Entrance Exam

2024



QUESTION PAPER

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Notations :

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

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

Question Paper Name :	Computer Science and Engineering 4th May 2024 Shift 2
Duration :	120
Total Marks :	140
Display Marks:	No
Share Answer Key With Delivery Engine :	Yes
Calculator :	None
Magnifying Glass Required? :	No
Ruler Required? :	No
Eraser Required? :	No
Scratch Pad Required? :	No
Rough Sketch/Notepad Required? :	No
Protractor Required? :	No
Show Watermark on Console? :	Yes
Highlighter :	No
Auto Save on Console?	Yes
Change Font Color :	No
Change Background Color :	No
Change Theme :	No
Help Button :	No
Show Reports :	No

Show Progress Bar :	No
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No

Research Methodology

Section Id :	971036521
Section Number :	1
Mandatory or Optional :	Mandatory
Number of Questions :	66
Section Marks :	70
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Is Section Default? :	null

Question Number : 1 Question Id : 97103636661 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In a research study investigating the relationship between sleep duration and academic performance, "sleep duration" is an example of a

Options :

1. ✖ Hypothesis

2. ✖ Concept

3. ✔ Variable

4. ✖ Causation

Question Number : 2 Question Id : 97103636662 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the primary purpose of research methodology?

Options :

1. ✖ To prove personal beliefs

2. ✔ To discover new knowledge

3. ✖ To validate existing theories

4. ✖ To promote authoritarian ideologies

Question Number : 3 Question Id : 97103636663 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which characteristic is essential for a good hypothesis?

Options :

1. ✖ Complexity

2. ✖ Generality

3.

✔ Falsifiability

4. ✖ Subjectivity

Question Number : 4 Question Id : 97103636664 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Positivism is associated with which tradition of scientific research?

Options :

1. ✔ Empirical-analytic

2. ✖ Hermeneutic

3. ✖ Critical theory

4. ✖ Phenomenological

Question Number : 5 Question Id : 97103636665 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which method of evaluation is conducted at the end of the programme?

Options :

1. ✖ Process Evaluation

2. ✖ Impact Evaluation

3. ✖ Outcome Evaluation

4. ✔ Summative Evaluation

Question Number : 6 Question Id : 97103636666 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following methods of evaluation will minimize the subjectivity of the examiner?

Options :

1. ✖ Fill in the Blanks type (open end response)

2. ✔ Objective Multiple Choice Type (Closed end response)

3. ✖ Very short answer type

4. ✖ Descriptive and Narrative type

Question Number : 7 Question Id : 97103636667 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If a researcher wants to test the effect of temperature on plant growth and predicts that higher temperatures will lead to increased growth, this is an example of a

Options :

1. ✖ Null hypothesis

2. ✖ Non-directional hypothesis

3. ✔ Directional hypothesis

4. ✖ Alternative hypothesis

Question Number : 8 Question Id : 97103636668 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following method of research is appropriate in Applied Sciences with experimentation?

Options :

1. ✔ Quantitative research

2. ✖ Qualitative research

3. ✖ Classical research

4. ✖ Abstract research

Question Number : 9 Question Id : 97103636669 Display Question Number : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is core objective of any research?

Options :

1. ✖ Knowledge Dissemination

2. ✔ Knowledge Discovery

3. ✖ Knowledge Procurement

4. ✖ Knowledge Propagation

Question Number : 10 Question Id : 97103636670 Display Question Number : Yes Is Questi

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the relevance between Data and Information?

Options :

1. ✖ It is non structured Identification of research methodology

2. ✖ Information will explore the data and data will conceal the information

3. ✖ Data is the partial ambiguous information that will provide the inferences

4. ✔ Data is non processed information and information is the processed data

Question Number : 11 Question Id : 97103636671 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What are the scales that can measure the categorical data?

Options :

1. ✖ Nominal & Interval scales

2. ✖ Ratio & Interval scales

3. ✔ Nominal & Ordinal Scales

4. ✖ Ordinal & Ratio Scales

Question Number : 12 Question Id : 97103636672 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following does not come under the category of statistical data scale?

Options :

1. ✖ Nominal Scale

2. ✖ Ordinal Scale

3. ✖ Interval Scale

4. ✔ Robert Scale

Question Number : 13 Question Id : 97103636673 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Historical data refers to

Options :

1. ✔ The time series data

2. ✖ Cross sectional data

3. ✖ Qualitative data

4. ✖ Multivariate data

Question Number : 14 Question Id : 97103636674 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the full form of SPSS, software that is using for data analysis?

Options :

1. ✖ Statistical Programming for Software Solutions

2. ✔ Statistical Packages for Social Sciences

3. ✖ Scientific Programs for Social Studies

4. ✖ Scientific Packages for Science Studies.

Question Number : 15 Question Id : 97103636675 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which three things are most important and essential entities in any communication process?

Options :

1. ✖ Buyer, Seller and Production Process

2. ✖ Teacher, Student and Class Room

3. ✖ Speaker, Member and Assembly House.

4. ✔ Sender, Receiver and the Channel (medium)

Question Number : 16 Question Id : 97103636676 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following are non-synonymous matching with respect to the communications?

Options :

1. ✔ Class room - computer

2. ✖ Teacher - encoder

3.

✖ Student – decoder

4. ✖ Black Board – channel

Question Number : 17 Question Id : 97103636677 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Television is an audio visual medium that decoded the electronic signals into audio visuals to the audience comes under the category of

Options :

1. ✖ Encoder

2. ✖ Decoder

3. ✔ Channel

4. ✖ Sender

Question Number : 18 Question Id : 97103636678 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The device of communication such as idea, information, view, fact, feeling, statement, etc. that are generated by the sender intended for communicating further is referred as

Options :

1. ✖ Encode

2. ✔ Message

3. ✖ Decode

4. ✖ Software

Question Number : 19 Question Id : 97103636679 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A communication that happened between hierarchically located persons and both upward and downward communication flows is usually referred as

Options :

1. ✔ Vertical Communication

2. ✖ Horizontal Communication

3. ✖ Diagonal Communication

4. ✖ Random Communication

Question Number : 20 Question Id : 97103636680 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

How many minimum number of nodes that require to initiate any communication process among the networking ?

Options :

1. ✖ Three

2. ✔ Two

3. ✖ One

4. ✖ Zero

Is Section Default? : null

Question Id : 97103636681 Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (21 to 25)

Read the Passage and answer the following questions:

Reading is a fundamental skill that plays a vital role in our lives. It's not just about deciphering words on a page but about the doors it opens, the knowledge it imparts, and the worlds it allows us to explore. Reading is an essential tool for learning, expanding our horizons, and fostering imagination. When we read, we acquire knowledge. Whether it's reading textbooks, newspapers, or online articles, we gain information that helps us understand the world. Books, in particular, are a treasure trove of knowledge. They contain the wisdom of generations, the discoveries of great minds, and the stories of diverse cultures. Reading books can educate us on history, science, literature, and countless other subjects. It's like having a mentor, guiding us through the complexities of life.

