, Right Linear and Context Sensitive languages is _____.

Options :

1. Context Free $\subset$ Right Linear $\subset$ Context Sensitive

2. Context Free $\subset$ Context Sensitive $\subset$ Right Linear

3. Context Sensitive $\subset$ Right Linear $\subset$ Context Free

4. Right Linear $\subset$ Context Free $\subset$ Context Sensitive

Question Number : 52 Question Id : 2203602692 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following pairs of regular expressions are not equivalent?

Options :

1. (ab)* and a*b*

2. x+ and x*x+

3. x(xx)* and (xx)*x

4. 1(01)* and (10)*1

Question Number : 53 Question Id : 2203602693 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following pairs have different expressive power?

Options :

1. Deterministic finite automata and non-deterministic finite automata

2. Deterministic pushdown automata and non-deterministic pushdown automata

3. Deterministic single-tape Turing machine and non-deterministic single-tape Turing machine

4. Single-tape Turing machine and Multi-tape Turing machine

Question Number : 54 Question Id : 2203602694 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Every finite subset of a non-regular set _____.

Options :

1. can be undecidable

2. is regular

3. need not be regular

4. is definitely not regular

Question Number : 55 Question Id : 2203602695 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

L is the set of all bit strings of 0's and 1's with even number of 1's. Which one of the regular expressions below represent L?

Options :

1. (0*10*1)*

2. 0*(10*10*)*

3. 0*(10*1*)*0*

4. 0*1(10*1)*10*

Question Number : 56 Question Id : 2203602696 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Bounded minimization is the technique used for _____.

Options :

1. generating partial recursive functions

2. generating primitive recursive functions

3. proving whether a primitive recursive function is a total function

4. proving whether a primitive recursive function is Turning computable

Question Number : 57 Question Id : 2203602697 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Let L_1, L_2 and L_3 be languages defined over {a, b} such that L_1 consists of all possible strings over the alphabet except a string of length hundred, L_2 is regular and L_3 is recognized by a PDA. Then, $(L_1 \cap L_2)L_3$ is

Options :

1. Context Free but not regular

2. Recursive but not context free

3. Regular

4. undecidable

Question Number : 58 Question Id : 2203602698 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Suppose A is a finite set with 'n' elements, the number of elements in the largest equivalence relation of A is _____.

Options :

1. n

2. n^2

3. 1

4. n + 1

Question Number : 59 Question Id : 2203602699 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If P, Q, R are three regular expressions and if P does not contain a null string, then the equation R = Q + RP has a unique solution given by _____ .

Options :

1. R = QP*

2. R = P*Q

3. $R = R^*P$

4. $R = Q^*P$

Question Number : 60 Question Id : 2203602700 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Consider the language $L = \{a^p \mid p \text{ is a prime}\}$. Which of the following is true for the language L?

Options :

1. It is not accepted by any Turing Machine

2. It is regular but not context-free

3. It is context-free but not regular

4. It is neither regular nor context-free, but accepted by a Turing machine

Question Number : 61 Question Id : 2203602701 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The syntax of a program is checked at _____ phase of compiler.

Options :

1. Semantic analysis

2. Syntax analysis

3. Code optimization

4. Code generation

Question Number : 62 Question Id : 2203602702 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Any syntactic construct that can be described by a regular expression can also be described by a _____ .

Options :

1. context sensitive grammar

2. non context free grammar

3. context free grammar

4. ambiguous grammar

Question Number : 63 Question Id : 2203602703 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

An LALR(1) parser for a grammar G can have shift-reduce (S-R) conflicts if and only if _____ .

Options :

1. the SLR(1) parser for G has S-R conflicts

2. the LR(1) parser for G has S-R conflicts

3. the LR(0) parser for G has S-R conflicts

4. the LALR(1) parser for G has reduce-reduce conflicts

Question Number : 64 Question Id : 2203602704 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the output of a lexical analyzer?

Options :

1. A parse tree

2. Machine code

3. A stream of tokens

4. Intermediate code

Question Number : 65 Question Id : 2203602705 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Considering X, Y, Z as non terminals and r, s, t are terminals, which of the following grammar rules violate the requirements of an operator grammar?

G1: $X \rightarrow Y\ Z$

G2: $X \rightarrow Y\ s\ Z$

G3: $X \rightarrow \varepsilon$

G4: $X \rightarrow Y\ t\ Z\ r$

Options :

1. G1 only

2. G1 and G3 only

3. G2 and G3 only

4. G3 and G4 only

Question Number : 66 Question Id : 2203602706 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the similarity between LR, LALR and SLR?

