Telangana State Council Higher Education

Notations :

1.Options shown in green color and with ✔ icon are correct.

2.Options shown in red color and with ✖ icon are incorrect.

Subject Name :	Computer Science and Information technology
Creation Date :	2024-06-11 17:15:53
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Share Answer Key With Delivery Engine :	Yes
Actual Answer Key :	Yes
Change Font Color :	No
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Computer Science and Information Technology

Group Number :	1
Group Id :	38382338
Group Maximum Duration :	0
Group Minimum Duration :	120
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	120

Mathematics

Section Id :	383823107
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	10

Question Number : 1 Question Id : 3838235401 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Let X follows Binomial distribution with parameters 12 and p. let $q = 1 - p$. If

$$\sum_{x=0}^{12} (x - 12p)^2 \, {}^{12}C_x q^{12-x} p^x = \frac{8}{3} \text{ and } p(x > 10) = \left(\frac{2}{3}\right)^K K, (K > 1), \text{ then } K =$$

Options :

1. ✔ $\dfrac{14}{3}$

2. ✖ $\dfrac{25}{9}$

3. ✖ $\dfrac{16}{7}$

4. ✖ $\dfrac{3}{2}$

Question Number : 2 Question Id : 3838235402 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The standard deviation of a Poisson distribution is 2. If $P(X = r) = K$, then $P(X = r + 2) =$

Options :

1. ✖ $\dfrac{4K}{r(r+2)}$

2. ✖ $\dfrac{16K}{(r+2)(r+3)}$

3. ✔

$$\frac{16K}{(r+1)(r+2)}$$

4. ✖ $\dfrac{15K}{(r+1)(r+2)}$

Question Number : 3 Question Id : 3838235403 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A, B, C are three mutually disjoint exhaustive events with $P(A) \neq 0$, $P(B) \neq 0$, $P(C) \neq 0$. E

is any arbitrary event associated with A, B, C. If $P(A) = \dfrac{4}{9}$, $P(B) = \dfrac{2}{9}$, $P\left(\dfrac{E}{A}\right) = \dfrac{3}{10}$,

$P\left(\dfrac{E}{B}\right) = \dfrac{5}{10}$, $P\left(\dfrac{E}{C}\right) = \dfrac{8}{10}$, $P\left(\dfrac{C}{E}\right) = \dfrac{12}{23}$, then $P(C) =$

Options :

1. ✖ $\dfrac{2}{3}$

2. ✔ $\dfrac{1}{3}$

3. ✖ $\dfrac{5}{6}$

4. ✖ $\dfrac{3}{4}$

Question Number : 4 Question Id : 3838235404 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Let a continuous random variable X follows Normal distribution with mean μ and

variance σ^2. Let $Z = \dfrac{x - \mu}{\sigma}$. If $P(Z > Z_1) = 0.12$ and $P(Z > Z_2) = 0.76$, then

$P(Z_2 < Z < Z_1) =$

Options :

1. ✖ 0.88

2. ✔ 0.64

3. ✖ 0.38

4. ✖ 0.62

Question Number : 5 Question Id : 3838235405 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $f(x)$ is a twice differentiable function such that $f(0) = f(1) = f'(0) = 0$, then

Options :

1. ✖ $f''(x) \neq 0 \ \forall \ x \in (0,1)$

2. ✖ $f''(x) = 0 \ \forall \ x \in (0,1)$

3. ✖ $f(x)$ is a constant function

4. ✔ $f''(x) = 0$ for some $x \in (0,1)$

Question Number : 6 Question Id : 3838235406 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The maximum area of a rectangle that can be inscribed in a circle of radius R is

Options :

1. ✖ $4R^2$

2. ✖ $\sqrt{2}R^2$

3. ✔ $2R^2$

4. ✖ R^2

Question Number : 7 Question Id : 3838235407 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The number of non differentiable points for the function $f(x) = \text{Min}\{x - [x], 1 - x + [x]\}$ in $(-2, 2)$ is ($[x]$ represents integral part of x)

Options :

1. ✖ 0

2. ✖ 3

3. ✖ 5

4. ✔ 7

Question Number : 8 Question Id : 3838235408 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