Reading also broadens our horizons. It exposes us to different viewpoints, perspectives, and experiences. When we read about characters from various backgrounds or explore far-off lands through the pages of a novel, we step into their shoes and see the world from a different angle. This broadening of perspective fosters empathy and understanding, making us more tolerant and open-minded individuals. Furthermore, reading fuels our imagination. Whether it's a fantasy novel, a science fiction story, or a compelling mystery, books transport us to other worlds and challenge us to envision the unimaginable. Our minds become the canvas, and words paint the pictures. It's a magical experience that ignites creativity and inspiration. Moreover, reading is a skill that transcends academic boundaries. It's not just about scoring well on tests; it's about developing critical thinking, analytical skills, and the ability to communicate effectively. A person who reads regularly is likely to have a broader vocabulary, better writing skills, and an improved ability to express their thoughts and ideas.

In our modern digital age, reading has taken on new forms. E-books and audiobooks have made it more accessible and convenient. With just a few clicks or taps, we can access a vast library of literature. However, there's something timeless and intimate about holding a physical book, flipping its pages, and smelling the scent of paper and ink. In conclusion, reading is not just a hobby; it's a cornerstone of education, personal growth, and cultural enrichment. It empowers us with knowledge, broadens our perspectives, ignites our imagination, and equips us with essential skills. Whether we're reading for pleasure, information, or self-improvement, reading is a journey that enriches our lives and shapes us into more informed, empathetic, and creative individuals.

Sub questions

Question Number : 21 Question Id : 97103636682 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What does the passage emphasize as the fundamental role of reading?

Options :

1. ✖ Deciphering words

2. ✔ Opening doors

3. ✖ Expanding horizons

4. ✖ Acquiring knowledge

Question Number : 22 Question Id : 97103636683 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

According to the passage, what do books offer readers?

Options :

1. ✖ Online articles

2. ✔ Stories of diverse cultures

3. ✖ Sports news

4. ✖ Travel guides

Question Number : 23 Question Id : 97103636684 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

How does reading help in developing personal skills, as mentioned in the passage?

Options :

1. ✖ Improving physical fitness

2. ✔ Enhancing critical thinking

3. ✖ Learning to play musical instruments

4. ✖ Mastering cooking techniques

Question Number : 24 Question Id : 97103636685 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What aspect of reading does the passage highlight as a magical experience?

Options :

1. ✖ Learning new languages

2. ✖ Developing coding skills

3. ✔ Imagining the unimaginable

4. ✖ Studying historical events

Question Number : 25 Question Id : 97103636686 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

How has reading been evolved in the modern digital age, according to the passage?

Options :

1. ✖ It has become less accessible

2. ✖ It has become less convenient

3. ✔ It has taken on new forms like e-books and audiobooks

4. ✖ It has lost its importance

Is Section Default? : null

Question Number : 26 Question Id : 97103636687 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is NOT a characteristic of the scientific method?

Options :

1. ✖ Empirical observation

2. ✖ Systematic process

3. ✔ Subjectivity

4. ✖ Replicability

Question Number : 27 Question Id : 97103636688 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Which city in Andhra Pradesh is known as the "City of Destiny"?

Options :

1. ✖ Vijayawada

2. ✔ Visakhapatnam

3. ✖ Tirupati

4. ✖ Kakinada

Question Number : 28 Question Id : 97103636689 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruct

Time : 0

What does the acronym LPG stand for in the context of the policy adopted by the Indian government during Prime Minister PV Narasimha Rao's tenure?

Options :

1. ✔ Liquid Petroleum Gas

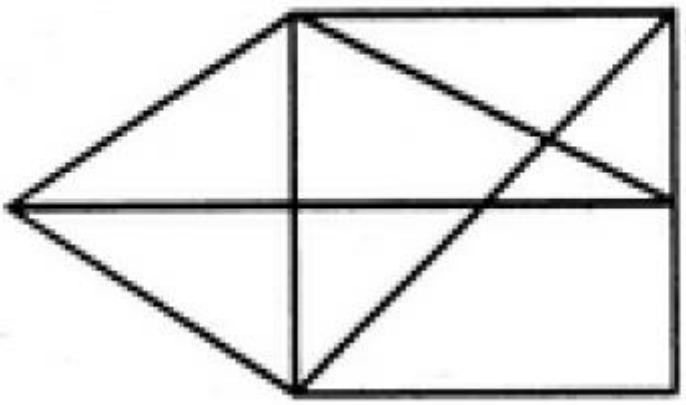
2. ✖ Liberalization, Privatization, Globalization

3. ✖ Low-Price Goods

4. ✖ Long-term Planning Goals

Question Number : 29 Question Id : 97103636690 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Find the number of triangles in the given figure.



Options :

1. ✖ 12

2. ✖ 13

3. ✖ 14

4. ✔ 15

Question Number : 30 Question Id : 97103636691 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following letter is appropriate in the mentioned blank space, in the letter series of

B, C, E, G, ___

Options :

1. ✖ J

2. ✖ I

3. ✔ K

4. ✖ L

Question Number : 31 Question Id : 97103636692 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the angle between the two hands of hours and minutes in a wall clock when the time is showing as 4:12

Options :

1. ✖ 51

2. ✖ 52

3. ✖ 53

4. ✔ 54

Question Number : 32 Question Id : 97103636693 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

As per calendar it is observed that it is Monday today. What will be the day after 64 days?

Options :

1. ✖ Sunday

2. ✖ Monday

3. ✔ Tuesday

4. ✖ Wednesday

Question Number : 33 Question Id : 97103636694 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If the students A,B,C,D,E,F and G were asked to sit in a circle such that A is left to B, B is Left to C, and so on with F is left to G. Then how many students are in between D and A if we count them in anti-clockwise direction?

Options :

1. ✖ 2

2. ✔ 3

3. ✖ 4

4. ✖ 5

Question Number : 34 Question Id : 97103636695 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Eight students by name A, B, C, D, E, F, G, H are asked to sit on the sides of the Symmetric Octagon table by allotting them the serial numbers 1,2,3,4,5,6,7, and 8 respectively. They have seated in antilock wise direction begin with odd numbered students 1,3,5,7 are adjacent in the said order followed by 2,4,6,8 are adjacent in the same order. Then how many students are in between A, C and C, B if we are counting their positions in clockwise direction

Options :

1. ✔ 6,4

2. ✖ 2,3

3. ✖ 4,5

4. ✖ 2,4

Question Number : 35 Question Id : 97103636696 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If two symmetric dice are thrown simultaneously, the sum on the two dice is calculating. How many such outcomes one can get for the sum 8.

Options :

1. ✖ 3

2. ✖ 4

3. ✔ 5

4. ✖ 6

Question Number : 36 Question Id : 97103636697 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What will be the number after the final in the following series of 2, 1, 1/2, 1/4, ___

Options :

1. ✖ 1/6

2. ✔ 1/8

3. ✖ 1/10

4. ✖ 1/12

Question Number : 37 Question Id : 97103636698 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is the odd?

Options :

1. ✖ Triangle

2. ✖ Rectangle

3. ✖ Pentagon

4. ✔ Circle

Question Number : 38 Question Id : 97103636699 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is the word that suits in the blank Parts : Strap :: Wolf :__

Options :

1. ✖ Lowest

2. ✔ Flow

3. ✖ Flak

4. ✖ Wax

Question Number : 39 Question Id : 97103636700 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If there are altogether 25 students in a class, 6 students belong to both two courses, 10 students are neither of the courses, and 11 students belong to course-1, how many number of students are in course-2 ?

