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Test Date	20/12/2025
Test Time	5:00 PM - 7:00 PM
Subject	Probationary Engineer Computer Science

Section : General Aptitude

Q.1	If 529 bananas were distributed among three monkeys in the ratio 5:5:35
Ans	

Question ID :	441009898848
Option 1 ID :	4410093549464
Option 2 ID :	4410093549465
Option 3 ID :	4410093549463
Option 4 ID :	4410093549462
Status :	Not Answered
Chosen Option :	--

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Q.2	The average of 8 numbers is 55. If each number is increased by 5, what will the new average be? ⁴⁵⁶⁷
Ans	☒ A. 55
	☒ B. 8
	☒ C. 65
	☒ D. 60

Question ID :	441009581471
Option 1 ID :	4410092281011
Option 2 ID :	4410092281013
Option 3 ID :	4410092281012
Option 4 ID :	4410092281010
Status :	Not Answered
Chosen Option :	--

Q.3	In an election between two candidates 90% of the registered voters cast their vote and 20% of the votes polled were found invalid. The winning candidate got 55% of the valid votes and won the election by a margin of 10,710 votes. How many voters were registered? ⁷⁰¹⁵
Ans	☒ A. 1,48,780
	☒ B. 1,48,750
	☒ C. 1,48,740
	☒ D. 1,48,770

Question ID :	441009545342
Option 1 ID :	4410092136765
Option 2 ID :	4410092136764
Option 3 ID :	4410092136767
Option 4 ID :	4410092136766
Status :	Not Answered
Chosen Option :	--

Q.4	We need 100 litres of a 25% sugar solution, but we only have a 14% solution and a 60% solution. How much of each should we mix to obtain 100 litres of the 25% solution? (Round answers to the nearest integer.)
Ans	☒ A. 14% solution: 55 litres and 60% solution: 45 litres
	☒ B. 14% solution: 83 litres and 60% solution: 17 litres
	☒ C. 14% solution: 76 litres and 60% solution: 24 litres
	☒ D. 14% solution: 67 litres and 60% solution: 33 litres

Question ID :	4410091223976
Option 1 ID :	4410094829329
Option 2 ID :	4410094829330
Option 3 ID :	4410094829327
Option 4 ID :	4410094829328
Status :	Not Answered
Chosen Option :	--

Q.5	Mr. Anil swims14 km downstream and 10 km upstream. If he takes 120 minutes each side, what is his speed in still water and speed of the stream, respectively?
Ans	✔ A. 6 km/hr and 1 km/hr ✘ B. 7 km/hr and 2 km/hr ✘ C. 5 km/hr and 2 km/hr ✘ D. 4 km/hr and 3 km/hr

Question ID :	441009542588
Option 1 ID :	4410092125748
Option 2 ID :	4410092125749
Option 3 ID :	4410092125750
Option 4 ID :	4410092125751
Status :	Not Answered
Chosen Option :	--

Q.6	A dealer buys two articles X and Y for ₹1,000 each. He marks each of them at the same price. He sells X by giving two successive discounts of 15% and 20% and still earns ₹341 as profit. If he sells Y at a single discount of 32%, then what is the profit percentage on Y?
Ans	✘ A. 34% ✘ B. 33.1% ✘ C. 33% ✔ D. 34.1%

Question ID :	441009915559
Option 1 ID :	4410093616488
Option 2 ID :	4410093616489
Option 3 ID :	4410093616490
Option 4 ID :	4410093616487
Status :	Not Answered
Chosen Option :	--



Q.7

The radius of a sphere is 10 cm more than the radius of a smaller sphere. The surface area of the larger sphere is 3520 cm² more than the surface area of the smaller sphere. What is the diameter (in cm) of the larger sphere?
 $\left(\text{Use } \pi = \frac{22}{7}\right)$

Ans

A. 34

B. 38

C. 36

D. 40

Question ID :	441009599738
Option 1 ID :	4410092354072
Option 2 ID :	4410092354069
Option 3 ID :	4410092354070
Option 4 ID :	4410092354071
Status :	Not Answered
Chosen Option :	--

Q.8

A person borrows ₹58,400 at 20% compound interest per year, compounded annually. At the end of every year, he pays ₹2,300 as part payment. How much does he still owe after two such installments?

Ans

A. ₹78,904

B. ₹79,218

C. ₹79,068

D. ₹79,036

Question ID :	441009570657
Option 1 ID :	4410092237750
Option 2 ID :	4410092237749
Option 3 ID :	4410092237751
Option 4 ID :	4410092237748
Status :	Not Answered
Chosen Option :	--

Q.9

A man sells a mobile phone for ₹600 and loses some money. If he had sold it for ₹1,230, his gain would have been 3.2 times the nominal loss he has actually incurred. The cost price (in ₹) of the mobile phone is:

Ans

A. 770

B. 780

C. 750

D. 730

Question ID :	441009836079
Option 1 ID :	4410093297434
Option 2 ID :	4410093297435
Option 3 ID :	4410093297432
Option 4 ID :	4410093297433
Status :	Not Answered
Chosen Option :	--

Q.10	Two persons, A and B, can do a piece of work in 12 and 16 days, respectively. They worked together for 6 days, and then A left. After that, B took the help of another worker, C, and completed the remaining work in 1 day. If C works alone, in how many days can he complete the same piece of work?
Ans	A. 20
	B. 16
	C. 15
	D. 18

Question ID :	44100967278
Option 1 ID :	441009267862
Option 2 ID :	441009267864
Option 3 ID :	441009267863
Option 4 ID :	441009267865
Status :	Not Answered
Chosen Option :	--

Q.11	Evaluate. [[4 × 2) – (10 ÷ 5)] + 9
Ans	A. 16
	B. 17
	C. 14
	D. 15

Question ID :	441009524180
Option 1 ID :	4410092052141
Option 2 ID :	4410092052142
Option 3 ID :	4410092052140
Option 4 ID :	4410092052139
Status :	Answered
Chosen Option :	D



Q.12	The value of $2.6666... + 1.0909... - 1.1111...$ is:	
Ans	A. 263 100	
	B. 262 99	
	C. 263 98	
	D. 266 107	

Question ID :	441009914260
Option 1 ID :	4410093611293
Option 2 ID :	4410093611291
Option 3 ID :	4410093611292
Option 4 ID :	4410093611294
Status :	Not Answered
Chosen Option :	--

Section : Reasoning

Q.1	KP 13 is related to FL -3 in a certain way. In the same way, NE 20 is related to IA 4. To which of the following is UW 24 related, following the same logic?	
Ans	A. PS 8	
	B. QT 6	
	C. QS 6	
	D. PT 8	

Question ID :	441009787672
Option 1 ID :	4410093104687
Option 2 ID :	4410093104690
Option 3 ID :	4410093104688
Option 4 ID :	4410093104689
Status :	Not Answered
Chosen Option :	--

Q.2

Based on the English alphabetical order, three of the following four letter-clusters are alike in a certain way and thus form a group. Which letter-cluster DOES NOT belong to that group?
(Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)

Ans

✔ A. LOR

✘ B. ORT

✘ C. JMO

✘ D. DGI

Question ID : 441009790808

Option 1 ID : 4410093117231

Option 2 ID : 4410093117232

Option 3 ID : 4410093117234

Option 4 ID : 4410093117233

Status : Answered

Chosen Option : A

Q.3

Seven people J, K, L, M, Q, R, and S are sitting around a circular table facing the centre of the table. Only two people sit between Q and M when counted from the right of Q. Only three people sit between K and R when counted from the right of R. L sits to the immediate right of K. J is an immediate neighbour of R as well as M. Who sits second to the right of S?

Ans

✘ A. Q

✘ B. R

✔ C. L

✘ D. J

Question ID : 441009788587

Option 1 ID : 4410093108349

Option 2 ID : 4410093108347

Option 3 ID : 4410093108350

Option 4 ID : 4410093108348

Status : Answered

Chosen Option : D

Q.4

What will come in place of the question mark (?) in the following equation, if '+' and '-' are interchanged and 'x' and '÷' are interchanged?

4 ÷ 2 + 30 × 3 - 5 = ? + 15

Ans

A. 16

B. 20

C. 18

D. 22

Question ID :	441009555522
Option 1 ID :	4410092177402
Option 2 ID :	4410092177404
Option 3 ID :	4410092177403
Option 4 ID :	4410092177405
Status :	Not Answered
Chosen Option :	--

Q.5

Refer to the following number and symbol series and answer the question that follows. Counting to be done from left to right only.

(Left) 2 € 5 7 ¥ 3 ◇ 8 \$ 4 1 ~ @ 9 # ! 1 £ 4 ☆ 2 \$ 6 3 5 & 7 (Right)

How many such symbols are there that are immediately preceded by an odd number but not immediately followed by an even number?