For the matrix $\begin{bmatrix} 2 & 1 & 1 \\ 0 & 2 & 1 \\ 1 & 0 & 1 \end{bmatrix}$, an Eigen vector among the following vectors is

Options :

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

2. ✖ $\begin{bmatrix} 5 \\ -2 \\ -1 \end{bmatrix}$

3. ✔ $\begin{bmatrix} 8 \\ 4 \\ 4 \end{bmatrix}$

4. ✖ $\begin{bmatrix} 0 \\ 5 \\ 5 \end{bmatrix}$

Question Number : 9 Question Id : 3838235409 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

L is a lower triangular matrix with all Principal diagonal elements equal to 1 and U is an

upper triangular matrix such that $LU = \begin{bmatrix} 1 & 3 & 0 \\ 3 & 7 & 1 \\ 2 & 8 & 3 \end{bmatrix}$,

then the Trace of L + Trace of U =

Options :

1. ✖ 5

2. ✔ 6

3. ✖ 2

4. ✖ 8

Question Number : 10 Question Id : 3838235410 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If the Eigenvalues of Skew-Hermitian matrices and Eigenvalues of Hermitian matrices are

plotted on Argand plane, then the number of points having amplitude $\pi/4$ is

Options :

1. ✖ 1

2. ✔ 0

3. ✖ more than 4

4. ✖ infinite in number

Computer Science and Information Technology

Section Id :	383823108
Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory

Number of Questions :	110
Number of Questions to be attempted :	110
Section Marks :	110
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	383823108
Question Shuffling Allowed :	Yes

Question Number : 11 Question Id : 3838235411 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is idempotent law of propositional logic?

Options :

1. ✔ $p \lor p = p$

2. ✘ $p^{\wedge}t = p$

3. ✘ $p \lor t = t$

4. ✘ $p \lor (\sim p) = t$

Question Number : 12 Question Id : 3838235412 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A survey among 100 students shows that out of the three ice cream flavors vanilla, chocolate and strawberry, where 50 students like vanilla, 43 like chocolate, 23 like strawberry, 13 like vanilla and chocolate, 11 like chocolate and strawberry, 12 like strawberry and vanilla and 5 like all of them. Find the number of students who like chocolate but not strawberry

Options :

1. ✔ 32

2. ✘ 62

3. ✘ 24

4. ✘ 30

Question Number : 13 Question Id : 3838235413 Question Type : MCQ Option Shuffling : Yes

Find the number of two letter words that begin with a vowel

Options :

1. ✗ 105

2. ✔ 130

3. ✗ 546

4. ✗ 25

Question Number : 14 Question Id : 3838235414 Question Type : MCQ Option Shuffling : Yes

A relation R on a set A is a partial order if it is

Options :

1. ✔ Reflexive, antisymmetric and transitive

2. ✗ Reflexive, asymmetric and transitive

3. ✗ Reflexive, symmetric and transitive

4. ✗ Repetitive, symmetric and transformative

Question Number : 15 Question Id : 3838235415 Question Type : MCQ Option Shuffling : Yes

Which diagram is used to represent partial order set?

Options :

1. ✗ Venn diagram

2. ✔ Hasse diagram

3. ✗ use case diagram

4. ✗ precedence diagram

Question Number : 16 Question Id : 3838235416 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A circuit in a connected graph is an Eulerian circuit if it contains

Options :

1. ✖ Every node of the graph

2. ✔ Every edge of the graph

3. ✖ Every node exactly once

4. ✖ Every edge at least once

Question Number : 17 Question Id : 3838235417 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the chromatic number of the complete graph K_n?

Options :

1. ✖ One

2. ✖ Four

3. ✖ $\dfrac{n}{2}$

4. ✔ n

Question Number : 18 Question Id : 3838235418 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Find the number of edges of the wheel graph W_n?

Options :

1. ✖ $n-1$

2. ✖ $\dfrac{n(n-1)}{2}$

3. ✔ 2n

4. ✘ $n \times 2^{n-1}$

Question Number : 19 Question Id : 3838235419 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which one of the following is not necessarily a property of a group?

