Question Paper Preview

Question Paper Name:	Computer Science and Information Technology 2nd May 2019 S2
Subject Name:	Computer Science and Information Technology
Duration:	120
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Actual Answer Key:	Yes

Computer Science and Information Technology

Display Number Panel:	Yes
Group All Questions:	No

Question Number : 1 Question Id : 250107601 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 : 250107602 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The exponential distribution $f(x)$ is defined by $f(x)=ae^{-2x}, 0<x<\infty$ then $a=$ _____

Options :

1. 0

2. 1

3. 2

4. 3

Question Number : 3 Question Id : 250107603 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 : 250107604 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The relation R defined in Z by mRn if $|m-n|<2$ is ____, where Z is the set of all integers.

Options :

not reflexive

1.

not symmetric

2.

not transitive

3.

an equivalence relation

4.

Question Number : 5 Question Id : 250107605 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The number of strings of length 5 that can be formed from the letters M A T H S and containing the substring H A T.

Options :

$5!$

1.

$4!$

2.

$3!$

3.

$2!$

4.

Question Number : 6 Question Id : 250107606 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The solution of the recurrence relation $a_n - 10a_{n-1} + 9a_{n-2} = 0, a_0 = 3, a_1 = 11,$ is

Options :

$9^n + 2^n$

1.

$1 + 9^n$

2.

$9^n + 2$

3.

$9 + 2^n$

4.

Question Number : 7 Question Id : 250107607 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

One of the Eigen vectors of the matrix $A = \begin{bmatrix} -5 & 2 \\ -9 & 6 \end{bmatrix}$ is ____

Options :

$\begin{bmatrix} -1 \\ 1 \end{bmatrix}$

1.

$\begin{bmatrix} -2 \\ 9 \end{bmatrix}$

2.

$\begin{bmatrix} 2 \\ -1 \end{bmatrix}$

3.

$\begin{bmatrix} 1 \\ 1 \end{bmatrix}$

4.

Question Number : 8 Question Id : 250107608 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following method(s) can we use to evaluate $\int_0^5 f(x)dx$ with $h = 1$.

Options :

Trapezoidal rule

1.

Simpson's $\frac{1}{3}rd$ rule

2.

Simpson's $\frac{3}{8}th$ rule

3.

Simpson's $\frac{1}{3}rd$ and Trapezoidal rule

4.

Question Number : 9 Question Id : 250107609 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is the Newton-Raphson iterative formula to find $f(x) = x^2 - 3$ is _____.

Options :

$$x_{n+1} = \frac{x_n}{2} - \frac{3}{2x_n}$$

1.

$$x_{n+1} = x_n - \frac{3}{2x_n}$$

2.

$$x_{n+1} = \frac{x_n}{2} + \frac{3}{2x_n}$$

3.

$$x_{n+1} = \frac{x_n}{2} - \frac{2}{3x_n}$$

4.

Question Number : 10 Question Id : 250107610 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The value of $\lim_{a\to\infty}\int_{1}^{a} x^{-4}dx$ is _____

Options :

1. converges to $\frac{-1}{a^3}$

2. converges to zero

3. diverges

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

Question Number : 11 Question Id : 250107611 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the chromatic number of cycle graph C_n if n is an odd number?

Options :

1. $n-1$

2. 2

3. 3

4. $2n-1$

Question Number : 12 Question Id : 250107612 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The maximum number of edges in a cyclic graph having n vertices is _____.

Options :

1. $(n-1)/2$

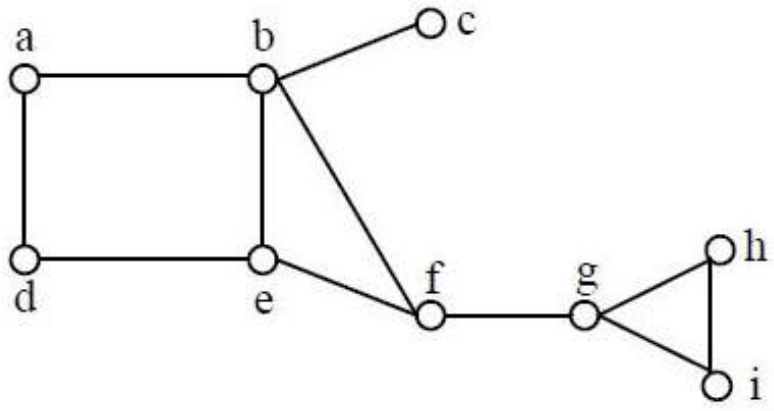
2. $(n-1)$

3. $n * (n-1)$

4. $n * (n-1)/2$

Question Number : 13 Question Id : 250107613 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What are the cut vertices in the following graph?