Ans

A. Three

B. Four

C. Six

D. Five

Question ID :	44100969686
Option 1 ID :	441009277402
Option 2 ID :	441009277401
Option 3 ID :	441009277399
Option 4 ID :	441009277400
Status :	Answered
Chosen Option :	C

Q.6	What should come in place of the question mark (?) in the given series based on the English alphabetical order? ULA PND KPG FRJ ?
Ans	A. BSL
	B. BTM
	C. ATM
	D. ASL

Question ID :	4410091444739
Option 1 ID :	4410095707566
Option 2 ID :	4410095707568
Option 3 ID :	4410095707567
Option 4 ID :	4410095707565
Status :	Answered
Chosen Option :	C

Q.7	What will come in the place of the question mark (?) in the following equation, if '+' and '-' are interchanged and 'x' and '÷' are interchanged? 101 ÷ 18 + 1515 × 15 - 19 = ?
Ans	A. 1736
	B. 1744
	C. 1741
	D. 1727

Question ID :	441009529107
Option 1 ID :	4410092071833
Option 2 ID :	4410092071835
Option 3 ID :	4410092071834
Option 4 ID :	4410092071832
Status :	Not Answered
Chosen Option :	--

Q.8	Select the pair which follows the same pattern as that followed by the two sets of pairs given below. Both pairs follow the same pattern. BSW : GXT LCQ : QHN
Ans	A. VMK : ARH
	B. STK : XWH
	C. FUQ : KYN
	D. CTJ : GWH

Question ID :	441009780922
Option 1 ID :	4410093077692
Option 2 ID :	4410093077691
Option 3 ID :	4410093077693
Option 4 ID :	4410093077694
Status :	Not Answered
Chosen Option :	--

Q.9	Based on the English alphabetical order, three of the following four letter-clusters are alike in a certain way and thus form a group. Which letter-cluster DOES NOT belong to that group? (Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)
Ans	A. SQLF B. AYTN C. QPID D. ECXR

Question ID :	441009774113
Option 1 ID :	4410093050458
Option 2 ID :	4410093050455
Option 3 ID :	4410093050456
Option 4 ID :	4410093050457
Status :	Answered
Chosen Option :	C

Q.10	Refer to the following series and answer the question that follows. Counting to be done from left to right only. All numbers are single-digit numbers. (Left) 6 9 5 9 2 6 4 6 6 5 4 8 5 3 1 9 2 3 4 7 1 (Right) How many such even digits are there, each of which is immediately preceded by a perfect square and also immediately followed by an even digit? (NOTE: 1 is also a perfect square.)
Ans	A. One B. Four C. Three D. Two

Question ID :	441009793899
Option 1 ID :	4410093129595
Option 2 ID :	4410093129598
Option 3 ID :	4410093129597
Option 4 ID :	4410093129596
Status :	Answered
Chosen Option :	C

Q.11	In a certain code language, 'WINE' is coded as '3478' and 'NEWS' is coded as '7364'. How is 'S' coded in that language?
Ans	✓ A. 6 ✗ B. 7 ✗ C. 4 ✗ D. 3

Question ID :	441009150705
Option 1 ID :	441009598058
Option 2 ID :	441009598056
Option 3 ID :	441009598059
Option 4 ID :	441009598057
Status :	Answered
Chosen Option :	C

Q.12	Seven boxes, I, J, K, L, B, C and D, are kept one over the other but not necessarily in the same order. Only three boxes are kept between B and C. Only five boxes are kept above B. K is kept at one of the positions below B. Only D is kept between C and J. I is kept at one of the positions above C. How many boxes are kept between L and C?
Ans	✗ A. Three ✓ B. Two ✗ C. One ✗ D. Four

Question ID :	441009150677
Option 1 ID :	441009597946
Option 2 ID :	441009597945
Option 3 ID :	441009597944
Option 4 ID :	441009597947
Status :	Not Answered
Chosen Option :	--



Q.13

Refer to the following letter and symbol series and answer the question that follows. Counting to be done from left to right only.

(Left) T / P Z D & L Y P % = X / O \ E / M O U M (Right)

How many such symbols are there each of which is immediately preceded by a symbol and also immediately followed by a letter?

Ans

X

A. None

X

B. Three

X

C. Two

✓

D. One

Question ID : 4410096528

Option 1 ID : 44100925863

Option 2 ID : 44100925866

Option 3 ID : 44100925865

Option 4 ID : 44100925864

Status : Answered

Chosen Option : C

Section : Question Based on Computer Science Engineering

Q.1

For the grammar below, what is FIRST(S)?
S→aA|bB

Ans

X

A. {a}

X

B. {b}

X

C. {ε}

✓

D. {a, b}

Question ID : 4410091479907

Option 1 ID : 4410095846726

Option 2 ID : 4410095846727

Option 3 ID : 4410095846729

Option 4 ID : 4410095846728

Status : Answered

Chosen Option : D

Q.2	Which of the following shows the correct order of the four main activities in the Requirements Engineering process?
Ans	☐ ☒ ☐ ☐ ☐ A. Requirements specification → Requirements elicitation → Feasibility study → Requirements validation B. Requirements validation → Requirements elicitation → Feasibility study → Requirements specification C. Requirements elicitation → Requirements validation → Feasibility study → Requirements specification D. Feasibility study → Requirements elicitation and analysis → Requirements specification → Requirements validation

Question ID :	4410091464431
Option 1 ID :	4410095785938
Option 2 ID :	4410095785940
Option 3 ID :	4410095785941
Option 4 ID :	4410095785939
Status :	Answered
Chosen Option :	D

Q.3	A network provides a connectionless service. Which of the following statements must hold true?
Ans	☒ ☐ ☐ ☒ ☐ A. The network layer maintains state information for each session. B. Reliability is guaranteed at the transport layer. C. Each packet is treated independently and may arrive out of order. D. Packets always follow the same route between source and destination.

Question ID :	4410091470676
Option 1 ID :	4410095810628
Option 2 ID :	4410095810630
Option 3 ID :	4410095810629
Option 4 ID :	4410095810627
Status :	Answered
Chosen Option :	C

Q.4	In one's complement form, what does the MSB (Most Significant Bit) indicate?
Ans	☒ ☐ ☐ ☒ ☐ A. The parity of the number B. Whether the number is even or odd C. The sign of the number D. The number of bits in the binary number

Question ID :	4410091449445
Option 1 ID :	4410095726247
Option 2 ID :	4410095726245
Option 3 ID :	4410095726246
Option 4 ID :	4410095726244
Status :	Answered
Chosen Option :	D

Q.5	In the context of digital imaging, resolution mainly refers to which measurement?
Ans	A. Colour harmony per inches
	B. File compression ratio
	C. Number of pixels per dimension
	D. Screen brightness per inches

Question ID :	4410091476004
Option 1 ID :	4410095831310
Option 2 ID :	4410095831311
Option 3 ID :	4410095831313
Option 4 ID :	4410095831312
Status :	Answered
Chosen Option :	C

Q.6	A researcher applies a density-based clustering algorithm to detect patterns in a dataset containing noise and arbitrarily shaped clusters. The results show that the algorithm successfully identifies clusters of varying shapes but struggles when the dataset contains clusters with varying densities. Which of the following best explains the reason for this limitation?
Ans	A. Density-based methods require clusters to be spherical and well-separated.
	B. The algorithm cannot distinguish between core points and border points in dense regions.
	C. The algorithm assumes a global density threshold, making it difficult to detect clusters with different densities.
	D. Density-based methods merge all data points into one cluster when noise is present.

Question ID :	4410091448439
Option 1 ID :	4410095722240
Option 2 ID :	4410095722243
Option 3 ID :	4410095722241
Option 4 ID :	4410095722242
Status :	Not Answered
Chosen Option :	--

Q.7 During an SMTP session, a client communicates with a mail server to send an email.
Consider the following sequence of SMTP commands and responses observed in a network trace:

S: 220 mail.example.com ESMTP Postfix
C: HELO client.host.com
S: 250 mail.example.com Hello client.host.com
C: MAIL FROM:<alice@example.com>
S: 250 OK
C: RCPT TO:<bob@example.net>
S: 550 No such user here
C: RCPT TO:<carol@example.net>
S: 250 OK
C: DATA
S: 354 End data with <CR><LF>.<CR><LF>
C: [message body]
C: .
S: 250 Message accepted for delivery
C: QUIT
S: 221 Bye

Based on the SMTP protocol rules, which of the following statements is **most accurate** about this interaction?

- Ans** ☒ A. The client successfully sent the message, but it will only be delivered to Carol, since Bob's address was rejected.
- ☐ B. The client successfully delivered the message to all recipients, including Bob and Carol.
- ☐ C. The server rejected the entire message because one recipient was invalid.
- ☐ D. The SMTP session was invalid because the client did not issue the EHLO command.

Question ID :	4410091433738
Option 1 ID :	4410095663494
Option 2 ID :	4410095663493
Option 3 ID :	4410095663492
Option 4 ID :	4410095663495
Status :	Not Answered
Chosen Option :	--

Q.8

A table Account is defined as:

CREATE TABLE Account (
AccNo INT PRIMARY KEY,
Balance DECIMAL(10,2) CHECK (Balance >= 500)
);

Which sequence of operations violates data integrity without violating entity integrity?

Ans

☒ A. Updating balance to 200

☐ B. Deleting an existing record

☐ C. Inserting a NULL value into AccNo

☐ D. Inserting a duplicate AccNo value

Question ID :	4410091470549
Option 1 ID :	4410095810121
Option 2 ID :	4410095810122
Option 3 ID :	4410095810119
Option 4 ID :	4410095810120
Status :	Answered
Chosen Option :	C

Q.9

In user interface (UI) design, which of the following principles best prevents cognitive overload and enhances usability during task execution?

Ans

☒ A. Applying consistent layout patterns and progressive disclosure of information

☐ B. Reducing feedback messages to avoid distraction

☐ C. Using diverse visual styles to maintain user engagement

☐ D. Maximising information density on every screen to minimise navigation

Question ID :	4410091476099
Option 1 ID :	4410095831698
Option 2 ID :	4410095831701
Option 3 ID :	4410095831700
Option 4 ID :	4410095831699
Status :	Not Answered
Chosen Option :	--

Q.10

A digital circuit uses three inputs **A**, **B** and **C** connected to a combination of XOR gates as follows:
The output expression is given by:
 $Y=(A\oplus B)\oplus (B\oplus C)$
Which of the following Boolean expressions correctly represents the **simplified output (Y)** in terms of **A**, **B** and **C**?

Ans

☒

A. $Y=A\oplus C$

☐

B. $Y=A+B+C$

☐

C. $Y=A\oplus C\oplus B$

☐

D. $Y=A'B+AB'+BC'+B'C$

Question ID :	4410091435290
Option 1 ID :	4410095669692
Option 2 ID :	4410095669695
Option 3 ID :	4410095669694
Option 4 ID :	4410095669693
Status :	Answered
Chosen Option :	A

Q.11

Which statement correctly reads a string from a text file into a character array str?