Options :

1. ✔ Commutativity

2. ✘ Associativity

3. ✘ Existence of inverse for every element

4. ✘ Existence of identity

Question Number : 20 Question Id : 3838235420 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following expression is a tautology?

Options :

1. ✘ p ^ False

2. ✘ p ^ True

3. ✘ p V False

4. ✔ p V True

Question Number : 21 Question Id : 3838235421 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the minimal sum of products form of $F(A, B, C, D) = AB + \bar{A}BC + \bar{A}B\bar{C}D$

Options :

1. ✔ $AB + BC + BD$

2. ✖ $A + B + C + D$

3. ✖ $\overline{A} + \overline{B} + \overline{C} + D$

4. ✖ $\overline{A}C + \overline{A}\overline{C}D + A$

Question Number : 22 Question Id : 3838235422 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

$(217)_8$ is equivalent to

Options :

1. ✖ $(6F)_{16}$

2. ✖ $(8E)_{16}$

3. ✔ $(8F)_{16}$

4. ✖ $(143)_{16}$

Question Number : 23 Question Id : 3838235423 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What are the minimum number of gates required to implement Half adder if we have to

use only two input NOR gates?

Options :

1. ✖ Two

2. ✖ Three

3. ✖ Four

4. ✔ Five

Question Number : 24 Question Id : 3838235424 Question Type : MCQ Option Shuffling : Yes

The 2's complement representation of the decimal value -15 is

Options :

1. ✗ 1111

2. ✗ 11111

3. ✗ 111111

4. ✓ 10001

Question Number : 25 Question Id : 3838235425 Question Type : MCQ Option Shuffling : Yes

Which flip flop is commonly used for counters and shift registers?

Options :

1. ✗ SR flipflop

2. ✗ JK flipflop

3. ✓ D flipflop

4. ✗ T flipflop

Question Number : 26 Question Id : 3838235426 Question Type : MCQ Option Shuffling : Yes

Which register contains the data to be written into memory?

Options :

1. ✗ Memory Register

2. ✗ Memory address register

3. ✗ Data register

4. ✓

Memory buffer register

Question Number : 27 Question Id : 3838235427 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which phase of the instruction cycle analyzes the instruction to determine type of operation to be performed?

Options :

1. ✖ Fetch

2. ✔ Decode

3. ✖ Execute

4. ✖ Write

Question Number : 28 Question Id : 3838235428 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which bus is used to support local disk drives and peripherals?

Options :

1. ✔ SCSI

2. ✖ USB

3. ✖ Data bus

4. ✖ USART

Question Number : 29 Question Id : 3838235429 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the unit of transfer data from main memory to cache memory?

Options :

1. ✖ Page

2. ✔ Block

3. ✘ Word

4. ✘ Byte

Question Number : 30 Question Id : 3838235430 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The main memory of the system consists of 16 MB, the cache memory can hold 64 KB and data is transferred in blocks of 4 bytes each. What is the tag size in main memory address for direct mapping cache?

Options :

1. ✘ 10

2. ✔ 8

3. ✘ 14

4. ✘ 24

Question Number : 31 Question Id : 3838235431 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In disk organization, the time taken by the head to reach the beginning of sector is

Options :

1. ✘ Seek time

2. ✘ Access time

3. ✘ Track time

4. ✔ Rotational delay

Question Number : 32 Question Id : 3838235432 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which RAID level describes block interleaved distributed parity?

Options :

1. ✖ RAID 3

2. ✖ RAID 4

3. ✔ RAID 5

4. ✖ RAID 6

Question Number : 33 Question Id : 3838235433 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which type of I/O does NOT use interrupts?

Options :

1. ✖ Interrupt driven I/O

2. ✔ Programmed I/O

3. ✖ Direct Memory Access

4. ✖ Daisy chaining

Question Number : 34 Question Id : 3838235434 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which addressing mode allows to directly include operands in an instruction?

Options :

1. ✔ Immediate

2. ✖ register

3. ✖ direct

4. ✖ index

Question Number : 35 Question Id : 3838235435 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which set of the following instructions is used for program control?

Options :

1. ✔ HALT, CALL, JUMP

2. ✖ MOV, ADD, NMI

3. ✖ NMI, HALT, TRAP

4. ✖ ADD, SUB, DIV

Question Number : 36 Question Id : 3838235436 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which data structure is used in processor scheduling in an operating system?