Options :

1. ✔ 10

2. ✖ 11

3. ✖ 9

4. ✖ 8

Question Number : 40 Question Id : 97103636701 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Statement: A medicine by name 'M' is a drug that is causing the ripples in the medical field.
Assumption: (i) No other drug is causing ripples in the medical field; (ii) Medicine 'M' is a great drug

Options :

1. ✖ If assumption-(i) only is implicit

2. ✖ If assumption-(ii) only is implicit

3. ✖ If either assumption-(i) or (ii) is implicit

4. ✔ If neither assumption-(i) nor (ii) is implicit

Question Number : 41 Question Id : 97103636702 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The 'M' state government has decided hence forth to award the road construction contracts through open tenders only. Courses of action: I. The 'M' state will not be able to get the work done swiftly as it will have to go through tender and other procedures; II. Hence forth the quality of roads constructed may be far better

Options :

1. ✔ If neither I nor II follows

2. ✖ If either I or II follows

3. ✖ If only I follows

4. ✖ If only II follows

Question Number : 42 Question Id : 97103636703 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Deductive reasoning is characterized by

Options :

1. ✖ Specific to general

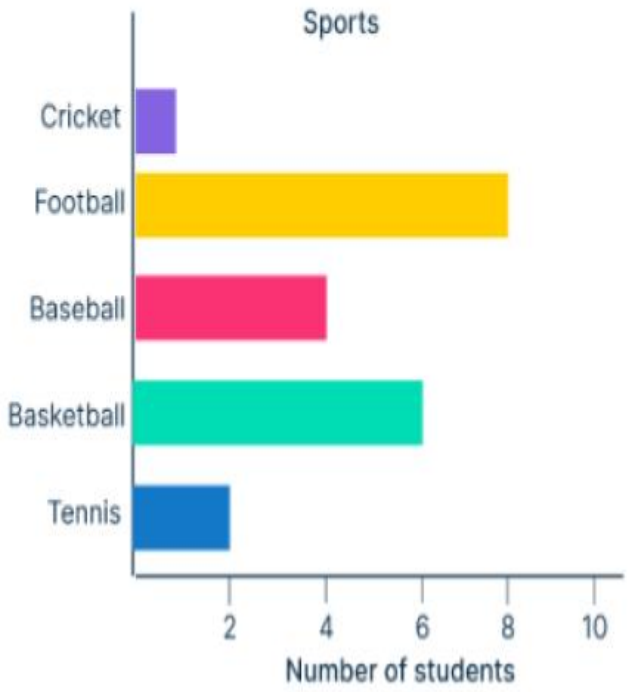
2. ✔ General to specific

3. ✖ Specific to specific

4. ✖ General to general

Question Number : 43 Question Id : 97103636704 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What are the Model game, Median game and Least preferred game respectively among Cricket, Football, Baseball, Basketball and Tennis by the students of a specific college based on the following display.



Options :

1. ✖ Cricket, Tennis and Basketball

2. ✖ Football, Baseball and Basketball

3. ✔ Football, Baseball and Cricket

4. ✖ Tennis, Football and Cricket

Question Number : 44 Question Id : 97103636705 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The following is the data of sales of motor pumps by 6 agencies in 5 years. Which agency has recorded maximum sales overall from 2019 to 2023 and what is the total sales of that agency.

Years	A	B	C	D	E	F
2019	18	12	27	16	17	23
2020	17	27	26	19	37	19
2021	13	16	22	17	23	27
2022	26	10	23	22	22	23
2023	27	22	23	28	29	19

Options :

1. ✖ Agency A with Total sales =101

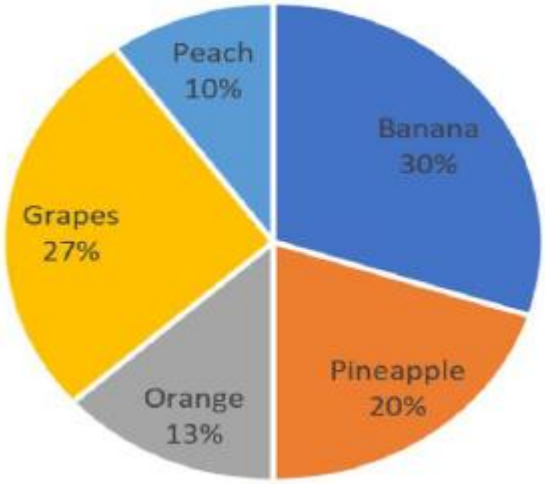
2. ✖ Agency C with Total sales =121

3. ✖ Agency D with Total sales =102

4. ✔ Agency E with Total sales =128

Question Number : 45 Question Id : 97103636706 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Observing the Pie diagram the following options are true.



Options :

1. ✔ Banana sales are more among all the sales

2. ✖ Highest sales observed with the Grapes

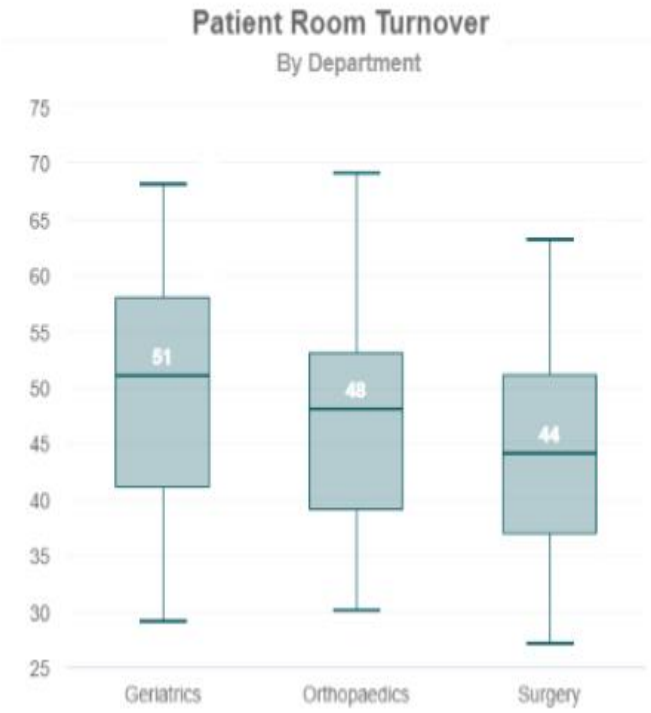
3. ✖ Lowest sales is observed with the Oranges

4. ✖ Sales of Banana > Grapes > Pineapple > Peach

Question Number : 46 Question Id : 97103636707 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

From the data presented through the following Boxplots which of the following statement is

true



Options :

1. ✖ The maximum patient room turnovers is observed with Surgery department

2. ✖ The median patient room turnover of Orthopedics is less than that of Surgery