Ans

☐

A. `read(fp, str, sizeof(str));`

☐

B. `fscanf(fp, "%s", &str);`

☐

C. `fgetc(fp, str);`

☒

D. `fgets(str, sizeof(str), fp);`

Question ID :	4410091467388
Option 1 ID :	4410095797493
Option 2 ID :	4410095797491
Option 3 ID :	4410095797494
Option 4 ID :	4410095797492
Status :	Not Answered
Chosen Option :	--

Q.12 Let $\Sigma = \{a, b\}$. Define:
 $R_1 = (a + b) b (a + b)$
 $R_2 = (a + b) a (a + b)$
 $R_3 = (a + b) b (a + b)^*$
 $R_4 = (a + b) (aa + bb) (a + b)^*$
Define $F(R)$ as the language denoted by R using the usual recursive rules:
 $F(a) = \{a\}$, $F(b) = \{b\}$, $F(\epsilon) = \{\epsilon\}$
 $F(R_1 + R_2) = F(R_1) \cup F(R_2)$
 $F(R_1 R_2) = F(R_1) \cdot F(R_2)$
 $F(R)^* = (F(R))^*$
Which of the following statements about the equivalence of these regular expressions is true?

- Ans
- ☒ A. $F(R_1) \cup F(R_2) = \Sigma^2$.
 - ☒ B. $F(R_1) = F(R_2)$
 - ☒ C. $F(R_4) \subseteq F(R_3)$.
 - ☒ D. $F(R_3) = \Sigma^* \setminus a^*$

Question ID :	4410091460629
Option 1 ID :	4410095770695
Option 2 ID :	4410095770693
Option 3 ID :	4410095770694
Option 4 ID :	4410095770696
Status :	Answered
Chosen Option :	C

Q.13 Which of the following is NOT a valid location for source or result operands in a computer system?

- Ans
- ☒ A. Main or virtual memory
 - ☒ B. Immediate value within the instruction
 - ☒ C. Processor register
 - ☒ D. Control Unit buffer

Question ID :	4410091453888
Option 1 ID :	4410095743853
Option 2 ID :	4410095743855
Option 3 ID :	4410095743854
Option 4 ID :	4410095743856
Status :	Answered
Chosen Option :	A

Q.14

Match each data type category with its default value when initialised by the default constructor in Java.

Column A (Data Type)	Column B (Default Value)
1. Numeric types (int, long, double)	a. false
2. Reference types (objects, arrays)	b. 0
3. Boolean type	c. null

Ans

✔ A. 1–b, 2–c, 3–a

✘ B. 1–c, 2–b, 3–a

✘ C. 1–b, 2–a, 3–c

✘ D. 1–a, 2–b, 3–c

Question ID :	4410091464260
Option 1 ID :	4410095785266
Option 2 ID :	4410095785268
Option 3 ID :	4410095785269
Option 4 ID :	4410095785267
Status :	Answered
Chosen Option :	A

Q.15

Which of the following statements about Software Engineering is most accurate according to its core principles?

Ans

✘ A. Software Engineering principles apply only to large-scale industrial projects, not small software systems.

✘ B. Software Engineering focuses mainly on programming efficiency rather than maintenance and scalability.

✔ C. Software Engineering emphasises systematic, disciplined and quantifiable approaches to software development, operation and maintenance.

✘ D. Software Engineering is concerned only with hardware-software integration during system design.

Question ID :	4410091446229
Option 1 ID :	4410095713571
Option 2 ID :	4410095713568
Option 3 ID :	4410095713569
Option 4 ID :	4410095713570
Status :	Answered
Chosen Option :	C

Q.16

Which of the following applications makes the greatest use of polymorphism?

Ans

✔ A. Game development

✘ B. Data entry forms

✘ C. Spreadsheet calculations

✘ D. Text editing

Question ID :	4410091489882
Option 1 ID :	4410095885565
Option 2 ID :	4410095885568
Option 3 ID :	4410095885567
Option 4 ID :	4410095885566
Status :	Not Answered
Chosen Option :	--

Q.17

Which of the following statements is most accurate about the learning process in a feedforward neural network that is trained using backpropagation?

Ans

✘ A. Weight updates depend only on the current input vector.

✘ B. The output layer weights are updated randomly to prevent overfitting.

✘ C. Hidden layer weights remain constant during training to maintain stability.

✔ D. Error gradients are propagated backward layer by layer to adjust weights.

Question ID :	4410091476190
Option 1 ID :	4410095832066
Option 2 ID :	4410095832068
Option 3 ID :	4410095832069
Option 4 ID :	4410095832067
Status :	Not Answered
Chosen Option :	--

Q.18

Which of the following best reflects the primary responsibility of the Internet Layer in the TCP/IP suite?

Ans

✘ A. Defining the physical transmission characteristics of network signals

✘ B. Establishing reliable virtual circuits between source and destination hosts

✔ C. Providing logical addressing and best-effort packet delivery across interconnected networks

✘ D. Managing application-level session recovery in case of failure

Question ID :	4410091445834
Option 1 ID :	4410095711974
Option 2 ID :	4410095711973
Option 3 ID :	4410095711975
Option 4 ID :	4410095711976
Status :	Answered
Chosen Option :	D

Q.19 Consider the following C program that creates and traverses a singly linked list. What will be the output?

```
#include <stdio.h>
#include <stdlib.h>

struct Node {
int data;
struct Node *next;
};

int main() {
struct Node *head, *second, *third;

head = (struct Node*)malloc(sizeof(struct Node));
second = (struct Node*)malloc(sizeof(struct Node));
third = (struct Node*)malloc(sizeof(struct Node));

head->data = 5;
head->next = second;

second->data = 10;
second->next = third;

third->data = 15;
third->next = NULL;

struct Node *ptr = head;
while (ptr != NULL) {
printf("%d ", ptr->data);
ptr = ptr->next->next;
}

return 0;
}
```

- Ans
- A. 5 10

B. 5 10 15

C. Segmentation fault (runtime error)

D. 5 15

Question ID :	4410091428300
Option 1 ID :	4410095641733
Option 2 ID :	4410095641731
Option 3 ID :	4410095641734
Option 4 ID :	4410095641732
Status :	Answered
Chosen Option :	D

Q.20	A data analyst is using supervised machine learning to study the relationship between advertising budget (in ₹) and sales revenue (in ₹) for a retail company. He uses linear regression to predict sales based on the advertising budget. Later, he wants to predict whether a customer will make a purchase (Yes/No) based on features like age, income and browsing time. Which of the following statements correctly distinguishes regression from classification in these contexts?
Ans	☐ A. Regression predicts categorical outputs, while classification predicts numerical values. ☐ B. Regression models cannot be used for numerical data, whereas classification models can. ☐ C. Regression minimises the difference between predicted and actual class labels, while classification minimises the mean squared error. ☒ D. Regression uses continuous dependent variables, while classification uses discrete dependent variables.

Question ID :	4410091444061
Option 1 ID :	4410095704845
Option 2 ID :	4410095704848
Option 3 ID :	4410095704846
Option 4 ID :	4410095704847
Status :	Not Answered
Chosen Option :	--

Q.21	In multimedia communication, what does synchronisation mean?
Ans	☐ A. Sending data at random times ☒ B. Aligning audio and video to play together correctly ☐ C. Compressing files ☐ D. Encrypting messages

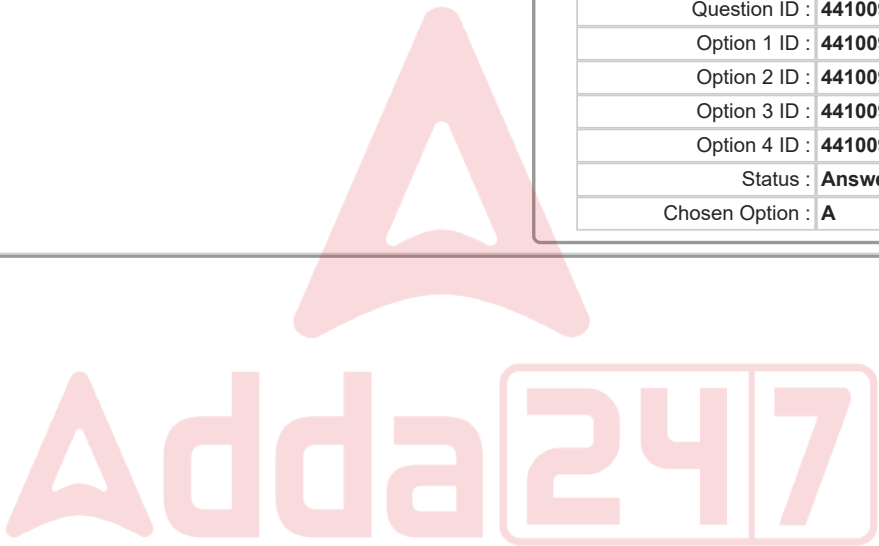
Question ID :	4410091479981
Option 1 ID :	4410095847018
Option 2 ID :	4410095847019
Option 3 ID :	4410095847020
Option 4 ID :	4410095847021
Status :	Answered
Chosen Option :	B

Q.22	In SQL, what does the command ALTER TABLE r ADD A D; do?
Ans	☒ A. Adds a new attribute A of data type D to table r. ☐ B. Renames the attribute A in table r. ☐ C. Deletes attribute A from table r. ☐ D. Adds a new tuple named A to table r.