Options :

1. ✖ Stack

2. ✔ Queue

3. ✖ Tree

4. ✖ Graph

Question Number : 37 Question Id : 3838235437 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is a binary tree in which all the nodes have either zero or two children?

Options :

1. ✔ Full binary tree

2. ✖ Complete binary tree

3. ✖ Static binary tree

4. ✖ Dynamic binary tree

Question Number : 38 Question Id : 3838235438 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the minimum number of edges possible in a directed graph having 6 vertices and no self-loops?

Options :

1. ✖ 5

2. ✔ 30

3. ✖ 36

4. ✖ 216

Question Number : 39 Question Id : 3838235439 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the postfix expression of $P+Q/R*(S-P)$?

Options :

1. ✔ $PQR/SP-*+$

2. ✖ $+P/Q*R-SP$

3. ✖ $PQRSP/-*+$

4. ✖ $+*-/PQRSP$

Question Number : 40 Question Id : 3838235440 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is return value of strcmp() if the two parameters are identical?

Options :

1. ✖ -1

2. ✖ 1

3. ✔ 0

4. ✖ True

Question Number : 41 Question Id : 3838235441 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which operator is used to get value at address stored in a pointer variable?

Options :

1. ✖ &

2. ✖ ->

3. ✔ *

4. ✖ ||

Question Number : 42 Question Id : 3838235442 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the output of the following program?

```c
# include<stdio.h>

int main()
{
 int fun(int);
 int i = fun(10);
 printf("%d\n", --i );
 return 0;
}
int fun(int i) { return (i++); }
```

Options :

1. ✔ 9

2. ✖ 10

3. ✖ 11

4. ✖ 8

Question Number : 43 Question Id : 3838235443 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

How many times does 'Telangana' get printed?

```c
# include<stdio.h>
int main()
{
int x;
for(x=-1; x<=10; x++)
{
If(x < 5)
continue;
else
break;
printf("Telangana");
}
return 0;
}
```

Options :

1. ✖ 11 times

2. ✖ 10 times

3. ✔ Zero times

4. ✖ Infinite times

Question Number : 44 Question Id : 3838235444 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which C function allows the programmer to move the file pointer to a specific location within a file?

Options :

1. ✖ fmove

2. ✔ fseek

3. ✖ fcursor

4. ✖ fputc

Question Number : 45 Question Id : 3838235445 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What will be the output of the program?

```c
# include<stdio.h>
int main()
{
union var
{   int p,q; }
 union var u;
 u.p = 100;
 u.q = 50;
printf("%d\n", u.p);
return 0;
}
```

Options :

1. ✖ 100

2. ✔ 50

3. ✖ 150

4. ✖ Error

Question Number : 46 Question Id : 3838235446 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Given an array A= {15,23,27,32,45,49,60} and key=49, what are the mid values (corresponding array elements) in the first and second levels of recursion?

Options :

1. ✔ 32 and 49

2. ✖ 32 and 23

3. ✖ 27 and 49

4. ✖ 27 and 45

Question Number : 47 Question Id : 3838235447 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the best case time complexity for linear search?

Options :

1. ✖ O(n log n)

2. ✖ O(log n)

3. ✖ O(n)

4. ✔ O(1)

Question Number : 48 Question Id : 3838235448 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

How many solutions are there for 8-Queen problem on 8×8 chess board?

Options :

1. ✖ 12

2. ✖ 91

3. ✔ 92

4. ✖ 64

Question Number : 49 Question Id : 3838235449 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which among the following is an external sorting technique?

Options :

1. ✖ Bubble sort

2. ✔ Merge sort

3. ✖ Insertion sort

4. ✖ Selection sort

Question Number : 50 Question Id : 3838235450 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

How many passes does an insertion sort algorithm take for sorting an array of 'n' elements?

Options :

1. ✖ $\dfrac{n}{2}$

2. ✖ n

3. ✔ n-1

4. ✖ n+1

Question Number : 51 Question Id : 3838235451 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which algorithm strategy is followed by Kruskal's algorithm?