Options :

1. b, c, f

2. a, f, g

b, f, g

3.

e, g, i

4.

Question Number : 14 Question Id : 250107614 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If all vertices in a graph G are of degree $\delta \geq 2$, then G contains a cycle of length

Options :

at most δ

1.

at least $\delta + 1$

2.

$\delta + 2$

3.

$\delta - 2$

4.

Question Number : 15 Question Id : 250107615 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Let G be a simple undirected planar connected graph with 9 vertices and 17 edges. Then the number of regions of G on the plane is equal to

Options :

8

1.

9

2.

10

3.

11

4.

Question Number : 16 Question Id : 250107616 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The premise $P \rightarrow Q$ is logically equivalent to _____.

Options :

1. $P \cup \sim Q$

2. $Q \rightarrow P$

3. $\sim P \cap Q$

4. $\sim P \cup Q$

Question Number : 17 Question Id : 250107617 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

"If P, then Q unless R" is represented by which of the following formulae in propositional logic? ("$\neg$" is negation, "$\wedge$" is conjunction and "$\rightarrow$" is implication).

Options :

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

2. $(P \rightarrow Q) \wedge \neg R$

3. $(P \wedge \neg R) \rightarrow Q$

4. $(P \wedge Q) \rightarrow \neg Q$

Question Number : 18 Question Id : 250107618 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The statement from $(p \Leftrightarrow r) \Rightarrow (q \Leftrightarrow r)$ is equivalent to

Options :

1. $[(\sim p \vee r) \wedge (p \vee \sim r)] \vee \sim[(\sim q \vee r) \wedge (q \vee \sim r)]$

2. $\sim[(\sim p \vee r) \wedge (p \vee \sim r)] \wedge [(\sim q \vee r) \wedge (q \vee \sim r)]$

3. $[(\sim p \vee r) \wedge (p \vee \sim r)] \wedge [(\sim q \vee r) \wedge (q \vee \sim r)]$

4. $[(\sim p \vee r) \wedge (p \vee \sim r)] \vee [(\sim q \vee r) \wedge (q \vee \sim r)]$

Question Number : 19 Question Id : 250107619 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following Boolean expressions is **NOT** a tautology?

Options :

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

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

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

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

Question Number : 20 Question Id : 250107620 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The propositional expression $[(\sim A \vee B) \rightarrow (A \rightarrow B)]$, where the symbols $\sim$, $\vee$, and $\rightarrow$ represent logical operators 'not', 'or' and 'implication', is a

Options :

1. contradiction

2. satisfiable but not a tautology

tautology

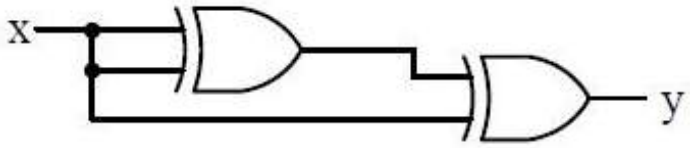
3.

not a well formed formula

4.

Question Number : 21 Question Id : 250107621 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

For the following circuit, the output y is given by



Options :

$y = 1$

1.

$y = 0$

2.

$y = x$

3.

$y = \overline{x}$

4.

Question Number : 22 Question Id : 250107622 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The sum of products form for following $\overline{(A.B)(C.D)(E.F)}$ is

Options :

$AB + CD + EF$

1.

$\overline{ABC} + \overline{DEF}$

2.

$\overline{AB} + \overline{CD} + \overline{EF}$

3.

4. $ABC + DEF$

Question Number : 23 Question Id : 250107623 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the result of evaluation of the Boolean expression $[\sim (a > b)] \wedge (b < c)$, where $a = 3$, $b = 5$ and $c = 6$?