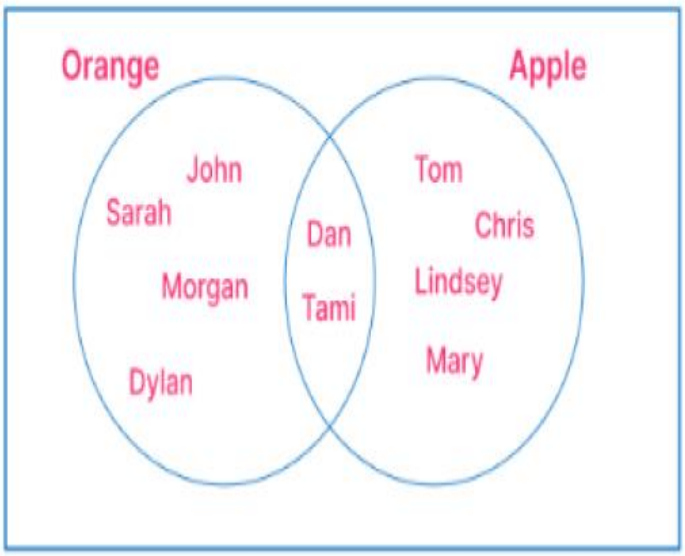
3. ✖ The minimum patient room turnovers is observed with Orthopedics department

4. ✔ The minimum patient room turnovers is observed with Surgery department

Question Number : 47 Question Id : 97103636708 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What are the percentages of people who likes oranges, Apples and Both form the display given

below



Options :

1. ✖ 60%, 40% and 20%

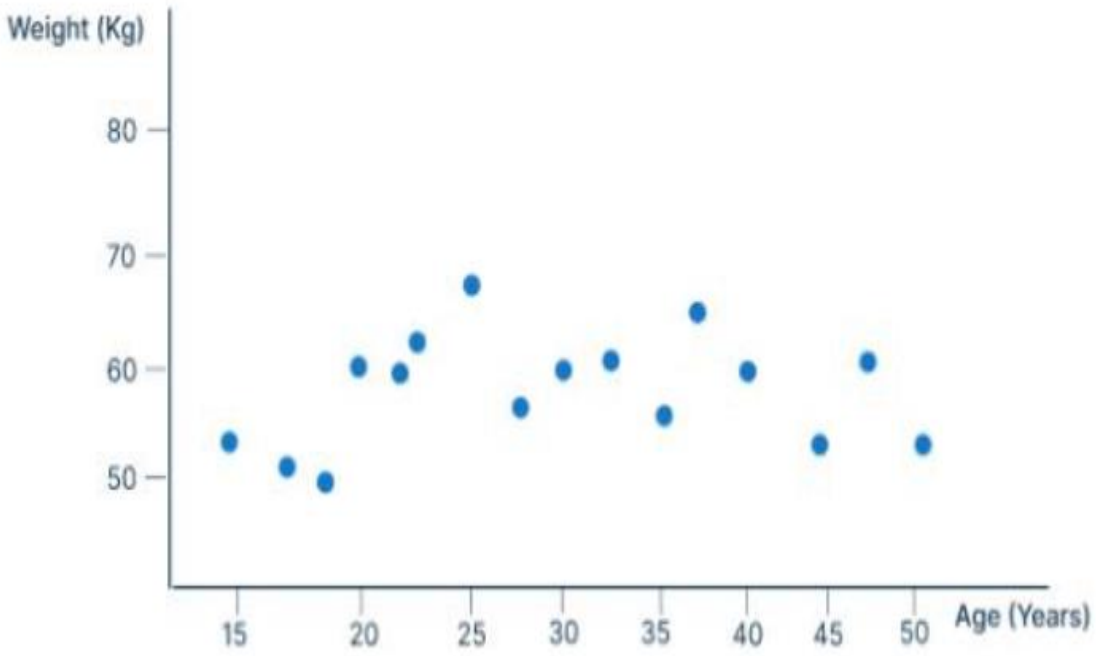
2. ✖ 40%, 60% and 10%

3. ✔ 60%, 60% and 20%

4. ✖ 40%, 40% and 10%

Question Number : 48 Question Id : 97103636709 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the name of the following statistical disclosure



Options :

1. ✖ Area diagram

2. ✖ Bar diagram

3. ✖ Line diagram

4. ✔ Scatter diagram

Question Number : 49 Question Id : 97103636710 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If the following stem-leaf diagram is converted as frequency table with class intervals 0-10, 10-20; 20-30; 30-40; 40-50 and 50-60, how many elements will be observed in the classes of 30-40 and 50-60 ?

Stem	Leaf
0	5
1	6, 7
2	3, 6, 8
3	4, 5, 5, 5, 5, 8, 9
4	7, 7, 7, 8
5	4, 5
6	0

Options :

1. ✖ 7 and 2

2. ✖ 6 and 2

3. ✔ 7 and 3

4. ✖ 6 and 3

Question Number : 50 Question Id : 97103636711 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is immediate next upper level of Kilobyte in the computer memory context?

Options :

1. ✖ Gigabyte

2. ✔ Megabyte

3. ✖ Petabyte

4. ✖ Terabyte

Question Number : 51 Question Id : 97103636712 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is the correct full form of NMEICT?

Options :

1. ✖ National Ministry for Engineering through ICT

2. ✖ National Ministry on E-learning through ICT

3. ✖ National Mission of Engineering through ICT

4. ✔ National Mission on Education through ICT

Question Number : 52 Question Id : 97103636713 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following MS office package will be suitable tool for managing the database?

Options :

1. ✖ MS Excel

2. ✖ MS Word

3. ✔ MS Access

4. ✖ MS Publisher

Question Number : 53 Question Id : 97103636714 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If the decimal number 45 is converted to binary number, it is 101101. Then what will be the binary code for a decimal number 64?

Options :

1. ✔ 1000000

2. ✖ 1000001

3. ✖ 1000010

4. ✖ 1000011

Question Number : 54 Question Id : 97103636715 Display Question Number : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is not an output device with the computer system?

Options :

1. ✖ Monitor

2. ✖ Printer

3. ✔ Scanner

4. ✖ Speaker

Question Number : 55 Question Id : 97103636716 Display Question Number : Yes Is Questi

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the role of the rationale mode in research?

Options :

1. ✔ To emphasize logical reasoning

2. ✖ To prioritize personal experiences

3. ✖ To reject empirical evidence

4. ✖ To rely solely on authorities

Question Number : 56 Question Id : 97103636717 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is relevance of UPS in making use of the personal computer ?

Options :

1. ✔ It's a hardware device that accommodates the continuous power supply to the PC

2. ✖ It's a hardware device that can be used for working with PC as input device

3. ✖ It's a hardware device that will provide the audio or video output

4. ✖ It's hardware device that is working inside the central processing unit of the PC

Question Number : 57 Question Id : 97103636718 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following gases are harmful to protect the ozone layer.

Options :

1. ✖ Carbon dioxide

2. ✔ Chlorofluorocarbon

3. ✖ Nitrogen dioxide

4. ✖ Sulfur dioxide

Question Number : 58 Question Id : 97103636719 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following category of the pollution is due to the emissions of Carbon monoxide during the industrial functioning, vehicle operations and burning of plastics etc. ?

Options :

1. ✔ Air pollution

2. ✖ Soil pollutions

3. ✖ Sound pollution

4. ✖ Water pollution

Question Number : 59 Question Id : 97103636720 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following measures may affect adversely on the environmental health ?

