SSC MTS 2025 Official Paper (Held On: 11 Feb, 2026 Shift 3) (Previous Year Paper)

SSC Multi-Tasking Staff (MTS) • 2025 • 90 questions • 90 minutes • Answer key and solutions

Take this paper as a timed mock test

Practise under exam conditions, then review your answers after you submit.

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SESSION 1

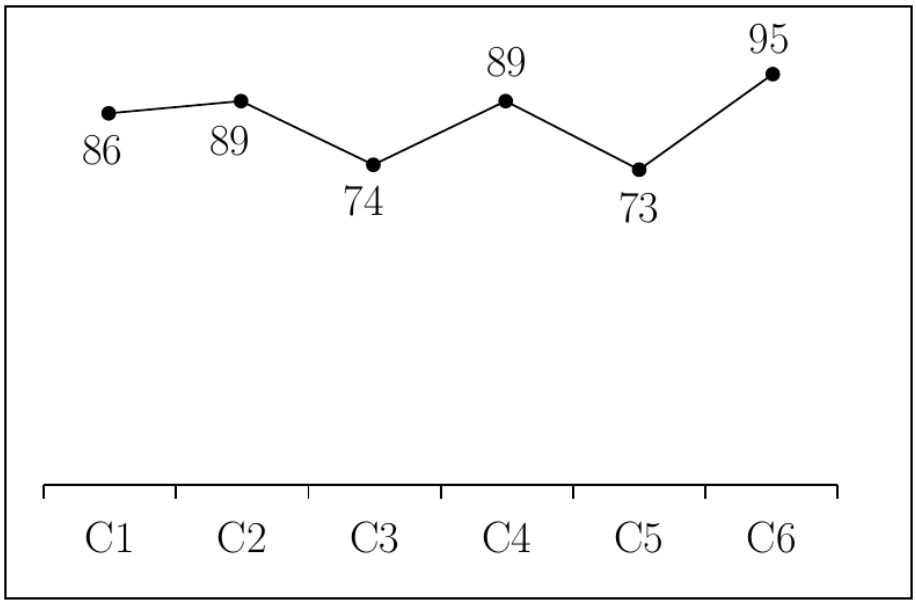
Q1. 58 + 79 - (31 + 25) × 2 + 61 - 17 = ?

(a) 69
(b) 71
(c) 73
(d) 75

Q2. 69 + (26 × 2) - 44 + 31 - 18 + 42 ÷ 2 = ?

(a) 131
(b) 102
(c) 135
(d) 111

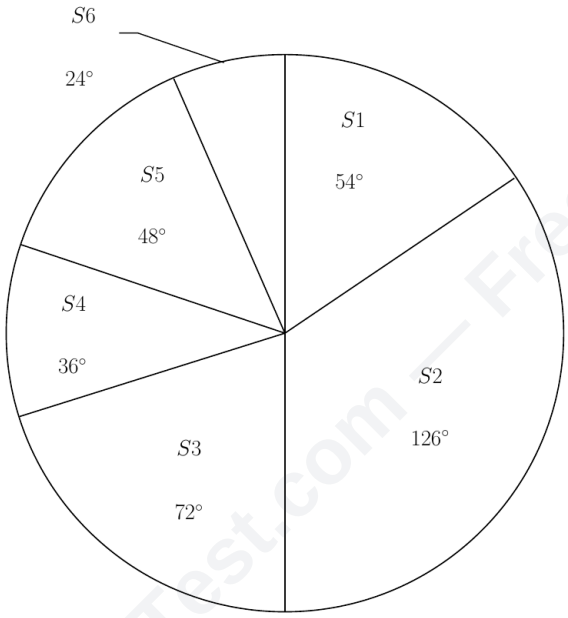
Q3. The line chart given below shows the average marks obtained by each student of 6 classes C1, C2, C3, C4, C5 and C6 in a school.



Average marks of each students of which class is 100% of the average marks of each student of class C2?

(a) C3
(b) C4
(c) C5
(d) C1

Q4. The pie chart given below shows the number of books of 6 subjects in a bookstore. The data is presented in the terms of degrees.

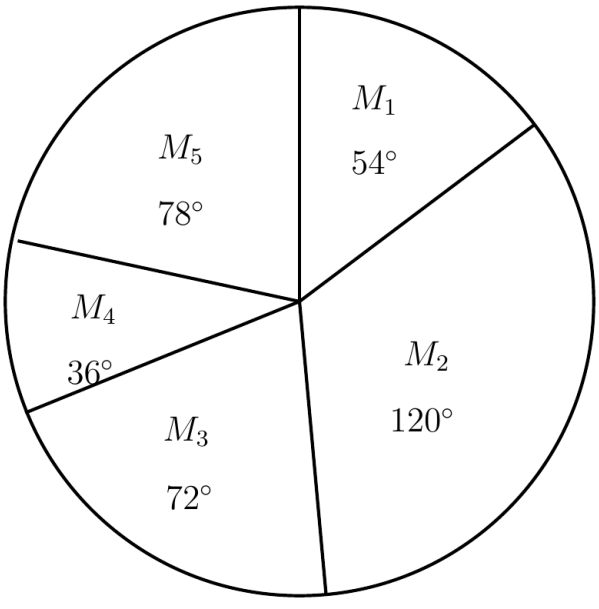


Number of books of S2 are 252. What are the total number of books of S1 and S5?

(a) 284
(b) 192
(c) 204
(d) 188

Q5. The pie chart given below shows the number of keys manufactured by 5 machines. The data is presented in the terms of degrees.

Average number of keys manufactured by M3 and M5 = 1500.

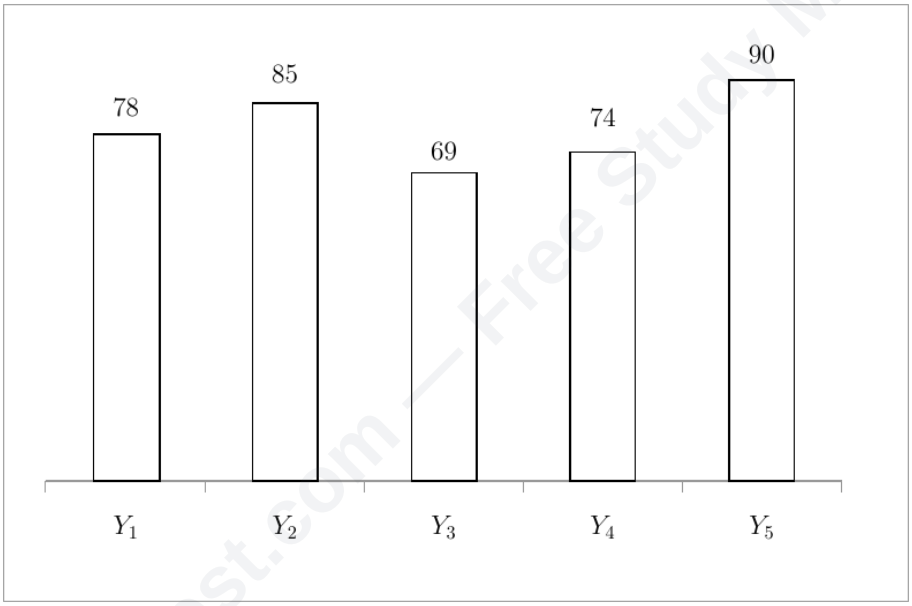


What are the total number of keys manufactured by the given 5 machines?

(a) 4800
(b) 6000
(c) 8400
(d) 7200

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Q6. The bar graph given below shows the number of cars produced in the given 5 years.



Number of cars produced in Y4 are what percent more than number of cars produced in Y3?

(a) 6%
(b) 6.5%
(c) 7.25%
(d) 5%

Q7. The perpendicular distance from the center of a circle to a chord is 5 cm. If the length of the chord is 24 cm, find the radius of the circle. Also, calculate the distance of another chord of length 18 cm from the center.

(a) 8 cm, 3√14 cm
(b) 13 cm, 2√22 cm
(c) 15 cm, 5√15 cm
(d) 9 cm, 2√35 cm

Q8. The ratio of the number of students in Class A to Class B is 4 : 5. If 8 students are transferred from B to A, the ratio becomes 5:6. Find the original number of students in each class.

(a) A- 352, B- 440
(b) A- 302, B- 400
(c) A- 362, B- 440
(d) A- 352, B- 420

Q9. Which of the following is greater than 0.5151... ?

(a) 0.4747...
(b) 0.499...
(c) 0.4949...
(d) 0.533...

Q10. 7501/3 + 7501/15 + 7501/35 + … + 7501/99 = ?

(a) 37505/11
(b) 37504/9
(c) 37506/11
(d) 37515/11

Q11. If √506.25 = 22.5, then what is the value of √0.00050625 ?

(a) 2.25
(b) 0.225
(c) 0.0225

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(d) 0.00225

Q12. The product of the three consecutive odd numbers is 1287. What is the sum of the largest and the smallest of the three numbers?

(a) 18
(b) 20
(c) 22
(d) 28

Q13. If $a = 3 + \sqrt{2}$, $b = 3 - \sqrt{2}$, then what is the value of $a^2 + b^2$?

(a) 24
(b) 22
(c) 21
(d) 20

Q14. How many numbers among 1210, 1331, 1442, 1553 are divisible by 11?

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

Q15. Which of the following number is divisible by both 9 and 11?

(a) 7920
(b) 8250
(c) 8020
(d) 8163

Q16. Average of first 'N' multiples of 3 is 66. What is the value of 'N'?

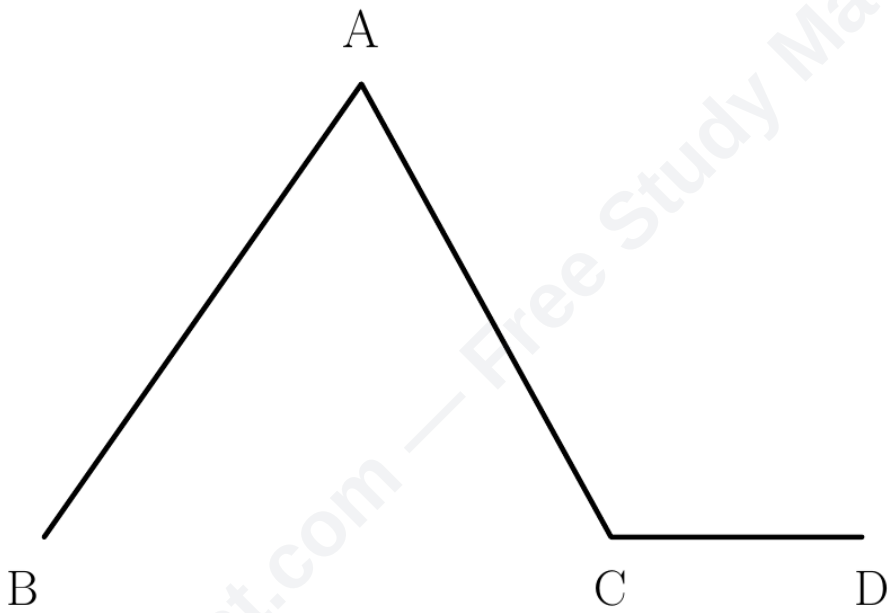
(a) 35
(b) 38
(c) 47
(d) 43

Q17. In a class, the average age of 28 boys is 13 years. Two boys whose ages are 'x' years and 21 years leave the class. If the new average age of the class is 13 years, then what is the value of 'x'?

(a) 7
(b) 5
(c) 10
(d) 13

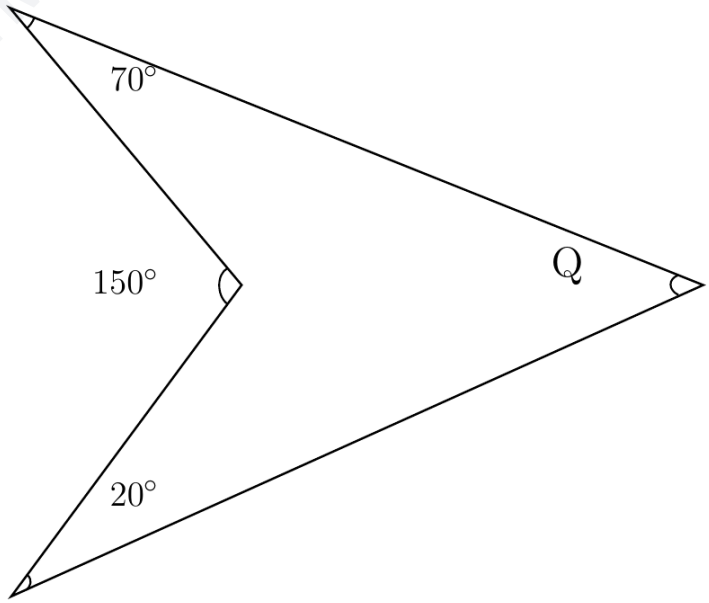
Q18. In the given figure, angle ABC = 65 degrees and angle ACD = 120 degrees. What is the value (in degrees) of angle BAC?

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(a) 45
(b) 50
(c) 55
(d) 60

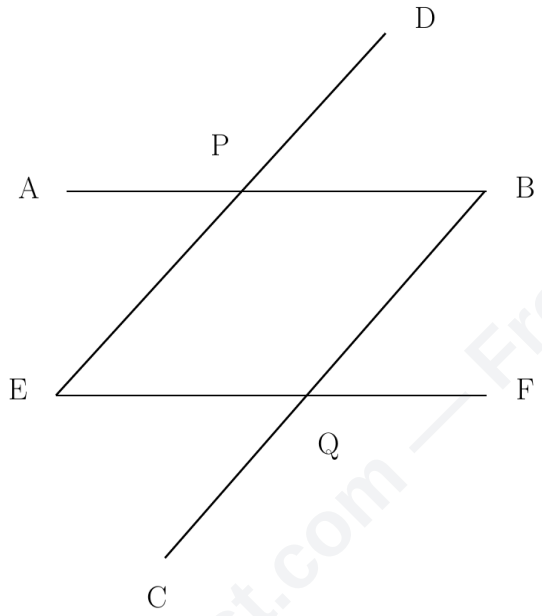
Q19. In the given figure, what is value (in degrees) of Q?



(a) 30
(b) 40
(c) 50
(d) 60

Q20. In the given figure, AB is parallel to EF. ED is parallel to CB and angle APE is 60 degrees. What is the value (in degrees) of angle EQC?

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(a) 60
(b) 120
(c) 150
(d) 90

Q21. Select the option that is related to the fourth letter cluster in the same way as the first letter cluster is related to the second letter cluster and fifth letter cluster is related to sixth letter cluster.

TL : GO :: ? : DJ :: SJ : HQ

(a) WQ
(b) WO
(c) VQ
(d) YO

Q22. A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.

?, AG, XB, UW, RR, OM, LH, IC

(a) AL
(b) FJ
(c) DL
(d) DK

Q23. A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.

MY, KX, IV, GS, ?, CJ, AD, YW

(a) EO
(b) FR
(c) BO
(d) EM

Q24. In the following question, set of letter clusters are given. The letter clusters of each set are related to the letter clusters of the same set by some Logic/Rule/Relation. From the given alternatives, select a group of letter clusters which follows the same Logic/Rule/Relation.

(HL, CG, XT)

(IU, DP, WK)

(a) (DC, YB, UY)
(b) (OU, JX, HC)
(c) (OI, JH, JS)

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(d) (KU, FP, UK)

Q25. If the month of March 2025 started on Friday, then which date was the first Monday of August 2025?

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

Q26. If the month of June 2017 ended on Monday, then which date was the first Tuesday of November 2017?

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

Q27. The calendar for the year 2021 will be the same as which of the following years?

(a) 2033
(b) 2027
(c) 2043
(d) 2045

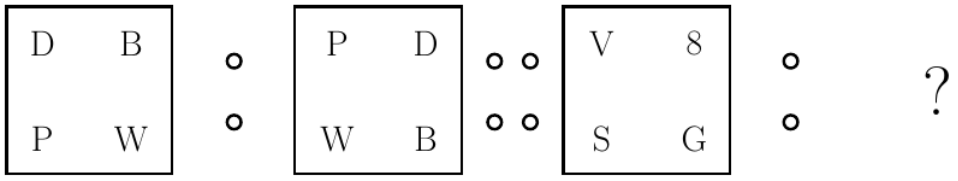
Q28. 5 persons J, K, L, M and N are sitting in a row facing north (not necessarily in the same order). N and M are at the extreme ends of the row. K is the immediate neighbour of J and M. L is to the left of J. How many persons are sitting to the right of L?

(a) 0
(b) 1
(c) 2
(d) 3

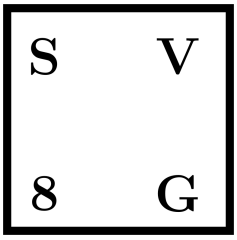
Q29. Price of 6 bags B, C, D, E, F and G is compared. Price of no two bags is same. Number of bags having price less than B are ' X - 2 '. Number of bags having price more than D are ' X '. Price of E is third lowest. Price of C is less than F but more than G. Price of D is not lowest. Price of which bag is more than G but less than D?

(a) C
(b) E
(c) B
(d) F

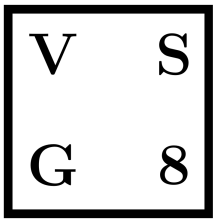
Q30. Two figures given on the left side of (::) are related with some logic/rule/relation. Select the missing figure on the right side of (::) from the given alternatives based on the same logic/rule/relation.