Options :

1. ✖ Divide and conquer

2. ✖ Dynamic programming

3. ✔ Greedy

4. ✖ Branch and bound

Question Number : 52 Question Id : 3838235452 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Breadth first search is equivalent to _____ traversal of binary tree

Options :

1. ✖ Preorder

2. ✖ Post order

3. ✖ Inorder

4. ✔ Level order

Question Number : 53 Question Id : 3838235453 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the worst-case time complexity of depth first search of a graph with 'V' nodes and 'E' edges?

Options :

1. ✔ O(V+E)

2. ✖ O(V)

3. ✖ O(E)

4. ✖ O(V*E)

Question Number : 54 Question Id : 3838235454 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Bellman Ford algorithm provides solution for

Options :

1. ✖ Network congestion problem

2. ✔ Single source shortest path problem

3. ✖ All pair shortest path problem

4. ✖ Sorting problem

Question Number : 55 Question Id : 3838235455 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which among the following is not based on divide and conquer?

Options :

1. ✔ Kruskal algorithm

2. ✘ Quicksort

3. ✘ Binary search

4. ✘ Tower of Hanoi

Question Number : 56 Question Id : 3838235456 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following does not represent the language {0, 01 }?

Options :

1. ✘ $0 + 01$

2. ✘ $\{0\} \ U \ \{01\}$

3. ✘ $\{0\} \ U \ \{0\}\{1\}$

4. ✔ $\{0\} \wedge \{01\}$

Question Number : 57 Question Id : 3838235457 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

How many tuples are present in finite state machine?

Options :

1. ✘ Four

2. ✔ Five

3. ✘ Six

4. ✘ Three

Question Number : 58 Question Id : 3838235458 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

According to the Chomsky classification, language of finite automata is

Options :

1. ✖ Type 0

2. ✖ Type 1

3. ✖ Type 2

4. ✔ Type 3

Question Number : 59 Question Id : 3838235459 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the regular expression for all strings starting with ab then any number of a or b and ending with bba?

Options :

1. ✖ aba*b*bba

2. ✖ ab(ab)*bba

3. ✔ ab(a+b)*bba

4. ✖ ab(a+b)bba

Question Number : 60 Question Id : 3838235460 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The transition a pushdown automation made by is additionally dependent upon

Options :

1. ✔ Stack

2. ✖ Queue

3. ✖ Input tape

4. ✖ Terminals

Question Number : 61 Question Id : 3838235461 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Moore machine is an example of

Options :

1. ✖ Finite automata without output

2. ✔ Finite automata with output

3. ✖ Finite automata without input

4. ✖ Pushdown automata without input

Question Number : 62 Question Id : 3838235462 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

For a machine to surpass all the letters of alphabets excluding vowels, how many states in DFA would be required?

Options :

1. ✔ 3

2. ✖ 2

3. ✖ 21

4. ✖ 29

Question Number : 63 Question Id : 3838235463 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A language L is said to be Turing machine (TM) decidable if

Options :

1. ✖ TM decides L

2. ✖ TM recognizes L

3. ✖ TM accepts L

4. ✔ L is recursive and TM recognize L

Question Number : 64 Question Id : 3838235464 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A Turing machine that is able to simulate other Turing machine is known as

Options :

1. ✖ Nested Turing machine

2. ✔ Universal Turing machine

3. ✖ Meta Turing machine

4. ✖ Composite Turing machine

Question Number : 65 Question Id : 3838235465 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Choose the correct option when

S1: Initial state of NFA is initial state of DFA

S2: The final state of DFA will be every combination of final set of NFA

Options :

1. ✖ S1 false, S2 false

2. ✖ S1 false, S2 true

3. ✔ S1 true, S2 true

4. ✖ S1 true, S2 false

Question Number : 66 Question Id : 3838235466 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which file is the output of an assembler?

Options :

1. ✖ Program file

2. ✔ Object file

3. ✖ Data file

4. ✖ Document file

Question Number : 67 Question Id : 3838235467 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which derivation is generated by the top-down parser?

Options :

1. ✖ Right the most derivation in reverse

2. ✔ Left most derivation

3. ✖ Right most derivation

4. ✖ Left most derivation in reverse

Question Number : 68 Question Id : 3838235468 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the output of lexical analyzer?

