SSC CHSL Tier-1 2022: Official Paper (Held On: 13 March, 2023 Shift 4) (Previous Year Paper)

SSC Combined Higher Secondary Level (CHSL) • 2022 • 100 questions • 60 minutes • Answer key and solutions

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ENGLISH LANGUAGE

Q1. In the following question, select the missing number from the given series.

42, 163, 307, 476, ?

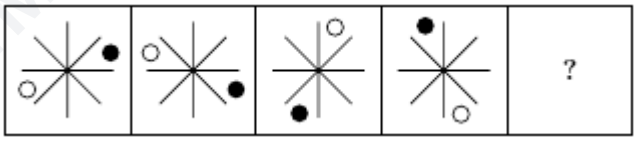
(a) 648

(b) 632

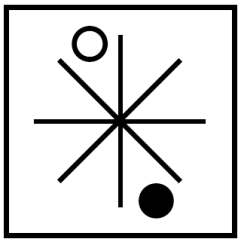
(c) 684

(d) 672

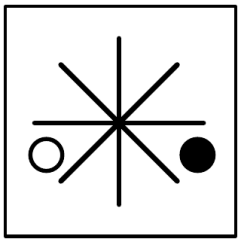
Q2. Select the figure that will come next in the following figure series.



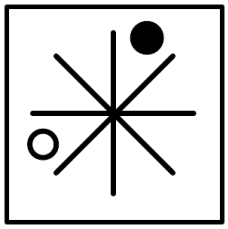
(a)



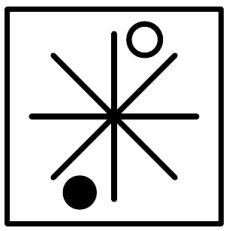
(b)



(c)



(d)



Q3. In the following question, select the related letters from the given alternatives.

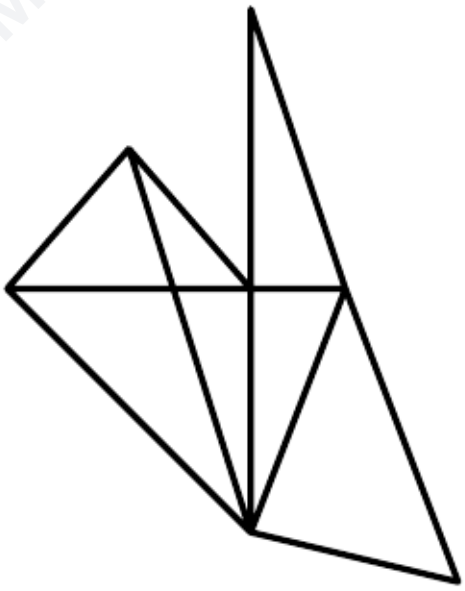
DFH : HFD :: QSU : ?

(a) UQS
(b) USQ
(c) UUS
(d) SQO

Q4. In the following question, select the odd word pair from the given alternatives.

(a) China - Yuan
(b) Thailand - Baht
(c) Lira - Turkey
(d) Japan - Yen

Q5. How many triangles are there in the given figure?



(a) 22
(b) 20
(c) 19
(d) 21

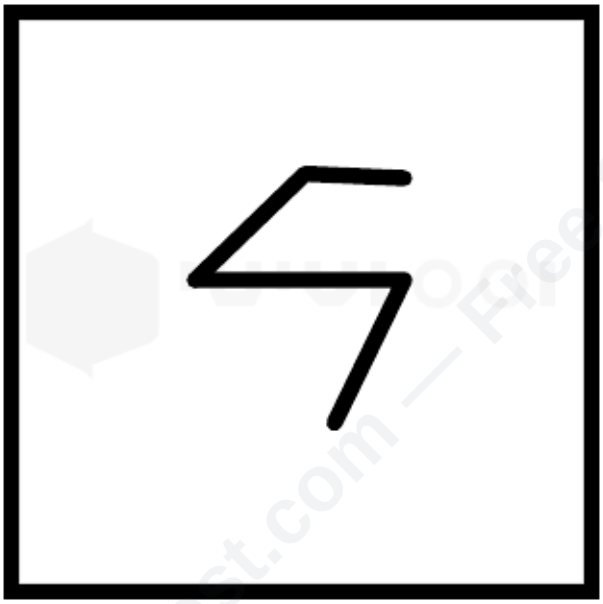
Q6. Words given on the left side of (::) are related with each other by some Logic/Rule/Relation. Select the missing word/word pair on the right side of (::) from the given alternatives based on the same Logic/Rule/Relation.

Meghalaya : Shillong :: ?

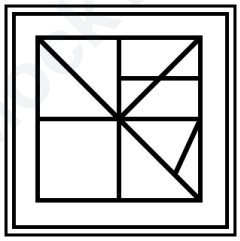
(a) Rajasthan : Jaipur
(b) Bihar : Ranchi
(c) Ahmedabad : Gujarat
(d) Dispur : Assam

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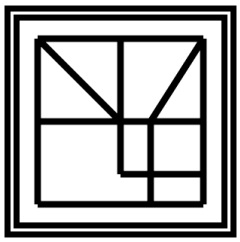
Q7. Select the option figure in which the given figure is embedded. (rotation is NOT allowed)



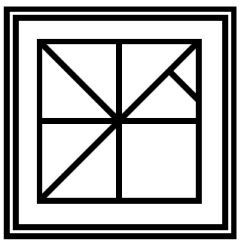
(a)



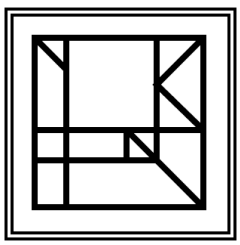
(b)



(c)



(d)



Q8. By Interchanging the given two numbers (Not digits) which of the following equation will be correct?

8 and 7

I. 8 + 7 × 9 ÷ 3 - 6 = 25

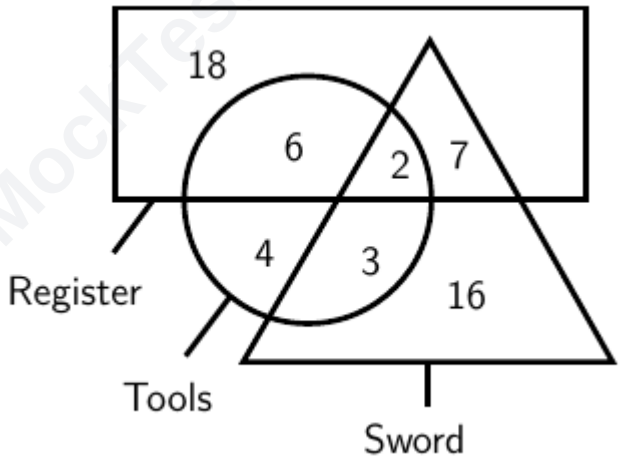
II. 7 × 5 - 8 + 6 ÷ 2 = 38

(a) Only II
(b) Both I and II
(c) Only I
(d) Neither I nor II

Q9. In a certain code language, 'BITCOIN' is coded as 'AJSDNJM'. What is the code for the word 'CURRENCY' in that language?

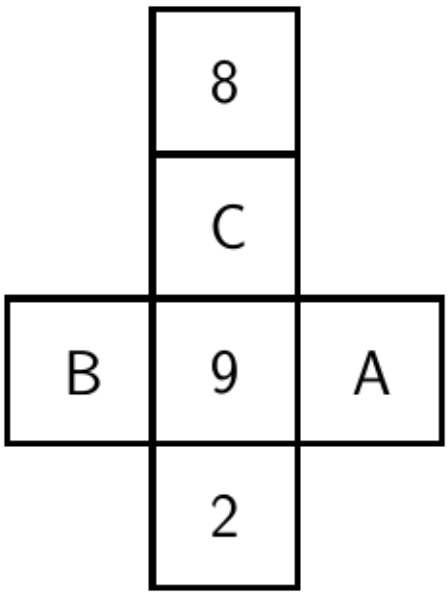
(a) BVSQDOBZ
(b) BVQSODBZ
(c) BVQSDOBZ
(d) BVSQUZOD

Q10. How many register are neither tools nor sword?

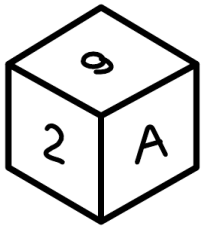


(a) 24
(b) 18
(c) 15
(d) 25

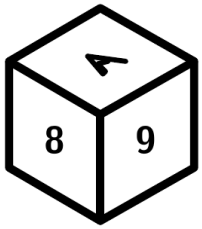
Q11. By folding the given paper, which of the following box can be made?



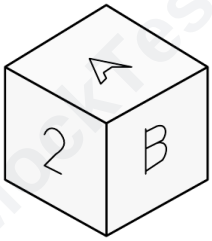
(a)



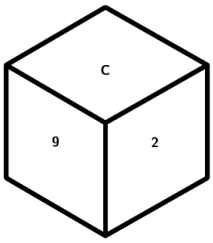
(b)



(c)



(d)



Q12. If '+' means '-', '×' means '+', '-' means '÷' and '÷' means '×', then what will come in place of '?' in the given expression?

72 × 19 ÷ 13 + 16 - ? ÷ 15 × 7 = 266

(a) 32
(b) 16
(c) 4
(d) 2

Q13. In the following question, four number pairs are given. In each pair the number on left side of (-) is related to the number of the right side of (-) with some Logic/Rule/Relation. Three pairs are similar on basis of same Logic/Rule/Relation. Select the odd one out from the given alternatives. (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g.13 - Operations on 13 such as adding/subtracting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)

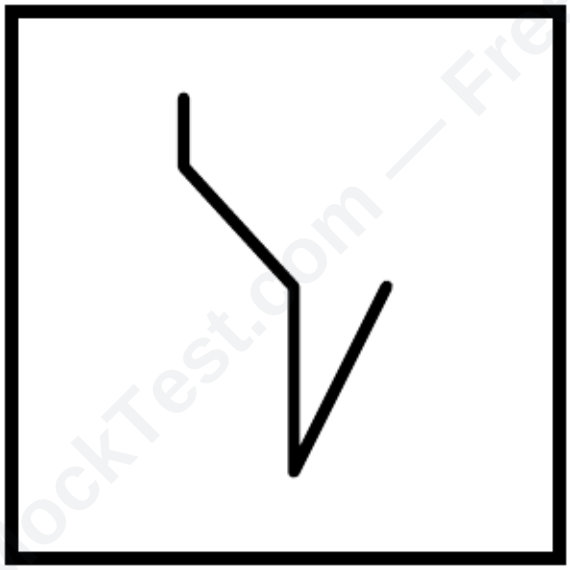
(a) 317 - 713
(b) 342 - 243
(c) 749 - 974
(d) 643 - 346

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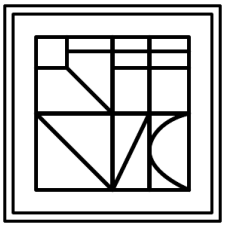
Q14. Ashok's brother's sister is the wife of Ram's son Rahul. How is Ashok related to Rahul's daughter?

(a) Son
(b) Brother
(c) Mother's brother
(d) Father's brother

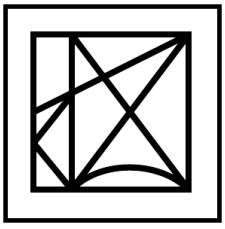
Q15. Select the option figure in which the given figure is embedded. (rotation is NOT allowed)



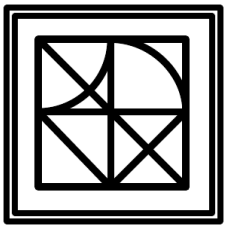
(a)



(b)

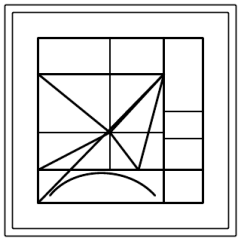


(c)



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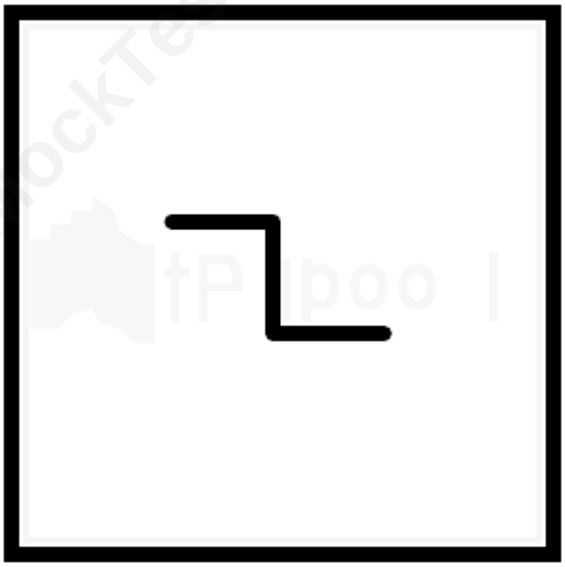
(d)



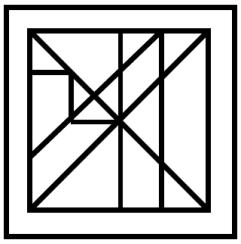
Q16. Select the word pair in which the words are related in the same way as the words are related in the following pair:
Hook Pass : Basketball : ?

(a) Grandmaster : Volleyball
(b) Jockey : Hockey
(c) Butterfly strokes : Swimming
(d) LBW : Football

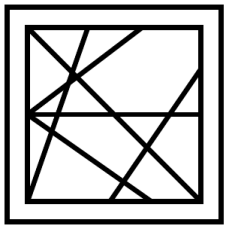
Q17. Select the option figure in which the given figure is embedded. (rotation is NOT allowed)



(a)



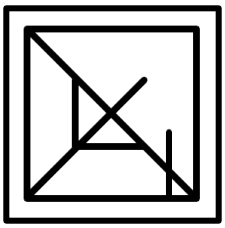
(b)



(c)



(d)



Q18. Select the combination of letters that when sequentially placed in the blanks of the given series will complete the series.

xy_zx_xzxy_ _

(a) xxyz
(b) xyxx
(c) xyxz
(d) yxyz

Q19. Arrange the given words in the sequence in which they occur in the dictionary.

1. Cosmip
2. Costume
3. Cosment
4. Cosmopolitan
5. Cost

(a) 3, 1, 4, 2, 5
(b) 3, 1, 4, 5, 2
(c) 5, 1, 2, 4, 3
(d) 5, 1, 2, 3, 4

Q20. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statement I: All unions are intersections.

Statement II: All intersections are negations.

Conclusion I: Some negations are intersections.

Conclusion II: No union is a negation.

(a) Only I follows
(b) Neither I nor II follows
(c) Both I and II follows
(d) Only II follows

Q21. In the following question, four number pairs are given. In each pair the number on left side of (-) is related to the number of the right side of (-) with some Logic/Rule/Relation. Three pairs are similar on basis of same Logic/Rule/Relation. Select the odd one out from the given alternatives. (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g.13 - Operations on 13 such as adding/subtracting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)

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(a) 13 - 2199
(b) 14 - 2745
(c) 12 - 1729
(d) 17 - 4914

Q22. Out of the given letter clusters, three are similar in a certain manner. However, one option is NOT like the other three. Select the option which is different from the rest.