Question ID :	4410091441810
Option 1 ID :	4410095695890
Option 2 ID :	4410095695891
Option 3 ID :	4410095695892
Option 4 ID :	4410095695889
Status :	Answered
Chosen Option :	B

Q.23	Which data structure is most useful for implementing the symbol table during lexical analysis?
Ans	☐ A. Stack ☐ B. Linked List ☒ C. Hash Table ☐ D. Queue

Question ID :	4410091479881
Option 1 ID :	4410095846623
Option 2 ID :	4410095846622
Option 3 ID :	4410095846624
Option 4 ID :	4410095846625
Status :	Answered
Chosen Option :	A



Q.24	Even though Multilayer Feed-Forward Neural Networks are widely used in various fields, they have inherent limitations. Match the listed limitations in Column A with their corresponding implications or effects in Column B.	
	Column A (Limitation)	Column B (Implication / Effect)
	1. Absence of cycles (no feedback connections)	a. The network cannot correct earlier-stage errors through back propagation
	2. Information about neighborhood may be lost	b. Causes repetitive reprocessing of all computation steps
	3. Lack of support for back propagation	c. Prevents the model from retaining temporal or contextual dependencies
	4. Need to recompute all steps when data changes	d. Leads to inefficiency in iterative learning or dynamic input updates

Ans	☒ A. 1-b, 2-a, 3-d, 4-c
	☒ B. 1-a, 2-c, 3-b, 4-d
	☒ C. 1-c, 2-d, 3-a, 4-b
	☒ D. 1-c, 2-a, 3-b, 4-d

Question ID :	4410091467344
Option 1 ID :	4410095797316
Option 2 ID :	4410095797317
Option 3 ID :	4410095797318
Option 4 ID :	4410095797315
Status :	Not Answered
Chosen Option :	--

Q.25	What is called a textual, language-independent description of an algorithm used to plan and understand a solution?
Ans	☒ A. Program
	☒ B. Compiler
	☒ C. Pseudocode
	☒ D. Flowchart

Question ID :	4410091434672
Option 1 ID :	4410095667242
Option 2 ID :	4410095667245
Option 3 ID :	4410095667244
Option 4 ID :	4410095667243
Status :	Answered
Chosen Option :	D

Q.26	Which option most clearly highlights why the Software Engineering discipline is essential for large software projects development?
Ans	☒ A. It provides structured processes that improve reliability, maintainability and scalability. ☐ B. It ensures faster coding irrespective of complexity using the automated tools. ☐ C. It eliminates the need for documentation and design reviews to reduce the overall software cost. ☐ D. It guarantees zero defects through automated testing.

Question ID :	4410091476073
Option 1 ID :	4410095831592
Option 2 ID :	4410095831591
Option 3 ID :	4410095831593
Option 4 ID :	4410095831590
Status :	Answered
Chosen Option :	A

Q.27	Which of the following is a default port number for FTP?
Ans	☐ A. 23 ☒ B. 21 ☐ C. 24 ☐ D. 22

Question ID :	441009293442
Option 1 ID :	4410091140646
Option 2 ID :	4410091140644
Option 3 ID :	4410091140647
Option 4 ID :	4410091140645
Status :	Answered
Chosen Option :	B

Q.28	A data scientist is developing a predictive model for loan default detection using a dataset that contains labelled examples of previous loan applications marked as 'defaulted' or 'not defaulted'. However, during model training, the algorithm shows very high accuracy on training data but performs poorly on new unseen test data. Despite adding more labelled data, the issue persists. Which of the following best explains the underlying problem in the supervised learning process?
Ans	☐ A. The model applies an unsupervised clustering technique instead of classification. ☒ B. The model suffers from overfitting due to poor generalisation. ☐ C. The algorithm fails due to lack of a defined loss function. ☐ D. The dataset lacks sufficient labelling for supervised learning.

Question ID :	4410091448353
Option 1 ID :	4410095721902
Option 2 ID :	4410095721900
Option 3 ID :	4410095721903
Option 4 ID :	4410095721901
Status :	Not Answered
Chosen Option :	--

Q.29	Which of the following is NOT a limitation of DBSCAN?
Ans	☒ A. Requirement to predefine number of clusters ☐ B. Poor performance on varying density datasets ☐ C. High sensitivity to noise ☐ D. Difficulty in finding optimal ϵ and minPts

Question ID :	4410091490581
Option 1 ID :	4410095888351
Option 2 ID :	4410095888349
Option 3 ID :	4410095888350
Option 4 ID :	4410095888348
Status :	Not Answered
Chosen Option :	--

Q.30	What is the function of the control bus in a computer system?
Ans	☐ A. To carry memory addresses ☐ B. To connect peripheral devices ☐ C. To carry data between components ☒ D. To carry control signals

Question ID :	4410091198288
Option 1 ID :	4410094727048
Option 2 ID :	4410094727050
Option 3 ID :	4410094727047
Option 4 ID :	4410094727049
Status :	Answered
Chosen Option :	D

Q.31	The equivalent hexadecimal representation for the binary number 1011101.1101 is _____.
Ans	☐ A. 2E.D ☒ B. 5D.D ☐ C. 5D.E ☐ D. 5B.B

Question ID :	4410091471161
Option 1 ID :	4410095812580
Option 2 ID :	4410095812577
Option 3 ID :	4410095812579
Option 4 ID :	4410095812578
Status :	Answered
Chosen Option :	B

Q.32	If SetConsoleMode() is called with an input handle (STD_INPUT_HANDLE), which of the following mode flags CANNOT be used?
Ans	☒ A. ENABLE_LINE_INPUT
	☒ B. ENABLE_ECHO_INPUT
	☒ C. ENABLE_PROCESSED_INPUT
	☒ D. ENABLE_WRAP_AT_EOL_OUTPUT

Question ID :	4410091467660
Option 1 ID :	4410095798443
Option 2 ID :	4410095798446
Option 3 ID :	4410095798444
Option 4 ID :	4410095798445
Status :	Not Answered
Chosen Option :	--

Q.33	Analyse the following C program and predict its output. <pre>#include <stdio.h> int main() { FILE *fp; if ((fp = fopen("temp.txt", "r")) == NULL) printf("Error"); else fclose(fp); fclose(fp); return 0; }</pre>
Ans	☒ A. Undefined behavior
	☒ B. Compilation error
	☒ C. Prints 'Error'
	☒ D. Closes file safely twice

Question ID :	4410091460936
Option 1 ID :	4410095771880
Option 2 ID :	4410095771881
Option 3 ID :	4410095771878
Option 4 ID :	4410095771879
Status :	Not Answered
Chosen Option :	--

Q.34	Which Unix System call is equivalent to Windows System call CreateFile()?
Ans	☒ A. read()
	☒ B. write()
	☒ C. fopen()
	☒ D. open()

Question ID :	4410091434763
Option 1 ID :	4410095667599
Option 2 ID :	4410095667601
Option 3 ID :	4410095667598
Option 4 ID :	4410095667600
Status :	Not Answered
Chosen Option :	--

Q.35	Which is a major design criticism of the OSI model?
Ans	☒ A. Over-specification of protocols
	☒ B. Lack of session management
	☒ C. Overlapping functionality across layers
	☒ D. Under-specification of services

Question ID :	4410091478629
Option 1 ID :	4410095841842
Option 2 ID :	4410095841845
Option 3 ID :	4410095841844
Option 4 ID :	4410095841843
Status :	Answered
Chosen Option :	B

Q.36	Consider a DFS on a graph with vertices {A, B, C, D, E}. If the traversal starts at A and discovers vertices in order A → B → C → D → E, what is the DFS finishing order?
Ans	☒ A. A, B, C, D, E
	☒ B. Random order
	☒ C. E, D, C, B, A
	☒ D. D, E, C, B, A

Question ID :	4410091470185
Option 1 ID :	4410095808670
Option 2 ID :	4410095808673
Option 3 ID :	4410095808671
Option 4 ID :	4410095808672
Status :	Answered
Chosen Option :	C

Q.37

A system uses fixed partitioning with the following memory blocks and process allocations:

Block Size (MB)	Process Size (MB)
4	1
8	7
8	7
16	14

Which statement is true about internal and external fragmentation?

Ans

A. Internal fragmentation = 7 MB; External fragmentation = 4 MB

B. Internal fragmentation = 0 MB; External fragmentation = 7 MB

C. Internal fragmentation = 7 MB; External fragmentation = 0 MB

D. Internal fragmentation = 4 MB; External fragmentation = 3 MB

Question ID :	4410091441831
Option 1 ID :	4410095695974
Option 2 ID :	4410095695975
Option 3 ID :	4410095695973
Option 4 ID :	4410095695976
Status :	Answered
Chosen Option :	C



Q.38

A system uses **variable partition memory management** with the following free memory blocks (in KB):

Block Size (KB)	
1	100
2	500
3	200
4	300
5	600

Four processes arrive in the following order with their memory requirements (in KB):

Process Size (KB)	
P1	212
P2	417
P3	112
P4	426

Using the **Best Fit** allocation strategy, determine **which block each process is allocated to** and **how much total internal fragmentation remains at the end of all allocations.**

- Ans

A. P1 → Block 3, P2 → Block 2, P3 → Block 1, P4 → Block 5; Total internal fragmentation = 159 KB

B. P1 → Block 4, P2 → Block 2, P3 → Block 3, P4 → Block 5; Total internal fragmentation = 433 KB

C. P1 → Block 2, P2 → Block 4, P3 → Block 1, P4 → Block 5; Total internal fragmentation = 171 KB

D. P1 → Block 4, P2 → Block 5, P3 → Block 1, P4 → Block 2; Total internal fragmentation = 169 KB

Question ID :	4410091431779
Option 1 ID :	4410095655408
Option 2 ID :	4410095655411
Option 3 ID :	4410095655410
Option 4 ID :	4410095655409
Status :	Answered
Chosen Option :	B

Q.39

If an NFA has 4 states, what is the maximum number of states possible in the equivalent DFA?

Ans

A. 4

B. 16

C. 32

D. 8

Question ID :	4410091479717
Option 1 ID :	4410095845970
Option 2 ID :	4410095845973
Option 3 ID :	4410095845972
Option 4 ID :	4410095845971
Status :	Answered
Chosen Option :	B

Q.40	Which situation best demonstrates the importance of atomicity in transaction management?
Ans	☐ A. A transaction ensures that all integrity constraints are satisfied after execution. ☒ B. A bank transfer deducts money from one account but fails to credit the other due to a crash. ☐ C. A committed transaction's updates remain intact even after a power failure. ☐ D. A transaction reads data modified by another transaction before it is committed.