Options :

1. Use same algorithm, but different parsing tables.

2. Same parsing table, but different algorithms.

3. Their Parsing tables and algorithms are similar but use top down approach.

4. Both Parsing tables and algorithms are different.

Question Number : 67 Question Id : 2203602707 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

_____ is the activity of filling up unspecified information of labels using appropriate semantic actions during intermediate code generation.

Options :

1. Error recovery

2. Back patching

3. Symbol tabel entry

4. Loop optimization

Question Number : 68 Question Id : 2203602708 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A system program that sets up an executable program in main memory ready for execution is _____.

Options :

1. Assembler

2. Linker

3. Loader

4. Text editor

Question Number : 69 Question Id : 2203602709 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which concept of grammars is used in the compiler?

Options :

1. Lexical analysis

2. Parser

3. Code generation

4. Code optimization

Question Number : 70 Question Id : 2203602710 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In a two pass assembler the object code generation is done during the _____.

Options :

1. second pass

2. first pass

3. before entering into first pass

4. after exiting from the first pass and before the second pass

Question Number : 71 Question Id : 2203602711 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A set of primitive functions upon which the rest of the operating system functions are built up is called _____.

Options :

1. Kernel

2. Critical section

3. Monitor

4. Shell

Question Number : 72 Question Id : 2203602712 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which instruction can be used to provide a solution to critical region problem?

Options :

1. TSL and TST

2. TSL and XOR

3. TSL and XCHG

4. XCHG and XOR

Question Number : 73 Question Id : 2203602713 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is true if an operating system implements a strategy that requires a process to release all resources before making a request for another resource?

Options :

1. Starvation can occur but deadlock cannot occur

2. Deadlock can occur but starvation cannot occur

3. Both deadlock and starvation can occur

4. Neither deadlock nor starvation can occur

Question Number : 74 Question Id : 2203602714 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Listed below are some of the Operating System abstractions and related hardware components

i) Thread	p) Interrupt
ii) Virtual Address Space	q) Memory
iii) File System	r) CPU
iv) Signal	s) Disk

Which of the following correctly relates the Operating System abstractions and related hardware components?

Options :

1. (i-p), (ii-q), (iii- r), (iv-s)

2. (i-r), (ii-s), (iii-q), (iv-p)

3. (i-r), (ii-q), (iii-s), (iv-p)

4. (i-r), (ii-p), (iii-q), (iv-s)

Question Number : 75 Question Id : 2203602715 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The main disadvantage of spinlocks is that _____.

Options :

1. they are not sufficient for many process

2. they are unreliable sometimes

3. they require busy waiting

4. they are too complex for programmers

Question Number : 76 Question Id : 2203602716 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Working set model for page replacement is based on the assumption of _____.

Options :

1. Modularity

2. Locality of reference

3. Global optimization policy

4. Random access

Question Number : 77 Question Id : 2203602717 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Consider the following page reference string:

1, 2, 3, 4, 2, 1, 5, 6, 2, 1, 2, 3, 7, 6, 3, 2, 1, 2, 3, 6

Which of the following options, gives the correct number of page faults related to LRU, FIFO, and optimal page replacement algorithms respectively, assuming 5 page frames and all frames are initially empty ?

Options :

1. 10, 14, 8

2. 8, 10, 7

3. 7, 10, 8

4. 7, 10, 7

Question Number : 78 Question Id : 2203602718 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The CPU hardware has a wire called _____ that the CPU senses after executing every instruction.

Options :

1. interrupt request line

2. interrupt bus

3. interrupt receive line

4. interrupt sense line

Question Number : 79 Question Id : 2203602719 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A computer has twenty physical page frames which contain pages numbered 101 through 120. Now a program accesses the pages numbered 1, 2,….., 100 in that order, and repeats the access sequence thrice. Which one of the following page replacement policies experiences the same number of page faults as the optimal page replacement policy for this program?

Options :

1. Least-recently-used

2. First-in-first-out

3. Last-in-first-out

4. Most-recently-used

Question Number : 80 Question Id : 2203602720 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Dirty bit for a page in a page table _____.

Options :

1. helps avoid unnecessary writes on a paging device

2. helps maintain LRU information

3. allows only read on a page

4. allows only write on a page.

Question Number : 81 Question Id : 2203602721 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is not a unary operation?

Options :

1. Select

2. Project

3. Rename

4. Union

Question Number : 82 Question Id : 2203602722 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Consider the join of a relation P with relation Q. If P has x tuples and Q has y tuples, then the maximum number of tuples in Join of P and Q is _____.