Options :

1. True

2. False

3. 3

4. 6

Question Number : 24 Question Id : 250107624 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $(54)_{10} = (204)_r$, then r is _____.

Options :

1. 4

2. 5

3. 6

4. 7

Question Number : 25 Question Id : 250107625 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the simplified Sum of Products expression for the following Boolean expression?

$$(X + Y' + Z')\,(X + Y' + Z)\,(X + Y + Z')$$

Options :

1. $(X'Y + Z')$

2. $(X'Y + Z)$

3. $(XY + Z)$

4. $(X + Y'Z')$

Question Number : 26 Question Id : 250107626 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

_____ can also be considered as implicit addressing.

Options :

1. Register Direct addressing

2. Register Indirect addressing

3. Displacement addressing

4. Stack Addressing

Question Number : 27 Question Id : 250107627 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The speed imbalance between memory access and CPU operation can be reduced by

Options :

1. cache memory

2. memory overlapping

reducing the size of memory

3.

increasing the size of memory

4.

Question Number : 28 Question Id : 250107628 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A computer has 16 registers, an ALU with 32 operations and a shifter with 8 operations. How many number of bits are needed for control word, when common bus architecture is employed?

Options :

20

1.

12

2.

24

3.

32

4.

Question Number : 29 Question Id : 250107629 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The minimum time delay between the initiation of two independent memory operations is called

Options :

access time

1.

cycle time

2.

rotational time

3.

latency time

4.

Question Number : 30 Question Id : 250107630 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Pipeline strategy is implemented in _____.

Options :

1. instruction execution

2. instruction pre-fetch

3. instruction decoding

4. instruction manipulation

Question Number : 31 Question Id : 250107631 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In a program using sub routine call instruction, it is necessary to

Options :

1. clear the stack pointer

2. clear the accumulator

3. reset the microprocessor

4. clear the instruction register

Question Number : 32 Question Id : 250107632 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In serial communication, an extra clock is needed _____.

Options :

1. to synchronize the devices

for programmed baud rate control

2.

to make efficient use of RS-232

3.

for parallel to serial conversion

4.

Question Number : 33 Question Id : 250107633 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The return address from the interrupt service routine is stored on the _____.

Options :

processor stack

1.

register

2.

cache memory

3.

RAM

4.

Question Number : 34 Question Id : 250107634 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

How many 128 X 8 RAM chips are needed to provide a memory capacity of 4096 Bytes?

Options :

16

1.

24

2.

32

3.

128

4.

Question Number : 35 Question Id : 250107635 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A micro-programmed control unit _____.

Options :

is faster than a hard-wired control unit.

1.

facilitates easy implementation of new instructions.

2.

is useful when very small programs are to be run.

3.

usually refers to the control unit of a microprocessor.

4.

Question Number : 36 Question Id : 250107636 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 C program?

```
#define        PRINT(int)    print(# int "%d\n", int)
main()
{
        int x = 1, y = 1,z = 1;
        x+ = y+ = z;
        PRINT(x < y ? y:x);
}
```

Options :

1. 1

2. 2

3. 3

4. 4

Question Number : 37 Question Id : 250107637 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The result of evaluating the postfix expression 5 4 + 6 * 8 – 6 + 7 * is

Options :

1. 280

2. 364

3. 481

4. 502

Question Number : 38 Question Id : 250107638 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 C code?

```
void main( )
        {
                int i;
                        for (i = 0; i<10; i++);
                        printf ("Hello");
        }
```

Options :

1. Error

2. Hello will be printed 10 times

3. Hello will be printed 9 times

Hello will be printed once

4.

Question Number : 39 Question Id : 250107639 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 code?

```
void main ( )
{
        int ch = 1;
        switch(ch)
        {
                case 1: printf("Kiran\n");
                case 2: printf("Shahu\n");
                break;
                case 3: printf("Kumar\n");
                break;
        }
}
```

Options :

Error, because there is no break statement after case 1

1.

Kiran

2.

Kiran
Shahu

3.

Kiran
Kumar

4.