Options :

1. ✖ String character

2. ✖ a syntax tree

3. ✖ a set of regular expressions

4. ✔ a set of tokens

Question Number : 69 Question Id : 3838235469 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

_____ is the sequence of characters in a token

Options :

1. ✔ Lexeme

2. ✖ Tokens

3. ✖ Morphemes

4. ✖ Hyponyms

Question Number : 70 Question Id : 3838235470 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which phase of the compiler checks the grammar of the program?

Options :

1. ✖ Code optimization

2. ✖ Semantic analysis

3. ✖ Code generation

4. ✔ Syntax analysis

Question Number : 71 Question Id : 3838235471 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which compiler runs on one machine and generates code for multiple machines?

Options :

1. ✖ Multi pass compiler

2. ✔

Cross compiler

3. ✖ Optimized compiler

4. ✖ Portable compiler

**Question Number : 72 Question Id : 3838235472 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0**
Which method merges the multiple loops into the single one?

Options :

1. ✖ Constant folding

2. ✖ Loop rolling

3. ✔ Loop fusion

4. ✖ Loop unrolling

**Question Number : 73 Question Id : 3838235473 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0**
Which optimization technique is used to reduce the multiple jumps?

Options :

1. ✖ Local optimization

2. ✖ Pigeonhole optimization

3. ✔ Peephole optimization

4. ✖ Global code optimization

**Question Number : 74 Question Id : 3838235474 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0**
Which among the following is used in various phases of the compiler?

Options :

1. ✖ Record

2. ✖ Variable

3. ✔ Symbol table

4. ✖ Shift table

Question Number : 75 Question Id : 3838235475 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is NOT a function of the shift-reduce parser?

Options :

1. ✖ Reduce

2. ✖ Accept

3. ✔ Go

4. ✖ Shift

Question Number : 76 Question Id : 3838235476 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

When a process is waiting to be assigned to a processor, then it is in

Options :

1. ✖ Waiting state

2. ✖ Running state

3. ✔ Ready state

4. ✖ Blocked state

Question Number : 77 Question Id : 3838235477 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which system call is used to create a new process?

Options :

1. ✖ New

2. ✖ Process

3. ✔ Fork

4. ✖ Create process

Question Number : 78 Question Id : 3838235478 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In client server system communication, _____ is defined as an endpoint for communication.

Options :

1. ✔ Socket

2. ✖ Procedure call

3. ✖ Shared memory

4. ✖ Message passing

Question Number : 79 Question Id : 3838235479 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In Operating system, unlimited threads could exhaust system resources. Which among the following is a solution to this issue?

Options :

1. ✖ Buffering

2. ✖ Thread Priorities

3. ✔ Thread pool

4. ✖ Thread kill

Question Number : 80 Question Id : 3838235480 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

What is the average waiting time for the following processes using round robin scheduling with a time quantum of 4 ms?

Process	Burst Time
P1	24
P2	3
P3	3

Options :

1. ✔ 5.66 ms

2. ✖ 4 ms

3. ✖ 20 ms

4. ✖ 8.33 ms

Question Number : 81 Question Id : 3838235481 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Threads of a multithreaded program can share

Options :

1. ✖ Stack variables

2. ✔ Heap variables

3. ✖ Register variables

4. ✖ Local variables

Question Number : 82 Question Id : 3838235482 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The dining philosophers problem is considered as

Options :

1. ✔ a classic Synchronization problem

2. ✘ a classic Coherence problem

3. ✘ a classic Starvation problem

4. ✘ a classic deadlock detection problem

Question Number : 83 Question Id : 3838235483 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following scheme of virtual memory will never bring a page until it is required?

Options :

1. ✘ Swapping

2. ✘ Paging

3. ✘ Demand paging

4. ✔ Pure demand paging

Question Number : 84 Question Id : 3838235484 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Choose the correct set of file extensions for archive

Options :

1. ✔ arc, zip, tar

2. ✘ mp3, zip, exe

3. ✘ txt, bin, arc

4. ✖ lib, pdf, doc

Question Number : 85 Question Id : 3838235485 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which disk scheduling algorithm is better for systems that places a heavy load on the disk and less likely to cause starvation problem?