Question ID :	4410091441801
Option 1 ID :	4410095695856
Option 2 ID :	4410095695853
Option 3 ID :	4410095695855
Option 4 ID :	4410095695854
Status :	Answered
Chosen Option :	A

Q.41	Consider the following pseudo-code: Algorithm TestComplexity(A[1..n]) 1. sum ← 0 2. for i ← 1 to n do 3. for j ← 1 to i do 4. for k ← 1 to j do 5. sum ← sum + 1 6. return sum What is the asymptotic time complexity of the above algorithm?
Ans	☐ A. $O(n^2)$ ☐ B. $O(n^4)$ ☒ C. $O(n^3)$ ☐ D. $O(n \log n)$

Question ID :	4410091428508
Option 1 ID :	4410095642563
Option 2 ID :	4410095642565
Option 3 ID :	4410095642564
Option 4 ID :	4410095642566
Status :	Answered
Chosen Option :	A

Q.42 A lexical analyzer uses the following regular expressions to recognise tokens in a programming language:
Identifier (ID): (letter)(letter digit)*
Number (NUM): (digit)+(\.(digit)+)?
Relational Operator (REL_OP): < <= > >= == !=
Whitespace: (blank tab newline)+
Consider the input string:

count<=total1
If the lexical analyzer applies **maximal munch (longest match rule)** and **priority-based resolution** (in the order: REL_OP > NUM > ID > WHITESPACE), what will be the correct **sequence of tokens** recognised?

- Ans**
- ☒ A. <ID, count> <REL_OP, <=> <ID, total1>
 - ☐ B. <ID, count> <REL_OP, <=> <=> <invalid> <ID, total1>
 - ☐ C. <ID, count> <REL_OP, <=> <NUM, total1>
 - ☐ D. <ID, count> <REL_OP, <=> <ID, total> <NUM, 1>

Question ID :	4410091440468
Option 1 ID :	4410095690541
Option 2 ID :	4410095690540
Option 3 ID :	4410095690542
Option 4 ID :	4410095690539
Status :	Answered
Chosen Option :	B

Q.43 In an AND gate with two inputs A and B, the output Y is defined as $Y=AB$. Which of the following truth table entries correctly represents this logic?

- Ans**
- ☐ A. $A=1, B=0 \rightarrow Y=1$
 - ☐ B. $A=0, B=1 \rightarrow Y=1$
 - ☐ C. $A=0, B=0 \rightarrow Y=1$
 - ☒ D. $A=1, B=1 \rightarrow Y=1$

Question ID :	4410091449451
Option 1 ID :	4410095726270
Option 2 ID :	4410095726269
Option 3 ID :	4410095726268
Option 4 ID :	4410095726271
Status :	Answered
Chosen Option :	D

Q.44	What is the relation violates when two tuples have identical values for all attributes?
Ans	☒ A. Entity integrity
	☐ B. Domain integrity
	☐ C. Referential integrity
	☐ D. Functional dependency

Question ID :	4410091477350
Option 1 ID :	4410095836788
Option 2 ID :	4410095836789
Option 3 ID :	4410095836787
Option 4 ID :	4410095836790
Status :	Answered
Chosen Option :	B

Q.45	In a banking system, a transaction T1 transfers ₹300 from Account A to Account B. Balances are stored in a table Accounts(AccNo, Balance) with the constraint: CHECK (Balance >= 0) Suppose the following sequence occurs: 1. T1 deducts ₹300 from Account A. 2. System crashes before adding ₹300 to Account B. 3. The system restarts without recovery. Which component of ACID has been compromised to the greatest extent in this case?
Ans	☐ A. Consistency
	☐ B. Durability
	☒ C. Atomicity
	☐ D. Isolation

Question ID :	4410091470635
Option 1 ID :	4410095810468
Option 2 ID :	4410095810470
Option 3 ID :	4410095810467
Option 4 ID :	4410095810469
Status :	Answered
Chosen Option :	B

Q.46	To write data to the end of a file using WriteFile() without truncating its contents, the file should be opened with which configuration?
Ans	A. OPEN_ALWAYS GENERIC_READ
	B. TRUNCATE_EXISTING GENERIC_WRITE
	C. CREATE_ALWAYS GENERIC_WRITE, then move the pointer to start
	D. OPEN_EXISTING GENERIC_WRITE, then move pointer to end

Question ID :	4410091467646
Option 1 ID :	4410095798386
Option 2 ID :	4410095798385
Option 3 ID :	4410095798384
Option 4 ID :	4410095798383
Status :	Not Answered
Chosen Option :	--

Q.47	Consider the following binary tree: A / \ B C / \ \ D E F If an in-order traversal is performed on this tree, what will be the correct order of visiting nodes?
Ans	A. ABDECF
	B. ADBECF
	C. DBEACF
	D. DEBAFC

Question ID :	4410091434719
Option 1 ID :	4410095667426
Option 2 ID :	4410095667429
Option 3 ID :	4410095667427
Option 4 ID :	4410095667428
Status :	Answered
Chosen Option :	C

Q.48	During lexical analysis, which component is primarily responsible for recognising tokens from the input stream of characters?
Ans	A. Semantic analyzer, based on attribute grammars
	B. Parser, using syntax-directed translation rules
	C. Symbol table manager, by assigning identifiers unique addresses
	D. Finite automaton, driven by regular expressions for token patterns

Question ID :	4410091473462
Option 1 ID :	4410095821488
Option 2 ID :	4410095821487
Option 3 ID :	4410095821490
Option 4 ID :	4410095821489
Status :	Answered
Chosen Option :	C

Q.49	Convert the octal number (7356.47) ₈ into its binary and decimal equivalent, and identify which of the following decimal values is correct.
Ans	A. (3846.59375)₁₀
	B. (3814.609375)₁₀
	C. (3774.59375)₁₀
	D. (3822.609375)₁₀

Question ID :	4410091434932
Option 1 ID :	4410095668269
Option 2 ID :	4410095668271
Option 3 ID :	4410095668272
Option 4 ID :	4410095668270
Status :	Answered
Chosen Option :	D

Q.50	Which of the following is represented as 'Software Crisis'?
Ans	A. High cost and poor quality of early software projects
	B. Lack of computers
	C. Software piracy
	D. Hardware failure

Question ID :	4410091490547
Option 1 ID :	4410095888201
Option 2 ID :	4410095888200
Option 3 ID :	4410095888203
Option 4 ID :	4410095888202
Status :	Answered
Chosen Option :	B

Q.51

Consider the following Java code:
class Parent {
int x = 10;
void show() { System.out.println("Parent: " + x); }
}
class Child extends Parent {
int x = 20;
void show() { System.out.println("Child: " + x); }
}
public class Test {
public static void main(String[] args) {
Parent obj = new Child();
System.out.println(obj.x);
obj.show();
}
}
What will be the output of this program?

Ans

☒ A. 10 Child: 20

☐ B. 20 Parent: 10

☐ C. 20 Child: 20

☐ D. 10 Parent: 10

Question ID :	4410091473517
Option 1 ID :	4410095821571
Option 2 ID :	4410095821572
Option 3 ID :	4410095821569
Option 4 ID :	4410095821570
Status :	Answered
Chosen Option :	A

Q.52

In a multimedia operating system, which of the following functionalities is most critical to ensure continuous playback of audio and video streams without jitter or frame drops?

Ans

☐ A. Batch processing for background tasks

☒ B. Real-time process scheduling with deadline constraints

☐ C. File system encryption and access control

☐ D. Support for multiple user logins with access control

Question ID :	4410091475990
Option 1 ID :	4410095831257
Option 2 ID :	4410095831255
Option 3 ID :	4410095831256
Option 4 ID :	4410095831254
Status :	Answered
Chosen Option :	D

Q.53	When a browser sends a GET request and the server responds with the status code 304 (Not Modified), what does this imply?
Ans	☒ A. The file has not changed since the client's cached copy. ☐ B. The client used an incorrect URL. ☐ C. The file was modified and re-sent. ☐ D. The requested file was deleted from the server.

Question ID :	4410091470793
Option 1 ID :	4410095811115
Option 2 ID :	4410095811118
Option 3 ID :	4410095811117
Option 4 ID :	4410095811116
Status :	Not Answered
Chosen Option :	--

Q.54	A computer system has an 8-bit address bus. Addresses from 00000000 to 01111111 are used for memory, and addresses from 10000000 to 11111111 are used for I/O devices. If each memory location stores one 8-bit word, which of the following statements is true?
Ans	☐ A. The system can address 256 bytes of memory and 128 I/O ports. ☐ B. The system can address 128 words of memory and 256 I/O ports. ☒ C. The system can address a total of 128 bytes of memory and 128 I/O ports. ☐ D. The system can address 256 words of memory, all reserved for memory operations.