Question Number : 40 Question Id : 250107640 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Consider the following sequence of operations with respect to stack: push(a), push(b), push(c), pop, push(d), push(e), pop. What is the stack content (from top), if initially the stack is empty?

Options :

1. d, b, a

2. b, d, a

3. a, d, b

4. a, b, d

Question Number : 41 Question Id : 250107641 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Consider the in-order traversal and pre-order traversal of a binary tree as:

In-order : D B E A C

pre-order: A B D E C

What is the post order traversal for above binary tree?

Options :

1. D E B C A

2. D B E A C

3. A B C D E

4. A C D B E

Question Number : 42 Question Id : 250107642 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Assuming that 'n' is given as input, what is the time complexity of the following code?

```
int a=0, b=0, c=0
for (a=n/4;a<=n; a++)
{
   for (b= 1;b<=n; b=b*2)
   {
         c=c+n/2;
   }
}
```

Options :

1. $O(\log n)$

2. $O(n^2 \log n)$

3. $O(n\log n)$

4. $O(n^2)$

Question Number : 43 Question Id : 250107643 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the maximum possible height of a binary search tree with n nodes?

Options :

1. $n - 2$

2. $n - 1$

3. $n + 1$

4. $n + 2$

Question Number : 44 Question Id : 250107644 Question Type : MCQ Option Shuffling : Yes Display Question Nu Single Line Question Option : No Option Orientation : Vertical

In the worst case, the number of comparisons needed to search a singly linked list of length n for a given element is

Options :

1. $\log_2^n$

2. n/2

3. $\log_2^n - 1$

4. n

Question Number : 45 Question Id : 250107645 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following algorithms is used for finding the shortest path from a source vertex to a given destination vertex in a graph with positively weighted edges?

Options :

1. Kruskal's algorithm

2. Dijkstra's algorithm

3. Warshall's algorithm

4. Floyd's algorithm

Question Number : 46 Question Id : 250107646 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A spanning tree for a simple graph of order 24 has _____ edges.

Options :

1. 12

2. 6

3. 23

4. 24

Question Number : 47 Question Id : 250107647 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The design strategy used in Prim's algorithm for finding the minimum cost spanning tree of a weighted undirected graph is

Options :

1. Divide and Conquer

2. Greedy technique

3. Dynamic programming

4. Branch and Bound technique

Question Number : 48 Question Id : 250107648 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

_____ uses divide-and-conquer strategy.

Options :

1. Bubble sort

2. Insertion sorts

3. Merge sort

Topological sort

4.

Question Number : 49 Question Id : 250107649 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the time complexity of the following algorithm when n = 2k, for some k ≥ 0.

```
Algorithm Display(n)
for(i=1; i ≤ n; i=i+4)
        for(j=1; j ≤ n ; j=j*2)
print"All the Best."
```

Options :

1. $O(n^2)$

2. $O(n^{1.5})$

3. $O(n \log n)$

4. $O((\log n)^2)$

Question Number : 50 Question Id : 250107650 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The search time using binary search algorithm on a sorted array takes _____ time.

Options :

1. O(n)

2. O(logn)

3. $O(n^2)$

O(nlogn)

4.

Question Number : 51 Question Id : 250107651 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the grammar is known as context free grammar?

Options :

Type-0

1.

Type-1

2.

Type-2

3.

Type-3

4.

Question Number : 52 Question Id : 250107652 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$L = \{a^n b^n a^n \mid n \geq 0\}$ is an example of a language that is

Options :

context free.

1.

not context free.

2.

context free whose complement is also context free.

3.

context free but whose complement is not context free.

4.

Question Number : 53 Question Id : 250107653 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If there exists a language L, for which there exists a Turing Machine (TM), T, that accepts every word in L and either rejects or loops for every word that is not in L, is said to be

Options :

1. recursive

2. recursively enumerable

3. NP-hard

4. NP-complete

Question Number : 54 Question Id : 250107654 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The number of internal states of a Universal TM should be at least

Options :

1. 1

2. 2

3. 3

4. 4

Question Number : 55 Question Id : 250107655 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Among the following conversions, _____ conversion is not possible algorithmically.