(a) BDF
(b) UWY
(c) IKM
(d) PRS

Q23. Select the option in which the numbers shares the same relationship in set as that shared by the numbers in the given set. (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g.13 - Operations on 13 such as adding/subtracting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)

(14, 28, 2)

(3, 42, 14)

(a) (5, 35, 8)
(b) (17, 68, 4)
(c) (9, 99, 10)
(d) (16, 36, 3)

Q24. Select the option that is related to the fourth number in the same way as the first number is related to the second number and fifth number is related to sixth number.

6 : 1296 :: ? : 6561 :: 5 : 625

(a) 4
(b) 9
(c) 7
(d) 11

Q25. In a certain code language, '567' is coded as 'high and low', '629' is coded as 'Building are high', and '531' is coded as 'hot and sour'. What is the code for the word 'low' in that language?

(a) 2
(b) 6
(c) 7
(d) 5

GENERAL INTELLIGENCE

Q26. Which of the following pairs of 'soil - characteristics' is correct?

I. Sandy - proportion of fine particles is relatively higher

II. Clayey - greater proportion of big particles

(a) Only I
(b) Neither I nor II
(c) Both I and II
(d) Only II

Q27. Malic Acid is found in which of the following substances?

(a) Apple
(b) Vinegar
(c) Ant sting
(d) Tamarind

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Q28. _____ became the first bank to get Reserve Bank of India's approval for rupee trade.

(a) SBI Bank
(b) Axis Bank
(c) UCO Bank
(d) ICICI Bank

Q29. Ugadi is a Telugu festival celebrated on the occasion of _____.

(a) birth of lord Krishna
(b) birth of lord Rama
(c) coming of monsoon
(d) Telugu new year

Q30. Which Indian city is also known as Queen of Deccan?

(a) Ahmedabad
(b) Pune
(c) Amritsar
(d) Puducherry

Q31. Which of the following Constitutional Amendment Act added the Right to Education to the Indian constitution?

(a) 85^(th)
(b) 88^(th)
(c) 87^(th)
(d) 86^(th)

Q32. In which of the following ways, aggregate demand function is related to consumption function?

I. They have the same slope C.

II. The aggregate demand function is parallel to the consumption function.

(a) Neither I nor II
(b) Only II
(c) Only I
(d) Both I and II

Q33. _____, a 500-year-old dance form, is an Indian Classical dance that developed from the Vaishnavite monasteries of Assam.

(a) Kuchipudi
(b) Bharatnatyam
(c) Sattriya
(d) Mohiniattam

Q34. Who is famously known as the Tiger of Mysore?

(a) Baji Rao I
(b) Tipu Sultan
(c) Sheikh Mohammad Abdullah
(d) Asaf Jah I

Q35. What is the venue for 4^(th) Edition of Khelo India Youth Games?

(a) Maharashtra
(b) Delhi
(c) Gujarat
(d) Haryana

Q36. Apple II is an example of _____ Generation of computer.

(a) Third
(b) Second
(c) First

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(d) Fourth

Q37. What is the full form of HTTP?

(a) High Text Transmission Protocol
(b) Hyper Text Transmission Protocol
(c) Hyper Text Transfer Protocol
(d) High Text Transfer Protocol

Q38. Which of the following statements is correct regarding the Lucknow Pact?

I. It was signed in the year 1916.
II. It was signed between the moderate and radical factions of Congress.

(a) Both I and II
(b) Neither I nor II
(c) Only I
(d) Only II

Q39. Which of the following Airport become 1^(st) airport in India to be run entirely on hydro and solar energy?

(a) Indira Gandhi International Airport, Delhi
(b) Chennai International Airport, Tamil Nadu
(c) Dabolim Airport, Goa
(d) Chhatrapati Shivaji Maharaj International Airport, Mumbai

Q40. Which of the following statements regarding the Deccan Plateau is NOT correct?

(a) The Deccan Plateau is higher in the west and slopes gently eastwards.
(b) The Deccan Plateau is a triangular landmass.
(c) An extension of the Plateau is also visible in the northeast.
(d) The Satpura range flanks its broad base in the west.

Q41. Which of the following pair of "player - sports" is correct?

I. Lovlina Borgohain - Boxing
II. Nikhat Zareen - Wrestling

(a) Neither I nor II
(b) Both I and II
(c) Only II
(d) Only I

Q42. Which country's moon mission has mapped out the global distribution of sodium on the Moon's surface in October 2022?

(a) United States of America
(b) Russia
(c) India
(d) China

Q43. In which part of the Indian constitution are the provisions related to panchayat mentioned?

(a) Part XI
(b) Part IX
(c) Part IX A
(d) Part X

Q44. Who was the first Indian woman to win an Olympic medal?

(a) Neelamshetty Appanna
(b) Karnam Malleswari
(c) Saina Nehwal
(d) Sakshi Malik

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Q45. The Young Bengal Movement was founded by _____.

(a) Henry Louis Vivian Derozio
(b) Dayanand Saraswati
(c) Lala Hansraj
(d) Keshab Chandra Sen

Q46. Who won the women's singles title at the US Open 2022?

(a) Iga Swiatek
(b) Serena Williams
(c) Venus Williams
(d) Ons Jabeur

Q47. Which of the following is NOT an inner planet of our solar system?

(a) Mars
(b) Venus
(c) Mercury
(d) Jupiter

Q48. In the XXI phase of sale of electoral bonds can be only purchase from which of the following institution?

(a) NITI Aayog
(b) RBI
(c) SEBI
(d) SBI

Q49. According to which of the following laws, the pressure of a mixture of gases is equal to the sum of the partial pressures of the component gases?

(a) Charles' Law
(b) Boyle's Law
(c) Dalton's Law
(d) Graham's Law

Q50. El Nino is a name given to the periodic development of a warm ocean current along the coast of _____.

(a) Columbia
(b) Peru
(c) Chile
(d) Bolivia

QUANTITATIVE APTITUDE

Q51. The cost price of two dozen bananas is Rs. 30. After selling 15 bananas at the rate of Rs. 12 per dozen, the shopkeeper sells the remaining bananas at the rate of Rs. 5 per dozen. What is the loss percentage?

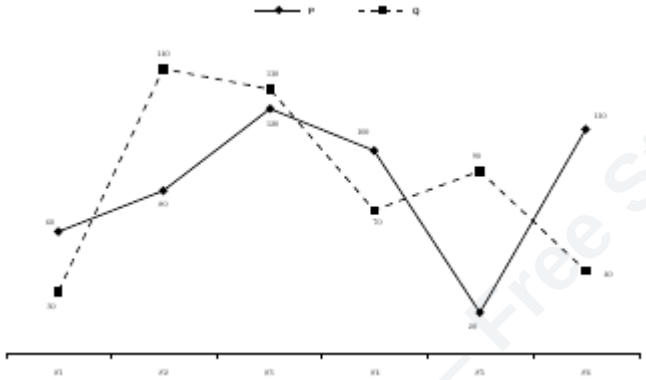
(a) 22.5 percent
(b) 25 percent
(c) 37.5 percent
(d) 30 percent

Q52. If $x - y = 8$ and $8xy = 8$, then what is the value of $2x^3 - 2y^3$?

(a) 536
(b) 1092
(c) 1072
(d) 1608

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Q53. The line chart given below shows the marks obtained by two students P and Q in 6 subjects.



Which of the following statement is correct?

I. The average of marks obtained by P in S1 and S2 is 70.

II. The ratio of marks obtained by Q in S3 to the marks obtained in S4 are 13 : 7.

(a) Only II
(b) Both I and II
(c) Only I
(d) Neither I nor II

Q54. If a + b + c = 12 and ab + bc + ca = 22, then what is the value of $a^3 + b^3 + c^3 - 3abc$?

(a) 1052
(b) 936
(c) 924
(d) 876

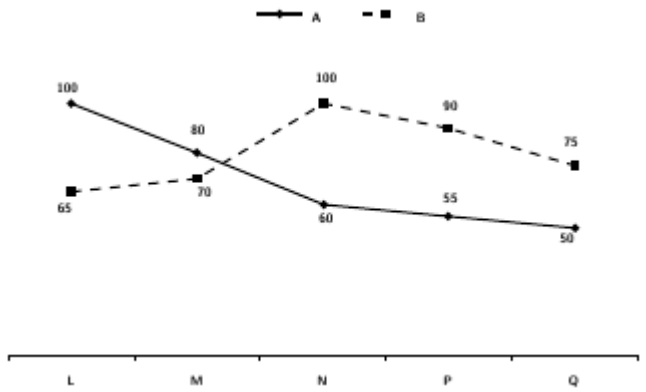
Q55. If triangle PQR is right angled at Q, then what is the value of cos (P + R)?

(a) 0.5
(b) 1
(c) 0.2
(d) 0

Q56. Angle subtended by a chord on the major arc of the circle in 50 degree. What is the angle subtended by the same chord on the centre of the circle?

(a) 100 degree
(b) 120 degree
(c) 140 degree
(d) 25 degree

Q57. The line chart given below shows production of rice by two companies A and B in 5 years.



J1 = The average production of rice by A in years L, M and N.

J2 = The production of rice by B in years N, P and Q.

What is the value of (J2/J1)?

(a) 1.23
(b) 3.31
(c) 6.53
(d) 7.15

Q58. If $3\tan\theta = 2$, what is the value of $(3\sin\theta - \cos\theta)/(3\sin\theta + \cos\theta)$?

(a) 1
(b) 3
(c) $1/\sqrt{3}$
(d) 1/3

Q59. What is the expansion of $(1 - 1/p)^2$?

(a) $1 + 2/p - 1/(p^2)$
(b) $1 - 2/p + 1/(p^2)$
(c) $1 - 2/p - 1/(p^2)$
(d) $1 + 2/p + 1/(p^2)$

Q60. If $\sqrt{3}\tan^2\theta - 4\tan\theta + \sqrt{3} = 0$, then what is the value of $\tan^2\theta + \cot^2\theta$?

(a) 4/3
(b) 10/3
(c) 3
(d) 6/5

Q61. In an election between two candidates one got 60% of the total valid votes, 90% of the votes were valid. If the total number of votes was 12000, then what was the number of valid votes that the other candidate got?

(a) 8840
(b) 4320
(c) 10800
(d) 6200

Q62. If P : Q = 1 : 3, Q : R = 3 : 4 and R : S = 2 : 1, then what is the value of P : S?

(a) 3 : 1
(b) 2 : 1
(c) 1 : 2
(d) 3 : 2

Q63. What is the area of a rhombus whose diagonals are of 8 cm and 13 cm?

(a) 52 cm^2
(b) 96 cm^2
(c) 44 cm^2
(d) 84 cm^2

Q64. The marked price of a calculator is Rs. 1200. It is sold at a discount of 25 percent. If the cost price of the calculator is Rs. 800, then what is the value of profit?

(a) Rs. 100
(b) Rs. 50
(c) Rs. 150
(d) Rs. 200

Q65. If 50 boys can finish a work in 30 days by working 6 hours per day, then how many hours per day should 25 boys work to finish that work within 24 days?

(a) 18 hours
(b) 10 hours
(c) 12 hours
(d) 15 hours

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Q66. The line chart given below shows the marked price and selling price of 7 articles.



The total market price of all the articles is how much percent more than the total selling price of all articles?

(a) 82.21 percent
(b) 58.68 percent
(c) 78.37 percent
(d) 89.26 percent

Q67. PM and PN are two tangents of a circle from an external point P. M and N are points on the circle. If PM = y^2 - 9 and PN = 55, then what is the value of y?

(a) 64
(b) 17
(c) 8
(d) 12

Q68. ABCD is a cyclic quadrilateral, AB is diameter of the circle. If angle angle ACD = 45°, then what is the value of angle BAD?

(a) 90°
(b) 45°
(c) 135°
(d) 35°

Q69. If Manoj cycles at 12 kmph instead of 10 kmph, he would have cycled 15 km more. What is the actual distance cycled by him?

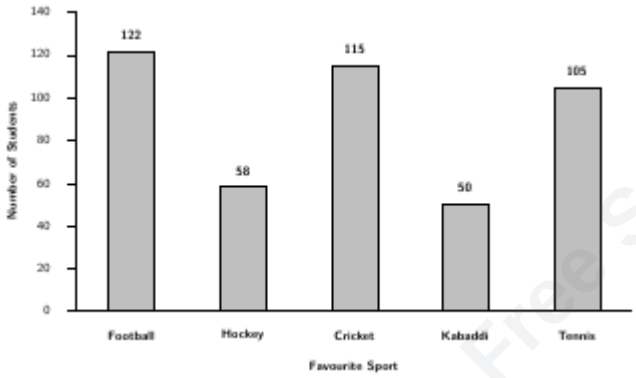
(a) 105 km
(b) 150 km
(c) 75 km
(d) 120 km

Q70. The average monthly income of A and B is Rs. 7,000. The average monthly income of B and C is Rs. 7,750 and the average monthly income of C and A is Rs. 6,750. What is the monthly income of B?

(a) Rs. 6,500
(b) Rs. 8,000
(c) Rs. 7,500
(d) Rs. 6,000

Q71. The following bar graph shows the favourite sport of the students of a school. Which sport is favourite sport of maximum students?

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(a) Football
(b) Cricket
(c) Tennis
(d) Hockey

Q72. A certain sum becomes Rs. 1,050 in 5 years and Rs. 1,230 in 8 years at simple interest. What is the sum?

(a) Rs. 950
(b) Rs. 700
(c) Rs. 650
(d) Rs. 750

Q73. Which of the following statement is true?

I. 1/2 + 1/6 + 1/12 + ... 1/110 < 5/6

II. 1/3 + 1/15 + 1/35 + ... 1/143 > 7/13

(a) Only I
(b) Both I and II
(c) Only II
(d) Neither I nor II

Q74. The length of the diagonals of a rhombus is 40 cm and 60 cm. What is the length of the side of the rhombus?

(a) 50√3 cm
(b) 20√3 cm
(c) 10√13 cm
(d) 40√13 cm

Q75. What is the value of a?

If 15 + 18 ÷ 3 × 5 - 12 ÷ 4 + a = 100

(a) 54
(b) 58
(c) 48
(d) 42

GENERAL AWARENESS

Q76. Improve the underlined part of the sentence. Choose 'No improvement' as an answer if the sentence is grammatically correct.

He released the brake, and the tractor slow moved forward.

(a) No improvement
(b) slow move
(c) slowly move
(d) slowly moved

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Q77. Fill in the blank with an appropriate option.

I don't know if such thoughts have ever _____ to Liz Truss, who is still, at the time of writing, Britain's prime minister.

(a) yielded
(b) monitored
(c) occurred
(d) desisted

Q78. Fill in the blank with an appropriate option.

A hallucination is an error in perception that is why it is often _____ mental health issues.

(a) accounted with
(b) suspended in
(c) dispose of
(d) associated with

Q79. Find the part of the given sentence that has an error in it. If there is no error, choose 'No error'.

As per the study, mosquito-borne dengue fever infects little 400 million people annually.

(a) As per the study, mosquito-borne
(b) No error
(c) dengue fever infects little
(d) 400 million people annually.

Q80. Identify the segment in the sentence which contains a grammatical error. If there is no error, then select the option "No error".

It's 4 p.m. local time and quite a/ large crowd has gathered from yesterday/evening around the giant stage.