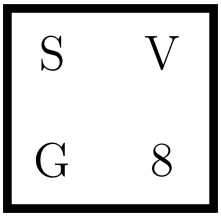
(a)



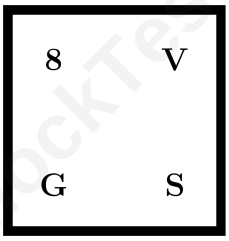
(b)



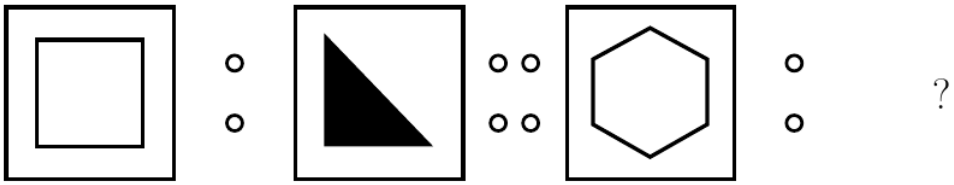
(c)



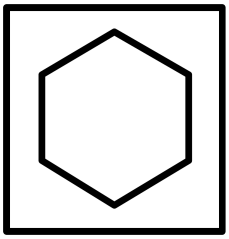
(d)



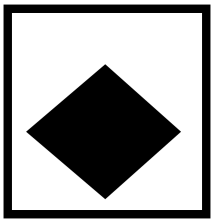
Q31. Two figures given on the left side of (::) are related with some logic/rule/relation. Select the missing figure on the right side of (::) from the given alternatives based on the same logic/rule/relation.



(a)

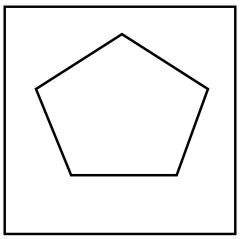


(b)

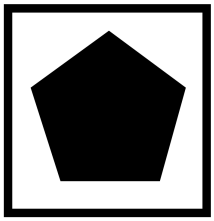


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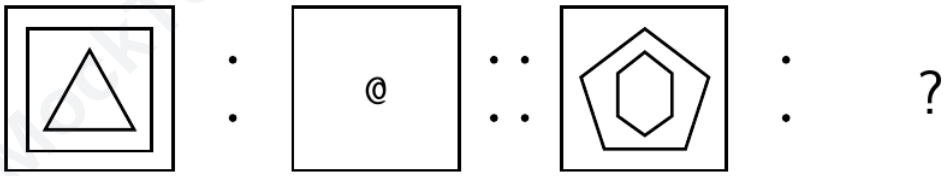
(c)



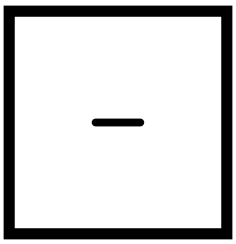
(d)



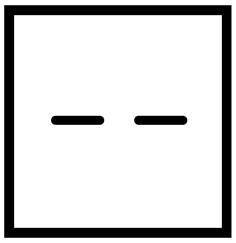
Q32. Two figures given on the left side of (::) are related with some logic/rule/relation. Select the missing figure on the right side of (::) from the given alternatives based on the same logic/rule/relation.



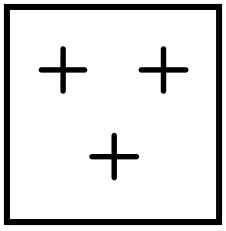
(a)



(b)

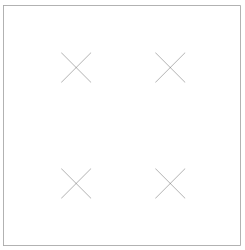


(c)



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(d)



Q33. Select the option that is related to the fourth letter-number cluster in the same way as the first letter-number cluster is related to the second letter-number cluster and fifth letter-number cluster is related to sixth letter-number cluster.

(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)

GH300 : IJ207 :: ? : WX307 :: CD600 : EF507

(a) UX400
(b) UV400
(c) VU400
(d) VX400

Q34. Select the option that is related to the fifth letter-number cluster in the same way as the second letter-number cluster is related to the first letter-number cluster and fourth letter-number cluster is related to third letter-number cluster.

(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)

AD40 : EJ60 :: EF60 : IL90 :: KM80 : ?

(a) TO160
(b) OT160
(c) OS120
(d) SO120

Q35. 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.

(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)

6774 : 6823 :: ? : 5088 :: 205 : 254

(a) 5039
(b) 5043
(c) 5041
(d) 5036

Q36. Select the option that is related to the third number in the same way as the second number is related to the first number and sixth number is related to fifth number.

(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)

134 : 258 :: 310 : ? :: 125 : 240

(a) 616
(b) 613
(c) 610
(d) 601

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Q37. In a certain coded language 'GRASS' is coded as 'HSEPN' and 'AFORE' is coded as 'BGSOZ'. How will 'FREAK' be coded in the same code language?

(a) GSIXF
(b) FQKVH
(c) HTIZH
(d) FTKWD

Q38. In a certain code language, 'BEST' is coded as '64' and 'TAPE' is coded as '68'. How will 'FILED' be coded in that code language?

(a) 112
(b) 101
(c) 105
(d) 107

Q39. A series is given with one term wrong. Select that wrong term from the given alternatives.

MJ108, LD181, KV252, JO324, IH396, HA468

(a) KV252
(b) IH396
(c) LD181
(d) MJ108

Q40. A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.

BOT76, ?, LYD292, QDI400, VIN508

(a) ISW185
(b) GTY184
(c) FUX187
(d) HVZ183

SESSION 2

Q41. Which Rashtrakuta chief overthrew his Chalukya overlord and founded the Rashtrakuta dynasty?

(a) Dhruva
(b) Dantidurga
(c) Amoghvarsha
(d) Krishna I

Q42. The second five year plan of India was completed in ____.

(a) 1956
(b) 1961
(c) 1965
(d) 1969

Q43. Who were the writers of 'Tawarikh' during the Delhi Sultanate period?

I. Administrators

II. Poets and courtiers

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

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Q44. As per the the Industrial Policy Statement, 1977 a tiny unit was one which has an investment of Rs. ____ lakh.

(a) 0.5
(b) 1
(c) 5
(d) 10

Q45. Which of the following river is known as Dakshin Ganga?

(a) Narmada
(b) Godavari
(c) Brahmaputra
(d) Brahmani

Q46. A piece of land that is surrounded by water on three sides is known as _____.

(a) strait
(b) isthmus
(c) peninsula
(d) gulf

Q47. Lymph carries digested and absorbed fat from _____ and drains excess fluid from extra cellular space back into the blood.

(a) liver
(b) intestine
(c) kidneys
(d) pancreas

Q48. The theory of Anekatavada is related to which of the following?

(a) Lord Mahavira
(b) Vishnugupta
(c) Lord Buddha
(d) Samudragupta

Q49. Which of the following is part of the Concurrent List of the Indian Constitution?

I. Public Health
II. Trade Unions

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

Q50. ‘Shad Pliang’, also known as the 'plate dance', is a traditional folk dance of which Indian state?

(a) Bihar
(b) Punjab
(c) Meghalaya
(d) Maharashtra

Q51. The reference date for the census 2027 for the Union Territory of Ladakh shall be _____.

(a) 1st day of November 2026
(b) 1st day of December 2026
(c) 1st day of April 2026
(d) 1st day of October 2026

Q52. In which Indian state is the festival of ‘Baithki Holi’ traditionally celebrated?

(a) Karnataka
(b) Maharashtra
(c) Uttarakhand

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(d) Telangana

Q53. The National Space Day of India is celebrated every year on August 23 to commemorate the _____.

(a) successful soft-landing of the Vikram lander on the south pole of the moon
(b) establishment of the Indian Space Research Organisation
(c) successful launch of first satellite of India
(d) successful launch of India's first interplanetary mission

Q54. Why should we wear cotton clothes in summer?

(a) Cotton clothes prevent any evaporation of sweat.
(b) Cotton clothes increase the body temperature by trapping heat.
(c) Cotton clothes absorb sweat and help in its evaporation, which cools the body.
(d) Cotton clothes are less absorbent and keep sweat on the skin.

Q55. As per the Sectoral Composition of workforce in India, 2011, what percentage of the total workforce was engaged in the primary sector?

(a) 34.6%
(b) 54.6%
(c) 64.6%
(d) 61.6%

Q56. In June 2025, Startup Accelerator Platform 'WaveX' invited startups to develop an AI-powered real-time multilingual translation solution named _____.

(a) ShabdSetu
(b) VaniSetu
(c) BhashaSetu
(d) AnuvaadSetu

Q57. Which State is the sole holder of the country's perlite resources?

(a) Gujarat
(b) Andhra Pradesh
(c) Assam
(d) Punjab

Q58. After which of the following country joining, BRIC transformed into BRICS?

(a) Spain
(b) Somalia
(c) South Africa
(d) Serbia

Q59. In which year did the GDP of India crossed the 1 trillion-dollar mark?

(a) 2007
(b) 2008
(c) 2009
(d) 2006

Q60. Which of the following sports event NOT use a stick?

(a) Javelin Throw
(b) Hockey
(c) Pole vault
(d) Shot Put

Q61. Who is the author of the book ‘Reimagine Your Life’?

(a) Jeet Thayil
(b) Neel Mukherjee
(c) Vivek Shanbhag

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(d) Vinita Dawra Nangia

Q62. Which of the following is a specific exercise of warm-up for a Kho-Kho match?

I. Frog jump

II. Zig-Zag running

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

Q63. Around which fort did the city of Chennai develop?

(a) Mehrangarh Fort
(b) Fort William
(c) Fort Saint George
(d) Sindhudurg Fort

Q64. The advent of Purandaradasa, in the year ____, marked a very important landmark in the development of Carnatic music.

(a) 1218
(b) 1310
(c) 1576
(d) 1484

Q65. Who was India's first female Merchant Navy Captain?

(a) Radhika Menon
(b) Sheetal Devi
(c) Aditi Pant
(d) Reshma Nilofer Naha

Q66. Which of the following idiom given in the alternatives has the meaning?

An overly elaborate or ostentatious presentation, event, or marketing display that, despite its flashy appearance, often lacks substance or real content.

(a) Shanks's pony
(b) One-trick pony
(c) Flog a dead pony
(d) A dog and pony show

Q67. From the alternatives given below, select the correct meaning of the idiom.

Be waiting in the wings.

(a) To restrict one's freedom, power, or full potential
(b) To be protected, tutored, nurtured, or cared for by one
(c) To suffer harm, defeat, or ruin in the pursuit of something risky
(d) To be ready and available to help or replace someone

Q68. Choose the correctly spelt word from the given options.

(a) Ocurrence
(b) Occurrence
(c) Occurence
(d) Occurrance

Q69. Select the option with the correct spelling that can replace the underlined word in the given sentence. If the spelling in the given sentence is already correct, choose Option "No replacement required".

The detective uncovered the criminal's nefarious scheme to defraud the elderly.

(a) nifarious
(b) nafarious

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(c) naferious
(d) No replacement required

Q70. There are four underlined words in the sentence given below. One of them is misspelt. Choose the option with the misspelt word.

Data centre developers warn that high electircity prices and gridlock in the energy network threaten the UK's ability to host AI infrastructure at scale.

(a) electircity
(b) gridlock
(c) threaten
(d) ability

Q71. Choose the misspelt word from the given options.

(a) Carousel
(b) Proppel
(c) Apparel
(d) Laurel

Q72. Choose the word that is most opposite in meaning to "delighted".

(a) Elated
(b) Jubilant
(c) Displeased
(d) Overjoyed

Q73. Choose the word that is the antonym of Grabbed.

(a) Release
(b) Snatched
(c) Seized
(d) Clutched

Q74. Choose the correct sentence where the homonym "date" means a fruit.

(a) He asked her out on a dinner date.
(b) The date on the coin is from 1947.
(c) We bought a box of sweet dates from the market.
(d) What's the date today?

Q75. Choose the most suitable one-word substitution for the following.

A person who lives only for pleasure.

(a) Hedonist
(b) Miser
(c) Altruist
(d) Monk

Q76. Choose the most suitable one-word substitution for the following.

A person who rejects all types of governments.

(a) Anarchist
(b) Patriot
(c) Democrat
(d) Socialist

Q77. Which of the following options is the most suitable conversion of the following sentence into Passive Voice?

They will announce the results tomorrow.

(a) The results are announced tomorrow.
(b) The results will announced tomorrow.
(c) The results will be announced tomorrow.

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(d) The results were announced tomorrow.

Q78. Which of the following options is the most suitable conversion of the following sentence into Passive Voice?

Do water birds lay eggs in water or on land?

(a) Are eggs laid by water birds in water or on land?
(b) Do eggs laid by water birds in water or on land?
(c) Did eggs laid by water birds in water or on land?
(d) Is eggs laid by water birds in water or on land?

Q79. Which of the following options is the most suitable conversion of the following sentence into active voice?

Was the speech delivered by the prime minister at the international summit?

(a) Did the prime minister deliver the speech at the international summit?
(b) Has the prime minister delivered the speech at the international summit?
(c) Is the prime minister delivering the speech at the international summit?
(d) Will the prime minister deliver the speech at the international summit?

Q80. Which of the following options is the most suitable conversion of the following sentence into active voice?

When were these pamphlets being distributed?

(a) When were they distributing these pamphlets?
(b) When are they distributing these pamphlets?
(c) When will they distribute these pamphlets?
(d) When were the distribution of pamphlets happening?

Q81. In the given question, a sentence is divided into four parts and given in the alternatives (A), (B), (C), and (D). There is an error in one part. Choose the alternative containing that part of the sentence that has the error. Choosing the alternative with the error will be the answer.

In their study, they tried to find out the relationship among an organism, its habitat, and the predators present there.

(a) In their study, they tried to
(b) find out the relationship
(c) among an organism, its habitat,
(d) and the predators present there.

Q82. Select the correct alternative to fill in the blank with the correct preposition in the following sentence.

They are cutting down trees _____ the tune of 1000 tons a month.

(a) on
(b) of
(c) by
(d) to

Q83. Given below are six sentences taken from a paragraph. The first and the last sentences are numbered S1 and S2 and are placed in the first and last positions respectively and are fixed in their positions. The other four sentences between the first and last sentences are jumbled up and are numbered A, B, C, and D. Rearrange the jumbled sentences in a logical sequence keeping the unity and coherence of the paragraph intact. Choose the correct alternative that best describes the sequence.

S1. Sofia did not raise her eyes from her work, and her slim fingers fairly flew over the delicate lace.

A. She hummed a few bars of a song and recited a verse, but Sofia appeared not to hear.

B. But Lulu wandered about the room, moving the ornaments on the shelves or opening a drawer to gaze absently into it.

C. Then Lulu, who was not blessed with too much patience, decided to put the question boldly, and, planting herself in front of her sister, she asked:

D. It was clear that she wished either to do or to say something but was abashed by her elder sister's grave manner.

S2. “Sofia, do you know what Mademoiselle Jeannette told me?”

(a) ACDB
(b) BDAC

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(c) CDBA
(d) BDCA

Q84. Given below are six sentences taken from a paragraph. The first and the last sentences are numbered S1 and S2 and are placed in the first and last positions respectively and are fixed in their positions. The other four sentences between the first and last sentences are jumbled up and are numbered A, B, C, and D. Rearrange the jumbled sentences in a logical sequence keeping the unity and coherence of the paragraph intact. Choose the correct alternative that best describes the sequence.

S1. He remained a day in order to learn the art, because he thought he might be able to turn it to use later on, if by chance he should fail to find other work in Batavia.

A. Neither on the first nor the second day had he realized how lonely he was, because he was captivated by the grand idea of earning enough money to buy two buffaloes, whereas his father had never had more than one, and was too excited over the prospect of seeing Adinda again to grieve over his departure.

B. The following day toward evening he thanked his host and departed.

C. He had left her in anxious hope.

D. As soon as it was dark, and no one could see him, he took out the Melatti leaves Adinda had given him, for he was sad, thinking that he would not see her for so long.

S2. The prospect of seeing her again so occupied his heart that on leaving Badoer and passing the tree, he felt something akin to joy, as if the thirty-six moons were already past.

(a) ADBC
(b) CBDA
(c) BDAC
(d) DBCA

Q85. A part of the following sentence is underlined. Choose the option that can replace the underlined part to improve the sentence. If you feel Options A, B, or C do not improve the sentence, then choose Option D: “No improvement required.”

She enjoys hiking in the mountains, swimming in the ocean, and to ride her bike in the park every weekend.

(a) and ride her bike in the park
(b) and to ride her bike around the park
(c) and riding her bike in the park
(d) No improvement required

Directions

The rise of job applications through mobile apps and online platforms has created new opportunities for millions seeking employment. However, this digital revolution has also given fraudsters more chances to exploit job seekers. Scammers design fake job postings, impersonate recruiters, and conduct sham interviews via messaging apps or social media to extract personal information and money from innocent candidates.

Common frauds include fake staffing agencies asking for upfront payments, money laundering schemes involving the misuse of victims' bank accounts, and fabricated credit report checks requiring unnecessary fees. Social media platforms like Facebook and LinkedIn have seen increased misuse, where scammers masquerade as hiring managers offering attractive jobs but ultimately requesting payment for training or processing fees. Such deceptive practices not only cause financial loss but also expose victims to identity theft and potential legal trouble.

Despite widespread awareness campaigns by governments and employment websites, job scams continue growing rapidly and becoming more sophisticated. Vigilance, verification of job offers through trusted sources, and avoidance of suspicious upfront payments are essential measures for protection. Understanding how these scams operate can empower job seekers to navigate digital recruitment safely and securely.

Q86. Identify the voice of the sentence.

"Scammers design fake job postings to exploit job seekers."

(a) Active voice
(b) Passive voice
(c) Reflexive voice
(d) Causative voice

Q87. In the sentence "Scammers masquerade as hiring managers offering attractive jobs," what is the part of speech of the word "masquerade"?

(a) Noun
(b) Verb
(c) Adjective
(d) Adverb

Q88. What does the word "masquerade" means?

(a) To dress up for a party
(b) To pretend to be someone else
(c) To disappear suddenly
(d) To ask for a favor

Q89. In the phrase "suspicious upfront payments" the word "suspicious" is closest in meaning to _____

(a) trustworthy and clear
(b) common and usual
(c) doubtful or questionable
(d) fast and efficient

Q90. What are the main types of frauds related to job applications mentioned in the passage, and how do they affect job seekers?