Question ID :	4410091453908
Option 1 ID :	4410095743934
Option 2 ID :	4410095743935
Option 3 ID :	4410095743933
Option 4 ID :	4410095743936
Status :	Not Answered
Chosen Option :	--

Q.55	The instruction STA 3000H performs which of the following operations?
Ans	☐ A. Loads accumulator from memory location 3000H ☐ B. Adds data from 3000H to accumulator ☒ C. Stores accumulator data into memory location 3000H ☐ D. Moves data to register A

Question ID :	4410091479043
Option 1 ID :	4410095843267
Option 2 ID :	4410095843268
Option 3 ID :	4410095843266
Option 4 ID :	4410095843269
Status :	Not Answered
Chosen Option :	--

Q.56	Identify the option in which both statements perform the same operation for any numeric variable a.
Ans	☒ A. <code>a = a + 5;</code> and <code>a += 5;</code>
	☒ B. <code>a = a * 5;</code> and <code>a += 5;</code>
	☒ C. <code>a = a + 5;</code> and <code>a *= 5;</code>
	☒ D. <code>a = a - 5;</code> and <code>a -= 5;</code>

Question ID :	4410091457669
Option 1 ID :	4410095758971
Option 2 ID :	4410095758969
Option 3 ID :	4410095758970
Option 4 ID :	4410095758968
Status :	Answered
Chosen Option :	A

Q.57	Consider the array [5, 1, 4, 2, 8]. After the first pass of Bubble Sort to sort array elements in ascending order, what is the state of the array?
Ans	☒ A. [5, 4, 2, 1, 8]
	☒ B. [1, 2, 5, 4, 8]
	☒ C. [1, 4, 2, 5, 8]
	☒ D. [1, 2, 4 5, 8]

Question ID :	4410091470236
Option 1 ID :	4410095808876
Option 2 ID :	4410095808875
Option 3 ID :	4410095808874
Option 4 ID :	4410095808877
Status :	Answered
Chosen Option :	C

Q.58	Which of the following statements about domain constraints in a relational database is most accurate ?
Ans	☒ A. Domain constraints ensure that each attribute's value belongs to a predefined set or type, and may restrict NULL values if specified.
	☒ B. Domain constraints define relationships between multiple attributes across different tables.
	☒ C. Domain constraints apply only to numeric attributes and are ignored for character or date types.
	☒ D. Domain constraints automatically enforce referential integrity between primary and foreign keys.

Question ID :	4410091441808
Option 1 ID :	4410095695882
Option 2 ID :	4410095695881
Option 3 ID :	4410095695884
Option 4 ID :	4410095695883
Status :	Answered
Chosen Option :	A

Q.59

Which of the following elements of graphic design primarily helps in creating depth, contrast and emphasis by controlling how light or dark an area appears?

Ans

A. Space

B. Colour

C. Texture

D. Value

Question ID : 4410091467113

Option 1 ID : 4410095796389

Option 2 ID : 4410095796390

Option 3 ID : 4410095796387

Option 4 ID : 4410095796388

Status : Answered

Chosen Option : C

Q.60

Which of the following regular expressions defines an infinite language over the alphabet $\Sigma = \{ , \} ?$

Ans

A. aa+bb

B. (a+b)*

C. a(a+b)a

D. aa

Question ID : 4410091472190

Option 1 ID : 4410095816660

Option 2 ID : 4410095816658

Option 3 ID : 4410095816659

Option 4 ID : 4410095816657

Status : Answered

Chosen Option : B

Q.61

In the ID3 (Iterative Dichotomiser 3) algorithm used for building Decision Trees, which of the following statements is correct?

Ans

A. ID3 selects the feature with the highest information gain at each node to reduce uncertainty.

B. ID3 selects the feature with the lowest information gain at each node to maximise entropy.

C. ID3 splits the data randomly without considering entropy or information gain.

D. ID3 can only be used for regression problems, not classification.

Question ID : 4410091467327

Option 1 ID : 4410095797248

Option 2 ID : 4410095797247

Option 3 ID : 4410095797249

Option 4 ID : 4410095797250

Status : Not Answered

Chosen Option : --

Q.62	Which of the following is a use of Compiler technology in embedded systems?
Ans	A. Handle database transactions
	B. Manage power supply
	C. Control user interface
	D. Generate efficient machine code for hardware constraints

Question ID :	4410091479872
Option 1 ID :	4410095846589
Option 2 ID :	4410095846588
Option 3 ID :	4410095846586
Option 4 ID :	4410095846587
Status :	Answered
Chosen Option :	D

Q.63	A computer system has a 16-bit address bus and uses byte-addressable memory . The main memory consists of two memory chips , each of size 32 KB . If the address space begins at 0000H, which of the following represents the correct address range for the second memory chip ?
Ans	A. 0000H – 7FFFH
	B. 4000H – 7FFFH
	C. 0000H – FFFFH
	D. 8000H – FFFFH

Question ID :	4410091437130
Option 1 ID :	4410095677248
Option 2 ID :	4410095677250
Option 3 ID :	4410095677251
Option 4 ID :	4410095677249
Status :	Answered
Chosen Option :	C



Q.64

Consider the following Java program:


```
class Demo {  
  int x = 5;  
  static int y = 10;  
  
  void display() {  
    int x = 20;  
    System.out.println(x + " " + this.x + " " + y);  
  }  
}  
  
class Test {  
  static int y = 50;  
  public static void main(String[] args) {  
    Demo d = new Demo();  
    d.display();  
    System.out.println(d.y + " " + y);  
  }  
}
```


What will be the output of the program?

Ans

A. 20 20 10 and 10 10

B. 20 5 50 and 10 10

C. 20 5 10 and 10 50

D. 20 5 10 and 50 50

Question ID :	4410091446177
Option 1 ID :	4410095713363
Option 2 ID :	4410095713365
Option 3 ID :	4410095713362
Option 4 ID :	4410095713364
Status :	Not Answered
Chosen Option :	--

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Q.65

What will be the output of the following C program segment?

```
#include <stdio.h>
int main() {
int i = 1, sum = 0;
do {
if (i % 2 == 0)
sum += i;
i++;
} while (i <= 5);
printf("%d", sum);
return 0;
}
```

Ans

A. 10

B. 6

C. 4

D. 8

Question ID :

4410091428141

Option 1 ID :

4410095641101

Option 2 ID :

4410095641098

Option 3 ID :

4410095641099

Option 4 ID :

4410095641100

Status :

Answered

Chosen Option :

A

Q.66

Which of the following is the output of a compiler?

Ans

A. Binary code

B. Source code

C. Object code

D. High-level language

Question ID :

4410091479863

Option 1 ID :

4410095846552

Option 2 ID :

4410095846550

Option 3 ID :

4410095846551

Option 4 ID :

4410095846553

Status :

Answered

Chosen Option :

B

Q.67	In an FCFS-scheduled system, five processes arrive at time 0: P1 (CPU-bound, 20 ms) and P2–P5 (I/O-bound, 2–5 ms). Which outcome is most likely under FCFS?
Ans	✔ A. I/O-bound processes face starvation due to the convoy effect caused by P1. ✖ B. Average waiting time becomes minimal for all processes. ✖ C. CPU utilization improves because short processes preempt the long one. ✖ D. Context switching increases as I/O-bound processes repeatedly interrupt P1.

Question ID :	4410091431595
Option 1 ID :	4410095654671
Option 2 ID :	4410095654670
Option 3 ID :	4410095654672
Option 4 ID :	4410095654673
Status :	Answered
Chosen Option :	A

Q.68	Which of the following algorithms correctly traverses all elements of a one-dimensional array A from index lower_bound to upper_bound?
Ans	✖ A. Step 1: SET I = lower_bound Step 2: Repeat Steps 3 to 4 while I < upper_bound Step 3: Apply process to A[I] Step 4: SET I = I + 1 Step 5: EXIT ✖ B. Step 1: SET I = lower_bound + 1 Step 2: Repeat Steps 3 to 4 while I <= upper_bound Step 3: Apply process to A[I] Step 4: SET I = I + 1 Step 5: EXIT ✔ C. Step 1: SET I = lower_bound Step 2: Repeat Steps 3 to 4 while I <= upper_bound Step 3: Apply process to A[I] Step 4: SET I = I + 1 Step 5: EXIT ✖ D. Step 1: SET I = upper_bound Step 2: Repeat Steps 3 to 4 while I >= lower_bound Step 3: Apply process to A[I+1] Step 4: SET I = I - 1 Step 5: EXIT

Question ID :	4410091434637
Option 1 ID :	4410095667102
Option 2 ID :	4410095667104
Option 3 ID :	4410095667103
Option 4 ID :	4410095667105
Status :	Not Answered
Chosen Option :	--

Q.69	Consider the following given grammar: $S \rightarrow L = R R$ $L \rightarrow *R \text{ id}$ $R \rightarrow L$ Which of the following statements is true about this grammar with respect to LR parsing techniques?
Ans	☒ A. The grammar contains a shift-reduce conflict in simple LR parsing and is not LR(0) or SLR(1). ☐ B. The grammar is LR(0) and can be parsed by an LR(0) parser without conflicts. ☐ C. The grammar is ambiguous and cannot be parsed by any LR parser. ☐ D. The grammar is SLR(1) and can be parsed without shift-reduce conflicts.

Question ID :	4410091473515
Option 1 ID :	4410095821564
Option 2 ID :	4410095821561
Option 3 ID :	4410095821562
Option 4 ID :	4410095821563
Status :	Answered
Chosen Option :	D

Q.70	In the context of multimedia compositing, which of the following best describes the primary function of chroma keying used in live-action and post-production integration?
Ans	☐ A. It synchronises the motion paths of animated and static elements within a composition. ☐ B. It adjusts the brightness and contrast levels of multiple image layers. ☐ C. It enhances the texture mapping of 3D models to blend them with background scenes. ☒ D. It isolates and removes a specific colour background to merge live-action footage with another visual element.

Question ID :	4410091467284
Option 1 ID :	4410095797074
Option 2 ID :	4410095797071
Option 3 ID :	4410095797073
Option 4 ID :	4410095797072
Status :	Not Answered
Chosen Option :	--

Q.71	In the process of converting a Moore machine to an equivalent Mealy machine, which of the following statements is true?
Ans	☒ A. Mealy machine can produce outputs one input symbol earlier than the equivalent Moore machine. ☐ B. The number of states in the Mealy machine is always greater than that in the Moore machine. ☐ C. The Moore machine requires outputs to depend on both current state and input symbol. ☐ D. The conversion is not possible unless the Moore machine is deterministic.