Options :

1. non-deterministic FSA to deterministic FSA

2. non-deterministic PDA to deterministic PDA

3. regular grammar to context free grammar

4. non-deterministic Turing machine to deterministic Turing machine

Question Number : 56 Question Id : 250107656 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following statements is true?

Options :

1. Each context free language is accepted by some push down automation.

2. The intersection of a context free languages with a regular language is not a context free language.

3. The intersection of two context free languages is context free.

4. The complement of a context free language is context free.

Question Number : 57 Question Id : 250107657 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The language accepted by a Pushdown Automaton in which the stack is limited to 10 items is best described as _____.

Options :

1. context free

2. regular

3. context sensitive

4. recursive

Question Number : 58 Question Id : 250107658 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Let A = {0, 1} and L = A*. Let R = $\{0^n1^n \mid n > 0\}$, then the languages L ∪ R and R are respectively are _____.

Options :

1. regular and regular

2. not regular and regular

3. regular and not regular

4. not regular and not regular

Question Number : 59 Question Id : 250107659 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If w is a string and |w| = n, (i.e. length of w is n) then the number of prefixes of w are

Options :

1. n

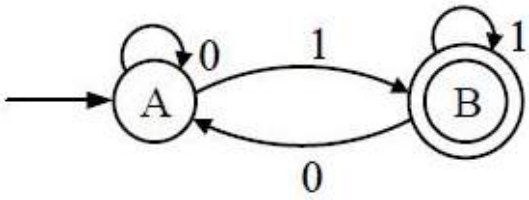
2. n + 1

3. n^2

4. 2n

Question Number : 60 Question Id : 250107660 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Consider the following DFA



The equivalent right linear grammar for above DFA is

Options :

1. $A \rightarrow 0A|1B|0$
$B \rightarrow 1B|0A|1$

2. $A \rightarrow 0A|1B|1$
$B \rightarrow 1B|0A|1$

3. $A \rightarrow 0A|1B|1$
$B \rightarrow 1B|0A|0$

4. $A \rightarrow 1A|0B|0$
$B \rightarrow 0B|1A|0$

Question Number : 61 Question Id : 250107661 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A compiler which runs on one machine and produces machine code for other machine is called as _____.

Options :

1. boot strap compiler

2. coupled compiler

3. cross compiler

4. two pass compiler

Question Number : 62 Question Id : 250107662 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The process of recognizing and evaluating constant expressions at compile time rather than computing them at runtime is called _____.

Options :

1. constant folding

2. copy propagation

3. reduction in strength

4. dynamic folding

Question Number : 63 Question Id : 250107663 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Consider the grammar, $S \rightarrow (S) \mid a$. Let the number of states in SLR(1), LR(1) and LALR(1) parsers for the grammar be n1, n2 and n3 respectively. The following relationship holds good

Options :

1. $n1 < n2 < n3$

2. $n1 = n3 < n2$

3. $n1 = n2 = n3$

4. $n1 \geq n3 \geq n2$

Question Number : 64 Question Id : 250107664 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following phases separates characters of the source language into groups that logically belong together?

Options :

1. Code Generation

2. Lexical Analysis

Semantic Analysis

3.

Syntactic Analysis

4.

Question Number : 65 Question Id : 250107665 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which one of the following is a top-down parsing technique?

Options :

An LALR parsing

1.

Operator precedence parsing

2.

Recursive Descent parsing

3.

An LR parsing

4.

Question Number : 66 Question Id : 250107666 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

YACC builds up

Options :

SLR parsing table

1.

canonical LR parsing table

2.

LALR parsing table

3.

DLB parsing table

4.

Question Number : 67 Question Id : 250107667 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The output of Syntax Analysis phase is a _____.

Options :

1. heap

2. parse tree

3. division tree

4. code tree

Question Number : 68 Question Id : 250107668 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If a state does not know whether it will make a shift operation or reduction for a terminal then it is termed as _____.

Options :

1. Shift/Reduce conflict

2. Reduce/Reduce conflict

3. Shift/Shift conflict

4. Reduce/Shift conflict.

Question Number : 69 Question Id : 250107669 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The process of assigning load addresses to the various parts of a program and adjusting the code and data in the program to reflect the assigned addresses is called _____.