(a) Fake job postings and false promises, causing financial loss and identity theft.
(b) Government job alerts and verified recruitment, ensuring job security.
(c) Real job offers with transparent processes, helping job seekers find employment.
(d) Online training programs providing free certifications to all applicants.

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (a) 69

Shortcut Trick

Solve the expression using the BODMAS rule: Brackets, Orders, Division, Multiplication, Addition, Subtraction.

Bracket: (31 + 25) = 56

Multiplication: 56 × 2 = 112

Group addition: 58 + 79 + 61 = 198

Group subtraction: −112 − 17 = −129

Result: 198 − 129 = 69

Therefore The correct answer is 69.

Alternate Method

Given: 58 + 79 − (31 + 25) × 2 + 61 − 17

Method: BODMAS Rule (Brackets first, then Multiplication, then Addition/Subtraction)

=> 58 + 79 − (56) × 2 + 61 − 17

=> 58 + 79 − 112 + 61 − 17

=> (58 + 79 + 61) − 112 − 17

=> 198 − 112 − 17

=> 86 − 17

=> 69

Therefore The correct answer is 69.

Additional Information

BODMAS Rule

It defines the order of operations: Brackets (), Of/Orders, Division (÷), Multiplication (×), Addition (+), and Subtraction (−).

Types of Brackets

Standard order of solving brackets is Parenthesis (), then Braces {}, and finally Square Brackets [].

Calculation Shortcuts

Combine all positive numbers and all negative numbers separately before the final subtraction to reduce errors.

Q2. Answer: (d) 111

Shortcut Trick

Apply BODMAS: solve multiplication inside brackets and division first.

=> 69 + 52 − 44 + 31 − 18 + 21

Combine positive and negative terms: (69 + 52 + 31 + 21) − (44 + 18)

=> 173 − 62 = 111

Therefore The correct answer is 111.

Alternate Method

Given: 69 + (26 × 2) − 44 + 31 − 18 + 42 ÷ 2

Formula: BODMAS Rule (Brackets, Orders, Division, Multiplication, Addition, Subtraction)

=> 69 + 52 − 44 + 31 − 18 + 42 ÷ 2

=> 69 + 52 − 44 + 31 − 18 + 21

=> 121 − 44 + 31 − 18 + 21

=> 77 + 31 − 18 + 21

=> 108 − 18 + 21

=> 90 + 21

=> 111

Therefore The correct answer is 111.

Additional Information

BODMAS Rule

It defines the precedence of operations: Brackets (), Orders (x^y, √), Division (÷), Multiplication (×), Addition (+), and Subtraction (−).

Left-to-Right Rule

When operations of the same priority (like ÷ and × or + and −) appear together, solve them in the order they occur from left to right.

Simplification Tip

To minimize calculation errors, group all positive terms and negative terms separately before performing the final subtraction.

Q3. Answer: (b) C4

Given:

Class	Average Marks Obtained
C1	86
C2	89
C3	74
C4	89

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C5	73
C6	95

Formula Used:
Required Average Marks = 100% × Average Marks of Class C2
Calculation:
According to the question,
=> Average marks obtained by each student of class C2 = 89
=> Marks required to be 100% of class C2 = (100 ÷ 100) × 89 = 89
=> Now, comparing this value with the average marks of other classes:
=> Average marks of C1 = 86
=> Average marks of C3 = 74
=> Average marks of C4 = 89
=> Average marks of C5 = 73
=> Average marks of C6 = 95
=> We can see that the average marks of class C4 is 89, which is exactly 100% of the average marks of class C2.
Therefore The correct answer is C4.

Q4. Answer: (c) 204

Given:

Subject	Distribution (in degrees)
S1	54°
S2	126°
S3	72°
S4	36°
S5	48°
S6	24°

Number of books of S2 = 252
Formula Used:
Value per unit degree = Actual value ÷ Corresponding degree value
Total Value = Total degree × Value per unit degree
Calculation:
According to the question,
=> Degree value for S2 = 126°
=> Number of books for S2 = 252
=> Value of 1° = 252 ÷ 126 = 2 books
=> Total degree for S1 and S5 = Degree of S1 + Degree of S5
=> Total degree for S1 and S5 = 54° + 48° = 102°
=> Total number of books of S1 and S5 = 102 × 2
=> Total number of books of S1 and S5 = 204
Therefore The correct answer is 204.

Q5. Answer: (d) 7200

Given:

Machine Name	Degree (°)
M1	54°
M2	120°
M3	72°

M4	36°
M5	78°
Total	360°

Average number of keys manufactured by M3 and M5 = 1500
Formula Used:
Sum = Average × Number of entities
Total Keys = (Total Sum of Keys × 360°) ÷ (Sum of Degrees corresponding to that sum)
Calculation:
According to the question,
=> Sum of keys manufactured by M3 and M5 = 1500 × 2 = 3000
=> Total degree for M3 and M5 from the chart = 72° + 78° = 150°
=> Let the total number of keys manufactured by all 5 machines be T.
=> Based on the pie chart distribution: (150° ÷ 360°) × T = 3000
=> (5 ÷ 12) × T = 3000
=> T = (3000 × 12) ÷ 5
=> T = 600 × 12
=> T = 7200
Therefore The correct answer is 7200.

Q6. Answer: (c) 7.25%

Given:
Based on the provided bar graph, the number of cars produced in each year is as follows:

Year	Number of Cars Produced
Y1	78
Y2	85
Y3	69
Y4	74
Y5	90

Formula Used:
Percentage More = ((Value_(Final) − Value_(Initial)) ÷ Value_(Initial)) × 100
Here, Value_(Final) = Cars produced in Y4 and Value_(Initial) = Cars produced in Y3.
Calculation:
According to the data from the graph,
=> Number of cars produced in Y3 = 69
=> Number of cars produced in Y4 = 74
=> Difference in production = 74 − 69 = 5
=> Required Percentage More = (5 ÷ 69) × 100
=> Required Percentage More = 500 ÷ 69
=> Required Percentage More ≈ 7.2463%
=> Rounding to two decimal places, we get 7.25%.
Therefore The correct answer is 7.25%.

Q7. Answer: (b) 13 cm, 2√22 cm

Shortcut Trick
Radius (r), perpendicular distance (d), and half-chord (L/2) form a right-angled triangle.
For Chord 1: L1/2 = 24 ÷ 2 = 12 cm and d1 = 5 cm.
Using Pythagorean triplet (5, 12, 13), radius r = 13 cm.
For Chord 2: L2/2 = 18 ÷ 2 = 9 cm and r = 13 cm.
Distance d2 = √(13² − 9²) = √(169 − 81) = √88 = 2√22 cm.

Therefore The correct answer is 13 cm, 2√22 cm.

Alternate Method

Given:

Length of Chord 1 (L1) = 24 cm

Distance of Chord 1 from center (d1) = 5 cm

Length of Chord 2 (L2) = 18 cm

Formula Used:

$r^2 = d^2 + (L/2)^2$ (where r is radius, d is distance from center, and L is chord length)

Calculations:

=> Half of first chord (AM) = 24 ÷ 2 = 12 cm

=> Radius (OA) = √(OM² + AM²)

=> OA = √(5² + 12²) = √(25 + 144) = √169 = 13 cm

=> Half of second chord (CN) = 18 ÷ 2 = 9 cm

=> Distance of second chord (ON) = √(OA² − CN²)

=> ON = √(13² − 9²) = √(169 − 81) = √88

=> ON = √(4 × 22) = 2√22 cm

Therefore The correct answer is 13 cm, 2√22 cm.

Additional Information

Chord Bisector Property

A perpendicular drawn from the center of a circle to a chord always bisects the chord into two equal segments.

Pythagorean Relation in Circles

The radius (r), the perpendicular distance (d), and the half-length of the chord (L/2) satisfy the relation $r^2 = d^2 + (L/2)^2$.

Chord Length and Distance

For a given circle, the longer the chord, the closer it is to the center. If two chords are equal in length, they are at the same distance from the center.

Q8. Answer: (a) A- 352, B- 440

Shortcut Trick

Total students remain constant: Sum of initial ratio (4+5=9) and final ratio (5+6=11).

Equalize sum: Initial (44 : 55) and Final (45 : 54) by multiplying 9 with 11 and 11 with 9.

Increase in Class A = 45 − 44 = 1 unit → 8 students.

Class A = 44 × 8 = 352 | Class B = 55 × 8 = 440.

Therefore The correct answer is A- 352, B- 440.

Alternate Method

Given Ratio A : B = 4 : 5

Let the students in A be 4x and B be 5x.

New ratio after transfer: (4x + 8) / (5x − 8) = 5 / 6

=> 6 × (4x + 8) = 5 × (5x − 8)

=> 24x + 48 = 25x − 40

=> 25x − 24x = 48 + 40

=> x = 88

=> Number of students in Class A = 4 × 88 = 352

=> Number of students in Class B = 5 × 88 = 440

Therefore The correct answer is A- 352, B- 440.

Additional Information

Mean Proportional

The mean proportional between two numbers a and b is √(a × b).

Duplicate and Sub-duplicate Ratio

Duplicate ratio of a : b is a² : b², while sub-duplicate ratio is √a : √b.

Componendo and Dividendo

If a/b = c/d, then (a + b)/(a − b) = (c + d)/(c − d).

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Q9. Answer: (d) 0.533...

Shortcut Trick

Expand values to compare: Given = 0.5151...

Options: (1) 0.4747..., (2) 0.5000..., (3) 0.4949..., (4) 0.5333...

Comparing hundredths digits: Given (1) vs Option 4 (3).

Since 3 > 1, the value 0.5333... is greater than 0.5151...

Therefore The correct answer is 0.533...

Alternate Method

Given: Target value X = 0.515151...

Formula: A recurring decimal 0.ab... can be compared by expanding it to several decimal places.

=> Option 1: 0.4747... (Hundredth digit 7 is less than tenth digit 5 of target)

=> Option 2: 0.4999... = 0.5 (Hundredth digit 0 is less than hundredth digit 1 of target)

=> Option 3: 0.4949... (Tenth digit 4 is less than tenth digit 5 of target)

=> Option 4: 0.5333... (Hundredth digit 3 is greater than hundredth digit 1 of target)

=> 0.5333... > 0.5151...

Therefore The correct answer is 0.533...

Additional Information

Pure Recurring Decimals

A decimal where all digits after the decimal point repeat. Formula: 0.xyxy... = xy ÷ 99.

Mixed Recurring Decimals

A decimal where some digits do not repeat. Formula: 0.abc... = (abc − ab) ÷ 900 where c repeats.

The 0.999... Property

A recurring decimal ending in 9 can be simplified. For example, 0.4999... is exactly equal to 0.5.

Q10. Answer: (a) 37505/11

Shortcut Trick

Identify total terms: The denominators are 1×3, 3×5, 5×7, 7×9, and 9×11, so there are 5 terms.

Sum of integer parts = 750 × 5 = 3750.

Sum of fractional parts = (1 ÷ Difference) × [1/First factor − 1/Last factor].

Fraction sum = (1/2) × [1/1 − 1/11] = (1/2) × (10/11) = 5/11.

Combined Result = 3750 + 5/11 = 3750 5/11.

Therefore The correct answer is 3750(5)/(11).

Alternate Method

Given Expression: 750 1/3 + 750 1/15 + 750 1/35 + ... + 750 1/99

Formula: A(B/C) = A + B/C

=> Sum = (750 + 1/3) + (750 + 1/15) + (750 + 1/35) + (750 + 1/63) + (750 + 1/99)

=> Sum = (750 + 750 + 750 + 750 + 750) + (1/3 + 1/15 + 1/35 + 1/63 + 1/99)

=> Integer Part = 750 × 5 = 3750

=> Fraction Part = 1/(1×3) + 1/(3×5) + 1/(5×7) + 1/(7×9) + 1/(9×11)

=> Using Telescoping Series: 1/(n(n+2)) = (1/2) × [1/n − 1/(n+2)]

=> Fraction Part = (1/2) × [(1/1 − 1/3) + (1/3 − 1/5) + (1/5 − 1/7) + (1/7 − 1/9) + (1/9 − 1/11)]

=> Fraction Part = (1/2) × [1 − 1/11] = (1/2) × (10/11) = 5/11

=> Total Sum = 3750 + 5/11 = 3750 5/11

Therefore The correct answer is 3750(5)/(11).

Additional Information

Mixed Fraction Addition Rule

When adding terms like A(B/C), always separate the integer (A) and the fraction (B/C). Sum all integers first, then sum the fractions to simplify the calculation.

Telescoping Series

A series where subsequent terms cancel each other out. For the form 1/(n × (n+d)), the sum of k terms is (1/d) × [1/first factor − 1/last factor].

Common Differences

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Always verify the difference between factors in the denominator (e.g., 3−1=2, 5−3=2). This difference (d) is used as a multiplier (1/d) in the telescoping formula.

Q11. Answer: (c) 0.0225

Shortcut Trick

Decimal Rule: Shifting the decimal point 2n places inside a square root shifts it n places in the final result.

Compare 506.25 and 0.00050625: The decimal moves 6 places to the left.

Therefore, in the answer 22.5, move the decimal 6 ÷ 2 = 3 places to the left.

22.5 → 2.25 → 0.225 → 0.0225.

Therefore The correct answer is 0.0225.

Alternate Method

Given: √506.25 = 22.5

Formula Used: √(a ÷ b) = √a ÷ √b

Step-by-step Calculation:

=> √0.00050625 = √(506.25 ÷ 1,000,000)

=> √0.00050625 = √506.25 ÷ √1,000,000

=> √0.00050625 = 22.5 ÷ 1,000

=> √0.00050625 = 0.0225

Therefore The correct answer is 0.0225.

Additional Information

Square Root Decimal Property

If a number has 2n decimal places, its square root will have exactly n decimal places.

Perfect Square Ending in 25

A number ending in 25 always has a square root ending in 5. Example: √625 = 25, √2025 = 45.

Powers of 10

The square root of 10^{2n} is always 10^{n}. For example, √10000 = 100.

Q12. Answer: (c) 22

Shortcut Trick

Approximate the cube root of the product: $\sqrt[3]{1287} \approx 10.87$.

The consecutive odd numbers near 10.87 are 9, 11, and 13.

Check: 9 × 11 × 13 = 1287 (Matches given product).

Sum of largest (13) and smallest (9) = 9 + 13 = 22.

Therefore The correct answer is 22.

Alternate Method

Given: Product of three consecutive odd numbers = 1287.

Formula Used: Product of terms = (x − 2) × x × (x + 2)

=> Let the numbers be (x − 2), x, and (x + 2).

=> (x − 2) × x × (x + 2) = 1287

=> $x(x^2 - 4) = 1287$

=> Factorizing 1287: 1287 = 3 × 3 × 11 × 13 = 9 × 11 × 13

=> By comparison, x = 11.

=> Smallest number = 11 − 2 = 9

=> Largest number = 11 + 2 = 13

=> Sum = 9 + 13 = 22

Therefore The correct answer is 22.

Additional Information

Consecutive Odd/Even Numbers

The difference between any two consecutive odd or consecutive even numbers is always 2.

Cube Root Estimation

For the product of three consecutive integers (n−1), n, (n+1), the product is approximately n^3. This helps in quickly identifying the middle term.

Arithmetic Progression (AP)

Consecutive odd numbers form an Arithmetic Progression with common difference d = 2. The sum of n terms is S_n = n/2 [2a + (n−1)d].

Q13. Answer: (b) 22

Shortcut Trick

For conjugates a = x + √y and b = x − √y, the sum of squares is given by 2(x² + y).

Here x = 3 and √y = √2 => y = 2.

Calculation: 2 × (3² + 2) = 2 × (9 + 2) = 2 × 11 = 22.

Therefore The correct answer is 22.

Alternate Method

Given: a = 3 + √2 and b = 3 − √2

Formula: $(x + y)^2 = x^2 + y^2 + 2xy$ and $(x - y)^2 = x^2 + y^2 - 2xy$

=> $a^2 = (3 + \sqrt{2})^2 = 3^2 + (\sqrt{2})^2 + 2 \times 3 \times \sqrt{2}$ => $a^2 = 9 + 2 + 6\sqrt{2} = 11 + 6\sqrt{2}$ => $b^2 = (3 - \sqrt{2})^2 = 3^2 + (\sqrt{2})^2 - 2 \times 3 \times \sqrt{2}$ => $b^2 = 9 + 2 - 6\sqrt{2} = 11 - 6\sqrt{2}$ => $a^2 + b^2 = (11 + 6\sqrt{2}) + (11 - 6\sqrt{2})$ => $a^2 + b^2 = 22$

Therefore The correct answer is 22.

Additional Information

Sum of Squares Identity

For any two numbers, $(a + b)^2 + (a - b)^2 = 2(a^2 + b^2)$. This is useful for solving symmetric expressions.

Rationalization Conjugates

The product of conjugates $(x + \sqrt{y})(x - \sqrt{y}) = x^2 - y$ is always a rational number.

Algebraic Expansion

Square of a binomial: $(a + b)^2 = a^2 + b^2 + 2ab$ and $(a - b)^2 = a^2 + b^2 - 2ab$.

Q14. Answer: (b) 2

Shortcut Trick

Divisibility rule of 11: (Sum of digits at odd places) − (Sum of digits at even places) = 0 or a multiple of 11.

1210 → (1+1) − (2+0) = 0 (Divisible)

1331 → (1+3) − (3+1) = 0 (Divisible)

1442 → (1+4) − (4+2) = −1 (Not Divisible)

1553 → (1+5) − (5+3) = −2 (Not Divisible)

Therefore The correct answer is 2.

Alternate Method

Given numbers: 1210, 1331, 1442, 1553

Method: Check each number by dividing it by 11 to see if the remainder is 0.