Options :

1. ✔ SCAN

2. ✖ FCFS

3. ✖ SSTF

4. ✖ SJF

Question Number : 86 Question Id : 3838235486 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which data model is required for conceptual data design?

Options :

1. ✖ Physical model

2. ✔ ER model

3. ✖ Semantic mode

4. ✖ Network model

Question Number : 87 Question Id : 3838235487 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which is the notation for weak entity set in ER diagram?

Options :

1. ✖ Dashed rectangle

2. ✔ Double rectangle

3. ✖ Dashed diamond

4. ✖ Double eclipse

Question Number : 88 Question Id : 3838235488 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is a binary operator in Relational Algebra?

Options :

1. ✖ Selection

2. ✖ Projection

3. ✔ Division

4. ✖ Rename

Question Number : 89 Question Id : 3838235489 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which operator can make a tuple relational query as an unsafe query?

Options :

1. ✖ AND

2. ✖ OR

3. ✖ IMPLIES

4. ✔ NOT

Question Number : 90 Question Id : 3838235490 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

First Normal Form is based on the concept of

Options :

1. ✔ atomic attribute

2. ✖ partial dependency

3. ✖ functional dependency

4. ✖ attribute closure

Question Number : 91 Question Id : 3838235491 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is the main reason for performing schema refinement?

Options :

1. ✖ Duplication

2. ✔ Redundancy

3. ✖ Concurrency

4. ✖ Indexing

Question Number : 92 Question Id : 3838235492 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which is not a desirable property for a database transaction?

Options :

1. ✖ Atomicity

2. ✖ Isolation

3. ✔ Integrity

4. ✖ Durability

Question Number : 93 Question Id : 3838235493 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following protocol is the lock based mechanism for concurrency control?

Options :

1. ✔ Two Phase lock protocol

2. ✘ Timestamp based protocol

3. ✘ Validation based protocol

4. ✘ Three Phase lock protocol

Question Number : 94 Question Id : 3838235494 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which file organization is best suited for insertion operation only?

Options :

1. ✔ Heap file

2. ✘ Sorted file

3. ✘ Ordered file

4. ✘ Hash file

Question Number : 95 Question Id : 3838235495 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which is a dynamic tree based indexing structure for database?

Options :

1. ✘ ISAM

2. ✔ B+

3. ✘ Linear probing

4. ✖ Extendible hashing

Question Number : 96 Question Id : 3838235496 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which network connect the individual networks at different sites into one logical network?

Options :

1. ✖ city network

2. ✖ local area network

3. ✔ virtual private network

4. ✖ company wide network

Question Number : 97 Question Id : 3838235497 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which is a popular standard for wireless LANs?

Options :

1. ✔ IEEE802.11

2. ✖ ACM802.11

3. ✖ IEEE756

4. ✖ ACM756

Question Number : 98 Question Id : 3838235498 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Choose the correct set of protocols of application layer of TCP/IP model

Options :

1. ✖ DSL, SONET, Ethernet

2. ✖ IP, TCP, UDP

3. ✖ IP, ICMP, RTP

4. ✔ HTTP, SMTP, DNS

Question Number : 99 Question Id : 3838235499 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is an error correcting code used in the data link layer?

Options :

1. ✔ Hamming code

2. ✖ Binary code

3. ✖ Bytecode

4. ✖ Unicode

Question Number : 100 Question Id : 3838235500 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In which network each packet is routed independently?

Options :

1. ✖ virtual circuit network

2. ✔ datagram network

3. ✖ TCP network

4. ✖ Session network

Question Number : 101 Question Id : 3838235501 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In which routing algorithm, each router maintains a routing table containing information about all other routers in the network?

Options :

1. ✖ Flooding

2. ✖ Dijkstra's

3. ✔ Distance vector

4. ✖ Warshall's

Question Number : 102 Question Id : 3838235502 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which mechanism converts human readable domain names into IP addresses?

Options :

1. ✔ Domain Name System

2. ✖ IP address map

3. ✖ Domain Name Address

4. ✖ Tunneling

Question Number : 103 Question Id : 3838235503 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which computer security object covers the concept of privacy?