Options :

assembling

1.

parsing

2.

relocation

3.

symbol resolution

4.

Question Number : 70 Question Id : 250107670 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The graph depicting the inter-dependences of the attributes of different nodes in a parse tree is called _____.

Options :

flow graph

1.

dependency graph

2.

Karnaugh's graph

3.

relation graph

4.

Question Number : 71 Question Id : 250107671 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Match the following:

A) External fragmentation	I) Aging
B) Starvation	II) Thrashing
C) High demand paging	III) Resource allocation graph
D) Deadlock	IV) Compaction

Options :

(A-I), (B-III), (C-II), (D-IV)

1.

(A-IV), (B-I), (C-II), (D-III)

2.

(A-IV), (B-II), (C-III), (D-I)

3.

(A-III), (B-II), (C-I), (D-IV)

4.

Question Number : 72 Question Id : 250107672 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A process in which of the following state is best suited for swapping into main memory?

Options :

Ready suspended

1.

Blocked suspended

2.

Running

3.

Blocked

4.

Question Number : 73 Question Id : 250107673 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Any transcription error can be repaired by

Options :

insertion alone

1.

2. deletion alone

3. both insertion and deletion

4. replacement alone

Question Number : 74 Question Id : 250107674 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

User level threads are scheduled by the

Options :

1. user

2. kernel

3. application program

4. thread library

Question Number : 75 Question Id : 250107675 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In a paged segmented scheme of memory management, the segment table itself must have a page table because

Options :

1. the segment table is often too large to fit in one page.

2. each segment is spread over a number of pages.

3. segment tables point to page tables and not to physical locations of the segment.

4. the processor's description base register points to a page table.

Question Number : 76 Question Id : 250107676 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The operating system contains 3 user processes each requiring 2 units of resource R. The minimum number of units of R required such that no deadlocks will ever arise is

Options :

1. 3

2. 5

3. 4

4. 6

Question Number : 77 Question Id : 250107677 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The decision to add a process to the group of processes that are partially or fully in main memory refers to

Options :

1. medium term scheduling

2. short term scheduling

3. long term scheduling

4. dispatcher

Question Number : 78 Question Id : 250107678 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Consider the following statements about user level threads and kernel level threads. Which one of the following statement is FALSE?

Options :

Context switch time is longer for kernel level threads than for user level threads.

1.

User level threads do not need any hardware support.

2.

Related kernel level threads can be scheduled on different processors in a multi-processor system.

3.

Blocking one kernel level thread blocks all related threads.

4.

Question Number : 79 Question Id : 250107679 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Match the following:

List-I	List-II
a) Multilevel feedback queue scheduling	i) Time-slicing
b) FCFS	ii) Criteria to move processes between queues
c) Shortest process next	iii) Batch processing
d) Round Robin Scheduling	iv) non-preemptive

Options :

(a-i), (b-iii), (c-ii), (d-iv)

1.

(a-iv), (b-iii), (c-ii), (d-i)

2.

(a-ii), (b-i), (c-iv), (d-iii)

3.

(a-ii), (b-iii), (c-iv), (d-i)

4.

Question Number : 80 Question Id : 250107680 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In round robin CPU scheduling, as time quantum increases, the average turn-around-time _____.

Options :

1. increases

2. decreases

3. remains constant

4. varies irregularly

Question Number : 81 Question Id : 250107681 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 : 82 Question Id : 250107682 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Every weak entity set can be converted into a strong entity set by _____.

Options :

1. adding appropriate attribute

2. generalization

aggregation

3.

repeat the entity set

4.

Question Number : 83 Question Id : 250107683 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If the same entity sets, participate in relationship set with different roles, then it is called _____.

Options :

iterative relationship set

1.

recursive relationship set

2.

degenerative relationship set

3.

overlapped relationship set

4.

Question Number : 84 Question Id : 250107684 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In SQL which of the following command cannot be used to modify the database?

Options :

INSERT

1.

DELETE

2.

UPDATE

3.

VIEW

4.