=> 1210 ÷ 11 = 110 (Remainder = 0)

=> 1331 ÷ 11 = 121 (Remainder = 0)

=> 1442 ÷ 11 = 131 with remainder 1

=> 1553 ÷ 11 = 141 with remainder 2

=> Total numbers divisible by 11 = 1210 and 1331

=> Count of divisible numbers = 2

Therefore The correct answer is 2.

Additional Information

Divisibility by 3

A number is divisible by 3 if the sum of its digits is divisible by 3.

Divisibility by 4

A number is divisible by 4 if its last two digits are divisible by 4.

Divisibility by 9

A number is divisible by 9 if the sum of its digits is divisible by 9.

Divisibility by 11 (Detailed)

Subtract the last digit from the rest of the digits. If the result is divisible by 11, the original number is too (e.g., 121 → 12 − 1 = 11).

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Q15. Answer: (a) 7920

Shortcut Trick

A number is divisible by 9 if the sum of its digits is divisible by 9.

A number is divisible by 11 if the alternating sum of its digits is 0 or a multiple of 11.

For 7920: Sum = 7 + 9 + 2 + 0 = 18 (Divisible by 9).

Alternating difference: (7 + 2) − (9 + 0) = 9 − 9 = 0 (Divisible by 11).

Therefore The correct answer is 7920.

Alternate Method

Given: Numbers (1) 7920, (2) 8250, (3) 8020, (4) 8163

Formula Used: Divisibility by 9 (Sum of digits) and Divisibility by 11 (Sum of odd place digits − Sum of even place digits).

Calculations:

=> For 7920: Sum = 18 (divisible by 9). Diff = (7+2) − (9+0) = 0 (divisible by 11). Correct.

=> For 8250: Sum = 15 (not divisible by 9). Diff = (8+5) − (2+0) = 11 (divisible by 11). Incorrect.

=> For 8020: Sum = 10 (not divisible by 9). Diff = (8+2) − (0+0) = 10 (not divisible by 11). Incorrect.

=> For 8163: Sum = 18 (divisible by 9). Diff = (8+6) − (1+3) = 10 (not divisible by 11). Incorrect.

Therefore The correct answer is 7920.

Additional Information

Divisibility by 99

A number is divisible by 99 if and only if it is divisible by both 9 and 11. Alternatively, if you group digits in pairs from the right, their sum must be divisible by 99 (e.g., 79 + 20 = 99).

Divisibility by 3

A number is divisible by 3 if the sum of its digits is a multiple of 3. This is a sub-condition for divisibility by 9.

Divisibility by 11 Property

The difference between the sum of digits at odd places and even places must be 0, 11, 22, or any multiple of 11 for the number to be divisible by 11.

Q16. Answer: (d) 43

Shortcut Trick

Average of first N multiples of a number k = k × (N + 1) ÷ 2

Given: k = 3 and Average = 66

3 × (N + 1) ÷ 2 = 66

(N + 1) ÷ 2 = 22

N + 1 = 44 => N = 43

Therefore The correct answer is 43.

Alternate Method

Given:

First multiple of 3 = 3

N^(th) multiple of 3 = 3N

Average of multiples = 66

Formula Used:

Average of an Arithmetic Progression (AP) = (First Term + Last Term) ÷ 2

Calculations:

=> Average = (3 + 3N) ÷ 2

=> 66 = (3 + 3N) ÷ 2

=> 66 × 2 = 3 + 3N

=> 132 = 3 + 3N

=> 3N = 132 − 3

=> 3N = 129

=> N = 129 ÷ 3

=> N = 43

Therefore The correct answer is 43.

Additional Information

Average of first N natural numbers

The average of the first N natural numbers (1, 2, 3... N) is given by (N + 1) ÷ 2.

Sum of first N multiples

The sum of the first N multiples of a number k is k × N(N + 1) ÷ 2.

Average of consecutive numbers

For any sequence in Arithmetic Progression, the average is exactly the middle term (if N is odd) or the mean of the two middle terms (if N is even).

Q17. Answer: (b) 5

Shortcut Trick

If the average remains unchanged after some members leave, the average of those leaving must equal the initial average.

Average of 2 boys who left = Initial Average = 13 years.

Sum of ages of 2 boys who left = 2 × 13 = 26 years.

x + 21 = 26 => x = 5.

Therefore The correct answer is 5 years.

Alternate Method

Given: Total boys (Initial) = 28 | Initial Average = 13 years | Leaving ages = x, 21 | Final Average = 13 years.

=> Total age of 28 boys = 28 × 13 = 364 years

=> Remaining boys = 28 − 2 = 26 boys

=> Total age of 26 boys = 26 × 13 = 338 years

=> Age of boys who left = 364 − 338 = 26 years

=> x + 21 = 26

=> x = 26 − 21 = 5

Therefore The correct answer is 5 years.

Additional Information

Exclusion Rule in Average

When a person leaves, the new average decreases if the person's age > original average, and increases if the person's age < original average.

Sum Formula

Total Sum = Average × Number of items. For any changes, use Sum_(new) = Sum_(old) − Value_(removed) + Value_(added).

Constant Average Case

If the average remains constant after removal/addition of 'n' items, the average of those 'n' items must equal the original average of the group.

Q18. Answer: (c) 55

Shortcut Trick

Exterior Angle Theorem: The exterior angle is equal to the sum of the two opposite interior angles.

angle ACD = angle BAC + angle ABC

120° = angle BAC + 65°

angle BAC = 120° − 65° = 55°

Therefore The correct answer is 55°.

Alternate Method

Given: angle ABC = 65°, angle ACD = 120°

Formula Used: Linear pair property and angle sum property of a triangle.

=> angle ACB + angle ACD = 180° (Linear pair on line BD)

=> angle ACB + 120° = 180°

=> angle ACB = 180° − 120° = 60°

=> In triangle ABC: angle BAC + angle ABC + angle ACB = 180°

=> angle BAC + 65° + 60° = 180°

=> angle BAC = 180° − 125° = 55°

Therefore The correct answer is 55°.

Additional Information

Exterior Angle Theorem

The measure of an exterior angle of a triangle is equal to the sum of the measures of its two remote interior angles.

Angle Sum Property

The sum of all interior angles in any triangle is always 180°.

Linear Pair of Angles

Angles on a straight line that are adjacent to each other always add up to 180°.

Q19. Answer: (d) 60

Shortcut Trick

In a concave quadrilateral (boomerang shape), the reflex angle at the dented vertex is the sum of the three interior tip angles.

Property: Reflex Angle = Angle1 + Angle2 + Angle3

Here, Angle1 = 70°, Angle2 = 20°, and Angle3 = Q.

Reflex Angle = 150°

=> 150° = 70° + 20° + Q => Q = 150° − 90° = 60°

Therefore The correct answer is 60°.

Alternate Method

Given:

Angle at the top vertex = 70°

Angle at the bottom vertex = 20°

Reflex angle at the middle vertex = 150°

Formula Used:

Sum of all interior angles of a quadrilateral = 360°

Calculations:

=> Interior angle at the concave vertex = 360° − 150° = 210°

=> Sum of angles in quadrilateral = 70° + 20° + Q + 210° = 360°

=> 300° + Q = 360°

=> Q = 360° − 300°

=> Q = 60°

Therefore The correct answer is 60°.

Additional Information

Concave Quadrilateral Property

A concave quadrilateral has one interior angle greater than 180°, known as a reflex angle. The sum of the other three interior angles always equals this reflex angle.

Exterior Angle Theorem

The arrowhead formula can be derived by extending a side to form triangles and applying the rule that the exterior angle of a triangle equals the sum of its two opposite interior angles.

Polygon Angle Sum

For any polygon with n sides, the sum of all interior angles is given by the formula (n − 2) × 180°. For a quadrilateral (n=4), the sum is always 360°.

Q20. Answer: (a) 60

Shortcut Trick

Given AB || EF, then angle APE = angle PEF (Alternate interior angles).

Given ED || CB, then angle PEF = angle EQC (Alternate interior angles).

Since angle APE = 60°, it follows that angle PEF = 60°.

Therefore, angle EQC = 60°.

Therefore The correct answer is 60°.

Alternate Method

Given:

AB || EF

ED || CB

angle APE = 60°

Step-by-step calculation:

=> Consider line AB parallel to line EF with line ED as the transversal.

=> angle APE and angle PEF are alternate interior angles.

=> Therefore angle PEF = angle APE = 60°

=> Now, consider line ED parallel to line CB with line EF as the transversal.

=> angle PEF and angle EQC are alternate interior angles.

=> Therefore angle EQC = angle PEF = 60°

Therefore The correct answer is 60°.

Additional Information

Alternate Interior Angles

When two parallel lines are intersected by a transversal, the pairs of angles on opposite sides of the transversal and between the parallel lines are equal.

Corresponding Angles

Angles in the same relative position at each intersection where a straight line crosses two parallel lines are equal.

Consecutive Interior Angles

Interior angles on the same side of the transversal are supplementary, meaning their sum is 180°.

Parallelogram Property

In a parallelogram formed by two pairs of parallel lines, opposite angles are equal and consecutive angles are supplementary.

Q21. Answer: (a) WQ

The position and positional values or English Alphabets are:

Given: TL : GO :: ? : DJ :: SJ : HQ

The logic followed here is:

Logic: Each letter is coded as per reverse letters in English Alphabets.

Similarly,

Thus, WQ is related to the fourth letter cluster in the same way as the first letter cluster is related to the second letter cluster and fifth letter cluster is related to sixth letter cluster.

Hence, the correct answer is "Option 1".

Q22. Answer: (c) DL

The position and positional values or English Alphabets are:

Given: ?, AG, XB, UW, RR, OM, LH, IC

The logic followed here is:

Thus, DL is the correct alternative from the given ones that will complete the series.

Hence, the correct answer is "Option 3".

Q23. Answer: (a) EO

The position and positional values or English Alphabets are:

Given: MY, KX, IV, GS, ?, CJ, AD, YW

The logic followed here is:

Thus, EO is the correct alternative from the given ones that will complete the series.

Hence, the correct answer is "Option 1".

Q24. Answer: (d) (KU, FP, UK)

The position and positional values or English Alphabets are:

The pattern followed here is:

Each letter-cluster triad follows the pattern -5, -5 and Reverse letters.

(HL, CG, XT)

(IU, DP, WK)

Let's check each option:

1. (DC, YB, UY)

This letter-cluster triad does not follows the pattern -5, -5 and Reverse letters.

2. (OU, JX, HC)

This letter-cluster triad does not follows the pattern -5, -5 and Reverse letters.

3. (OI, JH, JS)

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This letter-cluster triad does not follows the pattern -5, -5 and Reverse letters.
4. (KU, FP, UK)
This letter-cluster triad follows the pattern -5, -5 and Reverse letters.
Thus, (KU, FP, UK) is the group of letter clusters which follows the same Logic/Rule/Relation.
Hence, the correct answer is "Option 4".

Q25. Answer: (b) 5

Given: 1 March 2025 was Friday.
Now, 1 March 2025 to 1 August 2025.
March = 31 days
April = 30 days
May = 31 days
June = 30 days
July = 31 days
Total odd days from 1 March 2025 to 1 August 2025 = 31 + 30 + 31 + 30 + 31 = 153 days.
And, 153 days = 153/7 = 21 week and 6 odd days.
So, 1 August 2025 was = Friday + 6 = Thursday.
Now, 1 August 2025 to first Monday of August 2025 = 4 days, 4/7 = 0 week and 4 odd days.
First Monday of August 2025 = Thursday + 4 = Monday (5 August 2025).
Thus, 5 was the first Monday of August 2025.
Hence, the correct option is "Option 2".

Q26. Answer: (c) 4

Given: 30 June 2017 was Monday.
Now, 30 June 2017 to 31 October 2017.
July = 31 days
August = 31 days
September = 30 days
October = 31 days
Total odd days from 30 June 2017 to 31 October 2017 = 31 + 31 + 30 + 31 = 123 days.
And, 123 days = 123/7 = 17 week and 4 odd days.
So, 31 October 2017 was = Monday + 4 = Friday.
Now, 31 October 2017 to first Tuesday of November 2017 = 4 days, 4/7 = 0 week and 4 odd days.
First Tuesday of November 2017 = Friday + 4 = Tuesday (4 November 2017).
Thus, 4 was the first Tuesday of November 2017.
Hence, the correct option is "Option 3".

Q27. Answer: (b) 2027

Given: The calendar for the year 2021 will be the same as which of the following years.
Logic: A calendar repeats based on its position relative to the last leap year.
Standard Repetition Rules:

Year Category	Repetition Cycle
Leap Year	• 28 Years
Leap Year + 1	• 6 Years
Leap Year + 2	• 11 Years
Leap Year + 3	• 11 Years

Applying the logic to the year 2021:
The year 2021 follows the leap year 2020.

Year	Calculation	Category
2021	2020 + 1	Leap Year + 1

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Repetition cycle for (Leap Year + 1) = 6 years

Repeat Year = 2021 + 6 = 2027

Alternatively, verifying using Odd Days:

Year	2021	2022	2023	2024	2025	2026
Odd Days	1	1	1	2	1	1

Sum of odd days = 1 + 1 + 1 + 2 + 1 + 1 = 7

Total odd days = 7 (which is 0 remainder when divided by 7).

Since both 2021 and 2027 are ordinary years and the odd days sum to 7, the calendar will be the same.

Thus, the calendar for 2021 will be the same as 2027.

Hence, the correct answer is "Option 2".

Q28. Answer: (d) 3

Given: 5 persons J, K, L, M and N are sitting in a row facing north (not necessarily in the same order).

1. N and M are at the extreme ends of the row.

2. K is the immediate neighbour of J and M.

3. L is to the left of J.

Thus, 3 persons are sitting to the right of L.

Hence, the correct answer is "Option 4".

Q29. Answer: (b) E

Given: Price of 6 bags B, C, D, E, F and G is compared. Price of no two bags is same.

1. Price of E is third lowest.

_ > _ > _ > E > _> _

F > C > G

2. Number of bags having price less than B are 'X − 2'.

3. Number of bags having price more than D are 'X'.

4. Price of D is not lowest.

Let the number of bags more expensive than D be 'X'.

Number of bags less expensive than B is 'X - 2'.

Total bags = 6. Using the ranks (where Rank 1 is highest):

• Rank of D = X + 1

• Rank of B = 6 - (X - 2) = 8 - X

Since no two bags have the same price, and E is already at Rank 4:

• If X = 2: Rank D = 3, Rank B = 6. (Valid)

• If X = 3: Rank D = 4 (Not possible, E is 4), Rank B = 5.

• If X = 4: Rank D = 5, Rank B = 4 (Not possible, E is 4).

Also, D is not the lowest (Rank 6), so X = 2 is the only possibility.

5. Price of C is less than F but more than G.

Price of C is less than F but more than G (F > C > G). We have positions 1, 2, 5 remaining for F, C, and G.

The resulting price order is: F > C > D > E > G > B

Thus, Price of bag E is more than G but less than D.

Hence, the correct answer is "Option 2".

Q30. Answer: (c) [figure]

Given:

The logic followed here is:

Similarly,

Thus, option 3 is the missing figure on the right side of (::) from the given alternatives based on the same logic/rule/relation.

Hence, the correct answer is "Option 3".

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Q31. Answer: (d) [figure]

Given:

The logic followed here is:

Logic: The inner figure changes from a square (4 sides) to a triangle (3 sides), i.e., one side is removed (4 − 1 = 3).

Similarly,

So, the inner figure changes from a hexagon (6 sides) to a pentagon (5 sides), i.e., one side is removed (6 − 1 = 5).

Thus, option 4 is the missing figure on the right side of (::) from the given alternatives based on the same logic/rule/relation.

Hence, the correct answer is "Option 4".

Q32. Answer: (a) [figure]

Given:

The logic followed here is:

Logic: The two shapes inside the square (square and triangle) are replaced by a single symbol @ or Square + Triangle → @

Similarly,

So, Pentagon (5 sides) + Hexagon (6 sides) is replaced by a single line "-" in second figure.

Thus, option 1 is the missing figure on the right side of (::) from the given alternatives based on the same logic/rule/relation.

Hence, the correct answer is "Option 1".

Q33. Answer: (b) UV400

Given: GH300 : IJ207 :: ? : WX307 :: CD600 : EF507

The logic followed here is:

Similarly,

Thus, UV 400 is related to the fourth letter-number cluster in the same way as the first letter-number cluster is related to the second letter-number cluster and fifth letter-number cluster is related to sixth letter-number cluster.

Hence, the correct answer is "Option 2".

Q34. Answer: (c) OS120

Given: AD40 : EJ60 :: EF60 : IL90 :: KM80 : ?

The logic followed here is:

Similarly,

Thus, OS120 is related to the fifth letter-number cluster in the same way as the second letter-number cluster is related to the first letter-number cluster and fourth letter-number cluster is related to third letter-number cluster.

Hence, the correct answer is "Option 3".

Q35. Answer: (a) 5039

Given: 6774 : 6823 :: ? : 5088 :: 205 : 254

The logic followed here is:

Logic: Second number = First number + 49

6774 + 49 = 6823

205 + 49 = 254

Similarly,

5088 − 49 = 5039

Thus, the number related to 5088 is 5039.

Hence, the correct answer is "Option 1".

Q36. Answer: (c) 610

Given: 134 : 258 :: 310 : ? :: 125 : 240

The logic followed here is:

Logic: Second number = (First number × 2) − 10

(134 × 2) − 10 = 268 − 10 = 258

(125 × 2) − 10 = 250 − 10 = 240

Similarly,

(310 × 2) − 10 = 620 − 10 = 610

Thus, the number related to 310 is 610.

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Hence, the correct answer is "Option 3".

Q37. Answer: (a) GSIXF

Given: 'GRASS' is coded as 'HSEPN' and 'AFORE' is coded as 'BGSOZ'.

The logic followed here is:

Similarly,

Thus, GSIXF is 'FREAK' be coded in the same code language.

Hence, the correct answer is "Option 1".