Question ID :	4410091472159
Option 1 ID :	4410095816536
Option 2 ID :	4410095816533
Option 3 ID :	4410095816535
Option 4 ID :	4410095816534
Status :	Answered
Chosen Option :	B

Q.72	How is a multivalued attribute represented in an ER diagram?
Ans	☐ A. Dashed ellipse ☐ B. Bold ellipse ☒ C. Double ellipse ☐ D. Double rectangle

Question ID :	4410091477342
Option 1 ID :	4410095836752
Option 2 ID :	4410095836754
Option 3 ID :	4410095836751
Option 4 ID :	4410095836753
Status :	Answered
Chosen Option :	D

Q.73	In Kruchten's 4+1 view model of software architecture, which view shows the key abstractions in the system as objects or object classes?
Ans	☐ A. Physical view ☐ B. Development view ☒ C. Logical view ☐ D. Process view

Question ID :	4410091464434
Option 1 ID :	4410095785951
Option 2 ID :	4410095785953
Option 3 ID :	4410095785952
Option 4 ID :	4410095785950
Status :	Not Answered
Chosen Option :	--

Q.74 In the Internet Multimedia Protocol Stack, which of the following correctly matches the protocol with its primary function in supporting multimedia communication?	
Proto col	Function
1. RTP	a. Manages multimedia call setup, control and teardown
2. RTCP	b. Provides feedback on quality of data delivery and synchronisation between streams
3. SIP	c. Handles real-time delivery of audio/video streams
4. RSVP	d. Reserves network resources and provides QoS guarantees

Ans	✔ A. 1-c, 2-b, 3-a, 4-d
	✘ B. 1-a, 2-c, 3-b, 4-d
	✘ C. 1-c, 2-a, 3-b, 4-d
	✘ D. 1-b, 2-a, 3-d, 4-c

Question ID :	4410091467105
Option 1 ID :	4410095796355
Option 2 ID :	4410095796356
Option 3 ID :	4410095796358
Option 4 ID :	4410095796357
Status :	Not Answered
Chosen Option :	--

Q.75 In a CPU with a 16-bit instruction word, the opcode field occupies 6 bits, and the instruction format supports two register operands and one immediate operand. If the system has 32 general-purpose registers, what is the maximum size (in bits) of the immediate operand that can be accommodated?	
--	--

Ans	✘ A. 8
	✘ B. 6
	✔ C. 0
	✘ D. 4

Question ID :	4410091471461
Option 1 ID :	4410095813757
Option 2 ID :	4410095813756
Option 3 ID :	4410095813758
Option 4 ID :	4410095813755
Status :	Answered
Chosen Option :	C

Q.76	When borrow = 1 in binary subtraction, what happens to the next higher bit position?
Ans	A. It remains unchanged. B. It becomes 0. C. It decreases by 1. D. It increases by 1.

Question ID :	4410091449449
Option 1 ID :	4410095726260
Option 2 ID :	4410095726263
Option 3 ID :	4410095726262
Option 4 ID :	4410095726261
Status :	Answered
Chosen Option :	C

Q.77	A Mealy Machine outputs '1' when the current input bit is different from the previous input bit, otherwise it outputs '0'. Assume the previous input is 0 before the first symbol. What is the output sequence for the input string 'x = 10011'?
Ans	A. 01011 B. 11010 C. 10101 D. 11100

Question ID :	4410091438937
Option 1 ID :	4410095684446
Option 2 ID :	4410095684444
Option 3 ID :	4410095684445
Option 4 ID :	4410095684447
Status :	Answered
Chosen Option :	B

Q.78	Which of the following statements in Java will compile and execute successfully without violating keyword usage rules?
Ans	A. boolean null = false; System.out.println(null); B. float goto = 2.5f; System.out.println(goto); C. int static = 10; System.out.println(static); D. int _for = 5; System.out.println(_for);

Question ID :	4410091446149
Option 1 ID :	4410095713257
Option 2 ID :	4410095713256
Option 3 ID :	4410095713254
Option 4 ID :	4410095713255
Status :	Not Answered
Chosen Option :	--

Question ID :	4410091478807
Option 1 ID :	4410095842543
Option 2 ID :	4410095842544
Option 3 ID :	4410095842545
Option 4 ID :	4410095842542
Status :	Answered
Chosen Option :	C

Question ID :	4410091428417
Option 1 ID :	4410095642199
Option 2 ID :	4410095642202
Option 3 ID :	4410095642200
Option 4 ID :	4410095642201
Status :	Answered
Chosen Option :	D

Question ID :	4410091473522
Option 1 ID :	4410095821592
Option 2 ID :	4410095821589
Option 3 ID :	4410095821591
Option 4 ID :	4410095821590
Status :	Not Answered
Chosen Option :	--

Q.82	Which of the following assertions most accurately characterises the semantics of primitive data types as defined by the Java Language Specification?
Ans	☒ A. The float and double types store decimal values using exact binary representation. ☒ B. All numeric data types in Java are unsigned. ☒ C. The boolean data type can be implicitly converted to an integer type during arithmetic operations. ☒ D. The char data type in Java is a 16-bit unsigned integer representing Unicode characters.

Question ID :	4410091473520
Option 1 ID :	4410095821584
Option 2 ID :	4410095821581
Option 3 ID :	4410095821582
Option 4 ID :	4410095821583
Status :	Not Answered
Chosen Option :	--

Q.83	Which of the following statements best characterises unsupervised learning in contrast to supervised learning?
Ans	☒ A. It predicts output variables based on training with known labels. ☒ B. It requires labeled data to group similar observations. ☒ C. It adjusts weight using error values between predicted and actual outputs. ☒ D. It discovers inherent patterns in unlabeled data without predefined outputs.

Question ID :	4410091476125
Option 1 ID :	4410095831809
Option 2 ID :	4410095831806
Option 3 ID :	4410095831808
Option 4 ID :	4410095831807
Status :	Not Answered
Chosen Option :	--

Q.84	Which statement about assertions in a relational database is true regarding data validity?
Ans	☒ A. They maintain data validity through complex or cross-table rules. ☒ B. They ensure only data type consistency. ☒ C. They prevent duplicate primary keys. ☒ D. They are used only for referential integrity.

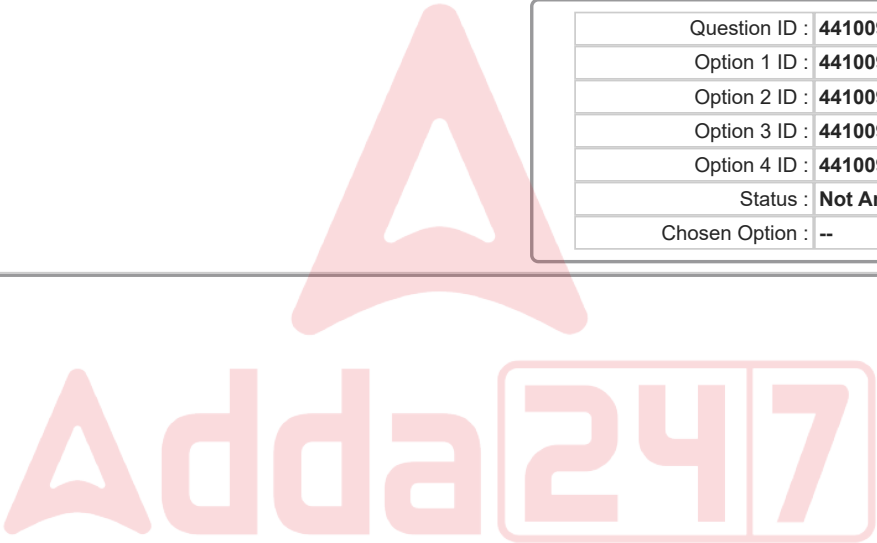
Question ID :	4410091441805
Option 1 ID :	4410095695870
Option 2 ID :	4410095695869
Option 3 ID :	4410095695872
Option 4 ID :	4410095695871
Status :	Answered
Chosen Option :	A

Q.85	Which of the following correctly accesses the element in the 2 nd row and 3 rd column of a 2D array intarr[3][4]?
Ans	✔ A. <code>*(arr + 1) + 2)</code> ✘ B. <code>*(arr[1][2])</code> ✘ C. <code>arr + 1 + 2</code> ✘ D. <code>*(arr + 2 + 3)</code>

Question ID :	4410091467402
Option 1 ID :	4410095797544
Option 2 ID :	4410095797545
Option 3 ID :	4410095797546
Option 4 ID :	4410095797543
Status :	Answered
Chosen Option :	A

Q.86	Which of the following criteria does the KNN algorithm use to make decisions?
Ans	✘ A. Random selection ✘ B. Gradient updates ✔ C. Majority vote among nearest neighbors ✘ D. Training model parameters

Question ID :	4410091490575
Option 1 ID :	4410095888325
Option 2 ID :	4410095888327
Option 3 ID :	4410095888324
Option 4 ID :	4410095888326
Status :	Not Answered
Chosen Option :	--



Q.87	A developer implements the following code to sort a singly linked list using bubble sort by swapping data instead of links: <pre>void sort(struct Node *head) { struct Node *i, *j; int temp; for (i = head; i != NULL; i = i->next) { for (j = i->next; j != NULL; j = j->next) { if (i->data > j->data) { temp = i->data; i->data = j->data; j->data = temp; } } } }</pre> After sorting, the program prints the list, but the last element sometimes remains unsorted when the list contains duplicate values. What is the most likely conceptual issue?
Ans	✔ A. The outer loop must run until no swaps occur, not just until i == NULL. ✘ B. The issue arises because swapping data does not rearrange links, so duplicates are skipped. ✘ C. Swapping node data breaks pointer consistency in linked lists with duplicate values. ✘ D. The inner loop should compare j->next instead of j to avoid null dereferencing.