Question Number : 85 Question Id : 250107685 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If a more recent transaction has already written the value of an object, then a less recent transaction does not need to perform its own write, this is known as

Options :

1. Time stamp ordering protocol

2. Thomas Write Rule

3. Partial schedule

4. Multi version Time stamp protocol

Question Number : 86 Question Id : 250107686 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Blind writes are found in

Options :

1. any view serializable schedule

2. any conflict serializable schedule

3. any view serializable schedule that is not conflict serializable

4. any serial schedule

Question Number : 87 Question Id : 250107687 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The normal form of a relation refers to the _____ normal form condition that it meets, and hence indicates the degree to which it has been normalized.

Options :

1. lowest

2. highest

3. abstract

4. virtual

Question Number : 88 Question Id : 250107688 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A relation is any subset of the _____ product of one or more domains.

Options :

1. Logical

2. Cartesian

3. Physical

4. Virtual

Question Number : 89 Question Id : 250107689 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is an ideal method for enforcing data integrity?

Options :

1. Constraints

2. Stored procedure

3. Triggers

4. Cursors

Question Number : 90 Question Id : 250107690 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

_____ data independence is the capacity to change the internal schema without having to change the conceptual schema.

Options :

1. Physical

2. Logical

3. External

4. Abstract

Question Number : 91 Question Id : 250107691 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is a measure of the size of an information system based on the number and complexity of a system's inputs, outputs and files the user has to interact with?

Options :

1. Lines of Code (LOC)

2. Function Point (FP)

3. Critical Path Method (CPM)

Program Evaluation Review Technique

4.

Question Number : 92 Question Id : 250107692 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In which test design each input is tested at both ends of its valid range and just inside and outside its valid range?

Options :

Equivalence class partitioning.

1.

Boundary value testing.

2.

Boundary value testing AND equivalence class partitioning.

3.

Universal testing.

4.

Question Number : 93 Question Id : 250107693 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 non functional requirement of software development?

Options :

System requirements

1.

Product requirements

2.

Organizational requirements

3.

External requirements

4.

Question Number : 94 Question Id : 250107694 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is level 3 of CMMI?

Options :

1. Performed

2. Defined

3. Managed

4. Optimized

Question Number : 95 Question Id : 250107695 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the major drawback of using RAID-0 Model?

Options :

1. Good performance in both read and write operations

2. Easy to implement technology

3. Complete storage capacity is used

4. It is not fault-tolerant

Question Number : 96 Question Id : 250107696 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The incremental model is a result of combination of elements of which two models?

Options :

1. Linear model and RAD model

Water fall model and prototype model

2.

Water fall model and RAD model

3.

Linear model and prototype model

4.

Question Number : 97 Question Id : 250107697 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The spiral model of software development

Options :

ends with the delivery of the software product

1.

is more chaotic than the incremental model

2.

includes project risks evaluation during each iteration

3.

ends with the delivery of the product model

4.

Question Number : 98 Question Id : 250107698 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The concept of _____ can be best explained by the relation $E(P_1P_2) > E(P_1) + E(P_2)$, where $E(P_1P_2)$ is the effort to a complex problem constituting problems P1 and P_2, $E(P_1)$ and $E(P_2)$ are efforts to solve individual problems P_1 and P_2 respectively.

Options :

information hiding

1.

refactoring

2.

3. modularity

4. abstraction

Question Number : 99 Question Id : 250107699 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Software feasibility is based on which of the following?

Options :

1. Business and marketing concerns

2. Scope, constraints and market

3. Technology, finance, time and resources

4. Technical prowess of the developers

Question Number : 100 Question Id : 250107700 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The cost of software engineering includes approximately _____ of development costs and _____ of testing costs.

Options :

1. 50%, 50%

2. 40%, 60%

3. 80%, 20%

4. 60%, 40%

Question Number : 101 Question Id : 250107701 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which one of the following is NOT a open loop congestion control policy?

Options :

1. Retransmission

2. Discarding

3. Choke packet

4. Acknowledgement

Question Number : 102 Question Id : 250107702 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which one of the following statement is FALSE in error retransmission used in continuous ARQ method?

Options :

1. Go-back-N method requires less storage at the receiving site.

2. Selective Repeat involves complex login than Go-back-N.

3. Go-back-N has better line utilization.

4. Selective Repeat has better line utilization.

Question Number : 103 Question Id : 250107703 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Sort the following networking devices in the decreasing order of intelligence.