(a) evening around the giant stage.
(b) large crowd has gathered from yesterday
(c) No error
(d) It's 4 p.m. local time and quite a

Q81. Select the most appropriate meaning of the given idiom.

Give cold shoulder

(a) Start doing something before the appropriate time
(b) Be guiltless
(c) Think only of one thing
(d) Ignore, avoid or be unfriendly towards someone

Q82. Select the correctly spelt word.

(a) Indiet
(b) Indit
(c) Indict
(d) Indicte

Q83. Improve the underlined part of the sentence. Choose 'No improvement' as an answer if the sentence is grammatically correct.

The dog will whine at the door when he wants to go out.

(a) wants to gone
(b) want to go
(c) No improvement
(d) wants to going

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Q84. Select the word segment that substitutes (replaces) the bracketed word segment correctly and completes the sentence meaningfully. In case no improvement is needed, select 'No improvement'.

The businessman also insisted (that the police had issued him several summons).

(a) that the police issued him with several summonses
(b) that the police issued him several summons
(c) No improvement
(d) that the police had issued him several summonses

Q85. Select the word that is closest in meaning (SYNONYM) to the word given below.

Conscientious

(a) Savage
(b) Casual
(c) Carefree
(d) Sedulous

Q86. Select the word that is closest in meaning (SYNONYM) to the word given below.

Vigorous

(a) Strenuous
(b) Delicate
(c) Torpid
(d) Guarded

Q87. Select the correctly spelt word.

(a) Ingenous
(b) Ingenious
(c) Inginious
(d) Ingenius

Q88. Choose the word that means the same as the given word.

Edacious

(a) Solvent
(b) Gluttonous
(c) Insolvent
(d) Satiated

Q89. Select the option that will improve the (bracketed) part of the sentence. In case of no improvement select the option 'No improvement'.

The detention (arised two distinct) but closely linked questions.

(a) raised two distinct
(b) rises two distinct
(c) No improvement
(d) increased two distinct

Q90. Given below are four jumbled sentences. Pick the option that gives their correct order.

P. Many years ago, Paul Bunyan was born in the north-eastern American state of Maine.

Q. His mother and father were shocked when they first saw the boy.

R. Paul was so large at birth that five large birds had to carry him to his parents.

S. When the boy was only a few weeks old, he weighed more than forty-five kilograms.

(a) QRPS
(b) PQRS
(c) PSQR
(d) SPRQ

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Q91. In the following question, out of the given four alternatives, select the alternative which best expresses the meaning of the Idiom/Phrase.

To twiddle one's thumbs

(a) To be idle
(b) To play safe
(c) To waste one's resources
(d) To show no mercy

Q92. Select the correct passive form of the given sentence.

Khushi wiped down the tables.

(a) The tables were being wiped down by Khushi.
(b) The tables was wiped down by Khushi.
(c) The tables are wiped down by Khushi.
(d) The tables were wiped down by Khushi.

Q93. Given below are four jumbled sentences. Pick the option that gives their correct order.

Mount Everest is a peak in the Himalaya mountain range.

P. It is located between Nepal and Tibet, an autonomous region of China.

Q. At 8,849 meters (29,032 feet), it is considered the tallest point on Earth.

R. In the nineteenth century, the mountain was named after George Everest, a former Surveyor General of India.

S. The Tibetan name is Chomolungma, which means "Mother Goddess of the World."

The Nepali name is Sagarmatha, which has various meanings.

(a) PQRS
(b) SPQR
(c) SRQP
(d) RPSQ

Q94. Choose the option that is the correct direct form of the sentence.

She said that she would not be coming to the school that day.

(a) She had said "She must not be coming to the school today".
(b) She said, "You will not be coming to the school today".
(c) She said, "I may not come to the school tomorrow."
(d) She said, "I will not be coming to the school today".

Q95. Choose the word that is opposite in meaning to the given word.

Partial

(a) Truce
(b) Sufficient
(c) Whole
(d) Broke

Directions

In the following passage, some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank.

Snakes are elongated, legless, carnivorous 1. ____ that can be distinguished from legless lizards by 2. __ lack of eyelids and external ears. 3. __ species of snakes have skulls with several more joints than their lizard ancestors, 4. __ them to swallow prey much larger than their heads with their highly mobile jaws. To accommodate their narrow bodies, snakes' paired organs (such as kidneys) appear one in front of the other instead of side 5. ____ side, and most have only one functional lung.

Q96. Select the most appropriate option to fill in the blank No. 1.

(a) birds
(b) reptiles
(c) mammals

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(d) amphibians

Q97. Select the most appropriate option to fill in the blank No. 2.

(a) those
(b) them
(c) their
(d) there

Q98. Select the most appropriate option to fill in the blank No. 3.

(a) Lots
(b) Many
(c) Few
(d) Much

Q99. Select the most appropriate option to fill in the blank No. 4.

(a) compelling
(b) prevailing
(c) enabling
(d) disabling

Q100. Select the most appropriate option to fill in the blank No. 5.

(a) over
(b) of
(c) and
(d) by

ANSWER KEY

1	d	2	a	3	b	4	c	5	b	6	a	7	a	8	c	9	c	10	b
11	a	12	c	13	c	14	c	15	a	16	c	17	a	18	c	19	b	20	a
21	a	22	d	23	b	24	b	25	c	26	b	27	a	28	c	29	d	30	b
31	d	32	d	33	c	34	b	35	d	36	d	37	c	38	a	39	a	40	d
41	d	42	c	43	b	44	b	45	a	46	a	47	d	48	d	49	c	50	b
51	c	52	c	53	b	54	b	55	d	56	a	57	b	58	d	59	b	60	b
61	b	62	c	63	a	64	a	65	d	66	c	67	c	68	b	69	c	70	b
71	a	72	d	73	d	74	c	75	b	76	d	77	c	78	d	79	c	80	b
81	d	82	c	83	c	84	d	85	d	86	a	87	b	88	b	89	a	90	b
91	a	92	d	93	a	94	d	95	c	96	b	97	c	98	b	99	c	100	d

SOLUTIONS

Q1. Answer: (d) 672

The logic followed here is:
So, '672' will complete the series.
Hence, the correct answer is "Option 4".

Q2. Answer: (a) [figure]

The logic followed here is:
Step I: The empty circle shifted in clockwise direction in +1, +2, +3, +4 places in next step.
Step II: The shaded circle shifted in clockwise direction in +1, +2, +3, +4 places in next step.
So, the complete series will be:

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Hence, the correct answer is "Option 1".

Q3. Answer: (b) USQ

The logic followed here is:

Now,

DFH : HFD

Similarly, for QSU : ?

Hence, the correct answer is "Option 2".

Q4. Answer: (c) Lira - Turkey

The logic followed here is:

Country: Currency.

Option 1) China - Yuan → Yuan is the official currency of China.

Option 2) Thailand - Baht → Baht is the official currency of Thailand.

Option 3) Lira - Turkey → Lira is the official currency of Turkey. Here, we have Currency: Country instead of Country: Currency.

Option 4) Japan - Yen → Yen is the official currency of Japan.

All the given pairs represent the country and its respective currency, except for "Lira - Turkey".

Hence, the correct answer is "Option 3".

Q5. Answer: (b) 20

The triangles are:

So, there are '20' triangles in the given figure.

Hence, the correct answer is "Option 2".

Q6. Answer: (a) Rajasthan : Jaipur

The logic followed here is:

Logic: State : Capital.

Meghalaya : Shillong → Shillong is the capital city of Meghalaya.

Similarly,

Rajasthan : Jaipur → Jaipur is the capital city of Rajasthan.

Hence, the correct answer is "Option 1".

Q7. Answer: (a) [figure]

The image embedded in given figure is as shown below:

Hence, "Option 1" is the correct answer.

Q8. Answer: (c) Only I

BODMAS Table:

Given equation I. 8 + 7 × 9 ÷ 3 - 6 = 25

Now, if '8 and 7' are interchanged, then:

=> 7 + 8 × 9 ÷ 3 - 6 = 25

=> 7 + 8 × 3 - 6 = 25

=> 7 + 24 - 6 = 25

=> 31 - 6 = 25

=> 25 = 25.

LHS = RHS.

Given equation II: 7 × 5 - 8 + 6 ÷ 2 = 38

Now, if '8 and 7' are interchanged, then:

=> 8 × 5 - 7 + 6 ÷ 2 = 38

=> 8 × 5 - 7 + 3 = 38

=> 40 - 7 + 3 = 38

=> 43 - 7 = 38

=> 36 ≠ 38

LHS ≠ RHS.

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Here, Only 'Equation I' correct after interchanging the given symbol.
Hence, the correct answer is "Option 3".

Q9. Answer: (c) BVQSDOBZ

The logic followed here is:
'BITCOIN' is coded as 'AJSDNJM'.
Similarly, for 'CURRENCY'
'CURRENCY' is coded as 'BVQSDOBZ'.
Hence, the correct answer is "Option 3".

Q10. Answer: (b) 18

According to the given Venn diagram:
The shaded area shows the "register neither tools nor sword".
So, the total number of register are neither tools nor sword = 18,
Hence, the correct answer is "18".

Q11. Answer: (a) [figure]

From the given open Dice:
B and A is the opposite sides.
C and 2 is the opposite sides.
8 and 9 is the opposite sides.
And, two opposite sides can not be the adjacent surfaces, so it can't be shows in a dice.
Now,
Option 1)
→ Can be made, because all the surfaces are adjacent sides.
Option 2)
→ Can not be made, because 8 and 9 is the opposite sides.
Option 3)
→ Can not be made, because A and B is the opposite sides
Option 4)
→ Can not be made, because C and 2 is the opposite sides.
Hence, the correct answer is "Option 1".

Q12. Answer: (c) 4

Given equation: 72 × 19 ÷ 13 + 16 - ? ÷ 15 × 7 = 266.
Decoding the given information :

Symbol	•	×	•	÷
Means	•	•	÷	×

Now, replacing the sign from left to right and using BODMAS rule, we get :
New equation : 72 + 19 × 13 - 16 ÷ ? × 15 + 7 = 266.
Let ? be x
Calculation :
=> 72 + 19 × 13 - 16 ÷ x × 15 + 7 = 266
=> 72 + 19 × 13 - 16 ÷ x × 15 + 7 = 266
=> 72 + 247 - 16 ÷ x × 15 + 7 = 266
=> 319 - 16 ÷ x × 15 + 7= 266
=> 326 - 16 ÷ x × 15 = 266
=>326 - 266 = 16 ÷ x × 15
=> 60 = 16 ÷ x × 15
=> x = 16 × 15 over 60
=>x = 4
Hence, the correct answer is "Option 3".

Q13. Answer: (c) 749 - 974

The logic followed here is:

Option 1) 317 - 713 → 317 written in reverse order 713.

Option 2) 342 - 243 → 342 written in reverse order 243.

Option 3) 749 - 974 → 749 written in reverse order 947 ≠ 974.

Option 4) 643 - 346 → 643 written in reverse order 346.

Here, 'Option 3' odd among the given options.

Hence, the correct answer is "Option 3".

Q14. Answer: (c) Mother's brother

Family Chart:

Given:

Ashok's brother's sister is the wife of Ram's son Rahul.

So, Ashok related to Rahul's daughter as Mother's brother.

Hence, the correct answer is "Option 3".

Q15. Answer: (a) [figure]

The image embedded in given figure is as shown below:

Hence, "Option 1" is the correct answer.

Q16. Answer: (c) Butterfly strokes : Swimming

The logic followed here is:

Hook Pass : Basketball → "Hook Pass" is a specific technique or move used in the game of Basketball.

Similarly,

Butterfly strokes : Swimming → "Butterfly strokes" is a specific swimming technique used in the sport of Swimming.

Hence, the correct answer is "Option 3".

Q17. Answer: (a) [figure]

The image embedded in given figure is as shown below:

Hence, "Option 1" is the correct answer.

Q18. Answer: (c) xyxz

The logic followed here is:

Given Sequence: xy_zx_xzxy_ _

Now, putting the letters in the blank spaces given in the option one by one:

Option 1) xxyz → x y x z x x x z x y y z

Option 2) xyxx → x y x z x y x z x y x x

Option 3) xyxz → x y x z / x y x z / x y x z

Here, 'Option 3' followed a pattern.

Option 4) yxyz → x y y z x x x z x y y z

Hence, the correct answer is "Option 3".

Q19. Answer: (b) 3, 1, 4, 5, 2

The words arranged in the English dictionary order as:

3. Cosment

1. Cosmip

4. Cosmopolitan

5. Cost

2. Costume

Thus, the words arranged in English dictionary order as '3, 1, 4, 5, 2'.

Hence, the correct answer is 'Option 2'.

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Q20. Answer: (a) Only I follows

Given:

Statement I: All unions are intersections.

Statement II: All intersections are negations.

The least possible Venn diagram for the given statement is:

Conclusion I: Some negations are intersections - True (Because, All intersections are negations it also gives some negations are intersections).

Conclusion II: No union is a negation - False (Because, those parts of unions which is intersections is also negations).

So, Only conclusion I follows.

Hence, the correct answer is "Option 1".

Q21. Answer: (a) 13 - 2199

The logic followed here is:

Logic: (1st number)^3 + 1 = 2nd number.

Option 1) 13 - 2199 → $13^3 + 1 = 2198 \neq 2199$.

Option 2) 14 - 2745 → $14^3 + 1 = 2745$.

Option 3) 12 - 1729 → $12^3 + 1 = 1729$.

Option 4) 17 - 4914 → $17^3 + 1 = 4914$.

So, '13 - 2199' odd among the given options.

Hence, the correct answer is "Option 1".

Q22. Answer: (d) PRS

The logic followed here is:

Option 1) BDF → B + 2 = D; D + 2 = F.

Option 2) UWY → U + 2 = W; W + 2 = Y.

Option 3) IKM → I + 2 = K; K + 2 = M.

Option 4) PRS → P + 2 = R; R + 2 = T ≠ S.

So, 'PRS' odd among the all options.

Hence, the correct answer is "Option 4".

Q23. Answer: (b) (17, 68, 4)

The logic followed here is:

Logic: 1st number × 3rd number = 2nd number.

Now,

(14, 28, 2)

=> 14 × 2 = 28.

(3, 42, 14)

=> 3 × 14 = 42.

Similarly, for (17, 68, 4)

=> 17 × 4 = 68.

Hence, the correct answer is "Option 2".

Q24. Answer: (b) 9

The logic followed here is:

Logic: (1st number)^4 = 2nd number.

Now,

6 : 1296

→ 6^4 = 1296.

5 : 625

→ 54 = 625.

Similarly, for ? : 6561

→ 94 = 6561.

Hence, the correct answer is "Option 2".

Q25. Answer: (c) 7

The logic followed here is:

'567' is coded as 'high and low',

'629' is coded as 'Building are high',

'531' is coded as 'hot and sour'.

Here,

Code for '5' is 'and'.

Code for '6' is 'high'.

Code for '7' is 'low'.

Here, The code for 'low' is '7'.

Hence, the correct answer is "Option 3".

Q26. Answer: (b) Neither I nor II

The correct answer is Neither I nor II.

Key Points

• Soil

• Plants obtain inorganic elements from the soil, which serves as a natural medium for land plants.

• Soil is the outer loose layer that covers the surface of Earth.

• Soil quality is a major determinant, along with climate, of plant distribution and growth.