Q38. Answer: (b) 101

Given: 'BEST' is coded as '64' and 'TAPE' is coded as '68'.

The logic followed here is:

Similarly,

Thus, 101 will 'FILED' be coded in that code language.

Hence, the correct answer is "Option 2".

Q39. Answer: (c) LD181

Given: MJ108, LD181, KV252, JO324, IH396, HA468

The logic followed here is:

Thus, LD181 is that wrong term from the given alternatives.

Hence, the correct answer is "Option 3".

Q40. Answer: (b) GTY184

Given: BOT76, ?, LYD292, QDI400, VIN508

The logic followed here is:

Thus, GTY184 is the correct alternative from the given ones that will complete the series.

Hence, the correct answer is "Option 2".

Q41. Answer: (b) Dantidurga

The correct answer is Dantidurga.

Key Points

• Dantidurga, also known as Dantivarman, was the founder of the Rashtrakuta Empire in the 8th century.

• He was initially a feudatory or a high-ranking official under the Chalukyas of Badami.

• In 753 AD, he overthrew his Chalukya overlord, Kirtivarman II, and established the Rashtrakuta dynasty as a sovereign power.

• To legitimize his rule as a Kshatriya (since he was not born into that caste), he performed a ritual known as Hiranya-garbha (literally, the golden womb) at Ujjain.

• He assumed titles such as Maharajadhiraja, Paramesvara, and Prithvivallabha, signifying his supreme status over the Deccan region.

Additional Information

• Krishna I (reigned 756–774 AD):

• He was the uncle of Dantidurga and succeeded him to the throne.

• He is most famous for the construction of the monolithic Kailasa Temple at Ellora, which is carved out of a single rock.

• He expanded the empire by completely ending the power of the Chalukyas and defeating the Gangas of Mysore.

• Dhruva (reigned 780–793 AD):

• One of the most powerful rulers who took the Rashtrakuta power to North India.

• He defeated the Gurjara-Pratihara king Vatsaraja and the Pala king Dharmapala during the Tripartite Struggle for the control of Kannauj.

• He was also known as Dharavarsha.

• Amoghvarsha I (reigned 814–878 AD):

• He was the longest-reigning Rashtrakuta king, ruling for 64 years.

• Known as the Ashoka of the South, he was a patron of literature and art and a follower of Jainism.

• He authored Kavirajamarga, which is considered the first available work on poetics, rhetoric, and grammar in the Kannada language.

Important Points

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• The Rashtrakutas ruled a vast territory comprising modern-day Maharashtra, Karnataka, and parts of Andhra Pradesh and Tamil Nadu.

• Their capital was established at Manyakheta (modern Malkhed near Gulbarga, Karnataka) during the reign of Amoghvarsha I.

• They were great patrons of rock-cut architecture, visible in the Ellora and Elephanta Caves.

• The dynasty was eventually overthrown in 973 AD by Tailapa II, a feudatory who founded the Western Chalukya Empire (Chalukyas of Kalyani).

Q42. Answer: (b) 1961

The correct answer is 1961.

Key Points

• The Second Five-Year Plan of India was functional during the period from 1956 to 1961. It officially concluded on March 31, 1961.

• This plan was based on the P.C. Mahalanobis Model, which prioritized rapid industrialization and the development of heavy and basic industries.

• The primary aim was to achieve a socialistic pattern of society, a goal adopted during the Avadi Session of the Indian National Congress in 1955.

• It focused heavily on the public sector to drive the national economy, following the guidelines of the Industrial Policy Resolution of 1956.

• The plan saw the establishment of major hydroelectric power projects and five steel plants at Bhilai, Durgapur, and Rourkela with foreign collaboration.

Additional Information

• First Five-Year Plan (1951–1956):

• It was based on the Harrod-Domar Model and focused mainly on agriculture, price stability, and power.

• It was a successful plan as it achieved a growth rate of 3.6%, exceeding the target of 2.1%.

• Third Five-Year Plan (1961–1966):

• This plan followed the completion of the second plan in 1961. It aimed to make India a self-reliant and self-generating economy.

• However, due to the Sino-Indian War (1962) and the Indo-Pakistani War (1965), the plan failed to meet its targets.

• Plan Holidays (1966–1969):

• Due to the failure of the Third Plan and the devaluation of the Indian Rupee, the government declared Plan Holidays.

• During this period, three annual plans were implemented instead of a comprehensive five-year strategy.

• Fourth Five-Year Plan (1969–1974):

• Launched under the leadership of Indira Gandhi, it focused on growth with stability and the 14 major Indian banks were nationalized in 1969.

Important Points

• The Planning Commission was the nodal agency responsible for drafting the Five-Year Plans. It was established on March 15, 1950.

• The National Development Council (NDC) was responsible for the final approval of these plans to ensure the participation of State Governments.

• In January 2015, the NDA government replaced the Planning Commission with the NITI Aayog (National Institution for Transforming India).

• The Second Five-Year Plan is often referred to as the "Industrial and Transport Plan" because nearly 28% of the total outlay was dedicated to transport and communications, and 20% to industry and mining.

• The targeted growth rate for the Second Plan was 4.5%, but the actual growth achieved was approximately 4.27%.

Q43. Answer: (c) Both I and II

The correct answer is Both I and II.

Key Points

• The authors of Tawarikh (plural of Tarikh, meaning history) were learned men who played a significant role in the administration and intellectual life of the Delhi Sultanate.

• These authors included administrators, secretaries, poets, and courtiers who lived in cities, mainly Delhi, and rarely in villages. Hence, statement I is correct.

• In addition to recording historical events, these poets and courtiers frequently advised the Sultans on matters of governance and the importance of maintaining a just rule based on specific social hierarchies. Hence, statement II is correct.

• The Tawarikh were written in Persian, which served as the official language of administration under the Delhi Sultans from the 13th century to the 16th century.

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• The writers of these histories often expected rich rewards from the Sultans for their literary contributions, which influenced the perspective and tone of their writings.

Additional Information

• Social Order and Ideology: The authors of Tawarikh advocated for an "ideal" social order based on Birthright and Gender distinctions. They believed that the right to rule was inherited and that men were naturally superior to women in administrative roles.

• Language and Documentation: Since Persian was the language of the elite and the Delhi Sultanate court, the Tawarikh provide an insider's view of the aristocracy but often ignore the lives of common people or rural populations.

• Circle of Justice: Authors like Fakhr-i Mudabbir wrote about the Circle of Justice in the 13th century, explaining the interdependence between the king, his soldiers, and the peasantry. He argued that a king cannot survive without soldiers, and soldiers require salaries derived from revenue collected from peasants.

• Notable Historians: One of the most famous writers of Tawarikh was Ziauddin Barani, who wrote the Tarikh-i Firoz Shahi in the 14th century (specifically in 1356), providing a detailed account of the reigns of Ghiyasuddin Tughlaq, Muhammad bin Tughlaq, and Firoz Shah Tughlaq.

Important Points

• Limited Representation: Because the authors were largely courtiers and administrators, their writings were often biased toward the Sultans. They rarely documented the struggles or the culture of the common masses or the indigenous Hindu population unless it pertained to state conflict.

• Evolution of Historiography: The tradition of writing Tarikh established a formal method of chronological record-keeping in India, which was later adopted and expanded upon by the Mughal Empire (e.g., the Akbarnama).

• Gender Distinctions: A classic example of the authors' views on gender is their reaction to the reign of Raziyya Sultan (1236–1240). Even though she was more capable than her brothers, contemporary chroniclers like Minhaj-i Siraj were uncomfortable with a woman ruling, as it challenged their perceived "God-given" social order.

Q44. Answer: (b) 1

The correct answer is 1.

Key Points

• The Industrial Policy Statement of 1977 was announced by the Janata Party government on December 23, 1977.

• This policy was presented in the Parliament by the then Union Minister of Industry, George Fernandes.

• The policy introduced the concept of the "Tiny Sector" for the first time to promote rural industrialization and decentralization.

• As per the 1977 policy, a tiny unit was defined as an industrial unit with an investment in machinery and equipment of up to Rs. 1 lakh.

• To qualify as a tiny unit, the enterprise also had to be located in villages or towns with a population of less than 50,000 according to the 1971 Census.

Additional Information

• Focus of 1977 Policy: The primary objective was the effective promotion of cottage and small-scale industries widely dispersed in rural areas and small towns. It aimed to generate large-scale employment and reduce the concentration of economic power.

• Classification of Small Sector: The policy divided the small sector into three distinct categories:

• Cottage and Household Industries: Aimed at providing self-employment.

• Tiny Sector: Investment up to Rs. 1 lakh in rural/semi-urban areas.

• Small Scale Industries (SSI): Investment limit up to Rs. 10 lakhs.

• District Industries Centers (DIC): The 1977 policy proposed the establishment of DICs in every district. These centers were designed to provide all the services and support required by small and tiny entrepreneurs, such as raw materials, credit, and marketing assistance, under a single roof.

• Reservation of Items: To protect small-scale industries from competition with large-scale industries, the number of items reserved for exclusive production in the small sector was increased from 180 to 504.

Important Points

• Ancillary Units: Under the same 1977 policy, the investment limit for ancillary units (units supplying parts to large industries) was set at Rs. 15 lakhs.

• Revival of Khadi: The policy placed a heavy emphasis on the Khadi and Village Industries Commission (KVIC) to promote the use of handloom fabrics and traditional crafts.

• Policy Evolution: The investment limits for the tiny sector were later revised in subsequent policies. In the Industrial Policy Statement of 1980, the limit for tiny units was increased to Rs. 2 lakhs.

• Demographic Criteria: The 50,000 population threshold was a critical feature of the 1977 policy to ensure that industrial benefits reached the rural hinterland rather than being clustered around metropolitan hubs.

Q45. Answer: (b) Godavari

The correct answer is Godavari.

Key Points

• The Godavari is the largest peninsular river system in India. Due to its great age, large size, and vast expanse, it is famously known as the Dakshin Ganga (Ganga of the South).

• It originates in the Western Ghats at Trimbakeshwar in the Nashik district of Maharashtra.

• The total length of the river is approximately 1,465 km, making it the second-longest river in India after the Ganga.

• The Godavari basin extends over an area of about 3,12,812 sq. km, which is nearly 9.5% of the total geographical area of the country. It drains parts of Maharashtra, Telangana, Andhra Pradesh, Chhattisgarh, and Odisha.

• The river flows eastward across the Deccan Plateau and eventually discharges its water into the Bay of Bengal.

Additional Information

• Narmada:

• The Narmada is the largest west-flowing river of peninsular India.

• It rises from the Amarkantak Plateau in Madhya Pradesh at an elevation of about 1,057 meters.

• It flows through a rift valley between the Vindhya and Satpura ranges and forms the famous Dhuandhar Falls near Jabalpur.

• Brahmaputra:

• The Brahmaputra originates from the Chemayungdung glacier of the Kailas range near Mansarovar lake in Tibet.

• In Tibet, it is known as the Tsangpo. It enters India in Arunachal Pradesh as the Siang or Dihang river.

• It is known for having the largest volume of water among Indian rivers and is characterized by frequent floods and channel shifting.

• Brahmani:

• The Brahmani is a major seasonal river in the state of Odisha.

• It is formed by the confluence of the Sankh and South Koel rivers near Rourkela.

• It flows through the Eastern Ghats and joins the Bay of Bengal at Dhamra.

Important Points

• Tributaries of Godavari: The main tributaries include the Purna, Wardha, Pranhita, Manjra, Wainganga, and Penganga. The Pranhita is the largest tributary, conveying the combined waters of the Penganga, Wardha, and Wainganga.

• Religious Significance: The river is considered sacred, and the Kumbh Mela is held at Nashik on its banks once every 12 years.

• Distinction between Dakshin Ganga and Ganga of the South: While Godavari is officially referred to as Dakshin Ganga, the river Kaveri is sometimes called the "Ganga of the South" due to its ritual purity and spiritual importance in southern India.

• Dams and Projects: Several important projects are located on the Godavari, such as the Jayakwadi Dam in Maharashtra and the Polavaram Project in Andhra Pradesh, which provide significant irrigation and hydroelectric power.

Q46. Answer: (c) peninsula

The correct answer is peninsula.

Key Points

• A peninsula is defined as a landform that is almost entirely surrounded by water but is connected to the mainland on one side. It extends from a larger body of land into a sea, ocean, or lake.

• Geographically, it is surrounded by water on three sides. This unique structure allows it to have extensive coastlines while maintaining a terrestrial link for trade and movement.

• The word is derived from the Latin terms paene (meaning almost) and insula (meaning island). Essentially, it behaves like an island in terms of maritime access but remains part of a continent.

• A prominent example is the Indian Peninsula, which is bordered by the Arabian Sea to the west, the Bay of Bengal to the east, and the Indian Ocean to the south.

• The Arabian Peninsula is recognized as the largest peninsula in the world, spanning over 3.2 million square kilometers and encompassing countries like Saudi Arabia, Oman, and Yemen.

Additional Information

• Strait:

• A strait is a naturally formed, narrow waterway that connects two larger bodies of water, such as two oceans or seas.

• It plays a crucial role in international maritime trade and navigation. For instance, the Palk Strait connects the Bay of Bengal with the Gulf of Mannar.

• Another famous example is the Strait of Gibraltar, which connects the Atlantic Ocean to the Mediterranean Sea, separating Europe from Africa.

• Isthmus:

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• An isthmus is a narrow strip of land that connects two larger landmasses and has water on two sides.

• It serves as a land bridge between continents. The Isthmus of Panama is a well-known example, linking North America and South America.

• Historically, many isthmuses have been the sites of canals (like the Panama Canal) to facilitate shorter shipping routes between oceans.

• Gulf:

• A gulf is a portion of an ocean or sea that is partially enclosed by land. It is typically larger and deeper than a bay.

• Gulfs usually have a narrow mouth opening into the sea. The Gulf of Mexico is the largest gulf in the world, bordered by the United States, Mexico, and Cuba.

• In India, the Gulf of Kutch and the Gulf of Khambhat are significant geographical features located along the coast of Gujarat.

• Island:

• Unlike a peninsula, an island is a piece of land that is completely surrounded by water on all sides.

• The Majuli island in Assam is known as the world's largest river island, while Greenland is considered the world's largest island.

Q47. Answer: (b) intestine

The correct answer is intestine.

Key Points

• The lymphatic system plays a crucial role in the human body by transporting digested and absorbed fats from the intestine. While most nutrients like glucose and amino acids are absorbed directly into the bloodstream, fats require a different pathway due to their size and chemical nature.

• Within the villi of the small intestine, there are specialized lymphatic capillaries known as lacteals. These lacteals are responsible for picking up dietary fats that have been processed into chylomicrons by the intestinal mucosal cells.

• Once absorbed, this fat-rich lymph, often called chyle, travels through the lymphatic vessels and eventually enters the systemic blood circulation through the subclavian veins.

• Another primary function of lymph is to maintain fluid balance. It drains excess fluid (interstitial fluid) from the extracellular space (the space between cells) and returns it to the blood. This prevents tissues from swelling and ensures that the total volume of blood remains stable.

• The lymph also acts as a transport medium for lymphocytes (white blood cells), which are essential for the body's immune response against pathogens.

Additional Information

• The Small Intestine: It is the primary site for digestion and absorption in the human body. It is divided into three parts: the duodenum, jejunum, and ileum. The presence of villi and microvilli significantly increases the surface area for nutrient uptake.

• Lymph Composition: Lymph is a colorless fluid similar in composition to blood plasma but with lower protein content. It contains high concentrations of WBCs, particularly lymphocytes, which help fight infections.

• Other Organs (Options Analysis):

• Liver: It produces bile for fat emulsification but does not serve as the primary site where lymph absorbs fat. It is located in the upper right quadrant of the abdomen.

• Kidneys: These are excretory organs responsible for filtering blood, removing urea, and maintaining osmoregulation. They are located on either side of the spine.

• Pancreas: It is a glandular organ that secretes digestive enzymes (like lipase and amylase) and hormones like insulin. It assists in digestion but does not absorb fats into the lymph.

• Fat-Soluble Vitamins: Along with fats, the lacteals in the intestine also facilitate the absorption of fat-soluble vitamins, which include Vitamin A, D, E, and K.

Important Points

• Edema: If the lymphatic system fails to drain excess fluid from the extracellular space efficiently, it leads to a condition called edema, characterized by swelling in tissues, often seen in the legs and arms.

• Direction of Flow: Unlike the circulatory system, which is a closed loop, the lymphatic system is a one-way system. Lymph flows only towards the heart, aided by the contraction of skeletal muscles and valves that prevent backflow.

• Lymph Nodes: These are small, bean-shaped structures located along the lymphatic vessels (e.g., in the neck, armpits, and groin) that act as filters to trap bacteria, viruses, and cancer cells.

• Total Fluid Drainage: On average, the lymphatic system returns about 2 to 3 liters of fluid to the bloodstream every 24 hours.

Q48. Answer: (a) Lord Mahavira

The correct answer is Lord Mahavira.

Key Points

• Anekantavada is a core philosophical doctrine of Jainism, primarily propounded and systematized by Lord Mahavira, the 24th

Tirthankara.

• The term literally means "non-absolutism" or the "theory of many-sidedness". It suggests that ultimate truth and reality are complex and have multiple aspects.

• According to this theory, no single point of view can provide a complete picture of the absolute truth. Only the Kevalins (omniscient beings) can comprehend reality in all its aspects, while ordinary humans perceive only a partial truth.

• It is closely related to the concepts of Syadvada (the theory of conditioned predication) and Nayavada (the theory of partial viewpoints), which provide the linguistic and logical framework for Anekantavada.

• This philosophy encourages intellectual non-violence and tolerance, as it acknowledges that different perspectives, even seemingly contradictory ones, can each contain an element of truth.

Additional Information

• Lord Mahavira:

• He was born in 540 BCE (some sources say 599 BCE) at Kundagrama near Vaishali in present-day Bihar.