Options :

1. ✖ Increasing the use of green energy

2. ✖ Growth of more trees and plants

3. ✖ Decreasing the gaseous emissions from different sources

4. ✔ Increased carbon emission activities

Question Number : 60 Question Id : 97103636721 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the full form of AQI in the context of measuring the environmental pollution

Options :

1. ✖ Adverse Quantity Index

2. ✔ Air Quality Index

3. ✖ Air Quantity Index

4. ✖ Atmosphere Quantity Index

Question Number : 61 Question Id : 97103636722 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The study that deals with earthquakes is

Options :

1. ✖ Entomology

2. ✖ Epidemiology

3. ✖ Ecology

4. ✔ Seismology

Question Number : 62 Question Id : 97103636723 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The atmospheric disturbances around low-pressure area distinguished by and often destructive air circulation is referred as

Options :

1. ✔ Cyclone

2. ✖ Earthquake

3. ✖ Tsunami

4. ✖ Wildfire

Question Number : 63 Question Id : 97103636724 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following are the major causing factors that influence the rain fall in overall India

Options :

1. ✖ Climate changes in the Bay of Bengal and Arabian Sea

2. ✖ Cyclones & Depressions in the Bay of Bengal and Arabian Sea

3. ✖ Eastern and Western Ghats in the southern peninsula of India

4. ✔ Seasonal Monsoons namely North-East & South-West

Question Number : 64 Question Id : 97103636725 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

STEM education in NEP-2020 is having the focus of the following disciplines of study

Options :

1. ✖ Society, Technology, Environment, Management

2. ✔ Science, Technology, Engineering, Mathematics

3. ✖ Society, Technology, Engineering, Management

4. ✖ Science, Technology, Environment, Mathematics

Question Number : 65 Question Id : 97103636726 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What precaution should researchers take during data interpretation?

Options :

1. ✖ Make assumptions without evidence

2. ✖ Jump to conclusions quickly

3. ✔ Consider alternative explanations

4. ✖ Ignore contradictory findings

Question Number : 66 Question Id : 97103636727 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Who among the following is appointed by the President of India?

Options :

1. ✖ Prime minister of the nation

2. ✔ Governor of a state

3. ✖ Chief minister of a state

4. ✖ Speaker of a state legislative assembly

Question Number : 67 Question Id : 97103636728 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the significance of using graphics in data presentation?

Options :

1. ✖ To confuse readers

2. ✖ To hide important findings

3. ✔ To simplify complex data

4. ✖ To increase word count

Question Number : 68 Question Id : 97103636729 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In research report writing, what is the purpose of the introduction section?

Options :

1. ✖ To present data analysis

2. ✖ To discuss ethical considerations

3. ✖ To summarize the conclusion

4. ✔ To provide background information

Question Number : 69 Question Id : 97103636730 Display Question Number : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which type of report provides a detailed account of the entire research process and findings?

Options :

1. ✖ Executive summary

2. ✔ Technical report

3. ✖ Progress report

4. ✖ Brief report

Question Number : 70 Question Id : 97103636731 Display Question Number : Yes Is Questi

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What does plagiarism refer to in research ethics?

Options :

1. ✔ Using someone else's ideas without credit

2. ✖ Citing sources properly

3. ✖ Collaborating with other researchers

4. ✖ Sharing research findings openly

Computer Science and Engineering

Section Id :	971036522
Section Number :	2
Mandatory or Optional :	Mandatory
Number of Questions :	70
Section Marks :	70
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Is Section Default? :	null

Question Number : 71 Question Id : 97103636732 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is a recurrence relation for the sequence {3,6,9,12,15……}

Options :

1. ✔ $a_n = 3n, n \geq 1$

2. ✖ $a_n = 3a_{n-1}, n \geq 2$

3. ✖ $a_n = a_{n-2}+3, n \geq 2$

4. ✖ $a_n = a_{n-1}+3n, n \geq 1$

Question Number : 72 Question Id : 97103636733 Display Question Number : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The recurrence relation between P(x) and P(x+1) in a Poisson distribution is

Options :

1. ✔ $(x+1)\,P(x+1) - m\,P(x) = 0$

2. ✖ $P(x+1) - m\,P(x) = 0$

3. ✖ $m\,P(x+1) - P(x) = 0$

4. ✖ $(x+1)\,P(x) - x\,P(x+1) = 0$

Question Number : 73 Question Id : 97103636734 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

From the letters of the English alphabet A, B, C, D, E, F, G strings are formed by using all the letters.
How many of these strings contain a vowel only at either at the beginning or at the end is

Options :

1. ✖ $7! - 5!$

2. ✖ $2.6! - 5!$

3. ✖ $2.6! + 2.6!$

4. ✔ $2.6! + 2.6! - 2.5!$

Question Number : 74 Question Id : 97103636735 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Consider a random variable with exponential distribution with $\lambda=1$. Compute the probability for P (X>3).

Options :

1. ✖ e-2

2. ✖ e-3

3. ✔ e^{-3}

4. ✖ e^{-2}

Question Number : 75 Question Id : 97103636736 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Let G be a bipartite graph.
P: Any vertex deleted graph G − v is also a bipartite graph.
Q: There exist two disjoint trivial induced subgraphs of G.

Options :

1. ✔ P and Q are true

2. ✖ P and Q are false

3. ✖ P is false and Q is true

4. ✖ P is true and Q is false

Question Number : 76 Question Id : 97103636737 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A doctor knows that Cold causes fever 50% of the time. Prior probability of any patient having cold is 1/50,000. Prior probability of any patient having fever is 1/20. If a patient has fever, what is the probability he/she has cold?

Options :

1. ✖ 0.0003

2. ✔ 0.0002

3. ✖ 0.0045

4. ✖ 0.0004

Question Number : 77 Question Id : 97103636738 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

$\lim_{x \to \infty} \frac{cosx-1}{sinx-x} =$

Options :

1. ✖ Does not exist

2. ✔ 0

3. ✖ 1

4. ✖ ∞

Question Number : 78 Question Id : 97103636739 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Full-adder can be implemented by using

Options :

1. ✖ Two half-adders & one 2 input AND gate.

2. ✖ Three half-adders & one 2 input AND gate.

3. ✖ Two half-adders & one 3 input AND gate

4. ✔ Two half-adders & one 2 input OR gate

Question Number : 79 Question Id : 97103636740 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Assertion (A): X-NOR gate is a universal gate.
Reason (R): It is not possible to realize all Boolean functions using X-NOR gates only.

Options :

1. ✖ Both A and R are true and R is the correct explanation of A.

2. ✖ Both A and R are true and R is NOT a correct explanation of A.

3. ✔ A is false but R is true.

4. ✖ A is true but R is false.

Question Number : 80 Question Id : 97103636741 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruct Time : 0

Number of states can be used in 4-bit ring counter are_____.

Options :

1. ✖ 2

2. ✔ 4

3. ✖ 8

4. ✖ 16

Question Number : 81 Question Id : 97103636742 Display Question Number : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

F(A,B,C)=ΠM(1,2,4,7) is given by

Options :

1. ✔ AΘBΘC

2. ✖ A'BC

3. ✖ (A'B+AB')C'

4. ✖ (A'B+AB')C

Question Number : 82 Question Id : 97103636743 Display Question Number : Yes Is Questi

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

When an inverter is placed between the inputs of SR-Flip flops, the resulting flip flop is a____.