• Soil quality depends not only on the chemical composition of the soil but also on the topography (regional surface features) and the presence of living organisms.

• In agriculture, the history of the soil, such as the cultivating practices and previous crops, modify the characteristics and fertility of that soil.

• Soil develops very slowly over long periods of time, and its formation results from natural and environmental forces acting on minerals, rock, and organic compounds.

Additional Information

• Sandy Soil

• Sandy Soil is light, warm, dry and tends to be acidic and low in nutrients.

• Sandy soils are often known as light soils due to their high proportion of sand and little clay.

• These soils have fast water drainage and are easy to work with.

• It mainly consists of rock particles such as limestone, shale, granite and quartz.

• Sandy Soil has a low percentage of organic material. Water travels through sandy soil very easily, so nutrients leach out quickly.

• Vegetable plants that thrive in sandy soil are Carrots, Radishes, Potatoes, Lettuce, Collard greens, Tomatoes, Zucchini, Corn, Asparagus, Watermelon, Beans, and Cucumber.

• Clay soil

• Clay soil is soil that is comprised of very fine mineral particles and not much organic material.

• Clay is the smallest particle amongst the other two types of soil.

• The particles in this soil are tightly packed together with each other with very little or no airspace.

• This soil has very good water storage qualities and makes it hard for moisture and air to penetrate into it.

• It is very sticky to the touch when wet, but smooth when dried.

• Clay is the densest and heaviest type of soil which that not drain well or provide space for plant roots to flourish.

• Clay can be used to make pots, pipes, and other useful objects that can be used for household purposes.

• Clay is used for manufacturing ceramic tiles as well that can be used for counters, floors, and walls.

Q27. Answer: (a) Apple

The correct answer is Apple.

Key PointsMalic acid is found primarily in apples. The word Malic is derived from the Latin word malum, which means apple. It is also found in wine, grapes rhubarb, carrots, beans, and many other fruits and vegetables. It is used as a flavouring agent to enhance the taste of the food products like candy, beverages, and iced tea. Malic acid is an organic chemical compound that contains C, H, and O atoms. It is an unsaturated acid having a carbon-carbon double bond and Its chemical formula is $C_4H_6O_5$.

Additional Information Few naturally occurring acids are -

S no.	Name of the Acid	Generally Found in
1	Tartaric acid	Grapes, tamarind

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2	Lactic acid	Curd
3	Formic acid	The sting of bees and red ants
4	Gastric Juice/ HCL	Human stomach
5	Oxalic acid	Tomatoes
6	Citric acid or Ascorbic Acid	Orange or lemon, gooseberries (amla)
7	Acetic Acid	Vinegar

Q28. Answer: (c) UCO Bank

The correct answer is UCO Bank.

Key Points

• UCO Bank has received the RBI's approval to open a special vostro account with Gazprombank of Russia for trade settlement in Indian rupees.

• With this, it has become the first bank to receive RBI's approval to settle trade in Indian currency.

• On 11 July 2022, RBI issued a circular allowing trade settlements between India and other countries in rupee.

Additional Information

• UCO Bank is one of the nationalized banks in India.

• It is under the ownership of the Ministry of Finance, Government of India.

• Based on 2020 data, it is ranked 80 on the Fortune India 500 list.

• UCO Bank:

• Headquarters: Kolkata

• CEO: Soma Sankara Prasad (1 Jan 2022–)

• Founded: 6 January 1943

• Founder: Ghanshyam Das Birla

Q29. Answer: (d) Telugu new year

The correct answer is Telugu new year.

Key Points

• Ugadi

• Ugadi, which is observed as Andhra Pradesh's Hindus' New Year's Day, is observed on the first day of the Hindu Luni-Solar Calendar in the month of Chaitra.

• According to the Gregorian calendar, it takes place in either March or April.

• This Indian holiday heralds the arrival of pleasure, joy, hope, and light.

• The Sanskrit words "Yuga," which means age, and "adi," which means the beginning, are combined to form the word "Ugadi."

• It denotes the start of a new era in plain terms.

• In Karnataka, Andhra Pradesh, and Telangana, this holiday is celebrated with great zeal and passion.

Additional Information

• The ninth month of the Hindu calendar is Agrahya or Mrga.

• The Hindu month of Vaisakha corresponds to April or May on the Gregorian calendar in the national calendar of India.

• The fifth month of the Hindu calendar is shravan.

Q30. Answer: (b) Pune

The correct answer is Pune.

Key Points

Indian Cities Name	State	Nicknames of Indian Cities
Jaipur	Rajasthan	Pink City
Jodhpur	Rajasthan	Blue City
Akola	Maharashtra	Cotton City of India
Bhagalpur	Bihar	Silk City
Udaipur	Rajasthan	City of Lakes White City

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Alappuzha	Kerala	Venice of the East
Dibrugarh	Assam	Tea City of India
Lucknow	Uttar Pradesh	City of Nawabs
Muzaffarpur	Bihar	The Land of Litchi Sweet City
Kanpur	Uttar Pradesh	The Leather City
Pune	Maharashtra	Deccan Queen
Nagpur	Maharashtra	Orange City
Nashik	Maharashtra	Wine Capital of India
Bengaluru	Karnataka	Garden City of India Silicon Valley of India Science City
Mangalore	Karnataka	Rome of the East Gateway of Karnataka Cradle of Indian Banking
Coorg	Karnataka	Scotland of India
Mysore	Karnataka	Sandalwood City
Kolkata	West Bengal	City of Joy
Dhanbad	Jharkhand	Land of Black Diamond
Hyderabad	Telangana	City of Pearls
Kochi	Kerala	Queen of Arabian Sea
Kozhikode (Calicut)	Kerala	City of Spices
Thrissur	Kerala	Gold Capital of India
Kollam	Kerala	Cashew Capital of the World
Madurai	Tamil Nadu	City of Festivals Athens of the East
Coimbatore	Tamil Nadu	Manchester of South India
Pondicherry	Puducherry	Paris of the East
Kashmir	Jammu and Kashmir	Switzerland of India
Jamshedpur	Jharkhand	Steel City of India Pittsburgh of India
Bhubaneswar	Odisha	Temple City of India
Shillong	Meghalaya	Scotland of East
Jaisalmer	Rajasthan	Golden City

Q31. Answer: (d) 86^(th)

The correct answer is 86th.

Key Points

• Article 21 A was added by the 86th Constitutional Amendment Act of 2002.

• This article declares that the State shall provide free and compulsory education to all children of the age of six to fourteen years in such a manner as the State may determine.

• This article deals with the concept of inclusive education, Specific terms in inclusive education such as Impairment, Disability, Special Educational Needs, Learning Difficulties, Reasons For Inclusion, Provisions for Children With Special Needs, etc.

Additional Information

Amendment Acts	Year	Provisions

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42nd	1976	• Added Socialist, Secular& integrity in Preamble, Added Fundamental duties(Part IV A). - Creation of All India Judicial Service. - Extended the time limit of President's rule from 6 months to 1 year. - Added 3 new directive principles. - Raised tenure of Lok Sabha &State legislature assemblies from 5 to 6 years; - Proclamation of national emergency. - Made obligatory for President to act on the advice of the Council of Ministers.
44th	1978	• Modified emergency provision. Deleted right to property from Fundamental rights. - Fundamental rights are guaranteed by articles 20 and 21cannot be suspended during a national emergency
61st	1988	• Reduced voting age from 21 to 18 years for Lok Sabha as well as assembly election
86th	2002	• Made elementary education a fundamental right, Added article 21 A – free & compulsory education to all the children of 6-14 years. - Added new fundamental duty under Article 51-A.

Q32. Answer: (d) Both I and II

The correct answer is Both I and II.

Key Points

• The slope of the consumption function represents the marginal propensity to consume (MPC), which is the change in consumption resulting from a change in income.

• The aggregate demand function also includes consumption as a component, and therefore, the slope of the aggregate demand function is determined by the marginal propensity to consume. So, they have the same slope.

• The aggregate demand function consists of several components, including consumption, investment, government spending, and net exports.

• While the consumption function represents the relationship between consumption and income, the aggregate demand function represents the relationship between aggregate demand (total spending) and the overall price level.

• The aggregate demand function can be considered as the sum of all spending components, including consumption. Since consumption is a part of aggregate demand, the aggregate demand function and the consumption function are parallel to each other.

Therefore, both statements I and II are correct.

Q33. Answer: (c) Sattriya

The correct answer is Sattriya.

Key Points

• Satriya Nritya is the classical dance form of the North-Eastern State of Assam which represents the Satriya culture, the basis of the religious and cultural fabric of Assam.

• It is a dance-drama performance art with origins in the Krishna-centered Vaishnavism monasteries of Assam and attributed to the 15th-century Bhakti movement scholar and saint Mahapurush Srimanta Sankardev.

• Dance historian Dr. Sunil Kothari has recently been bestowed with the Madhabdev Award by the Government of Assam for popularising the Sattriya dance.

• Sattriya was given the status of classical dance in the year 2000 by the Sangeet Natak Akademi.

Additional Information

• Other classical dances of India are:

• Bharatnatyam (Tamil Nadu), Kathakali (Kerala), Kuchipudi (Andhra Pradesh), Kathak (North India), Mohiniyattam (Kerala), Manipuri (Manipur) and Odissi (Odisha).

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Q34. Answer: (b) Tipu Sultan

The correct answer is Tipu Sultan.

Key Points

• Tiger of Mysore

• Born in November 1750, Tipu Sultan was Haidar Ali's son and a great warrior, also known as the Tiger of Mysore. Hence, Option 1 is correct.

• He was a well-educated man fluent in Arabic, Persian, Kanarese, and Urdu.

• Mysore had grown in strength under the leadership of powerful rulers like Haidar Ali (ruled from 1761 to 1782) and his famous son Tipu Sultan (ruled from 1782 to 1799).

• Tipu introduced several administrative innovations during his rule, including his coinage, a new Mauludi lunisolar calendar, and a new land revenue system which initiated the growth of the Mysore silk industry.

• Embracing Western military methods like artillery and rockets alongside traditional Indian weapons including war elephants, he ensured his forces could overwhelm his Indian rivals and match the British armies sent against him.

• He was also a patron of science and technology and is credited as the 'pioneer of rocket technology in India.

• He wrote a military manual (Fathul Mujahidin) explaining the operation of rockets.

• Tipu was a great lover of democracy and a great diplomat who gave his support to the French soldiers at Seringapatam in setting up a Jacobin Club in 1797.

• Tipu himself became a member of the Jacobin Club and allowed himself to be called Citizen Tipu.

• He planted the Tree of Liberty at Seringapatam.

Q35. Answer: (d) Haryana

The correct answer is Haryana.

Key Points The 4th edition of the Khelo India Youth Games:

• It was held in Haryana.

• The Games will be held in Panchkula.

• The Haryana government has decided to organize the Khelo India Youth Games in February 2022, in view of the possible third wave of the Covid-19 pandemic.

• Gatka, Kalaripayattu, Thang-Ta, and Mallakhamba, four indigenous games were added in December 2020.

• Haryana came second in both Khelo India Youth Games 2019 and 2020 editions (200 medals in 2020 and 159 medals in 2019).

Additional Information

• The Khelo India Youth Games are an annual multidisciplinary grassroots game organised at a national level in India in January or February.

• Previously known as Khelo India School Games (KISG).

• It is held for two groups of students: under-17-year-olds in high school and under-21-year-olds in college.

• Every year, the top 1,000 children will be awarded a 5-lakh annual scholarship for the next eight years in order to prepare them for international sporting events.

• The first edition of the Khelo India Youth Games was held in Delhi in 2018.

• The second edition of the Khelo India Youth Games was held in Pune in 2019.

• The third edition of the Khelo India Youth Games was held in Guwahati in 2020.

Q36. Answer: (d) Fourth

The correct answer is Fourth.

Key Points

• The Apple II is an example of a Fourth-generation computer.

• Fourth-generation computers (1972-present) use microprocessors. This made them even smaller, faster, and more efficient.

• Second Generation Computers (1950s-1960s):

• Transistors were smaller, faster, more reliable, and produced less heat than vacuum tubes.

• The use of transistors led to a significant reduction in the size of computers, making them more compact and efficient.

• The Apple II, introduced in 1977, is considered a representative example of this generation.

• The second generation of computers was marked by the replacement of vacuum tubes with transistors.

Additional Information

• First-generation computers (1946-1958) were mainframe computers that used vacuum tubes as their primary components. They were large, expensive, and consumed a lot of power.

• Third-generation computers (1965-1971) used integrated circuits (ICs). This made them even smaller, faster, and more efficient.

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Q37. Answer: (c) Hyper Text Transfer Protocol

The correct answer is Hypertext Transfer Protocol.

Key Points

• HTTP stands for Hypertext Transfer Protocol. Hypertext Transfer Protocol is an application protocol used for data communication. It is the base of data communication in the World Wide Web. It provides a standard for web browsers that facilitates users to exchange information over the internet.

• HTTP is used by most websites to access any file or page. HTTP is a request-response protocol in the client-server computing model. It is an application layer protocol designed within the framework of the Internet Protocol Suite.

• Hypertext - A text containing a link within it, is known as hypertext. If you click on a word on a webpage and it redirects you to a new page, it means you have clicked on a hypertext.

• It is the protocol where encrypted HTTP data is transferred over a secure connection. It ensures data security over the network - mainly public networks like Wi-Fi.

• By virtue, HTTPS encryption is done bi-directionally, which means that the data is encrypted at both the client and server sides. Only the client can decode the information that comes from the server. So, HTTPS does the encryption of data between a client and a server, which protects against eavesdropping, forging of information, and tampering of data.

Additional Information

• HTTPS is HTTP with encryption.

• The only difference between the two protocols is that HTTPS uses TLS (SSL) to encrypt normal HTTP requests and responses. As a result, HTTPS is far more secure than HTTP.

• A website that uses HTTP has http:// in its URL, while a website that uses HTTPS has https://.

Q38. Answer: (a) Both I and II

The correct answer is Both I and II.

Key Points

• The Lucknow Pact of December 1916 was an understanding between the Congress and the Muslim League. Hence statement I is correct.

• Congress and the Muslim League decided to work together for representative government in the country through the Lucknow pact.

• As a result of the Lucknow Pact, congress accepted separate electorates.

• This was the first time both the INC and the Muslim League's leaders had met in a joint session.

• The pact provided a joint political platform for the Moderates, Extremists, and the Muslim League. Hence statement II is correct.

• The Indian National Congress was headed by Bal Gangadhar Tilak and the All-India Muslim League was led by Muhammad Ali Jinnah.

• Lucknow Pact was adopted by Congress at its Lucknow session on 29 December 1916.

• Lucknow Pact was adopted by the Muslim League on 31 December 1916.

• The Pact addressed both the structure of India's government and the relationship between Hindu and Muslim communities.

• This Lucknow pact prepared the door for Hindu-Muslim cooperation in the Khilafat movement, as well as Mohandas Gandhi's non-cooperation movement, which began in 1920.

• Muslim League was formed in 1906.

Additional Information

Congress	Session	Date	Important Events
1st	Bombay	December 28–30, 1885	The INC is founded by Allan Octavian Hume and 72 other Indian political leaders.
7th	Allahabad	December 22–25, 1891	The INC passes the "Allahabad Resolution," which calls for self-government for India under the British Crown.
10th	Calcutta	December 26–29, 1896	The INC passes the "Deccan Pact," which resolves a dispute between the Hindu and Muslim delegates over representation in the INC.