I) Switch II) Hub III) Router

Options :

1. II, I, III

2. II, III, I

3. I, III, II

4. III, I, II

Question Number : 104 Question Id : 250107704 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The Hamming distance between 001111 and 010011 is

Options :

1. 1

2. 2

3. 3

4. 4

Question Number : 105 Question Id : 250107705 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Consider Subnet mask of class B network on the Internet is 255.255.240.0 then, what is the maximum number of hosts per subnets?

Options :

1. 4098

2. 4096

3. 4094

4. 4092

Question Number : 106 Question Id : 250107706 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In Ethernet CSMA/CD, the special bit sequence transmitted by media access management for collision handling is called as

Options :

1. preamble

2. postamble

3. jam

4. collision

Question Number : 107 Question Id : 250107707 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is not true about User Datagram Protocol in transport layer?

Options :

1. Works well in unidirectional communication, suitable broadcast information.

2. It does three way handshake before sending datagrams.

3. It provides datagrams, suitable for modeling other protocols such as in IP tunneling.

4. The lack of retransmission delays makes it suitable for real-time applications.

Question Number : 108 Question Id : 250107708 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Adaptive or dynamic directory used in packet routing changes _____ .

Options :

1. within each user session

2. with each user session

3. at system generation time only

4. with null

Question Number : 109 Question Id : 250107709 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In TCP/IP, Network Access Layer corresponds to the combination of _____ and _____ layers of OSI model.

Options :

1. Data Link Layer, Physical Layer

2. Data Link Layer, Network Layer

3. Network Layer, Transport Layer

4. Network Layer, Physical Layer

Question Number : 110 Question Id : 250107710 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following OSI layer is more closely related to the physical communication facilities?

Options :

1. Application

Session

2.

Network

3.

Data link

4.

Question Number : 111 Question Id : 250107711 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

When data arrive at the receiver's end exactly as they were sent from the sending side, then, it is called

Options :

message Confidentiality

1.

message Integrity

2.

message Splashing

3.

message Sending

4.

Question Number : 112 Question Id : 250107712 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is the type of software that has self replicating software that causes damage to files and system?

Options :

Viruses

1.

Trojan horse

2.

Bots

3.

Worms

4.

Question Number : 113 Question Id : 250107713 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Kerberos is a network authentication protocol that uses

Options :

public key encryption

1.

secret key encryption

2.

digital signatures

3.

dual signatures

4.

Question Number : 114 Question Id : 250107714 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which one of the following uses UDP as the transport protocol?

Options :

DNS

1.

FTP

2.

TELNET

3.

HTTP

4.

Question Number : 115 Question Id : 250107715 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 a sender is employing public key cryptography to send a secret message to a receiver?

Options :

1. Receiver decrypts using sender's public key.

2. Receiver decrypts using his own public key.

3. Sender encrypts using his own public key.

4. Sender encrypts using receiver's public key.

Question Number : 116 Question Id : 250107716 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following objects can be used in expression and scriplets in JSP without explicitly declaring them?

Options :

1. Request and response only

2. Response and session only

3. Session and request only

4. Session, request and response

Question Number : 117 Question Id : 250107717 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the correct syntax of declaration which defines the XML version?

Options :

1. <xml version = “A.0”/>

2. <?xml version = “A.0”?>

3. <?xml version = “A.0”/>

4. <xml version = “A.0”?>

Question Number : 118 Question Id : 250107718 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

_____ contains the data, size and type of file that the server is sending back to the client and also data about the server itself.

Options :

1. HTTP request header

2. HTTP response header

3. HTTP acknowledgment header

4. HTTP allotment header

Question Number : 119 Question Id : 250107719 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following JavaScript statements is the correct definition of an array?

Options :

1. Var a = new Array[100];

2. a = new Array[1,2,3,4];

3. a = new Array(1,2,3,4);

4. a = new Array[];

Question Number : 120 Question Id : 250107720 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Parsed HTML code of in-memory tree structure is defined by a standard, called _____.

Options :

1. Dynamic Orientation Model

2. Document Presentation Model

3. Dynamic Object Model

4. Document Object Model