Options :

1. ✔ Data

2. ✖ Toggle

3. ✖ JK

4. ✖ None of the above

Question Number : 83 Question Id : 97103636744 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is a non-valid BCD code?

Options :

1. ✖ 0101 1000

2. ✖ 0011 0001

3. ✔ 0011 1011

4. ✖ 0011 1001

Question Number : 84 Question Id : 97103636745 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Given $(125)_x = (203)_5$ the value of radix X will be?

Options :

1. ✖ 4

2. ✔ 6

3. ✖ 8

4. ✖ 10

Question Number : 85 Question Id : 97103636746 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Consider a CPU where all the instructions require 9 clock cycles to complete execution. There are 130 instructions in the instruction set. It is found the 150 control signals are needed to be generated by the control unit. While designing the horizontal micro programmed control unit, single address format is used for branch control logic. What is the minimum size of the control word and control address register?

Options :

1. ✔ 160, 10

2. ✖ 150, 10

3. ✖ 165, 9

4. ✖ 160, 9

Question Number : 86 Question Id : 97103636747 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

When a pipelining includes four phases like 50, 70, 90 & 100 ns duration with 10 ns latch delay, then calculate speed up ratio?

Options :

1. ✖ 2.7

2. ✔ 3.1

3. ✖ 2.8

4. ✖ 3.5

Question Number : 87 Question Id : 97103636748 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The address range to which I/O chip will respond is

Options :

1. ✖ 0000 H to FFFF H

2. ✖ 4000 H to 5FFFF H

3. ✔ 0000 H to 5FFF H

4. ✖ 4000 H to FFFF H

Question Number : 88 Question Id : 97103636749 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The conflict observed in following program is?

```
Load R1
Load R2
Add R1, R2
Store R3
```

Options :

1. ✔ Data dependency

2. ✖ Resource conflicts

3. ✖ Branch difficulties

4. ✖ No conflict

Question Number : 89 Question Id : 97103636750 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If each address space represents one byte of storage space, how many address lines are needed to access RAM chips arranged in a 4 x 6 array, where each chip is 8K x 4 bits

Options :

1. ✖ 11

2. ✖ 13

3. ✖ 15

4. ✔ 17

Question Number : 90 Question Id : 97103636751 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

In booth multiplication algorithm, after the initialization _____ bits (in proper sequence) are inspected.

Options :

1. ✖ $Q_{n+1}\ Q_n$

2. ✔ $Q_n\ Q_{n+1}$

3. ✖ $Q_{n-1}\ Q_n$

4. ✖ $Q_n\ Q_{n-1}$

Question Number : 91 Question Id : 97103636752 Display Question Number : Yes Is Questi

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following addressing modes permits relocation without any change whatsoever in the code?

Options :

1. ✖ Indirect Addressing

2. ✖ Indexed Addressing

3. ✔ Base Register Addressing

4. ✖ PC relative Addressing

Question Number : 92 Question Id : 97103636753 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What would be the equivalent reference of element of a[i][j][k][l]?

Options :

1. ✖ *(*(a+i+j+k+l)

2. ✔ *(*(*(*(a+i)+j)+k)+l)

3. ✖ (*((*(a+i)+j)+k)+l)

4. ✖ *((*((a+i)+j)+k)+l)

Question Number : 93 Question Id : 97103636754 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The following postfix expression with single digit operands is evaluated using a stack:
6 3 2 * / 4 5 + ^ 2 1 * -
Note that ^ is the exponentiation operator. The top two elements of the stack after the second * is evaluated are

Options :

1. ✔ 2,1

2. ✖ 2,9

3. ✖ 6,1

4. ✖ 5,7

Question Number : 94 Question Id : 97103636755 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A Priority-Queue is implemented as a Max-Heap. Initially, it has 5 elements. The level-order traversal of the heap is given below: 90, 86, 59, 45, 38. Two new elements "67" and "92" are inserted in the heap in that order. The level-order traversal of the heap after the insertion of the elements is

Options :

1. ✖ 90, 86, 59, 45, 38, 67, 92

2. ✖ 92, 86, 90, 45, 38, 67, 59

3. ✖ 92, 90, 86, 45, 38, 59, 67

4. ✔ 92, 86, 90, 45, 38, 59, 67

Question Number : 95 Question Id : 97103636756 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The maximum number of binary trees that can be formed with four unlabelled nodes is___.

Options :

1.

✖ 19

2. ✖ 22

3. ✔ 14

4. ✖ 25

Question Number : 96 Question Id : 97103636757 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Let G be a simple graph with 20 vertices and 100 edges. The size of minimum vertex cover of G is 8. Then, the size of the maximum independent set of G is_____

Options :

1. ✔ 12

2. ✖ 8

3. ✖ Less than 8

4. ✖ More than 12

Question Number : 97 Question Id : 97103636758 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What data structure would you mostly likely see in a non recursive implementation of a recursive algorithm?

Options :

1. ✖ Linked List

2. ✖ Tree

3. ✔ Stack

4. ✖ Queue

Question Number : 98 Question Id : 97103636759 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruct Time : 0

Consider the following code

```
struct node
{
int data;
struct node *next;
}
node newnode;
```

Which one of the following is the correct option to create a new node?

Options :

1. ✖ Newnode = (node*)malloc(sizeof(next*))

2. ✔ Newnode = (node*)malloc(sizeof(node))

3. ✖ Newnode = (node)malloc(sizeof(node))

4. ✖ Newnode = (node*)malloc(sizeof(next))

Question Number : 99 Question Id : 97103636760 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following algorithms are used to find the shortest path from a source node to all other nodes in a weighted graph?

Options :

1. ✖ BFS

2. ✖ Kruskal`s algorithm

3. ✖ Prim's algorithm

4. ✔ Djikstra`s algorithm

Question Number : 100 Question Id : 97103636761 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following sorting algorithm has a worst case time complexity of $O(n^2)$

Options :

1. ✖ Heap Sort

2. ✖ Merge Sort

3. ✔ Quick Sort

4. ✖ Radix Sort

Question Number : 101 Question Id : 97103636762 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A machine took 200 sec to sort 200 names, using bubble sort. In 800 sec, it can appropriately sort_____.

Options :

1. ✔ 400 names

2. ✖ 800 names

3. ✖ 750 names

4. ✖ 850 names

Question Number : 102 Question Id : 97103636763 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The algorithm design technique used in the quick sort algorithm is_____.

Options :

1. ✖ Dynamic Programming

2. ✖ Backtracking

3. ✔ Divide and Conquer

4. ✖ Greedy Method

Question Number : 103 Question Id : 97103636764 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The time complexity to calculate the number of edges in a graph whose information is stored in form of an adjacency matrix is _____

Options :

1. ✖ $O(V)$

2. ✔ $O(V^2)$

3. ✖ $O(E)$

4. ✖ $O(E^2)$

Question Number : 104 Question Id : 97103636765 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

What is the maximum number of possible non zero values in an adjacency matrix of a simple graph with n vertices?