15th	Benaras	December 22–25, 1905	The INC passes the "Benaras Resolution," which condemns the British partition of Bengal.
16th	Surat	December 1–4, 1907	The INC splits into two factions: the Moderates, who favor working with the British to achieve self-government, and the Extremists, who favor more radical methods.
19th	Lahore	December 29–31, 1929	The INC adopts the "Lahore Resolution," which calls for complete independence from British rule.
26th	Karachi	December 22–24, 1931	The INC and the Muslim League sign the "Karachi Pact," which resolves a dispute over the future of the Muslim-majority provinces of India.
38th	Avadh	December 27–30, 1940	The INC passes the "Azad Hind Resolution," which declares that India will not accept any constitutional arrangement that does not grant it complete independence.
40th	Tripura	January 22–25, 1946	The INC and the Muslim League agree to form a coalition government in British India.

Q39. Answer: (a) Indira Gandhi International Airport, Delhi

The correct answer is Indira Gandhi International Airport, Delhi.

Key Points

• Delhi’s Indira Gandhi International Airport has become the first airport in the country to run entirely on hydro and solar power from June 2022.

• This is part of the airport’s goal to achieve the ‘Net Zero Carbon Emissions Airport’ target by the year 2030.

• In 2015, the Cochin International Airport in Kerala became the first airport in the world to run solely using solar energy.

Additional Information

• Important Current Affairs related to Airport:

• Qatar's Hamad International Airport has been named the World’s Best Airport for the year 2022.

• The Kempegowda International Airport in Bengaluru has bagged the best regional airport in India and South Asia title in the 2022 Skytrax World Airport Awards.

• The Chhatrapati Shivaji Maharaj International Airport in Mumbai has launched a Vertical Axis Wind Turbine (VAWT) and Solar PV hybrid (Solar Mill).

• With this, It will become the first airport in India to launch a one-of-its-kind hybrid power project.

• Delhi's Indira Gandhi International Airport has decided to replace all vehicles with electric vehicles (EVs) on the airside operations to cut greenhouse gas emissions.

Q40. Answer: (d) The Satpura range flanks its broad base in the west.

The correct answer is 'The Satpura range flanks its broad base in the west'

Key Points

• Deccan Plateau:

• The Deccan Plateau is a large plateau located in southern India, characterized by its high altitude and rich volcanic soil, which supports diverse flora and fauna.

• This plateau is primarily a segment of the ancient Gondwanaland and includes parts of eight Indian states, stretching from the Satpura Range in the north to the Southern Indian ranges of the Eastern and Western Ghats.

• The plateau covers approximately 500,000 square kilometers, making it one of the largest plateaus in the world.

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• Geographical Features:

• The Deccan Plateau is higher in the west and slopes gently eastwards, a characteristic that influences the flow of many rivers originating in the west and draining eastwards into the Bay of Bengal.

• This eastward slope is due to tectonic activity and the ancient geological processes that have shaped the land over millions of years.

• It forms a roughly triangular landmass, bounded by the Satpura and Vindhya Ranges to the north, the Eastern Ghats to the east, and the Western Ghats to the west.

Additional Information

• Extension to the Northeast:

• An extension of the Deccan Plateau is also visible in the northeast, where it merges into the Chota Nagpur Plateau. This area, rich in minerals, is crucial for India's mining industry.

• Incorrect Statement about the Satpura Range:

• The Satpura range does not flank the Deccan Plateau's broad base in the west. Instead, it is situated to the north of the plateau and runs parallel to the Vindhya Range. Together, they demarcate the boundary between the Indo-Gangetic plains and the Deccan Plateau.

• The Western Ghats, a continuous range running parallel to the western coast of India, is the range that borders the Deccan Plateau on the west.

• Western and Eastern Ghats:

• The Western Ghats are known for their biodiversity and are a UNESCO World Heritage site. They rise steeply from the west coast and descend gently towards the plateau.

• The Eastern Ghats are a series of discontinuous hills and mountains that run along India's eastern coast. These ranges are lower in elevation compared to the Western Ghats and are less continuous.

Q41. Answer: (d) Only I

The correct answer is Only I.

Key Points

• Lovlina Borgohain is a well-known Indian boxer.

• She hails from Assam, India, and has represented her country in many international tournaments, including the Olympics.

• She has won numerous medals for her country in the field of boxing, which confirms the first part of the statement as true.

• Nikhat Zareen, on the other hand, is also an Indian sportsperson, but she is not a wrestler.

• She, too, is involved in boxing, not wrestling.

• She is a former Junior World Champion and has represented India in various boxing championships.

• The misconception might arise due to the fact that both Lovlina Borgohain and Nikhat Zareen are involved in combat sports.

• However, they are both boxers and not involved in wrestling.

• Hence, statement II, "Nikhat Zareen - Wrestling", is not correct while statement I, "Lovlina Borgohain - Boxing", is correct.

• Thus, the correct answer is 4) Only I.

Lovlina Borgohain

Nikhat Zareen

Q42. Answer: (c) India

The correct answer is India.

Key Points

• The X-ray spectrometer 'CLASS' on the Chandrayaan-2 Orbiter has mapped an abundance of sodium on the moon for the first time, according to ISRO.

• The findings of the spectrometer were published in 'The Astrophysical Journal Letters' in the last week of Sept 2022.

• The new findings will be helpful in the study of surface-exosphere interaction on the moon.

Additional Information

• Chandrayaan-2 is India's 2nd moon mission which was successfully launched by GSLV-MkIII-M1 from Second Launch Pad at Satish Dhawan Space Centre, Sriharikota in Andhra Pradesh.

• In 2019, Chandrayaan-2 was launched with an orbiter and a lander named Vikram, and a six-wheeled rover named Pragyaan ISRO.

• The orbiter is still functional and the lander crashed before its induction in any research operation.

• The spacecraft was launched on its mission to the Moon on 22 July 2019 by a GSLV Mark III-M1.

• It got a failure when was entering the atmosphere of the moon.

• According to a failure analysis report submitted to ISRO, the crash was caused by a software glitch. ISRO may re-attempt a landing in 2022 with Chandrayaan-3.
• India's first mission to the moon, Chandrayaan1 was launched from Sriharikota.
• It was successfully launched on October 22, 2008.
• Chandrayaan-1 operated for 312 days.
• It confirmed the presence of lunar water.
• The evidence of lunar caves was also confirmed by the Chandrayaan-I.

Q43. Answer: (b) Part IX

The correct answer is Part IX.

Key Points

• Panchayati Raj
• Panchayati Raj is the system of local self-government of villages in rural India as opposed to urban and suburban municipalities.
• It consists of the Panchayati Raj Institutions (PRIs) through which the self-government of villages is realized.
• They are tasked with "economic development, strengthening social justice and implementation of Central and State Government Schemes including those 29 subjects listed in the Eleventh Schedule."
• Part IX of the Indian Constitution is the section of the Constitution relating to the Panchayats.
• It stipulates that in states or Union Territories with more than two million inhabitants there are three levels of PRIs:
• Zilla Parishad at the District Level
• Panchayat Samiti at the Block Level
• Gram/Village Panchayat at the Village Level

Additional Information

• 73rd Constitutional Amendment Act,1992 added Article 243 to Article 243O and a new part Part IX to the constitution of India.
• Salient features of this Act:
• Gram Sabha (Article 243A):
• A body of all persons registered in the electoral roll of that Panchayat.
• Three-Tier System (Article 243B):
• Panchayat at the village, intermediate, and district levels.
• The election of members and chairpersons are given under Article 243B.
• Reservation of seats for SC/ST is provided at all three levels under Article 243D.
• The duration of Panchayats is given under Article 243E, it is constituted for five years.
• Grounds of disqualification are given under Article 243F.
• Powers, authorities, and responsibilities are given in Article 243G and enlisted in the 11th schedule of the constitution.
• State Election Commission (243K) for superintendence, control, and direction of the election in Panchayats.

Q44. Answer: (b) Karnam Malleswari

The correct answer is Karnam Malleswari.

Key Points

• Karnam Malleswari is a former woman weightlifter from India.
• She was born on June 1, 1975, and belongs to Andhra Pradesh.
• Her first achievement was at Weightlifting Nationals (senior) held at Ambala in 1991, where she won a silver medal.
• At Sydney Olympics, in 2000 she won a bronze medal in weightlifting in the 69kg category.
• She clinched a gold at the 1994 Asian Games held in Hiroshima.
• She also fetched gold medals at the 1994 and 1995 World Championships.
• She has been honoured with Arjuna Award (1994), Rajiv Khel Ratna Award (1999) and Padma Shri (1999).
• She is also known as the 'Iron Lady of Andhra Pradesh'.

Additional Information

Name	Occupation	Achievements

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Saina Nehwal	Badminton player	• Bronze medalist at the 2012 London Olympics in the Women's Singles category. - Winner of numerous international titles, including the 2015 China Open and the 2010 and 2012 Commonwealth Games. - Former World No. 1 in Women's Singles. - Recipient of the Arjuna Award in 2009 and the Padma Shri in 2010, in recognition of her achievements in badminton.
Sakshi Malik	Wrestler	• Bronze medalist at the 2016 Rio Olympics in the Women's Freestyle 58 kg category. - Silver medalist at the 2018 Commonwealth Games in the Women's Freestyle 62 kg category. - Bronze medalist at the 2014 Glasgow Commonwealth Games in the Women's Freestyle 58 kg category. - Recipient of the Rajiv Gandhi Khel Ratna Award in 2016, the highest sporting honour in India.

Q45. Answer: (a) Henry Louis Vivian Derozio

The correct answer is Henry Louis Vivian Derozio.

Key Points

• Henry Louis Vivian Derozio is the founder of the Young Bengal movement.

• Henry Louis Vivian Derozio:

• He was an Indian poet of Portuguese origin and assistant headmaster of Hindu College, Kolkata.

• He was a radical thinker of his time and one of the first Indian educators to disseminate Western learning and science among the young men of Bengal.

• He joined the Hindu College as a teacher at the age of seventeen.

• He and his students called DErozians or Young Bengal promoted radical reformist ideas among the people of Bengal.

• He was a poet, novelist, and writer. He was also the first nationalist poet of modern India.

• The " Fakeer of Jungheera" is a long poem by Henry Louis Vivian Derozio.

• Most of the work in found to Indian religion, culture, rule and regulation, rigidity, culture, etc.

• Derozio died of cholera at an early age of 22 on 26 December 1831 in Calcutta. His body was buried in the South Park Street Cemetery of Kolkata.

Additional Information

• Dayananda Saraswati

• Dayananda Saraswati [1824-1883] was the first to give the call for Swarajya – "India for Indians" – in 1876.

• For his own inspiration, Swami Dayanand went to the Vedas which he regarded as infallible.

• He rejected all later religious thought if it conflicted with the Vedas.

• This total dependence on Vedas and their infallibility gave his teachings orthodox coloring.

• He was opposed to idolatry, ritual, and priesthood and particularly to the prevalent caste practices and popular Hinduism as preached by brahmins.

• Swami Dayanand met Keshub Chandra Sen, Vidyasagar, Justice Ranade, Gopal Hari Deshmukh, and other modern religious and social reformers.

• He took inspiration from the Vedas and considered them to be ‘India’s Rock of Ages, the infallible, and the true original seed of Hinduism.

• He gave the slogan “Back to the Vedas”.

• Dayananda’s slogan of ‘Back to the Vedas’ was a call for a revival of Vedic learning and Vedic purity of religion and not a revival of Vedic times.

• He accepted modernity and displayed a patriotic attitude to national problems.

• Lala Hansraj

• Anglo-Vedic colleges or schools are also known as Dayanand Anglo-Vedic schools.

• Dayanand Anglo Vedic (DAV) Schools were founded in 1886 in Lahore by the efforts of Mahatma Hansraj in memory of Swami Dayanand Saraswati.

• The schools were run by the Dayanand Anglo-Vedic College Trust & Management Society, also known as the Dayanand

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Anglo-Vedic Education Society.

• DAV institutions are the best place to study and work together.

• Under the DAV family, there are 900 schools, 75 colleges, and a university.

• “DAV Movement” founded in 1886 by Lala Lajpat Rai (Father of the DAV Movement) picked up momentum due to the arduous efforts of Lala Lajpat Rai, Mahatma Hans Raj, Pandit Gurudutt Vidyarthi, and many others dedicated as the Arya Samaj activist.

• Keshub Chandra Sen (also spelled Keshab Chunder Sen) was born in an affluent family of Calcutta on 19 November 1838.

• In 1857, he joined the Brahmo Samaj and took up studying philosophy.

• Sen was inspired by Christian teachings and sought to fuse Christian teachings into the Hindu framework.

• He thought that only the Christian doctrine would help instill new life into Hindu society.

• He was also impressed with the discipline of Christian missionary work and started following it himself.

• His lean towards Christianity caused a rift between him and Tagore and he broke away from the Samaj and formed the Bharat Barshiya Brahmo Samaj (Brahmo Samaj of India).

Q46. Answer: (a) Iga Swiatek

The correct answer is Iga Swiatek.

Key Points

• Iga Sviatek defeated Ons Jabeur of Tunisia to win the US Open 2022.

• Two-time French Open champion Swiatek defeated Ons Jabeur in straight sets 6-2, 7-6(5) in the final to win her third Grand Slam title.

• Sviatek had never advanced past the fourth round at the US Open.

• In July, Sviatek came to Flushing Meadows with a 4-4 record after a 37-match winning streak ended.

• Iga Sviatek is a Polish professional tennis player.

• She is currently ranked world No. 1 by the Women's Tennis Association (WTA).

Additional Information

• US Open Tennis Championships

• The US Open Tennis Championships is a hardcourt tennis tournament.

• It is held every year in Queens, New York.

• Since 1987, the US Open has been chronologically the fourth and final Grand Slam tournament of the year.

• Founded - 1881

• The other three, in chronological order, are

• The Australian Open,

• French Open and

• Wimbledon.

Q47. Answer: (d) Jupiter

The correct answer is Jupiter.

Key Points

• The Solar System contains 8 planets:

Inner or Terrestrial planets	**1. Mercury 2. Venus 3. Earth 4. Mars**
Outer Planets or Jovian planets	1. Jupiter 2. Saturn 3. Uranus 4. Neptune

Additional Information

• Venus and Earth are almost the same size, have about the same mass (they weigh about the same), and have a very similar composition (are made of the same material).

• Venus is considered as Earth’s-twin because its size and shape are very much similar to that of the earth.

• Venus is the second planet from the Sun and is the brightest planet in the solar system.

• It is sometimes referred to as the sister planet to Earth, because of its similar mass and size.

• The planet is named after the Roman goddess of love and beauty.

• Venus is the brightest planet and is easily noticeable with unaided eyes.

• One of the earliest Babylonian astronomical documents speaks about Venus.

Shortcut Trick

My Very Excited Mother Just Served Us Nachos

• M → Mercury, V → Venus, E → Earth, M → Mars, J → Jupiter, S → Saturn, U → Uranus, N → Neptune

Q48. Answer: (d) SBI

The correct answer is SBI.

Key Points

• Electoral bonds in India can be purchased from the State Bank of India (SBI).