• He belonged to the Jnatrika clan and was a contemporary of Gautama Buddha.

• At the age of 30, he abandoned his royal life to become an ascetic and attained Kevala Jnana (enlightenment) at the age of 42.

• He added the fifth vow of Brahmacharya (celibacy) to the four existing vows of Parsvanatha to form the Pancha Mahavrata.

• Lord Buddha:

• The founder of Buddhism, born as Siddhartha Gautama in Lumbini.

• His philosophy centers on the Four Noble Truths and the Eightfold Path (Astangika Marga). Unlike the Jain concept of an eternal soul (Jiva), Buddha preached Anatta (non-self) and Anicca (impermanence).

• Vishnugupta:

• Commonly known as Chanakya or Kautilya, he was the prime minister of Chandragupta Maurya.

• He is the author of the famous political treatise Arthashastra, which focuses on statecraft, economic policy, and military strategy.

• Samudragupta:

• A prominent ruler of the Gupta Dynasty, often referred to as the "Napoleon of India" by historian V.A. Smith due to his extensive military conquests.

• His achievements are inscribed on the Prayag Prashasti (Allahabad Pillar Inscription), composed by his court poet Harisena.

Important Points

• Syadvada: This is the logical application of Anekantavada. It uses the particle "Syat" (meaning 'perhaps' or 'in a certain sense') to signify that every statement is relative to a particular point of view. There are seven modes of prediction in this system, known as Saptabhanginaya.

• Core Tenets of Jainism:

• Ahimsa: Extreme non-violence toward all living beings.

• Triratna (Three Jewels): These include Samyak Darshana (Right Faith), Samyak Gyana (Right Knowledge), and Samyak Charitra (Right Conduct).

• Equality: Jainism rejected the Varna system and emphasized that spiritual liberation is accessible to all, regardless of social status.

• Jain Councils:

• The First Jain Council was held at Pataliputra in the 3rd Century BCE, presided over by Sthulabhadra.

• The Second Jain Council was held at Vallabhi in 512 CE, where the final compilation of 12 Angas and 12 Upangas took place.

Q49. Answer: (b) Only II

The correct answer is Only II.

Key Points

• The Seventh Schedule of the Constitution of India defines and specifies the allocation of powers and functions between the Union and the States through three distinct lists.

• Statement I: Public Health and sanitation, hospitals, and dispensaries are subjects categorized under the State List (List II) as per Entry 6. This implies that the State Legislatures have the primary jurisdiction to legislate on these matters. Hence, statement I is incorrect.

• Statement II: Trade Unions, along with industrial and labour disputes, are explicitly mentioned under the Concurrent List (List III) at Entry 22. This allows both the Parliament of India and the State Legislatures to create laws regarding them. Hence, statement II is correct.

• The Concurrent List is intended for subjects where a uniform national framework is beneficial, but individual states may also need to make specific provisions to suit their local conditions.

• Hence, the correct answer is Only II.

Additional Information

• The Three Lists of the Seventh Schedule:

• Union List (List I): This list consists of subjects of national importance where only the Parliament has the exclusive power to legislate. It originally contained 97 subjects but currently has 100. Notable examples include Defense, Foreign Affairs, Railways, Banking, and Atomic Energy.

• State List (List II): This list consists of subjects of regional or local importance. It originally had 66 subjects but now contains 61. Key subjects include Police, Agriculture, Local Government, Public Order, and Land.

• Concurrent List (List III): This list comprises subjects where both the Union and State Governments can exercise power. It originally had 47 subjects and currently features 52. Major subjects include Education, Forests, Marriage and Divorce, Criminal Law, and Electricity.

• Constitutional Basis:

• Article 246 of the Constitution of India provides the legal basis for the distribution of legislative powers between the Union and the States.

• The concept of the Concurrent List in the Indian Constitution was borrowed from the Constitution of Australia.

Important Points

• The 42nd Amendment Act, 1976: This significant amendment shifted five subjects from the State List to the Concurrent List, namely Education, Forests, Weights and Measures, Protection of Wild Animals and Birds, and Administration of Justice.

• Conflict Resolution (Article 254): If there is a conflict between a Central law and a State law on a subject in the Concurrent List, the law made by the Parliament generally prevails. However, if the State law has received the President's assent, it can prevail in that specific state.

• Residuary Powers (Article 248): The Parliament has the exclusive power to make any law with respect to any matter not enumerated in the Concurrent List or State List. These are known as Residuary Powers, and they belong to the Union Government.

Q50. Answer: (c) Meghalaya

The correct answer is Meghalaya.

Key Points

• Shad Pliang, famously referred to as the "Plate Dance", is a traditional folk dance belonging to the North-Eastern state of Meghalaya.

• This dance form is a unique cultural heritage of the Khasi community, who are one of the major indigenous tribes residing in the Khasi Hills.

• The performance is characterized by the incredible skill of the dancers—mostly women—who balance brass plates or metal dishes on their fingertips or palms while performing rhythmic movements.

• It is typically performed during festivals, social gatherings, and cultural programs to demonstrate the agility, balance, and grace of the local youth.

• The dance is accompanied by traditional musical instruments of Meghalaya, such as the Tangmuri (a wind instrument), Nakra (drum), and Cymbals, which provide a vibrant tempo to the performance.

Additional Information

• Major Folk Dances of Meghalaya:

• Wangala Dance: This is the most significant festival of the Garo tribe. Known as the "100 Drums Festival", it is held in November to mark the end of the agricultural year and honor Saljong, the Sun God of fertility.

• Nongkrem Dance: A religious festival of the Khasi tribe performed at Smit. It is held annually to pray for a bountiful harvest and the prosperity of the people.

• Shad Suk Mynsiem: Known as the "Dance of Peaceful Hearts", it is an annual spring dance celebrated in April by the Khasi people to express gratitude to the creator.

• Laho Dance: This dance belongs to the Jaintia (Pnar) tribe. It is performed by both men and women linked together, usually during the Behdienkhlam festival.

• Dances of Other States mentioned in Options:

• Bihar: Known for folk dances like Jat-Jatin, Bakhuli-Bakhain, Panwariya, and the Bideshiya. The Chhau dance is also prominent in certain regions bordering Jharkhand.

• Punjab: Famous for high-energy dances such as Bhangra (performed by men), Giddha (performed by women), Jhumar, and Malwai Giddha.

• Maharashtra: Renowned for Lavani, Koli (the dance of the fisherfolk), Dhangari Gaja, and Povadas (ballads describing the life of Chhatrapati Shivaji Maharaj).

• Geographical Context: Meghalaya, often called the "Abode of Clouds", was carved out of Assam in 1972. Its capital is Shillong, and it is globally famous for Mawsynram and Cherrapunji, which receive the highest rainfall in the world.

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Q51. Answer: (d) 1st day of October 2026

The correct answer is 1st day of October 2026.

Key Points

• The reference date for the Census 2027 specifically for the Union Territory of Ladakh has been designated as the 1st day of October 2026.

• In the context of the Indian Census, the reference date is the specific moment in time to which the census data refers, ensuring that the population count is a "snapshot" of the country at that exact instance.

• For most parts of India, the census reference date is typically the 1st of March of the census year. However, for snow-bound areas and high-altitude regions like Ladakh, the date is set earlier to facilitate enumeration before the onset of extreme winter conditions which make transportation and communication impossible.

• The Ministry of Home Affairs, through the Office of the Registrar General and Census Commissioner, manages the scheduling and notification of these dates under the provisions of the Census Act, 1948.

• The choice of October 1st ensures that the administrative machinery can complete the head-counting process in the Leh and Kargil districts before heavy snowfall blocks the passes. Hence, the correct answer is 1st day of October 2026.

Additional Information

• Union Territory of Ladakh:

• Ladakh was established as a Union Territory without a legislature on October 31, 2019, following the enactment of the Jammu and Kashmir Reorganisation Act, 2019.

• It is the largest Union Territory in India by area but has a very low population density due to its rugged mountainous terrain.

• History of Census in India:

• The first non-synchronous census in India was conducted in 1872 under Lord Mayo, while the first synchronous census took place in 1881.

• Censuses are conducted every 10 years. The 2021 Census was significantly delayed due to the COVID-19 pandemic, leading to adjusted timelines for the subsequent data collection exercises.

• Phases of Census:

• A typical census is conducted in two phases: House Listing & Housing Census and Population Enumeration.

• For the upcoming cycle, the integration of digital data collection through mobile apps is a major technological feature designed to improve accuracy and speed.

Important Points

• Legal Framework:

• The Census Act of 1948 provides the legal backing for the census. It guarantees the confidentiality of the information provided by citizens, and the data can only be used for statistical purposes, not as evidence in a court of law.

• Significance of Census Data:

• The data is vital for the Delimitation Commission to fix the boundaries of Parliamentary and Assembly constituencies based on the latest population figures.

• It assists the government in identifying the socio-economic status of various groups to implement targeted welfare schemes and allocate financial resources under the guidance of the Finance Commission.

• Administrative Authority:

• The Registrar General and Census Commissioner of India (RGCCI) is the nodal officer responsible for the execution of the census under the Ministry of Home Affairs (MHA).

Q52. Answer: (c) Uttarakhand

The correct answer is Uttarakhand.

Key Points

• Baithki Holi is a unique and culturally rich musical tradition of celebrating Holi, primarily observed in the Kumaon region of the state of Uttarakhand.

• Unlike the common celebration of colors, this tradition focuses on musical sittings (Baithaks) that commence as early as Basant Panchami and continue until the day of Holi.

• The songs performed during Baithki Holi are rooted in Hindustani classical music, where participants sing compositions based on specific Raagas.

• The musical sessions usually take place in the courtyards of homes or community centers, where people gather to celebrate the spring season through melody and rhythm.

• This form of celebration is a testament to the preservation of classical arts within the folk culture of the Himalayan foothills.

Additional Information

• Variations of Holi in Kumaon:

• Khari Holi: This is the "standing" version of Holi where people in rural Uttarakhand wear traditional white kurtas and churidar pyjamas, dancing in circles to the beats of Dhol and Hurka.

• Mahila Holi: These are exclusive gatherings for women, where they sing songs related to social life, family, and devotion, marking a significant social outlet for the women of the hills.

• Musical Elements: The instruments predominantly used in these celebrations include the Harmonium, Tabla, and sometimes the Dholak or Manjira.

• Regional Locations: The tradition is most vibrant in districts such as Almora, Nainital, Pithoragarh, and Champawat. Almora is often considered the cultural hub for Baithki Holi.

• Traditional Cuisine: During these gatherings, traditional Kumaoni delicacies like Aloo ke Gutke (spicy potato dish), Gujiya, and Singal (a fried sweet snack) are served to the guests.

• Language: The lyrics of the songs are often a blend of Braj Bhasha, Hindi, and Kumaoni, often narrating the divine play of Lord Krishna and Radha.

Important Points

• Role of Raagas: In Baithki Holi, the Raagas sung change according to the time of the day. For instance, Raag Bhairavi might be sung in the morning, while Raag Kafi or Khamaj is preferred during the afternoon and evening.

• Historical Context: The tradition dates back several centuries and was historically patronized by the local Chand dynasty rulers and later preserved by the elite Brahmin and Kshatriya families of the Kumaon hills.

• Symbolism: The transition from the harsh Himalayan winter to the blossom of spring is the core theme, symbolizing renewal and communal harmony.

• Holiyars: The lead singers and participants of these musical sessions are locally referred to as Holiyars, who are respected for their knowledge of classical music and folk lore.

Q53. Answer: (a) successful soft-landing of the Vikram lander on the south pole of the moon

The correct answer is successful soft-landing of the Vikram lander on the south pole of the moon.

Key Points

• On August 23, 2023, India scripted history as the Chandrayaan-3 mission's Vikram lander successfully performed a soft-landing on the lunar south pole.

• To honor this landmark achievement in space exploration, Prime Minister Narendra Modi declared August 23 as National Space Day during his address at ISTRAC in Bengaluru.

• With the success of this mission, India became the fourth country to achieve a soft landing on the Moon and the very first country to reach the lunar south polar region. Hence, option 1 is the correct statement.

• The mission showcased India's advanced technological capabilities and cost-effective engineering, reinforcing its position as a global leader in the space sector.

• The National Space Day aims to inspire the youth of the country toward Science, Technology, Engineering, and Mathematics (STEM) and celebrate India's journey in space.

Additional Information

• Chandrayaan-3 Mission Details:

• The mission was launched on July 14, 2023, from the Satish Dhawan Space Centre in Sriharikota using the LVM3-M4 rocket.

• The mission components included a Propulsion Module, the Vikram Lander (named after Dr. Vikram Sarabhai), and the Pragyan Rover.

• The Pragyan Rover successfully deployed and conducted chemical analysis of the lunar surface for one lunar day (approximately 14 Earth days).

• Significant Naming:

• The landing site of Chandrayaan-3 was named Shiv Shakti Point.

• The site where Chandrayaan-2 left its footprints in 2019 was named Tiranga Point.

• Indian Space Research Organisation (ISRO):

• ISRO was established on August 15, 1969, replacing the earlier INCOSPAR. Hence, statement 2 refers to the organization's founding, not National Space Day.

• The first Indian satellite, Aryabhata, was launched on April 19, 1975. Hence, statement 3 refers to a different historic event.

• India's first interplanetary mission, the Mars Orbiter Mission (MOM) or Mangalyaan, was launched on November 5, 2013. Hence, statement 4 is incorrect in this context.

Important Points

• Theme of 2024: The inaugural National Space Day celebrated in 2024 carried the theme "Touching Lives while Touching the Moon: India's Space Saga".

• Global Impact: The landing near the south pole is scientifically significant because this region is believed to contain water ice, which could be vital for future human settlements and deep-space exploration.

• Leadership: The successful execution of Chandrayaan-3 occurred under the leadership of ISRO Chairman S. Somanath and Mission Director P. Veeramuthuvel.

• Financial Efficiency: The total cost of the Chandrayaan-3 mission was approximately 615 crore rupees, which is significantly lower than many Hollywood space-themed movies, highlighting India's frugal but efficient innovation.

Q54. Answer: (c) Cotton clothes absorb sweat and help in its evaporation, which cools the body.

The correct answer is Cotton clothes absorb sweat and help in its evaporation, which cools the body.

Key Points

• Cotton is a natural fiber that is highly hydrophilic, meaning it has a high capacity to absorb water or moisture.

• During summer, the human body produces more sweat as a biological mechanism to maintain homeostasis and regulate internal temperature.

• When we wear cotton clothes, the fabric absorbs the sweat from our skin and brings it into contact with the atmosphere.

• The evaporation of this sweat requires energy, which is taken from the body surface in the form of heat. This process is known as evaporative cooling. Hence, statement 3 is correct.

• Cotton clothes prevent any evaporation of sweat: This is incorrect because cotton actually facilitates evaporation by wicking moisture to the surface. Hence, statement 1 is incorrect.

• Cotton clothes increase the body temperature by trapping heat: Synthetic fibers like wool or certain polyesters trap heat, but cotton is breathable and allows heat to escape. Hence, statement 2 is incorrect.

• Cotton clothes are less absorbent: In reality, cotton can absorb up to 25 times its weight in water, making it more absorbent than most synthetic fabrics. Hence, statement 4 is incorrect.

Additional Information

• Latent Heat of Vaporization: This is the thermal energy required to convert a liquid into a gas without changing its temperature. In the context of summer cooling, the sweat on the skin absorbs this latent heat from the body to evaporate, thereby lowering the body temperature.

• Porosity of Cotton: Cotton fibers are naturally porous. This porosity allows for better air circulation (breathability), which aids the evaporation process and prevents the growth of bacteria or fungi that thrive in stagnant, moist environments.

• Comparison with Synthetic Fabrics: Fabrics like nylon or polyester are hydrophobic. They do not absorb sweat effectively, causing it to remain trapped between the skin and the cloth, leading to discomfort, skin rashes, and a feeling of suffocation in humid weather.

• Hypoallergenic Properties: Cotton is a hypoallergenic material, making it ideal for sensitive skin during summer when sweat-induced irritation and heat rashes are common.

Important Points

• Color Matters: In addition to the material, the color of the clothing is vital in summer. Light-colored cotton clothes reflect most of the solar radiation (heat) falling on them, whereas dark colors absorb it.

• Molecular Structure: The cellulose molecules in cotton contain hydroxyl (-OH) groups that attract water molecules, explaining its high absorbency compared to petroleum-based synthetic fibers.

• Homeostasis: The body's ability to keep its internal environment stable. Sweating is a primary method of thermoregulation, and choosing the right fabric like cotton assists the body in this physiological task.

Q55. Answer: (b) 54.6%

The correct answer is 54.6%.

Key Points

• According to the Census of India 2011, the primary sector, which predominantly includes agriculture and allied activities, employed 54.6% of the total workforce in the country.

• This 54.6% was further divided into two main categories: cultivators, who accounted for 24.9%, and agricultural labourers, who accounted for 29.7% of the workforce.

• The 2011 data highlighted a significant dependence on the primary sector for livelihood, despite the sector's decreasing contribution to the Gross Domestic Product (GDP) compared to the secondary and tertiary sectors.

• The total number of workers in India during the 2011 Census was recorded at 481.7 million, showing an increase from the 2001 figures, but maintaining the trend of agriculture being the largest employer.

• The primary sector in India is characterized by a high degree of informal employment and serves as the backbone of the rural economy.

Additional Information

• Primary Sector:

• This sector involves the extraction and production of natural resources. It includes activities such as farming, fishing, forestry, and mining.

• In the context of India, it is often referred to as the agricultural sector because agriculture is the most dominant activity within this category.

• Secondary Sector:

• Commonly known as the industrial sector, it involves the processing of raw materials into finished goods through manufacturing and construction.

• In 2011, this sector accounted for approximately 24.3% of the workforce, reflecting a slow but steady industrialization process in the country.

• Tertiary Sector:

• Known as the service sector, it provides services rather than tangible goods. Examples include banking, education, healthcare, transportation, and information technology (IT).