Options :

1. xy

2. x + y

3. (x + y)/2

4. 2(x + y)

Question Number : 83 Question Id : 2203602723 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A relation R is in Boyce-Codd normal form if and only if every determinant is a _____ key.

Options :

1. primary

2. candidate

3. secondary

4. auxiliary

Question Number : 84 Question Id : 2203602724 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which two files are used during operations of the DBMS?

Options :

1. Query language & utilities

2. DML & Query language

3. Data dictionary & Transaction log

4. Data dictionary & query language

Question Number : 85 Question Id : 2203602725 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

An entity that usually has an attribute whose values are distinct for each individual entity in the entity set is called a _____ attribute.

Options :

1. physical

2. normal

3. primitive

4. key

Question Number : 86 Question Id : 2203602726 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following normalization is needed, if an attribute of a composite key is dependent on an attribute of the other composite key?

Options :

1. 2NF

2. BCNF

3. Fourth

4. Third

Question Number : 87 Question Id : 2203602727 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Given the functional dependencies

$$X \rightarrow W;\ X \rightarrow Y;\ Y \rightarrow Z;\ Z \rightarrow PQ$$

Which of the following does not hold good?

Options :

1. $X \rightarrow Z$

2. $W \rightarrow Z$

3. $X \rightarrow WY$

4. $Y \rightarrow PQ$

Question Number : 88 Question Id : 2203602728 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

SELECT operation in SQL is equivalent to the _____ operation in relational algebra, except that select in SQL retains duplicates.

Options :

1. Selection

2. Projection

3. Join

4. Union

Question Number : 89 Question Id : 2203602729 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is TRUE?

Options :

1. Every relation in 3NF is also in BCNF

2. A relation R is in 3NF if every non-prime attribute of R is fully functionally dependent on every key of R

3. Every relation in BCNF is also in 3NF

4. No relation can be in both BCNF and 3NF

Question Number : 90 Question Id : 2203602730 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which Normal Form is based on the concept of transitive dependency?

Options :

1. 1NF

2. 2NF

3. 3NF

4. 4NF

Question Number : 91 Question Id : 2203602731 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which CMM level needs to achieve requirements management process area?

Options :

1. CMM level 0

2. CMM level 1

3. CMM level 2

4. CMM level 5

Question Number : 92 Question Id : 2203602732 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Cause Effect graphs are used for _____.

Options :

1. Grey Box Testing

2. White Box Testing

3. Black box testing

4. Unit Box Testing

Question Number : 93 Question Id : 2203602733 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The testing of software against SRS is called as _____.

Options :

1. Acceptance testing

2. Integration testing

3. Regression testing

4. Series testing

Question Number : 94 Question Id : 2203602734 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A dataflow diagram is mapped into program structure using _____ and _____ mapping approaches.

Options :

1. transaction, architectural

2. design , architectural

3. design , transform

4. transaction , transform

Question Number : 95 Question Id : 2203602735 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Constructive Cost Model (COCOMO) is used to estimate _____.

Options :

1. size, effort and duration based on the cost of the software

2. size and duration based on the effort of the software

3. effort and duration based on the size of the software

4. effort and cost based on the duration of the software

Question Number : 96 Question Id : 2203602736 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which is not a commonly considered feasibility study for software project?

Options :

1. Technical

2. Operational

3. Economic

4. Environment

Question Number : 97 Question Id : 2203602737 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The prototyping model of a software development is well suited _____.

Options :

1. when requirements are well defined.

2. for projects with large development teams.

3. when a customer cannot define requirements clearly.

4. for small scale projects.

Question Number : 98 Question Id : 2203602738 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Cyclomatic complexity V(G) is computed as _____ where E is the number of edges, N is the number of nodes and P is the number of nodes that have exit points in the flow graph.

Options :

1. $V(G) = E - N + 2*P$

2. $V(G) = E + N + P$

3. $V(G) = (E - N)/2 + 2*P$

4. $V(G) = E/2 - N + 2*P$

Question Number : 99 Question Id : 2203602739 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Let M be a node that represents a case statement in a program graph with n cases with each case leading to only one path to end node. If the number of paths from the start node to the node M is x, then the total number of paths through M is _____.

Options :

1. xn

2. xlog(n)

3. xn

4. x + log(n)

Question Number : 100 Question Id : 2203602740 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The scale of cohesion from the strongest (most desirable) to the weakest (least desirable) are _____.

Options :

1. Coincidental, logical, temporal, communicational, sequential, functional, data.

2. Coincidental, temporal, logical, communicational, sequential, functional, data.

3. Data, functional, sequential, communicational, temporal, logical, coincidental.

4. Data, logical, temporal, sequential, Coincidental, functional, communicational.

Question Number : 101 Question Id : 2203602741 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Error detection at the data link layer is achieved by _____.