• Therefore, the correct option is SBI

• These bonds are a financial instrument for making donations to political parties and were introduced by the Government of India in 2017.

• These are available for purchase by any Indian citizen or company from specified branches of the State Bank of India.

Additional Information

Points	NITI Aayog	RBI	SBI	SEBI
Full Form	National Institution for Transforming India	Reserve Bank of India	State Bank of India	Securities and Exchange Board of India
Established	2015	1935	1955	1988, given statutory powers in 1992
Primary Role	Policy think tank of the Indian government providing strategic inputs	India's central banking institution, controlling monetary policy	India's largest public sector bank	Regulator for the securities market in India
Key Responsibilities	Formulating strategic and long-term policies for the government, fostering cooperative federalism	Regulating the country's currency and credit system, maintaining financial stability	Providing banking services to individuals, businesses and government	Protecting the interests of investors in securities, promoting the development of the securities market
Headquarters	New Delhi	Mumbai	Mumbai	Mumbai

Q49. Answer: (c) Dalton's Law

The correct answer is Dalton's Law.

Key Points

• Dalton's Law:

• Definition: Dalton's Law, also known as the Law of Partial Pressures, states that the total pressure exerted by a mixture of gases is the sum of the partial pressures of the individual gases.

• Partial Pressure: The pressure that each gas would exert if it alone occupied the entire volume of the mixture is its partial pressure.

• Independent Behaviour: The law assumes that gases behave independently of each other, meaning the pressure of each gas in a mixture is unaffected by the presence of other gases.

• Applications: Dalton's Law has important applications in many areas including chemistry, physics, physiology, and even scuba diving, where understanding the pressures of different gas components is crucial.

Additional Information

Law	Description
Charles' Law	States that the volume of a given mass of an ideal gas is directly proportional to the absolute temperature provided its pressure remains constant.
Boyle's Law	Proposes an inverse relationship between the pressure and volume of a gas, assuming the temperature is kept constant within a closed system.
Graham's Law	Describes the relationship between the rates of diffusion of gases and their molar masses. It states that the rate of diffusion of a gas is inversely proportional to the square root of its molar mass.

Q50. Answer: (b) Peru

The correct answer is Peru.

Key Points

• El Nino is a surroundings layout that depicts the odd warming of surface waters in the Japanese tropical Pacific Ocean.

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• El Nino is a weather circumstance that happens in the Pacific Ocean.

• The term El Niño (Spanish for 'the Christ Child') refers to a warming of the ocean surface, or above-average sea surface temperatures, in the central and eastern tropical Pacific Ocean.

• The low-level surface winds, which normally blow from east to west along the equator (“easterly winds”), instead weaken or, in some cases, start blowing the other direction (from west to east or “westerly winds”).

• El Niño recurs irregularly, from two years to a decade, and no two events are exactly alike. El Niño events can disrupt normal weather patterns in the United States and globally.

• Los Angeles Nina is a surroundings layout that depicts the cooling of floor sea waters along the tropical west shore of South the united states.

• The Mediterranean Sea envelops endless islands, a number of them being volcanic starting. The two by using a huge margin biggest islands are Sicily and Sardinia.

Additional Information

Gulf Stream	**• The Gulf Stream is a strong ocean current that brings warm water from the Gulf of Mexico into the Atlantic Ocean. - It extends all the way up the eastern coast of the United States and Canada. - The Gulf Stream is caused by a large system of circular currents and powerful winds, called an oceanic gyre.**
West Wind	• A current in the southern hemisphere moving from west to east at approximately 40°-55°S, caused by prevailing western cold winds. - It encircles the earth, crossing the Atlantic, Indian, and Pacific oceans
Peru Current	• Peru Current, also called Humboldt Current, cold-water current of the southeast Pacific Ocean, with a width of about 900 km (550 mi). It is relatively slow and shallow.
West Australian Current	• It is a relatively cold surface current of the southeast Indian Ocean, part of the general counterclockwise movement in the southern section of that ocean.

Q51. Answer: (c) 37.5 percent

Shortcut Trick

Total bananas = 2 dozen = 24. Cost Price (CP) = Rs. 30.

Selling Price (SP) for 15 bananas = 15 × (Rs. 12 ÷ 12) = Rs. 15.

Remaining 9 bananas SP = 9 × (Rs. 5 ÷ 12) = Rs. 3.75.

Total SP = 15 + 3.75 = Rs. 18.75.

Loss % = [(30 − 18.75) ÷ 30] × 100 = (11.25 ÷ 30) × 100 = 37.5%.

Therefore The correct answer is 37.5%.

Alternate Method

Given:

Total quantity = 24 bananas (2 dozen)

Total CP = Rs. 30

Rate 1 = Rs. 12 per dozen | Quantity 1 = 15 bananas

Rate 2 = Rs. 5 per dozen | Quantity 2 = 9 bananas (24 − 15)

Formula Used:

Loss = Cost Price (CP) − Selling Price (SP)

Loss Percentage = (Loss ÷ CP) × 100

Calculations:

=> SP of 15 bananas = 15 × (12 ÷ 12) = Rs. 15

=> SP of remaining 9 bananas = 9 × (5 ÷ 12) = 45 ÷ 12 = Rs. 3.75

=> Total SP = 15 + 3.75 = Rs. 18.75

=> Total Loss = 30 − 18.75 = Rs. 11.25

=> Loss % = (11.25 ÷ 30) × 100

=> Loss % = 0.375 × 100 = 37.5%

Therefore The correct answer is 37.5%.

Additional Information

Profit Percentage Formula

When SP > CP, Profit % = [(SP − CP) ÷ CP] × 100.

Selling Price Calculation

In case of Loss, SP = CP × (100 − Loss %) ÷ 100. In case of Profit, SP = CP × (100 + Profit %) ÷ 100.

Unit Conversion

1 Dozen = 12 units. Always convert rates to a single unit (per item) or convert quantities to dozens for calculation consistency.

Q52. Answer: (c) 1072

Given:

x - y = 8 and 8xy = 8

Concept Used:

$(x - y)^3 = x^3 - y^3 - 3xy(x - y)$

Calculation:

8xy = 8

=> xy = 1

x - y = 8

Cubing both sides

$(x - y)^3 = 8^3$

x3 - y3 - 3xy(x - y) = 512

x3 - y3 = 3xy(x - y) + 512

Put the given values

x 3 - y3 = 3 × 1 × 8 + 512

x3 - y3 = 24 + 512

x3 - y3 = 536

2x3 - 2y3 = 536 × 2 = 1072

Therefore Option 3 is the correct answer.

Q53. Answer: (b) Both I and II

Calculation:

Statement I:

Marks obtained by S1 and S2 = 60 + 80 = 140

Average = 140/2 = 70

Statement I is true.

Statement II:

The ratio of marks obtained by Q in S3 to the marks obtained in S4 are 130 : 70 = 13 : 7

Statement II is true.

Both the statement is true.

Therefore Option 2 is the correct answer.

Q54. Answer: (b) 936

Given:

a + b + c = 12

ab + bc + ca = 22

Formula Used:

$a3 + b3 + c3 - 3abc = (a + b + c)(a^2 + b^2 + c^2 - ab - bc - ca)$

Solution:

Using the given equation a + b + c = 12, we can substitute this value into the formula:

a^3 + b^3 + c^3 - 3abc = (12)(a2 + b2 + c2 - ab - bc - ca)

To find the value of a2 + b2 + c2 - ab - bc - ca, we'll square the equation a + b + c = 12:

$(a + b + c)^2 = 12^2$

a2 + b2 + c2 + 2(ab + bc + ca) = 144

Substituting the given equation ab + bc + ca = 22:

a2 + b2 + c2 + 2(22) = 144

a2 + b2 + c2 = 100
Now we have the value of a2 + b2 + c2 - ab - bc - ca:
a2 + b2 + c2 - ab - bc - ca = 100 - 22 = 78
Substituting this value back into the formula, we get:
a3 + b3 + c3 - 3abc = (12)(78)
a3 + b3 + c3 - 3abc = 936
Therefore, the value of a3 + b3 + c3 - 3abc is 936.

Q55. Answer: (d) 0

Given:
triangle PQR is right angled at Q.
Concept Used:
Angle sum property = Sum of all the angles of the triangle is 180°.
Calculation:
triangle PQR is right angled at Q.
Value of P + R = 180° - angle Q
=> 180° - 90°
=> 90°
cos (P + R) = cos 90°
=> cos (P + R) = 0
Therefore Option 4 is the correct answer.

Q56. Answer: (a) 100 degree

Given:
The angle subtended by a chord on the major arc of a circle is 50 degrees.
Concept used:
The angle subtended by an arc at the centre is double the angle subtended by it at any point on the remaining part of the circle.
Calculation:
Let O, R, and PQ be the centre, a point on the major arc, and the aforementioned chord respectively.
So, the major arc for the PQ chord is PRQ.
Hence, angle PRQ = 50°
Here, angle POQ is the angle subtended by the same chord, PQ on the centre of the circle.
According to the concept,
angle POQ = 2 × angle PRQ
=> angle POQ = 2 × 50°
=> angle POQ = 100°
Therefore The angle subtended by the same chord on the centre of the circle is 100°.
Therefore Option 1 is the correct answer.

Q57. Answer: (b) 3.31

Calculation:
J1 = The average production of rice by A in years L, M and N = (100 + 80 + 60)/3 = 80
J2 = The production of rice by B in years N, P and Q = (100 + 90 + 75) = 265
J2/J1 = 265/80 = 3.31
Therefore Option 2 is the correct answer.

Q58. Answer: (d) 1/3

Given:
3tanθ = 2
Formula Used:
tanθ = sinθ/cosθ
Calculation:
=> (3sinθ - cosθ)/(3sinθ + cosθ)

Divide by cosθ in numerator and denominator
=> [(3sinθ - cosθ)/cosθ]/[(3sinθ + cosθ)/cosθ]
=> (3tanθ - 1)/(3tanθ + 1)
=> (3 × 2/3 - 1)/(3 × 2/3 + 1)
=> (2 - 1)/(2 + 1)
=> 1/3
Therefore Option 4 is the correct answer.

Q59. Answer: (b) 1 - 2/p + 1/(p²)

Given:
$(1 - 1/p)^2$
Formula Used:
$(a - b)^2 = a^2 + b^2 - 2ab$
Calculation:
$(1 - 1/p)2 = 1 + 1/p^2 - 2/p$
Therefore Option 2 is the correct answer.

Q60. Answer: (b) 10/3

Calculation:
$\sqrt{3}\tan^2\theta - 4\tan\theta + \sqrt{3} = 0$
$\Rightarrow \sqrt{3}\tan^2\theta + \sqrt{3} = 4\tan\theta$
$\Rightarrow \sqrt{3}[\tan\theta + 1/\tan\theta] = 4$
$\Rightarrow [\tan\theta + 1/\tan\theta] = 4/(\sqrt{3})$
Squaring both sides,
$[\tan\theta + 1/\tan\theta]^2 = 16/3$
$[\tan^2\theta + 1/(\tan^2\theta) + 2] = 16/3$
$\Rightarrow [\tan^2\theta + 1/(\tan^2\theta)] = 16/3 - 2$
$\Rightarrow [\tan^2\theta + 1/(\tan^2\theta)] = 10/3$
$\Rightarrow \tan^2\theta + \cot^2\theta = 10/3$
Therefore Option 2 is the correct answer.

Q61. Answer: (b) 4320

Shortcut Trick
Total Votes = 12000
Valid Votes share = 90%
Other candidate share = 100% − 60% = 40% of valid votes
Votes for other candidate = 12000 × 0.90 × 0.40 = 4320
Therefore The correct answer is 4320.
Alternate Method
Given:
Total number of votes = 12000
Percentage of valid votes = 90%
Percentage of valid votes for Candidate 1 = 60%
Calculations:
=> Total valid votes = 90% of 12000
=> Total valid votes = (90 ÷ 100) × 12000 = 10800
=> Since Candidate 1 got 60% of valid votes, Candidate 2 (other candidate) got = 100% − 60% = 40%
=> Valid votes for other candidate = 40% of 10800
=> Valid votes for other candidate = (40 ÷ 100) × 10800
=> Valid votes for other candidate = 4 × 1080 = 4320
Therefore The correct answer is 4320.
Additional Information
Valid and Invalid Votes

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In election problems, always calculate valid votes first: Valid Votes = Total Cast Votes − Invalid Votes.
Winning Margin
The difference between the votes of the winner and the loser is called the margin: Margin = Winner's Votes − Loser's Votes.
Successive Percentage
To find a final value after multiple percentage conditions: Final = Total × (Valid%) × (Candidate's share%).

Q62. Answer: (c) 1 : 2

Given:
P:Q = 1:3, Q:R = 3:4, R:S = 2:1
Calculations:
Let P = k, Q = 3k
Q:R = 3:4 => Q = 3k, R = 4k
R:S = 2:1 => R = 2n, S = n
Match R => 4k = 2n => n = 2k
S = n = 2k
P:S = k : 2k => 1 : 2
Therefore P:S = 1:2
Alternate Method
P : Q : R : S = 1 : 3 : 4 : 2
P : S = 1 : 2

Q63. Answer: (a) 52 cm²

Given:-
Diagonals are d1 = 8 cm
d2 = 13 cm
Working formula
Area of rhombus = (1/2) d1 × d2
Calculation:-
Area of rhombus = (1/2) × 8 × 13
Therefore Area of rhombus is 52 cm2

Q64. Answer: (a) Rs. 100

Shortcut Trick
Selling Price (SP) is (100 − 25)% of Marked Price (MP).
SP = 75% of 1200 = 3/4 × 1200 = Rs. 900.
Profit = SP − CP = 900 − 800 = Rs. 100.
Therefore The correct answer is Rs. 100.
Alternate Method
CP: 800
SP: 900
MP: 1200
Profit = +100
Discount = 25%
Profit = SP − CP = 100
Given:
Marked Price (MP) = Rs. 1200
Discount = 25%
Cost Price (CP) = Rs. 800
Formula Used:
Selling Price (SP) = MP × (1 − Discount / 100)
Profit = SP − CP
Calculations:
=> SP = 1200 × (100 − 25) / 100

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=> SP = 1200 × 75 / 100
=> SP = 12 × 75 = Rs. 900
=> Profit = 900 − 800
=> Profit = Rs. 100
Therefore The correct answer is Rs. 100.
Additional Information
Marked Price & Discount
Discount is always calculated on the Marked Price (MP) of the article. Formula: Discount = MP − SP.
Profit & Loss Calculation
Profit or Loss is always calculated on the Cost Price (CP). Formula: Profit% = (Profit / CP) × 100.
Successive Discount
If two successive discounts of d1% and d2% are given, the equivalent discount = d1 + d2 − (d1 × d2) / 100.

Q65. Answer: (d) 15 hours

Given:
M1 = 50 boys
H1 = 6 hours
D1 = 30 days
M2 = 25 boys
D2 = 24 days
Concept Used:
M1D1H1 = M2D2H2
Where,
M1 and M2 = Number of persons
D1 and D2 = Number of days
H1 and H2 = Number of hours
Calculation:
According to the question, we have
(50 × 6 × 30) = (25 × 24 × H2)
=> H2 = (50 × 6 × 30)/(25 × 24)
=> H2 = 15
Therefore The 25 boys can complete the same work in 24 days by working 15 hours per day.