• While this sector contributes the highest share to India's GDP (over 50%), its share in employment was around 26.8% as per NSSO 68th round data (2011-12), indicating a mismatch between income generation and job creation.

Important Points

• Structural Transformation: The shift of the workforce from the primary sector to the secondary and tertiary sectors is a sign of economic development. However, in India, this transition has been unique as the GDP shifted directly to services, while the workforce remained heavily concentrated in agriculture.

• Disguised Unemployment: A major challenge in the primary sector is disguised unemployment, where more people are working than required, leading to low marginal productivity.

• Workforce Participation Rate (WPR): In 2011, the WPR for India was 39.8%, with a higher participation rate in rural areas (41.8%) compared to urban areas (35.3%).

• Gender Distribution: A significant portion of the female workforce in India is engaged in the primary sector, often working as unpaid family labor or marginal workers in rural agricultural fields.

Q56. Answer: (c) BhashaSetu

The correct answer is BhashaSetu.

Key Points

• In June 2025, the prominent startup accelerator platform WaveX launched a specialized challenge for tech entrepreneurs to build BhashaSetu, a next-generation translation framework.

• BhashaSetu is designed as an AI-powered real-time multilingual translation solution aimed at eliminating linguistic barriers in professional and social interactions.

• The primary objective of this project is to leverage Artificial Intelligence and Machine Learning to provide instantaneous translation across various Indian regional languages and international tongues.

• Startups participating in the WaveX program are tasked with creating a system that maintains contextual accuracy and cultural nuances while translating speech and text in real-time.

• This initiative by WaveX seeks to empower the Digital India mission by ensuring that technology is accessible to non-English speakers through robust local language support.

Additional Information

• Startup Accelerator Platforms:

• Entities like WaveX provide seed investment, mentorship, and networking opportunities to early-stage companies to accelerate their growth over a fixed period.

• These platforms are vital for the technology ecosystem, helping transform innovative ideas into scalable business models.

• Natural Language Processing (NLP):

• NLP is the branch of Artificial Intelligence that enables computers to understand, interpret, and generate human language, which is the core engine of BhashaSetu.

• Advanced techniques such as Neural Machine Translation (NMT) are utilized to improve the fluency and accuracy of real-time translations.

• Significance of Multilingual AI:

• In a diverse country like India, with 22 scheduled languages, tools like BhashaSetu are essential for inclusive growth in education, healthcare, and governance.

• It facilitates cross-border trade by allowing small and medium enterprises (SMEs) to communicate with global clients without the need for expensive human translators.

• Technological Features:

• The proposed solution is expected to handle low-latency requirements, meaning the time delay between the spoken word and its translation must be minimal.

• Edge Computing may be integrated to allow the translation service to work efficiently even in areas with limited internet connectivity.

Important Points

• Market Impact: The development of BhashaSetu in 2025 reflects the increasing demand for localized content as more users from rural areas join the digital economy.

• Future Scope: Beyond text and speech, future iterations of such AI tools are expected to incorporate visual translation (translating text from images/signs) and sign language interpretation.

• Data Privacy: As these AI models process vast amounts of personal and professional data, WaveX emphasizes the importance of data encryption and user privacy in the development of BhashaSetu.

Q57. Answer: (a) Gujarat

The correct answer is Gujarat.

Key Points

• Gujarat stands as the sole holder of the country's perlite resources. Perlite is a unique natural mineral that is found exclusively in this state within the borders of India.

• As per the National Mineral Inventory data maintained by the Indian Bureau of Mines (IBM), the total resources of perlite in India as of April 1, 2015, are estimated at 2.41 million tonnes.

• The entire quantity of these resources is concentrated in two specific districts of Gujarat: Rajkot and Bhavnagar. Significant occurrences have been reported in the Osham Hill area of Rajkot and near Khadsaliya in Bhavnagar.

• Of the total estimated resources, approximately 12% (about 0.29 million tonnes) fall under the reserves category, while the remaining 88% (about 2.12 million tonnes) are classified as remaining resources.

• Geologically, perlite in Gujarat is associated with the acidic volcanic rocks of the Deccan Traps, particularly those originating from the Cretaceous to Eocene periods.

Additional Information

• Definition and Physical Properties:

• Perlite is an amorphous volcanic glass that possesses a relatively high water content, typically between 2% to 5%. It is formed by the hydration of obsidian.

• A distinctive feature of this mineral is its ability to expand significantly—up to 7 to 20 times its original volume—when heated to temperatures ranging from 850°C to 1,100°C. This process is known as "popping," similar to popcorn.

• Applications in Horticulture:

• Due to its high porosity and low density, expanded perlite is widely used as a soil amendment to improve aeration and drainage.

• It is a staple in hydroponics and greenhouse farming because it is sterile, has a neutral pH, and does not degrade over time.

• Construction and Industrial Uses:

• In the construction industry, it is utilized as a lightweight aggregate in concrete and plaster, offering superior thermal insulation and fire-resistant properties.

• It is also employed as a filter aid in the processing of liquids, including beer, wine, sugar, and pharmaceuticals, because of its ability to trap minute impurities without affecting the chemical composition of the fluid.

• Global and Indian Context:

• While Gujarat is the only Indian producer, on a global scale, countries like Greece, Turkey, and the USA are the leading producers of perlite.

• In India, the demand for perlite is growing in the cryogenic insulation sector, where it is used to insulate tanks holding liquefied gases at extremely low temperatures.

Q58. Answer: (c) South Africa

The correct answer is South Africa.

Key Points

• The acronym BRIC was originally coined by Jim O'Neill, an economist at Goldman Sachs, in a 2001 paper titled "Building Better Global Economic BRICs."

• The original group consisted of four major emerging national economies: Brazil, Russia, India, and China.

• The first formal summit of the BRIC nations was held on June 16, 2009, in Yekaterinburg, Russia, focusing on improving the global economic situation and reforming financial institutions.

• South Africa was officially invited to join the group in December 2010, following a series of diplomatic efforts to include a representative from the African continent.

• With the inclusion of South Africa, the group's name was formally changed to BRICS. The "S" in the acronym stands for South Africa.

• South Africa attended its first summit as a full member during the 3rd BRICS Summit held in Sanya, China, on April 14, 2011.

Additional Information

• Objectives and Cooperation:

• The primary objective of BRICS is to enhance economic cooperation, political coordination, and cultural exchange among its member states.

• The group aims to promote a multipolar world order and challenge the dominance of Western-led global financial systems such as the World Bank and the International Monetary Fund (IMF).

• New Development Bank (NDB):

• During the 6th BRICS Summit in Fortaleza, Brazil (2014), the member nations signed an agreement to establish the New Development Bank, headquartered in Shanghai, China.

• The NDB was created to mobilize resources for infrastructure and sustainable development projects in BRICS and other emerging economies.

• Economic Significance:

• Collectively, the BRICS nations represent about 41% of the global population, nearly 24% of the world's GDP, and approximately 16% of global trade.

• The group serves as a significant platform for South-South cooperation.

• Expansion (BRICS+):

• In August 2023, during the 15th BRICS Summit in Johannesburg, South Africa, the group announced a historic expansion.

• New members invited to join included Egypt, Ethiopia, Iran, Saudi Arabia, and the United Arab Emirates, with their membership becoming effective on January 1, 2024.

Important Points

• Chairmanship: The chairmanship of the forum is rotated annually among the members in accordance with the acronym B-R-I-C-S.

• Contingent Reserve Arrangement (CRA): Established in 2015, this framework provides liquidity support to member countries during balance-of-payments crises.

• Governance: Unlike the UN or NATO, BRICS is not a formal international organization; it is a consensual group without a fixed secretariat or a permanent treaty-based structure.

Q59. Answer: (a) 2007

The correct answer is 2007.

Key Points

• India's Gross Domestic Product (GDP) officially crossed the $1 trillion mark in the year 2007.

• With this achievement, India became the 12th nation in the world to join the "trillion-dollar club."

• The milestone was reached during the tenure of Dr. Manmohan Singh as the Prime Minister and P. Chidambaram as the Union Finance Minister.

• This significant economic expansion was fueled by a period of robust growth where the Indian economy grew at an average rate of approximately 8-9% between 2003 and 2007.

• The primary drivers for reaching this milestone included the booming Service Sector, increased Foreign Direct Investment (FDI), and strong domestic consumption.

• It took India nearly 60 years after its Independence in 1947 to reach the first trillion dollars in terms of Nominal GDP.

Additional Information

• Growth Trajectory:

• After crossing $1 trillion in 2007, it took India only seven years to reach the $2 trillion mark in 2014.

• The $3 trillion milestone was achieved in 2019, showing an accelerated pace of economic accumulation despite global headwinds.

• Economic Rankings:

• As of 2023-24, India is the 5th largest economy in the world by Nominal GDP, trailing behind the USA, China, Germany, and Japan.

• In terms of Purchasing Power Parity (PPP), India is ranked as the 3rd largest economy globally.

• GDP Definition:

• Gross Domestic Product (GDP) represents the total monetary or market value of all the finished goods and services produced within a country's borders in a specific time period, usually a financial year.

• The Real GDP is adjusted for inflation, while Nominal GDP uses current market prices without inflation adjustment.

• Future Targets:

• The Government of India has set an ambitious target to make India a $5 trillion economy. This goal involves heavy investments in infrastructure, digital transformation, and the manufacturing sector through initiatives like Make in India.

Important Points

• The 1991 Reforms: The foundation for reaching the trillion-dollar mark was laid by the Liberalization, Privatization, and

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Globalization (LPG) reforms introduced in 1991 by the then Finance Minister Manmohan Singh under Prime Minister P.V. Narasimha Rao.

• Sectoral Contribution: By 2007, the Services Sector contributed more than 50% to India's GDP, signifying a shift from an agrarian-based economy to a service-led growth model.

• Global Context: The 2007 milestone was particularly notable as it preceded the 2008 Global Financial Crisis; India's strong internal demand helped it remain relatively resilient during the subsequent global downturn.

• Statistical Agencies: In India, GDP is calculated by the National Statistical Office (NSO), which operates under the Ministry of Statistics and Programme Implementation (MoSPI).

Q60. Answer: (d) Shot Put

The correct answer is Shot Put.

Key Points

• Shot Put is a track and field event where the athlete "puts" (pushes) a heavy spherical metal ball (the shot) as far as possible. It is a pure test of explosive strength and does not utilize any form of a stick or pole for the throw. Hence, this statement is correct.

• Hockey is a popular team sport (both Field Hockey and Ice Hockey) where players must use a hockey stick to maneuver, pass, and hit a ball or puck into the opponent's goal. The stick is the primary tool used by the players. Hence, this statement is incorrect.

• Javelin Throw is an athletics event where the equipment used is a spear-like stick known as a javelin. It is approximately 2.5 meters in length and is thrown after a run-up. The javelin itself is effectively a long, tapered stick made of metal or carbon fiber. Hence, this statement is incorrect.

• Pole Vault is a field event in Athletics where an individual uses a long, flexible pole (which is technically a long stick) to jump over a high crossbar. The pole is an essential piece of equipment without which the sport cannot be performed. Hence, this statement is incorrect.

• Hence, the correct answer is Shot Put.

Additional Information

• Shot Put Details:

• The shot is a solid metal ball. In International and Olympic competitions, the weight for men is 7.26 kg (16 pounds) and for women, it is 4 kg (8.8 pounds).

• The event takes place within a throwing circle with a diameter of 2.135 meters (7 feet).

• Two main techniques are used: the Glide (pioneered by Parry O'Brien) and the Rotational (spin) technique.

• Javelin Throw Details:

• The Javelin must be held at the grip and thrown over-the-shoulder. For men, the javelin weighs 800 grams, and for women, it weighs 600 grams.

• Famous athletes in this field include Neeraj Chopra from India, who won the Gold Medal at the Tokyo 2020 Olympics.

• Pole Vault Details:

• The poles used today are made from high-tech materials like fiberglass or carbon fiber to provide maximum flexibility and energy return.

• The current world record holder is Armand Duplantis, who has pushed the limits of the sport by clearing heights over 6.20 meters.

• Hockey Stick Evolution:

• Historically, hockey sticks were made from mulberry or ash wood. Modern sticks are now made from composite materials including fiberglass, kevlar, and carbon fiber for better durability and power.

Important Points

• In Athletics (Track and Field), equipment is strictly regulated by the World Athletics organization (formerly IAAF).

• The Shot Put ball must have a smooth surface and be perfectly spherical. Any indentation or "grip" on the ball is prohibited.

• While Javelin, Hockey, and Pole Vault rely on the physics of the "stick" (leveraging length and flexibility), Shot Put relies entirely on the kinetic chain of the athlete's body to propel the mass of the ball.

Q61. Answer: (d) Vinita Dawra Nangia

The correct answer is Vinita Dawra Nangia.

Key Points

• The book titled ‘Reimagine Your Life’ is authored by Vinita Dawra Nangia. She is a well-known Executive Editor at The Times of India and a prolific columnist.

• The book is essentially a compilation of her highly popular weekly column, O-Zone, which appears in The Times of India. It focuses on lifestyle, relationships, spirituality, and the pursuit of happiness in a fast-paced world.

• Vinita Dawra Nangia is also the Director of the Times Literature Festival and has authored other notable titles such as ‘It’s Your Life’ and ‘Love is Always Right’.

• The primary theme of ‘Reimagine Your Life’ is to encourage readers to look at their lives through a fresh lens, offering insights into self-reinvention, emotional intelligence, and mental well-being.

• Through her writing, she addresses the urban middle class and provides contemporary solutions to modern-day psychological and social dilemmas.

Additional Information

• Jeet Thayil:

• He is a renowned Indian poet, novelist, and musician born in 1959 in Kerala.

• He gained international fame with his debut novel ‘Narcopolis’, which was shortlisted for the 2012 Man Booker Prize and won the DSC Prize for South Asian Literature.

• His other significant works include ‘The Book of Chocolate Saints’ and ‘Low’.

• Neel Mukherjee:

• An Indian-British novelist born in 1970 in Kolkata, known for his deep socio-political narratives.

• His second novel, ‘The Lives of Others’ (2014), was shortlisted for the Man Booker Prize and won the Encore Award.

• His writing style often explores themes of migration, class struggle, and family dynamics, as seen in his 2017 book ‘A State of Freedom’.

• Vivek Shanbhag:

• A distinguished Kannada writer, novelist, and playwright who has published over eight works of fiction.

• He is best known for his novella ‘Ghachar Ghochar’, which was translated into English by Srinath Perur and received widespread international acclaim from The New York Times and The Guardian.

• He also founded and edited the Kannada literary journal Desha Kaala for several years.

Important Points

• Vinita Dawra Nangia frequently writes about work-life balance and personal growth, making her a significant voice in Indian self-help literature.

• Her book ‘Reimagine Your Life’ was published by Times Group Books and caters to a wide demographic of readers looking for motivational content.

• The authors mentioned in the options represent different genres: Thayil and Mukherjee are known for literary fiction, Shanbhag for regional literature (Kannada), and Nangia for non-fiction and lifestyle journalism.

Q62. Answer: (c) Both I and II

The correct answer is Both I and II.

Key Points

• Kho-Kho is a traditional Indian tag sport that demands high levels of agility, speed, and stamina. A specific warm-up is crucial to prepare the muscles for the explosive movements required during the game.

• Frog Jump (Statement I): This is a plyometric exercise where the individual jumps forward from a deep squat position. It specifically targets the quadriceps, hamstrings, and calf muscles, building the explosive power needed for sudden sprints and chasing. Hence, statement I is correct.

• Zig-Zag Running (Statement II): This exercise involves running while rapidly changing direction. Since Kho-Kho players must navigate between sitting teammates and dodge opponents, zig-zag running directly improves lateral agility and coordination. Hence, statement II is correct.

• A specific warm-up for Kho-Kho usually lasts for 15 to 20 minutes and transitions from general body movements to game-specific drills like these to prevent musculoskeletal injuries.

• By performing both Frog jumps and Zig-zag runs, an athlete ensures that their neuromuscular system is primed for the specific patterns of movement encountered on the court. Hence, the correct answer is Both I and II.

Additional Information

• History of Kho-Kho: The game originated in Maharashtra, India. The first set of formal rules was framed in 1914 by the Deccan Gymkhana club in Pune.

• Court Dimensions: A standard Kho-Kho court for men and women measures 27 meters in length and 16 meters in width. It features two poles at either end of the central lane.

• Team Composition: Each team consists of 12 players, but only 9 players take the field during a match. The game is played in innings, consisting of chasing and defending turns.

• Physical Benefits: Regular practice of Kho-Kho enhances cardiovascular endurance, core strength, and mental alertness. It is widely played in schools across South Asia.

Important Points

• Specific vs. General Warm-up: While a general warm-up involves light jogging to increase the body temperature, a specific warm-up like Frog jumping prepares the specific muscle groups used in the sport.

• Terminology: Key terms in the game include Chaser (the team attempting to tag), Defender (the team being chased), Pole Dive, and Sudden Death.

• International Recognition: The Asian Kho-Kho Federation (AKKF) was established in 1987 to promote the sport internationally, leading to its inclusion in the South Asian Games.

• Safety: Exercises like Zig-zag running also help in proprioception, which is the body's ability to sense movement and location, reducing the risk of ankle sprains during high-speed turns.

Q63. Answer: (c) Fort Saint George

The correct answer is Fort Saint George.

Key Points

• Fort Saint George is historically recognized as the first English fortress in India, founded in 1644 in the coastal city of Madras, which is now known as Chennai.

• The construction of the fort was initiated by the British East India Company through its agents, Francis Day and Andrew Cogan, who secured the grant of land from the local Nayaka rulers in 1639.

• The city of Chennai effectively developed and expanded around this fort, which served as a nucleus for British administrative and commercial activities in South India for centuries.

• Historically, the settlement within the fort walls was referred to as White Town, while the indigenous settlements that grew outside the walls were known as Black Town (later renamed George Town).