Question ID :	4410091464317
Option 1 ID :	4410095785497
Option 2 ID :	4410095785494
Option 3 ID :	4410095785495
Option 4 ID :	4410095785496
Status :	Not Answered
Chosen Option :	--

Q.88	Which of the following DMA signals is sent from the CPU or the system's bus controller to give the DMA controller permission to use the system bus for transferring data?
Ans	✘ A. DMA Acknowledge (DACK) ✘ B. Bus Request (BR) ✔ C. Bus Grant (BG) ✘ D. DMA Request (DRQ)

Question ID :	4410091453924
Option 1 ID :	4410095743998
Option 2 ID :	4410095743999
Option 3 ID :	4410095744000
Option 4 ID :	4410095743997
Status :	Answered
Chosen Option :	A

Q.89	Which of the following correctly matches a grammar type with its corresponding language and accepting device in the Chomsky Hierarchy?
Ans	☐ A. Type 1 — Context-Sensitive Grammar — Pushdown Automaton
	☒ B. Type 3 — Regular Grammar — Finite Automaton
	☐ C. Type 2 — Context-Free Grammar — Turing Machine
	☐ D. Type 0 — Recursively Enumerable Grammar — Linear Bounded Automaton

Question ID :	4410091460517
Option 1 ID :	4410095770247
Option 2 ID :	4410095770245
Option 3 ID :	4410095770246
Option 4 ID :	4410095770248
Status :	Answered
Chosen Option :	B

Q.90	Which of the following correctly distinguishes a constant from a variable in Object-Oriented Programming using Java semantics?
Ans	☐ A. A variable stores fixed data throughout program execution, while a constant's value may change dynamically.
	☒ B. A constant is declared using the final keyword, ensuring its value cannot be altered once initialised.
	☐ C. Constants are automatically public and static in all contexts.
	☐ D. Both constants and variables can be modified freely within the same class.

Question ID :	4410091473519
Option 1 ID :	4410095821577
Option 2 ID :	4410095821578
Option 3 ID :	4410095821580
Option 4 ID :	4410095821579
Status :	Not Answered
Chosen Option :	--

Q.91	In a neural network, which function introduces non-linearity?
Ans	☐ A. Loss function
	☐ B. Gradient function
	☐ C. Cost function
	☒ D. Activation function

Question ID :	4410091489804
Option 1 ID :	4410095885254
Option 2 ID :	4410095885256
Option 3 ID :	4410095885255
Option 4 ID :	4410095885253
Status :	Not Answered
Chosen Option :	--

Q.92

A multimedia production team is working on a cross-software project where assets are created in Adobe Illustrator, edited in Adobe Photoshop and then integrated into a 3D visualisation environment using Autodesk Maya. During the asset pipeline, they experience colour mismatch, layer flattening and loss of transparency when moving files between software applications. Which of the following best represents an optimised import/export workflow that minimises such data loss and preserves design fidelity across the tools?

Ans

✔ A. Use EPS or SVG for vector graphics from Illustrator, maintain transparency with PNG or PSD in Photoshop and import into Maya using layered PSD or TIFF with embedded alpha channels.

✘ B. Export all graphics into PDF format since it universally supports both raster and vector elements without any compatibility issues.

✘ C. Convert all assets into BMP format to ensure uncompressed data transfer across the applications.

✘ D. Export all files as JPEG for compatibility and small file size before importing them into each software.

Question ID :	4410091442148
Option 1 ID :	4410095697254
Option 2 ID :	4410095697256
Option 3 ID :	4410095697255
Option 4 ID :	4410095697253
Status :	Not Answered
Chosen Option :	--

Q.93

A computer uses an instruction code format with a total of 16 bits. The operation code (opcode) occupies 5 bits, and the remaining bits are used to specify either:
One direct memory address, or
Two register addresses (each of equal length)
If the system supports 32 general-purpose registers, determine how many distinct instruction formats are possible in this computer.

Ans

✘ A. 16

✔ B. 2

✘ C. 4

✘ D. 8

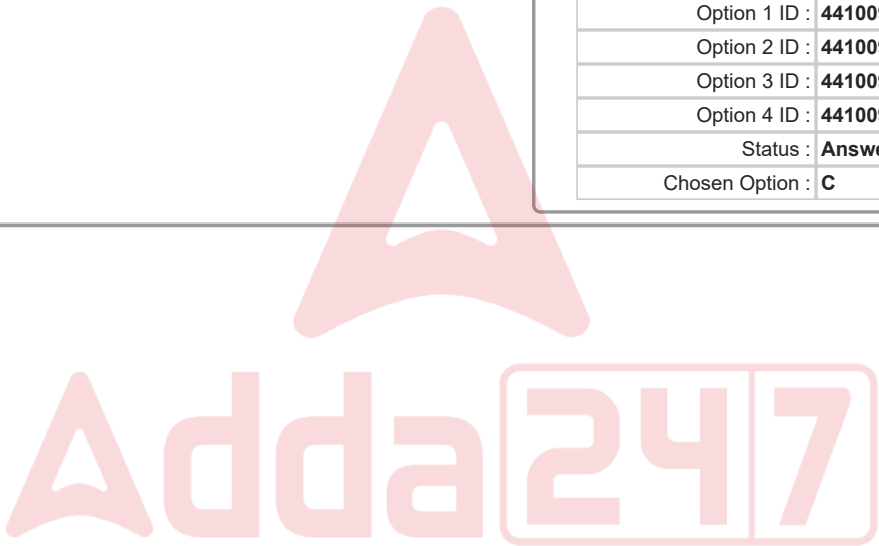
Question ID :	4410091435429
Option 1 ID :	4410095670245
Option 2 ID :	4410095670242
Option 3 ID :	4410095670243
Option 4 ID :	4410095670244
Status :	Answered
Chosen Option :	B

Q.94	Which of the following Big-O notations represents the best time complexity?
Ans	☒ A. $O(n^2)$
	☒ B. $O(n)$
	☒ C. $O(1)$
	☒ D. $O(n \log n)$

Question ID :	441009319585
Option 1 ID :	4410091244607
Option 2 ID :	4410091244608
Option 3 ID :	4410091244609
Option 4 ID :	4410091244606
Status :	Answered
Chosen Option :	B

Q.95	Which of the following binary-to-decimal conversions is INCORRECT?
Ans	☒ A. $(1101)_2 = (13)_{10}$
	☒ B. $(10101010)_2 = (170)_{10}$
	☒ C. $(01101101)_2 = (127)_{10}$
	☒ D. $(1111\ 1111)_2 = (255)_{10}$

Question ID :	4410091471103
Option 1 ID :	4410095812347
Option 2 ID :	4410095812349
Option 3 ID :	4410095812350
Option 4 ID :	4410095812348
Status :	Answered
Chosen Option :	C



Q.96	A multimedia production team is developing an educational documentary that integrates narration, ambient sound, synchronised animations and live-action footage . The final output must maintain lip synchronisation, balanced audio mixing and seamless video transitions for both web streaming and broadcast-quality formats . Which of the following production workflows ensures maximum synchronisation accuracy, audiovisual consistency and cross-platform compatibility?
Ans	☒ A. Record video and audio separately, use a clapperboard or timecode for synchronisation, perform multi-track audio mixing and colour grading, then export using broadcast-safe codecs (e.g., MXF or ProRes) and adaptive web formats (e.g., MP4/H.264). ☐ B. Use only compressed streaming formats (like FLV or WMV) during editing to ensure real-time playback, and later convert to broadcast formats through transcoding. ☐ C. Focus on editing audio first, then align video clips visually using waveform approximation; export all content in uncompressed AVI format for highest fidelity. ☐ D. Capture all audio and video simultaneously using a single camera microphone, then edit directly on the timeline to minimise post-production steps.

Question ID :	4410091442172
Option 1 ID :	4410095697346
Option 2 ID :	4410095697348
Option 3 ID :	4410095697347
Option 4 ID :	4410095697345
Status :	Not Answered
Chosen Option :	--

Q.97	In the Post Office Protocol (POP3), which of the following statements is true regarding message storage and retrieval?
Ans	☐ A. POP3 requires a continuous connection for all message operations. ☐ B. POP3 allows selective message retrieval without downloading. ☒ C. Once downloaded, messages are typically deleted from the server. ☐ D. Messages are permanently stored on the server even after retrieval by default.

Question ID :	4410091470835
Option 1 ID :	4410095811286
Option 2 ID :	4410095811284
Option 3 ID :	4410095811285
Option 4 ID :	4410095811283
Status :	Not Answered
Chosen Option :	--

Q.98	Two systems have identical functionality but differ in architecture. System A uses a layered architecture, while System B uses a microservices architecture. Which of the following statements most accurately reflects the architectural trade-off between them?
Ans	☐ A. System A has lower cohesion and higher coupling compared to System B.
	☐ B. Both architectures ensure identical runtime performance under equal workloads.
	☒ C. System B boosts modularity and deployability, at the cost of higher inter-service communication overhead.
	☐ D. System A is easier to scale horizontally than System B.

Question ID :	4410091476097
Option 1 ID :	4410095831683
Option 2 ID :	4410095831685
Option 3 ID :	4410095831684
Option 4 ID :	4410095831682
Status :	Not Answered
Chosen Option :	--

Q.99	Which operator is used to perform bitwise exclusive OR in C?
Ans	☐ A. &
	☒ B. ^
	☐ C.
	☐ D. ~

Question ID :	4410091467365
Option 1 ID :	4410095797397
Option 2 ID :	4410095797396
Option 3 ID :	4410095797395
Option 4 ID :	4410095797398
Status :	Answered
Chosen Option :	B

Q.100	In non-preemptive scheduling, when does context switching occur?
Ans	☐ A. On time slice expiry
	☐ B. Whenever a new process arrives
	☒ C. Only when the process finishes
	☐ D. When a process is blocked

Question ID :	441009298159
Option 1 ID :	4410091159727
Option 2 ID :	4410091159729
Option 3 ID :	4410091159728
Option 4 ID :	4410091159730
Status :	Answered
Chosen Option :	B