Q66. Answer: (c) 78.37 percent

Calculation:
The total market price of all articles
1300 + 900 + 1100 + 800 + 600 + 700 + 1200 = 6600
The total selling price of all articles
700 + 400 + 700 + 600 + 500 + 400 + 400 = 3700
According to the question:
(6600 - 3700)/3700 × 100
(2900)/3700 × 100
78.37 percent
Therefore Option 3 is the correct answer.

Q67. Answer: (c) 8

Given:
PM and PN are two tangents of a circle from an external point P.
PM = y2 - 9
PN = 55
Concept:
Tangents are equal in length drawn from an outside point on the circle.
Calculation:

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According to the concept,

PM = PN (Tangents are equal)

y2 - 9 = 55

y2 = 55 + 9 = 64

y = 8

Therefore Option 3 is the correct answer.

Q68. Answer: (b) 45°

Given:

ABCD is a cyclic quadrilateral, AB is the diameter of the circle

angle ACD = 45°

Concept used:

The angle subtended by the diameter of a circle at the circumference is 90°.

The opposite angles of a cyclic quadrilateral are supplementary which means that the sum of either pair of opposite angles is equal to 180°.

Calculation:

Both angle ADB and angle ACB are subtended by the diameter AB.

According to the concept,

angle ADB = angle ACB = 90°

Now,

angle BCD

=> angle ACD + angle ACB

=> 45 + 90

=> 135°

According to the concept,

angle BAD + angle BCD = 180°

=> angle BAD + 135° = 180°

=> angle BAD = 180° - 135°

=> angle BAD = 45°

Therefore The value of angle BAD is 45°.

Q69. Answer: (c) 75 km

Shortcut Trick

Since Time is constant, the Distance is directly proportional to Speed (D prop. to S).

Ratio of Speeds = 10 : 12 = 5 : 6

Ratio of Distances = 5 : 6

Difference in ratio units = 6 − 5 = 1 unit

According to the question, 1 unit = 15 km

Actual distance cycled (5 units) = 5 × 15 = 75 km

Therefore The correct answer is 75 km.

Alternate Method

Given: Initial Speed = 10 kmph, Final Speed = 12 kmph, Increase in Distance = 15 km.

Formula Used: Time = Distance ÷ Speed

=> Let the actual distance be 'x' km.

=> Time taken at 10 kmph = x/10 hours

=> Time taken at 12 kmph = (x + 15)/12 hours

=> x/10 = (x + 15)/12

=> 12 × x = 10 × (x + 15)

=> 12x = 10x + 150

=> 12x − 10x = 150

=> 2x = 150

=> x = 150 ÷ 2 = 75 km

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Therefore The correct answer is 75 km.

Additional Information

Constant Time Property

When time is constant, the ratio of distances covered is the same as the ratio of their respective speeds: D1/D2 = S1/S2.

Constant Distance Property

When distance is constant, speed and time are inversely proportional: S1 × T1 = S2 × T2 or S1/S2 = T2/T1.

Speed-Distance Units

To convert kmph to m/s, multiply the speed by 5/18. To convert m/s to kmph, multiply by 18/5.

Therefore The correct answer is 75 km.

Q70. Answer: (b) Rs. 8,000

Given:

Average monthly income of A and B = Rs. 7000

Average monthly income of B and C = Rs. 7750

Average monthly income of A and C = Rs. 6750

Formula used:

Average of N terms = Sum of N terms/N

Calculation:

A + B = 2 × 7000 = 14000

B + C = 2 × 7750 = 15500

C + A = 2 × 6750 = 13500 -----(1)

=> A + B + C = 43000/2 = 21500 -----(2)

=> (2) - (1)

=> B = 21500 - 13500 = 8000

Therefore Monthly income of B is Rs. 8000.

Therefore Option 2 is the correct answer.

Q71. Answer: (a) Football

Calculation:

Football liked by 122 students.

Hockey liked by 58 students.

Cricket liked by 115 students.

Kabaddi liked by 50 students.

Tennis liked by 105 students.

Therefore Football is favourite sport of maximum students.

Therefore Option 1 is the correct answer.

Q72. Answer: (d) Rs. 750

Calculation:

Let the sum be P and the rate of interest be r

Simple interest = PRT/100

=> 1050 = P + PR × (5/100)

=> P(1 + 5R/100) = 1050 -------(1)

=> 1230 = P + PR × (8/100)

=> P(1 + 8R/100) = 1230 -------(2)

Solving (1) and (2),

=> (1 + 5R/100)/(1 + 8R/100) = 1050/1230

=> (1 + 5R/100)/(1 + 8R/100) = 35/41

=> 41(1 + 5R/100) = 35(1 + 8R/100)

=> 41 + 205R/100 = 35 + 280R/100

=> 75R/100 = 6

=> R = 6 × 4/3

=> R = 8%

Put the value in (1)

=> P(1 + 5 × 8/100) = 1050

=> P = 1050 × 5/7

=> P = Rs. 750

Therefore Option 4 is the correct answer.

Q73. Answer: (d) Neither I nor II

Calculation:

Statement I:

1/2 + 1/6 + 1/12 + ... 1/110 < 5/6

Expand LHS

1/2 + 1/(2× 3) + 1/(3× 4) + ... 1/(10× 11) < 5/6

1/2 + 1/2 -1/3 + 1/3 -1/4 + ... 1/10-1/11 < 5/6

1-1/11 < 5/6

10/11 < 5/6

which is wrong,

Statement I is incorrect.

Statement II:

1/3 + 1/15 + 1/35 + ... 1/143 > 7/13

1/3 + 1/(3× 5) + 1/(5× 7) + ... 1/(11× 13) > 7/13

1/3 +2/2[1/(3× 5) + 1/(5× 7) + ... 1/(11× 13)] > 7/13

1/3 +1/2[1/3-1/5 + 1/5-1/7 + ... +1/11-1/13] > 7/13

1/3 +1/2[1/3-1/13] > 7/13

1/3 +5/39> 7/13

6/13> 7/13

which is wrong

Statement II is incorrect

Both the statement is incorrect.

Therefore Option 4 is the correct answer.

Q74. Answer: (c) 10√13 cm

Given:

Length of one diagonal of the rhombus = 40 cm

Length of the other diagonal of the rhombus = 60 cm

Formula Used:

In a rhombus, the diagonals are perpendicular bisectors of each other, and they divide the rhombus into four congruent right-angled triangles.

Let's use the Pythagorean theorem to find the length of the side of the rhombus.

Solution:

Let's denote the length of the side of the rhombus as "s" and the diagonal as d1 and d2.

According to the given information, the diagonals of the rhombus are 40 cm and 60 cm. These diagonals divide the rhombus into four congruent right-angled triangles.

Using the Pythagorean theorem, we can write the following equation for one of the right-angled triangles:

$(d1/2)^2 + (d2/2)^2 = (s)^2$

Simplifying this equation:

(40/2)2 + (60/2)2 = (s)2

(20)2 + (30)2 = (s)2

400+ 900 = (s)2

$s^2 = 1300$

$s = \sqrt{1300}$

$s = 10\sqrt{13}$

Therefore, the length of the side of the rhombus is 10√13 cm.

Q75. Answer: (b) 58

Shortcut Trick

Solve using BODMAS: Divide first, then multiply.

15 + (18 ÷ 3) × 5 − (12 ÷ 4) + a = 100

15 + 6 × 5 − 3 + a = 100

15 + 30 − 3 + a = 100

42 + a = 100 => a = 58

Therefore The correct answer is 58.

Alternate Method

Given equation: 15 + 18 ÷ 3 × 5 − 12 ÷ 4 + a = 100

Formula used: BODMAS (Brackets, Of, Division, Multiplication, Addition, Subtraction)

=> 15 + (18 ÷ 3) × 5 − (12 ÷ 4) + a = 100

=> 15 + 6 × 5 − 3 + a = 100

=> 15 + 30 − 3 + a = 100

=> 45 − 3 + a = 100

=> 42 + a = 100

=> a = 100 − 42

=> a = 58

Therefore The correct answer is 58.

Additional Information

BODMAS Rule

BODMAS stands for Brackets, Of, Division, Multiplication, Addition, and Subtraction. It defines the order in which mathematical operations should be performed.

Division and Multiplication Priority

In the BODMAS rule, Division and Multiplication have the same priority level and are solved in the order they appear from left to right.

Addition and Subtraction Priority

Addition and Subtraction also have the same priority and are typically performed after all multiplication and division steps are completed.

Q76. Answer: (d) slowly moved

The correct answer is 'Option 4' i.e. 'Slowly moved'.

Key Points

• The underlined part of the sentence, "slow moved forward," is incorrect.

• The verb "moved" should be modified by an adverb, not an adjective.

• The adverb "slowly" correctly modifies "moved," showing the manner in which the action is performed.

• Furthermore, we need to use the past tense "moved" to match the past tense verb "released" earlier in the sentence.

Therefore, the correct sentence is: He released the brake, and the tractor slowly moved forward.

Q77. Answer: (c) occurred

The correct answer is 'Option 3' i.e. 'Occurred'.

Key Points

• The sentence is discussing whether certain thoughts have ever happened or come to mind for Liz Truss, who is still the prime minister of Britain at the time of writing.

• The verb "occurred" accurately conveys this meaning. It implies the idea of thoughts happening or taking place in one's mind.

• "occurred," is the most suitable choice, as it accurately reflects the idea of thoughts happening or coming to mind.

Therefore, the correct sentence is: I don't know if such thoughts have ever occurred to Liz Truss, who is still, at the time of writing, Britain's prime minister.

Additional Information

• Let's analyze the other options:

• "Yielded" means to produce or provide, but it doesn't fit the context of thoughts happening to someone.

• "Monitored" means to observe or track, which doesn't make sense in the context of thoughts occurring to someone.

• "Desisted" means to cease or stop, which also doesn't fit the context of thoughts happening to someone.

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Q78. Answer: (d) associated with

The correct answer is 'Option 4' i.e. 'Associated with'.

Key Points

• The word "associated" means connected or linked to something else.

• In this context, the phrase "associated with" accurately expresses the relationship between hallucinations and mental health issues.

• Hallucinations are often found or connected with mental health problems.

Therefore, the correct sentence is- 'A hallucination is an error in perception that is why it is often associated with mental health issues.

Additional Information

• Now let's analyze the other options:

• "Accounted with" doesn't convey the appropriate meaning in this context. It implies a financial or numerical calculation, which doesn't fit the relationship between hallucinations and mental health issues.

• "Suspended in" implies a state of being temporarily stopped or hanging in something, which doesn't make sense in the context of hallucinations and mental health issues.

• "Dispose of" means to get rid of or throw away, which doesn't convey the intended meaning of the sentence.

Q79. Answer: (c) dengue fever infects little

The correct answer is 'Option 3' i.e. 'Dengue fever infects little'

Key Points

• The sentence contains an error in the phrase "infects little." because it conveys the opposite meaning of what is intended.

• The word "little" is incorrect in this context because it implies a small quantity or amount, which doesn't make sense in relation to the number of people infected with dengue fever.

• The correct word to use here is "more than" to convey the large number of people affected by dengue fever annually.

Therefore, the correct sentence is: "As per the study, mosquito-borne dengue fever infects more than 400 million people annually."

Q80. Answer: (b) large crowd has gathered from yesterday

The correct answer is 'Option 2' i.e. 'Large crowd has gathered from yesterday'.

Key Points

• The segment "large crowd has gathered from yesterday" contains a grammatical error.

• The word "from" should be replaced with "since" to indicate the duration of time.

• "Since" is more appropriate in this context as it signifies that the crowd has been gathering continuously starting from the previous day.

Therefore, the correct sentence is: 'It's 4 p.m. local time and quite a large crowd has gathered since yesterday evening around the giant stage.

Q81. Answer: (d) Ignore, avoid or be unfriendly towards someone

The solution is in Hindi. Read it online.

Q82. Answer: (c) Indict

The correct answer is 3) Indict.

Key Points

• The word "indict" is the correct spelling. It is a verb that means to formally accuse someone of a crime or wrongdoing, typically through a legal process.

• Example: "The prosecutor plans to indict the suspect for fraud and embezzlement."

• In this example, "indict" is used to describe the action of formally charging the suspect with specific crimes.

• Now let's examine the other options:

• Indiet: This option is not the correct spelling of the word. It does not exist in the English language.

• Indit: This option is not the correct spelling of the word. It does not exist in the English language.

• Indicte: This option is not the correct spelling of the word. It has an extra "e" at the end. The correct spelling is "indict" without the additional "e."

• It's important to note that "indict" is a commonly misspelled word, often confused with similar-sounding words. However, the correct spelling is "indict" with a "c," as shown in option 3.

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Q83. Answer: (c) No improvement

The correct answer is 3) No improvement.

Key Points

• The underlined part of the sentence, "wants to go," is already grammatically correct.

• The verb "wants" is the correct form to use with the subject "he," indicating the singular third person.

• The infinitive form "to go" follows the verb "wants" to express the desired action.

• "The dog will whine at the door when he wants to go out."

• This sentence accurately conveys that the dog expresses its desire to go outside by whining at the door.

• Let's analyze the other options:

• wants to gone: This option is grammatically incorrect. The correct form should be "wants to go" instead of "wants to gone." The infinitive form "to go" is used after "wants" to express the desired action.

• want to go: This option is grammatically incorrect. The verb form "want" does not match with the subject "he," which requires the singular form "wants."

• wants to going: This option is grammatically incorrect. The verb form "going" is not appropriate after "to" in this context. The correct form is "wants to go" to express the desired action.

• In conclusion, the original underlined part of the sentence is already correct, and no improvement is necessary.

Q84. Answer: (d) that the police had issued him several summonses

Here the correct answer is That the police had issued him several summonses.

Key Points

• Option 4 maintains the original tense used in the sentence, which is the past perfect tense ("had issued"). The past perfect tense is used to indicate an action that occurred before another past action. In this case, it implies that the businessman's insistence on the police issuing him several summonses happened after the police had already issued the summonses.

• The word "summonses" is the correct plural form of "summons," indicating multiple legal orders to appear in court.

• Original sentence: The businessman also insisted that the police had issued him several summons.

• Improved sentence: The businessman also insisted that the police had issued him several summonses.

• In the improved sentence, the past perfect tense is maintained, correctly indicating the sequence of events. The plural form "summonses" is used to represent multiple summonses.

Q85. Answer: (d) Sedulous

The solution is in Hindi. Read it online.

Q86. Answer: (a) Strenuous

The correct answer is 1) Strenuous.

Key Points

• The word "vigorous" describes something that is characterized by strength, energy, and active physical or mental effort. It conveys a sense of robustness, intensity, and forcefulness.

• Example: "He engaged in a vigorous workout routine to improve his physical fitness."

• In this example, "vigorous" emphasizes the high level of intensity and energy in the workout routine.

• In summary, the word that is closest in meaning (synonym) to "vigorous" is 1) Strenuous, as it captures the sense of strength, energy, and active effort.

• Example: Running a marathon is a strenuous physical challenge that requires months of training and conditioning.

Additional Information

• Now let's examine the other options:

• Delicate: This option is the opposite of "vigorous." "Delicate" refers to something that is fragile, sensitive, or requiring gentle handling. It does not share the same meaning as "vigorous."