Options :

1. Bit stuffing

2. Cyclic redundancy codes

3. Hamming codes

4. Equalization

Question Number : 102 Question Id : 2203602742 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following Routing Protocols is used between Autonomous Systems of Internet?

Options :

1. Open Shortest Path First

2. Distance Vector Protocol

3. Hierarchical Routing Protocol

4. Border Gateway Protocol

Question Number : 103 Question Id : 2203602743 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which transmission media has highest bandwidth?

Options :

1. copper wire

2. baseband coaxial cable

3. broadband coaxial cable

4. fiber optic cable

Question Number : 104 Question Id : 2203602744 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which network topology has the highest reliability ?

Options :

1. bus

2. star

3. ring

4. mesh

Question Number : 105 Question Id : 2203602745 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

_____ address can be used as both Source and Destination IP.

Options :

1. 255.255.255.255

2. 198.168.1.255

3. 127.0.0.1

4. 10.0.0.1

Question Number : 106 Question Id : 2203602746 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What are the pair of protocols that use multiple TCP connections between the same client and the server?

Options :

1. FTP, HTTP

2. HTTP, TELNET

3. SMTP, FTP

4. SMTP, HTTP

Question Number : 107 Question Id : 2203602747 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The data link layer breaks the bit string into discrete _____.

Options :

1. bits

2. data chunks

3. frames

4. codes

Question Number : 108 Question Id : 2203602748 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In the OSI reference model a _____layer is just above the transport layer.

Options :

1. network

2. session

3. data link

4. presentation

Question Number : 109 Question Id : 2203602749 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The main function of the network layer is routing _____from the source machine to the destination machine.

Options :

1. frames

2. Wireless data

3. packets

4. bit stream

Question Number : 110 Question Id : 2203602750 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In OSI model dialogue control and token management are responsibilities of __.

Options :

1. Session layer

2. Network layer

3. Transport layer

4. Data link layer

Question Number : 111 Question Id : 2203602751 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The technique of temporarily delaying outgoing acknowledgements until the next outgoing data frame is known as _____.

Options :

1. Selective repeat

2. Piggy backing

3. Go-back-n protocol

4. Channel allocation

Question Number : 112 Question Id : 2203602752 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

An Entity which has a primary key attribute in its list is known as a _____.

Options :

1. Weak Entity

2. Strong Entity

3. Weak Entity Set

4. Transaction Set

Question Number : 113 Question Id : 2203602753 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following asymmetric encryption algorithms is based on the difficulty of factorization?

Options :

1. IDEA

2. RSA

3. ECC

4. Elgamal

Question Number : 114 Question Id : 2203602754 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If we can determine exactly those entities that will become members of each subclass by a condition, the subclasses are called _____.

Options :

1. Predicate-defined

2. Attribute Defined

3. User Defined

4. Rule Defined

Question Number : 115 Question Id : 2203602755 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Assume transaction A holds a shared lock R. If transaction B also requests for a shared lock on R, it will _____.

Options :

1. result in a deadlock situation

2. immediately be granted

3. immediately be rejected

4. be granted as soon as it is released by A

Question Number : 116 Question Id : 2203602756 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of following statements is/are False?

1. XML overcomes the limitations in HTML to support a structured way of organizing content.
2. XML specification is not case sensitive while HTML specification is case sensitive.
3. XML supports user defined tags while HTML uses pre-defined tags.
4. XML tags need not be closed while HTML tags must be closed.

Options :

1. 2 only

2. 1 only

3. 2 and 4 only

4. 3 and 4 only

Question Number : 117 Question Id : 2203602757 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the purpose of using XML namespaces?

Options :

1. to avoid clashes among names

2. to define more child elements

3. to structure XML documents

4. to replace document type definition

Question Number : 118 Question Id : 2203602758 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is not a valid HTML tag declaration?

Options :

1. <frameset columns = “30%,70%”>

2. <frameset rows = “20%,80%”>

3. <frameset cols = “10%,*”>

4. <frameset rows = “40%,*”>

Question Number : 119 Question Id : 2203602759 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In remote procedure call, the server program must be bound with a small library procedure called _____ .

Options :

1. Server stub

2. Client stub

3. Marshalling

4. Remote stub

Question Number : 120 Question Id : 2203602760 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following properties of the body tag prevents scrolling of a background image?

Options :

1. background = “still”

2. background = “fixed”

3. bgproperties = “stationary”

4. bgproperties = “fixed”