Options :

1. ✖ n*(n+1)

2. ✔ n*(n-1)

3. ✖ (n*(n+1))/2

4. ✖ (n*(n-1))/2

Question Number : 105 Question Id : 97103636766 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A hash table has space for 100 records then the probability of collision before the table 10% full is____.

Options :

1. ✔ 0.45

2. ✖ 0.5

3. ✖ 0.3

4. ✖ 0.34

Question Number : 106 Question Id : 97103636767 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following regular grammars are equivalent?

A. $(00)^*(\varepsilon + 0)$ B. $(00)^*$ C. 0^* D. $0(00)^*$

Options :

1. ✖ A and B

2. ✖ B and C

3. ✖ C and D

4. ✔ A and C

Question Number : 107 Question Id : 97103636768 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Language P <m Q denotes that language P is mapping reducible to language Q. Which of the following is/are true?

A) If P < m Q and Q is recursive then P is recursive
B) If P < m Q and Q is undecidable then P is undecidable
C) If P < m Q and Q is recursively enumerable then P is recursively enumerable
D) If P < m Q and Q is not recursively enumerable then P is not recursively enumerable

Options :

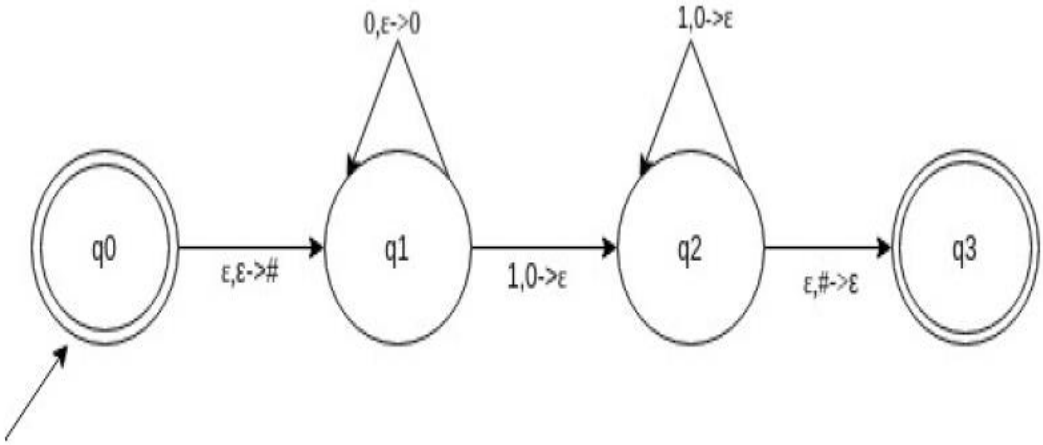
1. ✖ A and B only

2. ✔ A , B and C only

3. ✖ B and C only

4. ✖ D only

Question Number : 108 Question Id : 97103636769 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0



Which of the following resembles the given PDA?

Options :

1. ✖ $\{0^n1^{2n}|n>=0\}$

2. ✔ $\{0^n1^n|n>=0\}$

3.

✖ $\{0^{2n}1^{n}|n>=0\}$

4. ✖ $\{0^{n}1^{3n}|n>=0\}$

Question Number : 109 Question Id : 97103636770 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following languages is generated by the S→aS|bS|ε grammar?

Options :

1. ✔ $\{a,b\}^{*}$

2. ✖ $\{a^{n}|n\geq 0\}\cup\{b^{n}|n\geq 0\}\cup\{a^{n}b^{n}|n\geq 0\}$

3. ✖ $\{w\in\{a,b\}^{*}|w$ has equal number of a′s and b′s$\}$

4. ✖ $\{a^{n}b^{m}|n,m\geq 0\}$

Question Number : 110 Question Id : 97103636771 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Running time of NFA to DFA conversion including the case where the NFA has e-transition is_____.

Options :

1. ✖ $O(n^3)$

2. ✖ $O(n^3 3^2)$

3. ✔ $O(n^3 2^n)$

4. ✖ $O(n^2 2^n)$

Question Number : 111 Question Id : 97103636772 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Given a Turing Machine (M= ({q0,q1},{0,1},{0,1,B},¬,B,{q1}) where ¬ is a transition function defined as ¬(q0,0)=(q0,0,R) , ¬(q0,B)=(q1,B,R).
The Language L(M) accepted by TM is_____.

Options :

1. ✖ 0^*1^*

2. ✖ 1^*0^*

3. ✖ 10^*

4. ✔ 00^*

Question Number : 112 Question Id : 97103636773 Display Question Number : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Pushdown automata can recognize language generated by_____.

Options :

1. ✖ Only CFG

2. ✖ Only Regular Grammar

3. ✖ Only Context Sensitive Grammar

4. ✔ CFG or Regular Grammar

Question Number : 113 Question Id : 97103636774 Display Question Number : Yes Is Quest

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A. States of a DFA represents a subnet of states of NFA
B. Parse tree represents the hierarchical structure of the sentences implied by the grammar.
Choose the correct answer.

Options :

1. ✖ A is false; B is True

2. ✖ A is True; B is false

3. ✔ A is True; B is True

4. ✖ A is false; B is false

Question Number : 114 Question Id : 97103636775 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the compiler allows the only modified sections of source code to be recompiled?

Options :

1. ✖ Dynamic Compiler

2. ✔ Incremental Compiler

3. ✖ Reconfigurable Compiler

4. ✖ Subjective Compiler

Question Number : 115 Question Id : 97103636776 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The handle of the sentential form aAbcde for the grammar given below is_____

S→ aAcBe

A→ Ab| b

B→d

Options :

1. ✖ A→ b at position 2

2. ✖ A→ b at position 3

3. ✖ B→ d at position 5

4. ✔ A→ Ab at position 2

Question Number : 116 Question Id : 97103636777 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Consider the basic block given below.
p = q + r; r = p + s; s = q + r; t = s +q; p = t + q
The minimum number of nodes and edges present in the DAG representation of the above basic block respectively are_____

Options :

1. ✖ 6 and 6

2. ✔ 8 and 10

3. ✖ 9 and 12

4. ✖ 8 and 8

Question Number : 117 Question Id : 97103636778 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is/are operator precedence grammar/s?
A. E→ E+T|E-T
B. E→ PEP; P→+|-

Options :

1. ✔ A only

2. ✖ B only

3. ✖ A and B

4. ✖ Neither

Question Number : 118 Question Id : 97103636779 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is not represented in subroutine`s activation record frame for stack based programming language?

Options :

1. ✖ Return address

2. ✖ Scope

3. ✖ Values of local variable

4. ✔ Heap area

Question Number : 119 Question Id : 97103636780 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

The semantic rule is evaluated and the intermediate code is generated when the production is expanded in_____.

Options :

1. ✔ Top Down Translation

2. ✖ Bottom up Translation

3. ✖ Parse Tree Method

4. ✖ Recursive Evaluator Model

Question Number : 120 Question Id : 97103636781 Display Question Number : Yes Is Quest  **Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Pthread API provides _____.