Options :

1. ✖ Integrity

2. ✖ Availability

3. ✔ Confidentiality

4. ✖ Nonrepudiation

Question Number : 104 Question Id : 3838235504 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is a passive attack to the network?

Options :

1. ✗ Masquerade

2. ✓ Traffic analysis

3. ✗ Reply

4. ✗ Denial of service

Question Number : 105 Question Id : 3838235505 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the size of the key in the DES algorithm for security?

Options :

1. ✗ 32 bits

2. ✗ 30 bytes

3. ✓ 56 bits

4. ✗ 64 bytes

Question Number : 106 Question Id : 3838235506 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which UML diagram is required for client requirement modeling?

Options :

1. ✓ Use case

2. ✗ Class

3. ✗ Object

4. ✖ Sequence

Question Number : 107 Question Id : 3838235507 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which testing strategy considers the entire structure of a program?

Options :

1. ✖ Black box testing

2. ✔ Glass box testing

3. ✖ Systems testing

4. ✖ Alpha testing

Question Number : 108 Question Id : 3838235508 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which software process model is trending with the concepts of Sprint and scrum?

Options :

1. ✖ Spiral

2. ✖ RAD

3. ✔ Agile

4. ✖ Django

Question Number : 109 Question Id : 3838235509 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Choose the correct set of design concepts

Options :

1. ✔ Modularity, pattern, architecture, refactoring

2. ✖ Architecture, risk mitigation, design pattern, testing

3. ✖ Requirement, coding, testing, design

4. ✖ Design, architecture, pattern, metrics

Question Number : 110 Question Id : 3838235510 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which pair of UML diagrams are isomorphic?

Options :

1. ✖ class and component

2. ✖ class and object

3. ✖ use case and collaboration

4. ✔ collaboration and sequence

Question Number : 111 Question Id : 3838235511 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is NOT a web browser?

Options :

1. ✖ Safari

2. ✖ Chrome

3. ✖ Edge

4. ✔ Android

Question Number : 112 Question Id : 3838235512 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The function setcookie() is used to

Options :

1. ✖ Enable cookie support

2. ✖ Declare cookie variables

3. ✔ Store data in cookie variables

4. ✖ Display cookie variables

Question Number : 113 Question Id : 3838235513 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which operator is used to allocate memory to array variables in JavaScript?

Options :

1. ✔ new

2. ✖ malloc

3. ✖ calloc

4. ✖ free

Question Number : 114 Question Id : 3838235514 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the use of XPATH?

Options :

1. ✖ To address the server

2. ✖ To store the IP address of this server

3. ✔ To address the document by specifying a location path

4. ✖ To address the data center

Question Number : 115 Question Id : 3838235515 Question Type : MCQ Option Shuffling : Yes

What is document object model?

Options :

1. ✖ A coding style

2. ✔ A parser

3. ✖ A specification

4. ✖ A database model

Question Number : 116 Question Id : 3838235516 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Which is the correct syntax for declaring a variable in JSP?

Options :

1. ✖ < % = declaration %>

2. ✖ < % declaration %>

3. ✔ < % ! declaration %>

4. ✖ < % # declaration %>

Question Number : 117 Question Id : 3838235517 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Which element is the root element of a soap message?

Options :

1. ✔ SOAP: Envelope

2. ✖ SOAP: Cover

3. ✖ SOAP: Header

4. ✖ SOAP: ROOT

Question Number : 118 Question Id : 3838235518 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following allows web pages to be updated asynchronously by exchanging data between web client and server?

Options :

1. ✔ AJAX

2. ✖ XSLT

3. ✖ XQUERY

4. ✖ SOAP

Question Number : 119 Question Id : 3838235519 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which provides a method to avoid element name conflicts in XML?

Options :

1. ✖ XML DTD

2. ✖ XML schema

3. ✔ XML namespace

4. ✖ XML validator

Question Number : 120 Question Id : 3838235520 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the purpose of DTD?

Options :

1. ✔ To define the structure and the legal elements and attributes of an XML document

2. ✖ To avoid element and attribute name conflicts

3. ✖ To access and manipulate XML document

4. ✖ To store and query XML data