• Example: "She handled the delicate glassware with great care to avoid any damage."

• Torpid: This option is not a synonym for "vigorous." "Torpid" means sluggish, inactive, or lacking energy. It denotes a state of inactivity or sluggishness rather than the energetic and robust nature associated with "vigorous."

• Example: "The bear emerged from its winter hibernation in a torpid state, moving slowly and showing signs of lethargy."

• Guarded: This option is not a synonym for "vigorous." "Guarded" refers to being cautious, careful, or reserved in one's actions or expressions. It does not carry the same sense of energy, strength, or intensity as "vigorous."

• Example: "She responded to the question with a guarded answer, revealing little information."

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Q87. Answer: (b) Ingenious

The correct answer is 2) Ingenious.

Key Points

• The word "ingenious" is the correct spelling. It is an adjective that describes someone or something as clever, creative, and resourceful, especially in terms of inventiveness or problem-solving.

• Example: "The engineer came up with an ingenious solution to the complex engineering problem."

• In this example, "ingenious" emphasizes the engineer's ability to devise a creative and effective solution to the challenging problem.

• In summary, the correct spelling of the word is "ingenious," as shown in option 2.

Q88. Answer: (b) Gluttonous

The solution is in Hindi. Read it online.

Q89. Answer: (a) raised two distinct

The correct answer is: raised two distinct.

Key Points

• The original sentence uses the verb "arised" to describe the detention of two distinct but closely linked questions.

• However, the correct verb to use in this context is "raised" to indicate the act of bringing up or presenting the questions.

• Option 1, "raised two distinct," provides the correct verb form and maintains the intended meaning of the sentence.

• Original sentence: The detention arised two distinct but closely linked questions.

• Improved sentence: The detention raised two distinct but closely linked questions.

• In the improved sentence, "raised" accurately conveys the action of bringing forth the questions, maintaining the coherence of the sentence.

Correct Sentence: The detention (raised two distinct) but closely linked questions.

Additional Information

• "Arised" is not a standard English word. The correct verb form is "arose" (past tense of "arise").

• Here are the meanings and examples of "raised" and "arose":

• "Raised" (verb):

• Meaning: To lift or elevate something physically or metaphorically, to bring up a topic, issue, or question for consideration or discussion.

• Example 1: He raised his hand to ask a question.

• Example 2: The report raised concerns about the company's financial stability.

• "Arose" (verb):

• Meaning: To come into being, to happen, or to originate from a particular situation or circumstance.

• Example 1: A new opportunity arose unexpectedly.

• Example 2: Problems arose during the construction process.

• In the context of the given sentence, the correct word to use is "raised." It indicates that the detention brought up or presented two distinct but closely linked questions for consideration or discussion.

Q90. Answer: (b) PQRS

Here the correct answer is PQRS.

Key Points

• The correct order of the jumbled sentences is: PQRS.

• To understand the correct order, let's analyze the meaning and logical flow of each sentence:

• P. Many years ago, Paul Bunyan was born in the north-eastern American state of Maine.

• This sentence introduces the main subject, Paul Bunyan, and provides information about his birthplace.

• Q. His mother and father were shocked when they first saw the boy.

• Sentence Q follows sentence P logically, as it describes the reaction of Paul Bunyan's parents upon seeing him for the first time after his birth.

• R. Paul was so large at birth that five large birds had to carry him to his parents.

• Sentence R provides further details about Paul Bunyan's birth, emphasizing his large size and the need for five large birds to transport him.

• S. When the boy was only a few weeks old, he weighed more than forty-five kilograms.

• The final sentence, S, provides additional information about Paul Bunyan's growth, specifically highlighting his weight at just a

few weeks old.

• By arranging the sentences in the order PQRS, we create a coherent narrative that follows a logical sequence of events. Sentence P introduces Paul Bunyan's birth, followed by the reaction of his parents in sentence Q. Sentence R provides a unique detail about his birth, and sentence S adds further information about his growth.

• Hence, the correct order is 2) PQRS.

Q91. Answer: (a) To be idle

The correct answer is: To be idle.

Key Points

• The idiom "to twiddle one's thumbs" means to be idle, to do nothing, or to pass the time with no productive activity. It implies a state of inactivity or waiting without any purposeful engagement.

• Example:

• Imagine a situation where someone is waiting for an important phone call, but they have nothing else to do in the meantime. They might say, "I've been twiddling my thumbs all morning waiting for that call."

• In this example, "twiddling one's thumbs" indicates the person's state of being idle or not having anything constructive to occupy their time.

• Among the given alternatives, option 1) "To be idle" is the best expression that captures the meaning of the idiom accurately.

Q92. Answer: (d) The tables were wiped down by Khushi.

Here the correct answer is The tables were wiped down by Khushi.

Key Points

• The given sentence is in Active Voice. As per the given question, we have to change it to Passive Voice.

• The structure of the given sentence is as follows:

• Subject + V2 + Object. (Active Voice)

• Subject (objective case) + was/were + V3 + Object (subjective case). (Passive Voice)

• Example:

• Their cousin showed them some rare photographs. (Active Voice)

• They were shown some rare photographs by their cousin. (Passive Voice)

• The subject of the given sentence is 'Khushi'.

• The object of the given sentence is 'The tables'.

• The subject will be put in place of the object and the object will be put in place of the subject.

• And 'wiped' will be changed into 'were wiped'.

Correct Sentence: The tables were wiped down by Khushi.

Q93. Answer: (a) PQRS

Here the correct answer is PQRS.

Key Points

• By analyzing the information and logical flow of each sentence, we can determine the correct order:

• The first and last sentences are fixed:

• Mount Everest is a peak in the Himalaya mountain range. [Fixed as the first sentence]

• The Nepali name is Sagarmatha, which has various meanings. [Fixed as the last sentence]

• P. It is located between Nepal and Tibet, an autonomous region of China.

• This sentence provides information about the geographical location of Mount Everest, stating that it is situated between Nepal and Tibet.

• Q. At 8,849 meters (29,032 feet), it is considered the tallest point on Earth.

• Sentence Q highlights the impressive height of Mount Everest, explaining that it is recognized as the tallest point on Earth.

• R. In the nineteenth century, the mountain was named after George Everest, a former Surveyor General of India.

• Sentence R provides historical information about the naming of Mount Everest after George Everest, who was a former Surveyor General of India.

• S. The Tibetan name is Chomolungma, which means "Mother Goddess of the World."

• Sentence S introduces the Tibetan name for Mount Everest, which is Chomolungma and its translation meaning "Mother Goddess of the World."

• Therefore, the correct order of the sentences is PQRS.

Q94. Answer: (d) She said, "I will not be coming to the school today".

Here the correct answer is She said, "I will not be coming to the school today".

Key Points

• The given sentence is in Indirect Speech. As per the question we have to change it into Direct Speech.

• The process of transformation is as follows:

• 'Said' will remain unchanged.

• Comma and inverted commas will be added.

• 'would' will be changed into 'will'.

• 'she' will be changed into 'I'.

• 'that day' changes to 'today'.

• Therefore, as per the points mentioned above, we find that the correct answer is Option 4.

Correct Sentence: She said, "I will not be coming to the school today".

Additional Information

• The following table will enable us to know how tense changes in indirect speech:-

Direct Speech	Indirect Speech
Simple Present (Subject + V1 + Object)	Simple Past (Subject + V2 + Object)
Present Continuous (Subject + is/am/are + V1 + ing + Object)	Past Continuous (Subject + was/were + V1 + ing + Object)
Present Perfect (Subject + has/have + V3 + Object)	Past Perfect (Subject + had + V3 + Object)
Simple Past (Subject + V2 + Object)	Past Perfect (Subject + had + V3 + Object)
Past Continuous (Subject + was/were + V1 + ing + Object)	Past Perfect Continuous (Subject + had been + V1 + ing + Object)
Simple Future (Subject + will/shall + V1 + Object)	Present Conditional (Subject + would + V1 +Object)
Future Continuous (Subject + will/shall + V1 + ing + Object)	Conditional Continuous (Subject + would + be + V1 + ing + Object)

Q95. Answer: (c) Whole

The solution is in Hindi. Read it online.

Q96. Answer: (b) reptiles

Here the correct answer is Reptiles.

Key Points

• The correct option to fill in the blank No. 1 is: reptiles.

• In the context of the passage, the word "reptiles" is the most appropriate choice to fill the blank.

• The passage is discussing snakes and their characteristics, and snakes are classified as reptiles. They share common characteristics with other reptiles, such as being ectothermic, having scales, and laying eggs.

• If we fill in the blank with "reptiles," the sentence would read: "Snakes are elongated, legless, carnivorous reptiles that can be distinguished from legless lizards..."

• This sentence highlights that snakes are a specific type of reptile that possesses distinct features setting them apart from legless lizards.

• Among the given options, 2) reptiles is the correct answer because it accurately categorizes snakes as a type of reptile in line with the context of the passage.

Additional Information

• Now, let's analyze the other options:

• Birds are not appropriate to fill in this blank because snakes and birds are different types of animals. Snakes do not possess the characteristic of having feathers or other avian features.

• Mammals are warm-blooded animals with distinct characteristics such as mammary glands and the ability to give live birth. Snakes do not possess these mammalian characteristics, so this option is not suitable for the context.

• Amphibians are a different class of animals that include frogs, toads, and salamanders. They have characteristics such as moist skin and the ability to live in both water and land habitats. Snakes do not possess these amphibian characteristics, making this option incorrect.

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Q97. Answer: (c) their

Here the correct answer is Their.

Key Points

• The correct option to fill in the blank No. 2 is: their.

• In the context of the passage, the pronoun "their" is the most appropriate choice to fill the blank.

• The sentence is referring to snakes and legless lizards and comparing their characteristics.

• "Their" is a possessive pronoun that indicates ownership or possession by the subject.

• If we fill in the blank with "their," the sentence would read: "Snakes are elongated, legless, carnivorous reptiles that can be distinguished from legless lizards by their lack of eyelids and external ears."

• In this sentence, "their" is used to indicate that snakes lack eyelids and external ears, which is a characteristic specific to them.

• Among the given options, 3) their is the correct answer because it correctly shows possession by snakes, indicating that they lack eyelids and external ears.

Additional Information

• Now, let's analyze the other options:

• "Those" is a demonstrative pronoun used to refer to objects or people that are farther away or more distant. It is not appropriate to use "those" in this context because the sentence is discussing the distinguishing features of snakes compared to legless lizards.

• "Them" is a pronoun used to refer to objects or people as the direct object of a verb or preposition. In this context, using "them" would create confusion as it does not clearly specify what is lacking eyelids and external ears.

• "There" is an adverb indicating a place or location. It does not fit in the context of this sentence, as it does not refer to the distinguishing features of snakes and legless lizards.

Q98. Answer: (b) Many

Here the correct answer is Many.

Key Points

• The correct option to fill in the blank No. 3 is: Many.

• In the context of the passage, the word "many" is the most appropriate choice to fill the blank.

• The sentence is discussing the different species of snakes and their skull structure compared to their lizard ancestors.

• The word "many" is used to indicate a large number or quantity.

• If we fill in the blank with "many," the sentence would read: "Many species of snakes have skulls with several more joints than their lizard ancestors..."

• In this sentence, "many" emphasizes that there are numerous species of snakes with the mentioned skull structure, suggesting a significant number of different snake species.

• Among the given options, 2) Many is the correct answer because it accurately represents a large number of snake species that have skulls with several more joints compared to their lizard ancestors.

Additional Information

• Now, let's analyze the other options:

• "Lots" is an informal term used to indicate a large amount or number. While it conveys a similar meaning to "many," it is less suitable in a formal context such as this passage.

• "Few" is the opposite of "many" and indicates a small number or quantity. It does not fit the context because the passage is highlighting the presence of several species of snakes with the mentioned skull structure, indicating a larger number rather than a small number.

• "Much" is used to indicate a large amount or quantity for uncountable nouns. Since "species" is a countable noun in this context, "much" would not be appropriate.

Q99. Answer: (c) enabling

Here the correct answer is Enabling.

Key Points

• The correct option to fill in the blank No. 4 is: enabling.

• In the context of the passage, the word "enabling" is the most appropriate choice to fill the blank.

• The sentence is discussing the skull structure of certain species of snakes, which allows them to swallow prey much larger than their heads.

• The word "enabling" means to make something possible or to provide the necessary conditions or means for something to happen.

• If we fill in the blank with "enabling," the sentence would read: "Some species of snakes have skulls with several more joints than

their lizard ancestors, enabling them to swallow prey much larger than their heads with their highly mobile jaws."

• In this sentence, "enabling" indicates that the presence of additional joints in the skulls of certain snake species makes it possible for them to swallow prey that is larger in size. It suggests that the specific skull structure of these snakes facilitates their ability to consume larger prey.

• Among the given options, 3) enabling is the correct answer because it accurately describes the function of the skull structure in certain snake species, which allows them to swallow prey much larger than their heads.

Additional Information

• Now, let's analyze the other options:

• "Compelling" means evoking strong interest, attention, or admiration. While it can be used in various contexts, it does not fit the context of the sentence, which is discussing the anatomical advantage of the skull structure in snakes.

• "Prevailing" means existing or most commonly encountered at a particular time or in a particular place. It does not fit the context of the sentence, which is describing the functional aspect of the skull structure in certain snake species.

• "Disabling" means causing a person or organism to be unable to perform certain functions or activities. This option is not suitable for the context because the sentence is highlighting how the skull structure of certain snake species enables them to perform a specific function (swallowing larger prey).

Q100. Answer: (d) by

Here the correct answer is By.

Key Points

• The appropriate option to fill in the blank No. 5 is: by.

• In the context of the passage, the preposition "by" is the most appropriate choice to fill the blank.

• The sentence states that snakes' paired organs, such as kidneys, appear one in front of the other instead of side by side.

• The word "by" is used to indicate the proximity or arrangement of the organs.

• If we fill in the blank with "by," the sentence would read: "To accommodate their narrow bodies, snakes' paired organs (such as kidneys) appear one in front of the other instead of side by side."

• In this sentence, "by" conveys the idea that the paired organs are positioned closely next to each other, rather than being situated in a side-by-side manner like in most other organisms.

• Among the given options, 4) by is the correct answer because it accurately describes the arrangement of snakes' paired organs, indicating that they appear one in front of the other.

Important Points

• "Side by side" is an idiomatic expression that means being close together or next to each other. It implies a parallel or adjacent arrangement of two or more things.

• Example 1:

• The two friends walked side by side along the beach, enjoying the sunset.

• In this example, "side by side" suggests that the two friends were walking together, with their bodies aligned in a parallel manner, along the beach.

• Example 2:

• The books on the shelf were arranged side by side, neatly organized by genre.

• Here, "side by side" indicates that the books were positioned next to each other on the shelf, creating a uniform and organized display.

Additional Information

• Now, let's analyze the other options:

• "Over" is a preposition that indicates a position above or higher than something. It does not convey the intended meaning of the sentence, which is about the arrangement of snakes' paired organs.

• "Of" is a preposition used to indicate possession, origin, or the relationship between two things. While it is a versatile preposition, it does not fit the context of the sentence, which requires a preposition indicating proximity or arrangement.

• "And" is a conjunction used to connect words, phrases, or clauses. It does not fit the context of the sentence, which requires a preposition to indicate the arrangement of snakes' paired organs.

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