Options :

1. ✖ Thread Implementation

2. ✔ Thread Behavior Specification

3. ✖ Both 1 and 2

4. ✖ Neither 1 nor 2

Question Number : 121 Question Id : 97103636782 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is a disadvantage of using Message Passing for IPC?

Options :

1. ✖ More difficult to implement

2. ✖ Less secure

3. ✔ Higher overhead

4. ✖ More prone to synchronization issues

Question Number : 122 Question Id : 97103636783 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Consider the following

Process	Burst Time	Priority
P1	4	0
P2	2	1
P3	5	2
P4	1	3

What will be the average waiting time in SRTF algorithm?

Options :

1. ✖ 4

2. ✖ 3

3. ✔ 2

4. ✖ 1

Question Number : 123 Question Id : 97103636784 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In a _____ to locate the desired record, the access method module for this organization searches an index to identify a section of the disk that may contain the record, and searches the record in a file sequentially.

Options :

1. ✖ Direct Access Methods

2. ✖ Sequential Access Methods

3. ✖ Both 1 and 2

4. ✔ Index Sequential Access Methods

Question Number : 124 Question Id : 97103636785 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In IPC, the monitor is a technique _____.

Options :

1. ✖ It is a non-negative integer which apart from initialization can be acted upon by wait and signal operations.

2. ✖ It uses two primitives, send and receive which are system calls rather than language constructs.

3. ✖ It consists of the IPC primitives implemented as system calls to block the process when they are not allowed to enter critical region to save CPU time.

4. ✔ It is higher level synchronization primitive and is collection of procedures, Variables, and data Structures grouped together in a special package.

Question Number : 125 Question Id : 97103636786 Display Question Number : Yes Is Quest Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A system has 15 magnetic tape drives and 4 processes: P0, P1, P2 and P3. Process P0 requires 13 tape drives, P1 requires 4 tape drives, P2 requires 9 tape drives and P3 requires 7 tape drives.
Currently allocated (process-wise)
5, 2, 2, 4

Which of the following sequence is a safe sequence?

Options :

1. ✖ P0,P1,P2,P3

2. ✔ P1,P3,P2,P0

3. ✖ P1,P0,P2,P3

4. ✖ P3,P2,P1,P0

Question Number : 126 Question Id : 97103636787 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Consider a virtual page reference string 7,0, 1,2,0,3,0,4,2,3,0,3,2,1,2,0,1,7,0,1. Suppose a demand paged virtual memory system running on a computer system such that the main memory has 3 page frames. Then _____ page replacement algorithm has minimum number of page faults.

Options :

1. ✔ Optimal

2. ✖ FIFO

3. ✖ LRU

4. ✖ LIFO

Question Number : 127 Question Id : 97103636788 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The DBMS acts as an interface between _____ and _____ of an enterprise-class system.

Options :

1. ✖ Data and the DBMS

2. ✖ Application and SQL

3. ✔ Database application and the database

4. ✖ The user and the software

Question Number : 128 Question Id : 97103636789 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The Unrepeatable Read Problem also known as?

Options :

1. ✖ Consistent Retrieval Problems

2. ✔ Inconsistent Retrieval Problems

3. ✖ Non-concurrent Retrieval Problems

4. ✖ Concurrent Retrieval Problems

Question Number : 129 Question Id : 97103636790 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Assume a relation X (M, N, O, P, Q) that has the following functional dependencies:
MNO -> PQ and
P -> MN
The total number of superkeys of X would be:

Options :

1. ✔ 10

2. ✖ 12

3. ✖ 14

4. ✖ 16

Question Number : 130 Question Id : 97103636791 Display Question Number : Yes Is Quest... Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following statements are TRUE about an SQL query?
A: An SQL query can contain a HAVING clause even if it does not a GROUP BY clause
B: An SQL query can contain a HAVING clause only if it has a GROUP BY clause
C: All attributes used in the GROUP BY clause must appear in the SELECT clause
D: Not all attributes used in the GROUP BY clause need to appear in the SELECT clause

Options :

1. ✖ A and B only

2. ✖ A and D only

3. ✔ B and C only

4. ✖ C and D only

Question Number : 131 Question Id : 97103636792 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Besides the search key, index records contain a pointer to the ___ data on the disk.

Options :

1. ✔ Actual

2. ✖ Consecutive

3. ✖ Previous

4. ✖ Next

Question Number : 132 Question Id : 97103636793 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which forms have a relation that contains information about a single entity?

Options :

1. ✖ NF

2. ✖ 3NF

3. ✖ BCNF

4. ✔ 4NF

Question Number : 133 Question Id : 97103636794 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Consider the following action: Transaction..... Commit; Rollback; What does Rollback do?

Options :

1. ✖ Clears all transactions

2. ✔ No action

3. ✖ Undoes the transactions before commit

4. ✖ Redoes the transactions before commit

Question Number : 134 Question Id : 97103636795 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The sum of the checksum and data at the receiver is _____ if no error is detected.

Options :

1. ✔ – 0

2. ✖ + 0

3. ✖ The complement of the checksum

4. ✖ The complement of the data word

Question Number : 135 Question Id : 97103636796 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If an Internet Service Provider (ISP) has the following chunk of CIDR-based IP addresses available with it:107.12.192.0/18 and the ISP wants to give half of this chunk of address to Organization A, and a quarter to Organization B, while retaining the remaining with itself. Then, which among the following is a valid allocation of addresses to A and B?

Options :

1. ✖ 107.12.64.0/19 and 107.12.208.0/20

2. ✖ 107.12.192.0/19 and 107.12.208.0/21

3. ✖ 107.12.224.0/19 and 107.12.24.0/21

4. ✔ 107.12.224.0/19 and 107.12.208.0/20

Question Number : 136 Question Id : 97103636797 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The UDP protocol that runs on the port number 19 is _____.

Options :

1. ✖ Quote

2. ✔ Chargen

3. ✖ Users

4. ✖ RPC

Question Number : 137 Question Id : 97103636798 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruct Time : 0

A _____ is a trusted third party that solves the problem of symmetric-key distribution.

Options :

1. ✖ CA

2. ✖ firewall

3. ✔ KDC

4. ✖ TLS

Question Number : 138 Question Id : 97103636799 Display Question Number : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following protocol is used to push the messages from the client to the server?

Options :

1. ✔ SMTP

2. ✖ SNMP

3. ✖ POP3

4. ✖ IMAP

Question Number : 139 Question Id : 97103636800 Display Question Number : Yes Is Quest

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following can be an Ethernet multicast destination address?

Options :

1. ✖ 31:7B:6C:DE:10:00

2. ✖ 41:AA:C1:23:45:32

3. ✖ 33:56:21:1A:DE:F4

4. ✔ 36:32:21:21:4D:34

Question Number : 140 Question Id : 97103636801 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Assume that the shortest distance between nodes a, b, c, and d to node y are $D_{ay}=7$, $D_{by}=8$, $D_{cy}=9$, and $D_{dy}=6$ and the costs from node x to nodes a, b, c, and d are Cxa=1, $C_{xb}=2$, $C_{xc}=1$, $C_{xd}=3$. What is the shortest distance between node x and node y, D_{xy}, according to Bellman- Ford equation?

Options :

1. ✖ 7

2. ✔ 8

3. ✖ 9

4. ✖ 6

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