• Today, the fort continues to be a vital administrative hub, housing the Tamil Nadu Legislative Assembly and the Secretariat of the Government of Tamil Nadu.

Additional Information

• Mehrangarh Fort:

• It is located in Jodhpur, Rajasthan, and is one of the largest and most magnificent forts in India.

• Built around 1459 by Rao Jodha, the founder of Jodhpur, it sits on a perpendicular cliff, 410 feet above the skyline of the city.

• Fort William:

• This fort is located in Kolkata (formerly Calcutta), West Bengal, on the eastern banks of the Hooghly River.

• Named after King William III, the current structure was completed in 1781 following the British victory in the Battle of Plassey to prevent future attacks from Bengal Nawabs.

• Sindhudurg Fort:

• Located on the shore of Malvan in the Konkan region of Maharashtra, it is a powerful sea fort.

• It was built by Chhatrapati Shivaji Maharaj in 1664 to counter the rising influence of foreign colonial powers like the English, Dutch, and Portuguese and to defend the Maratha Empire.

Important Points

• St. Mary's Church: Located inside Fort Saint George, it is the oldest Anglican church in India, consecrated in 1680.

• Fort Museum: The fort houses a museum that exhibits a large repository of weapons, uniforms, and artifacts from the British period, including the first Indian Tricolour hoisted at the fort after Independence on August 15, 1947.

• Geographical Context: The city of Chennai is situated on the Coromandel Coast of the Bay of Bengal. It was renamed from Madras in the year 1996 by the state government.

• Architecture: The fort walls were designed to withstand heavy cannon fire, reflecting the military architecture of the 17th century.

Q64. Answer: (d) 1484

The correct answer is 1484.

Key Points

• The advent of Purandaradasa in the year 1484 marked a monumental shift in the evolution of Carnatic music, leading him to be revered as the "Karnataka Sangeeta Pitamaha" (the Grandfather of Carnatic Music).

• Born as Srinivasa Nayaka in Purandharagad (near Shimoga, Karnataka), he was a wealthy diamond merchant before renouncing his worldly possessions to become a wandering devotee of Lord Vitthala.

• He is credited with systematizing the teaching methodology of Carnatic music by introducing a graded syllabus that is still followed by students today, centuries later.

• Purandaradasa introduced the raga Mayamalavagowla as the basic scale for music instruction. This choice was revolutionary because the scale’s symmetrical structure helps beginners grasp the nuances of swaras (notes) more effectively than other ragas.

• He composed foundational exercises including Svaravalis (basic notes), Janti Varisas (double notes), Alankaras (rhythmic patterns), and Geethams (simple songs), which form the bedrock of Carnatic vocal and instrumental training.

Additional Information

• The Haridasa Movement:

• Purandaradasa was a prominent figure in the Haridasa movement of Karnataka, a devotional movement dedicated to Lord Vishnu.

• He was a disciple of the great philosopher-saint Vyasaraya, who famously remarked that "Among the devotees, Purandara Dasa is the greatest."

• The movement utilized music and poetry in the local Kannada language to spread Bhakti (devotion) and social reform among the common people.

• Composition and Style:

• His compositions are known as Devaranamas or Dasapadas. Legend suggests he composed 475,000 songs, though only about 1,000 are currently available.

• He used the pen name (Ankita Nama) 'Purandara Vitthala' at the end of each composition to signify his devotion.

• His lyrics often dealt with social issues, criticizing caste discrimination, hypocrisy, and greed, while emphasizing the importance of an inner spiritual life.

• Influence on Later Musicians:

• The technical structure he established paved the way for the "Trinity of Carnatic Music" (Tyagaraja, Muthuswami Dikshitar, and Syama Sastri) who lived in the 18th century.

• Saint Tyagaraja openly acknowledged the influence of Purandaradasa in his own musical development and spiritual journey.

Important Points

• Historical Context: Purandaradasa lived during the peak of the Vijayanagara Empire, particularly during the reign of Krishnadevaraya. This era was a Golden Age for art, culture, and literature in South India.

• Dates and Timeline: While he was born in 1484, he passed away in 1564, just a year before the fall of the Vijayanagara Empire in the Battle of Talikota (1565).

• Cultural Impact: His contribution transformed music from a complex courtly art into a medium of mass spiritual expression. By simplifying the language to Kannada and focusing on rhythm and melody, he made classical music accessible to all layers of society.

• Pedagogy: Even today, every student of Carnatic music begins their journey by practicing the Sarali Varisas in Raga Mayamalavagowla, exactly as prescribed by Purandaradasa over 500 years ago.

Q65. Answer: (a) Radhika Menon

The correct answer is Radhika Menon.

Key Points

• Radhika Menon created history in 2012 by becoming the first woman captain in the Indian Merchant Navy.

• She took command of the MT Sampurna Swarajya, an oil products tanker owned by the Shipping Corporation of India (SCI).

• She is a native of Kodungallur in Kerala and joined the Shipping Corporation of India as a Radio Officer in 1991, gradually rising through the ranks.

• In 2016, she became the first woman in the world to receive the IMO (International Maritime Organization) Award for Exceptional Bravery at Sea.

• This prestigious international award was bestowed upon her for leading a rescue operation in June 2015, where she saved seven fishermen from the sinking boat 'Durgamma' that was caught in a storm in the Bay of Bengal.

Additional Information

• Reshma Nilofer Naha:

• She is the first female marine pilot in India.

• Her role involves navigating large ships through the treacherous Hooghly River into the Kolkata Port Trust (now Syama Prasad Mookerjee Port).

• Being a river pilot is considered one of the most challenging jobs in the maritime sector due to shifting sandbars and high tides.

• Aditi Pant:

• She is a renowned Indian oceanographer who was part of the third Indian expedition to Antarctica in 1983.

• Along with Sudipta Sengupta, she was one of the first Indian women to visit the frozen continent.

• Sheetal Devi:

• She is a world-renowned Para-archer from Jammu and Kashmir.

• She is known for being the first armless female archer to compete internationally using her legs and feet.

• She won two gold medals at the 2022 Asian Para Games held in Hangzhou.

Important Points

• The Merchant Navy is a commercial fleet that deals with the transportation of cargo and passengers across the sea. In India, it is regulated by the Directorate General of Shipping under the Ministry of Ports, Shipping and Waterways.

• The International Maritime Organization (IMO) is a specialized agency of the United Nations that sets global standards for the

safety, security, and environmental performance of international shipping.

• To support more women entering the maritime field, Captain Radhika Menon co-founded the International Women Seafarers Foundation (IWSF) in 2017.

• The Shipping Corporation of India (SCI), established in 1961, is the largest Indian shipping company and is a Navratna public sector enterprise.

Q66. Answer: (d) A dog and pony show

The solution is in Hindi. Read it online.

Q67. Answer: (d) To be ready and available to help or replace someone

The solution is in Hindi. Read it online.

Q68. Answer: (b) Occurrence

The solution is in Hindi. Read it online.

Q69. Answer: (d) No replacement required

The solution is in Hindi. Read it online.

Q70. Answer: (a) electircity

The solution is in Hindi. Read it online.

Q71. Answer: (b) Proppel

The solution is in Hindi. Read it online.

Q72. Answer: (c) Displeased

The solution is in Hindi. Read it online.

Q73. Answer: (a) Release

The solution is in Hindi. Read it online.

Q74. Answer: (c) We bought a box of sweet dates from the market.

The solution is in Hindi. Read it online.

Q75. Answer: (a) Hedonist

The solution is in Hindi. Read it online.

Q76. Answer: (a) Anarchist

The solution is in Hindi. Read it online.

Q77. Answer: (c) The results will be announced tomorrow.

The correct answer is Option 3.

Key Points

• Passive voice structure: The object of the active voice sentence becomes the subject of the passive voice sentence.

• In the active voice, the sentence is: "They will announce the results tomorrow."

• To convert to passive voice: Place the object "the results" at the beginning of the sentence.

• Change the active verb form "will announce" to "will be announced" (future simple passive).

• Ensure the time phrase "tomorrow" remains at the end of the sentence for clarity.

Therefore, the correct answer is Option 3.

Correct Sentence: "The results will be announced tomorrow."

Additional Information

• Option 1: "The results are announced tomorrow." – Incorrect tense (present simple passive instead of future simple passive).

• Option 2: "The results will announced tomorrow." – Grammatically incorrect (missing "be" in the passive structure).

• Option 4: "The results were announced tomorrow." – Incorrect tense (past simple passive instead of future simple passive).

Q78. Answer: (a) Are eggs laid by water birds in water or on land?

The correct answer is Option 1.

Key Points

• The given sentence is a question in the active voice: "Do water birds lay eggs in water or on land?"

• To convert it into the passive voice, the object of the active sentence ("eggs") becomes the subject of the passive sentence.

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• The auxiliary verb "do" is replaced with "are" to match the plural subject "eggs" in the passive structure.

• The main verb "lay" is changed to its past participle form "laid" in the passive voice.

• The rest of the sentence structure remains the same to retain its meaning.

Therefore, the correct passive voice sentence is: Option 1: "Are eggs laid by water birds in water or on land?"

Correct Sentence: "Are eggs laid by water birds in water or on land?"

Additional Information

• Option 2: "Do eggs laid by water birds in water or on land?" – Incorrect because the auxiliary verb "do" is not used in the passive voice structure.

• Option 3: "Did eggs laid by water birds in water or on land?" – Incorrect because "did" changes the tense to the past, which is not consistent with the original sentence.

• Option 4: "Is eggs laid by water birds in water or on land?" – Incorrect because the singular auxiliary verb "is" does not match the plural subject "eggs."

Q79. Answer: (a) Did the prime minister deliver the speech at the international summit?

The correct answer is Option 1.

Key Points

• The given sentence is in the passive voice, and the task is to convert it into the active voice.

• In the passive voice sentence, "Was the speech delivered by the prime minister at the international summit?" the subject is "the speech" and the doer of the action is "the prime minister."

• To convert this into the active voice:

• Start with the doer of the action, i.e., "the prime minister."

• Use the correct verb form. In this case, "Was delivered" (passive) changes to "Did deliver" (active, past tense).

• Maintain the additional details of the sentence, i.e., "the speech at the international summit."

Therefore, the correct answer is Option 1.

Correct Sentence: "Did the prime minister deliver the speech at the international summit?"

Additional Information

• Option 1: "Did the prime minister deliver the speech at the international summit?" – Correct. This is the active voice version of the given passive voice sentence.

• Option 2: "Has the prime minister delivered the speech at the international summit?" – Incorrect. This changes the tense to present perfect.

• Option 3: "Is the prime minister delivering the speech at the international summit?" – Incorrect. This changes the tense to present continuous.

• Option 4: "Will the prime minister deliver the speech at the international summit?" – Incorrect. This changes the tense to future simple.

Q80. Answer: (a) When were they distributing these pamphlets?

The correct answer is Option 1.

Key Points

• The given sentence is in the passive voice.

• The structure of the passive voice for past continuous tense is: was/were + being + past participle.

• To convert this into the active voice, identify the subject performing the action. In this case, the subject is "they."

• The active voice structure for past continuous tense is: Subject + was/were + base verb (-ing) + object.

• By applying this structure, the sentence becomes: "When were they distributing these pamphlets?"

Therefore, the correct answer is Option 1.

Correct Sentence: "When were they distributing these pamphlets?"

Additional Information

• Option 2: "When are they distributing these pamphlets?" – Incorrect tense (present continuous instead of past continuous).

• Option 3: "When will they distribute these pamphlets?" – Incorrect tense (future simple instead of past continuous).

• Option 4: "When were the distribution of pamphlets happening?" – Grammatically incorrect and awkward construction.

Q81. Answer: (c) among an organism, its habitat,

The correct answer is Option 3.

Key Points

• The error lies in the usage of the preposition "among" in part C.

• While "among" is often used for three or more items, "between" is the correct choice when referring to distinct, individual relationships between specific, named entities.

• In this context, the study examines the specific relationship connecting three distinct items: an organism, its habitat, and the predators.

• Therefore, "among" should be replaced with "between" to accurately describe the correlation between these specific variables.

Therefore, the correct answer is Option 3.

Correct Sentence: "In their study, they tried to find out the relationship between an organism, its habitat, and the predators present there."

Additional Information

• Option 1: "In their study, they tried to" – This part is grammatically sound, using the correct past tense and infinitive structure.

• Option 2: "find out the relationship" – This phrase is standard English and correctly identifies the objective of the study.

• Option 4: "and the predators present there." – This part is correct; "present there" functions as a postpositive adjective modifying "predators."

• Usage Tip: Use "between" for distinct items (e.g., between X, Y, and Z) and "among" for items viewed as a group or mass (e.g., among the crowd).

Q82. Answer: (d) to

The correct answer is 'to'.

Key Points

• The preposition "to" is used to describe a measurement or extent in this context ("to the tune of").

• The phrase "to the tune of" means "amounting to" or "in the magnitude of."

• Options on, of, and by do not convey the correct meaning in this specific phrase.

Therefore, the correct answer is Option 4.

Complete Sentence: "They are cutting down trees to the tune of 1000 tons a month."

Additional Information

• Option 1: "on" is incorrect because it does not fit the idiomatic phrase "to the tune of."

• Option 2: "of" is incorrect because it does not convey the intended measurement or magnitude.

• Option 3: "by" is incorrect because it does not align with the idiomatic usage of the phrase.

Q83. Answer: (b) BDAC

The correct answer is: BDAC. S1 describes Sofia working while B depicts Lulu's restlessness. D explains Lulu's hesitation, and A shows her failed attempt to get attention. C marks her loss of patience, leading to the dialogue in S2. This sequence is correct as it logically moves from Lulu's quiet agitation to her direct questioning of Sofia.

Q84. Answer: (c) BDAC

The correct answer is: BDAC. B marks the departure following S1's stay. D portrays nighttime sadness after leaving. A compares current loneliness to earlier excitement regarding wealth. C identifies the anxious hope of his partner. This order is correct as it transitions from outward travel to inward reflection, concluding with the reunion sentiment that connects directly to S2.

Q85. Answer: (c) and riding her bike in the park

The correct answer is '3'.

Key Points

• The sentence lists parallel activities: hiking, swimming, and biking.

• Parallel structure requires all items in a list to follow the same grammatical form.

• In this case, the gerund form (verb + "ing") is correct for maintaining consistency.

Therefore, the correct answer is Option 3.

Complete Sentence: "She enjoys hiking in the mountains, swimming in the ocean, and riding her bike in the park every weekend."

Additional Information

• Option 1: "and ride her bike in the park" is incorrect because "ride" breaks the parallel structure.

• Option 2: "and to ride her bike around the park" is incorrect because "to ride" does not match the gerund form used in the list.

• Option 4: "No improvement required" is incorrect because the underlined part disrupts the parallel structure.

Q86. Answer: (a) Active voice

The correct answer is Option 1.

Key Points

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• Active Voice structure: In an active voice sentence, the subject is the "doer" of the action. The basic formula is: Subject + Verb + Object.

• In the sentence: "Scammers design fake job postings to exploit job seekers."

• Subject: "Scammers" (The entity performing the action).

• Verb: "design" (The action being performed).

• Object: "fake job postings" (The entity receiving the action).

• Since the subject ("Scammers") is directly performing the action of "designing," the sentence is in the Active Voice.

Therefore, the correct answer is Option 1.

Active Sentence: "Scammers design fake job postings to exploit job seekers."

Additional Information

• Option 2: Passive Voice – In the passive voice, the object becomes the subject: "Fake job postings are designed by scammers to exploit job seekers."

• Option 3: Reflexive Voice – This occurs when the subject and the object are the same person or thing (e.g., "The scammers disguised themselves.").

• Option 4: Causative Voice – This indicates that the subject causes someone else to do something (e.g., "The leader had the scammers design fake postings.").

Q87. Answer: (b) Verb

The correct answer is Option 2 i.e 'Verb'.

Key Points

• The word "masquerade" in the sentence is a verb.

• Verbs express actions, occurrences, or states of being. In the sentence, "masquerade" describes the action that the scammers are performing.

• The word "masquerade" indicates the specific action of pretending or disguising that the scammers are undertaking.

• Verbs are essential in sentences as they provide the main action or state around which the sentence is structured.

Therefore, the correct answer is- Option 2.

Additional Information

• Noun: A noun is a person, place, thing, or idea. "Masquerade" can be a noun in other contexts, but in this sentence, it functions as a verb.

• Adjective: An adjective modifies or describes a noun or pronoun. "Masquerade" does not describe a noun in this sentence.

• Adverb: An adverb modifies a verb, adjective, or other adverb. "Masquerade" is itself a verb and is not modifying another word in this sentence.

Q88. Answer: (b) To pretend to be someone else

The solution is in Hindi. Read it online.

Q89. Answer: (c) doubtful or questionable

The solution is in Hindi. Read it online.

Q90. Answer: (a) Fake job postings and false promises, causing financial loss and identity theft.

The correct answer is 'Option 1'.

Key Points

• Methods of Deception.

• The passage identifies several deceptive methods, such as designing fake job postings, impersonating recruiters, and conducting sham interviews via messaging apps to extract personal information.

• Specific Types of Fraud.

• Common scams mentioned include fake staffing agencies requesting upfront payments, money laundering schemes using victims' bank accounts, and charging fees for fabricated credit report checks.

• Consequences for Job Seekers.

• These fraudulent activities lead to significant negative outcomes, specifically causing financial loss, exposing victims to identity theft, and potentially creating legal complications.

Therefore, the correct answer is Option 1.

Additional Information

• Option 2: Incorrect because government alerts are mentioned as a response to scams (awareness campaigns), not as a type of fraud, and the passage focuses on the lack of security caused by scams.

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• Option 3: Incorrect because the passage highlights "fake job postings" and "deceptive practices," which are the opposite of real, transparent job offers.

• Option 4: Incorrect because the passage states that scammers often "request payment" for training or processing fees, rather than providing free certifications.

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