RRB NTPC Graduate Level CBT-I Official Paper (Held On: 16 Jun, 2025 Shift 3) (Previous Year Paper)

RRB Group D • 2025 • 100 questions • 90 minutes • Answer key and solutions

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Q1. This question is based on the five, three-digit numbers given below. (Left) 657 435 578 659 619 (Right) (Example- 697 – First digit = 6, second digit = 9 and third digit = 7) (NOTE: All operations to be done from left to right.) What will be the resultant if the second digit of the highest number is added to the third digit of the lowest number?

(a) 11
(b) 13
(c) 10
(d) 9

Q2. The Digital India initiative, launched in 2015, marked a significant step in India's postreform development trajectory. Which of the following is NOT a pillar of the Digital India initiative?

(a) Governance and Services on Demand
(b) Digital Infrastructure as a Utility to Every Citizen
(c) Digital Empowerment of Citizens
(d) Privatisation of Internet Services

Q3. Each of P, Q, R, S, T, U and V has an exam on a different day of a week starting from Monday and ending on Sunday of the same week. R has the exam on Tuesday. Only two people have exams between U and R. Q has the exam immediately before V but not on Wednesday. S has the exam immediately before T.

How many people have exams between Q and P ?

(a) One
(b) Three
(c) Two
(d) Four

Q4. Each of P, Q, R, S, T, U and V has an exam on a different day of a week starting from Monday and ending on Sunday of the same week. V has an exam on Thursday. Exactly 4 people have their exams between U and Q, neither of whom has an exam on Sunday. T has an exam immediately before S. R does not have an exam on Friday. U does not have an exam after S. How many people have exams after Q?

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

Q5. The angle of elevation of a ladder leaning against a wall is 60°, and the foot of the ladder is 4.5 m away from the wall. What is the length of the ladder?

(a) 9 m \
(b) 8 m \
(c) 3√2 m \
(d) 4√2 m

Q6. In a circle of radius 10.5 cm, if the angle of a sector is 2π/3, then the perimeter of the sector is (in cm): (Take π = 22/7)

(a) 44
(b) 43
(c) 40
(d) 41

Q7. The Draft Greenhouse Gases Emissions Intensity (GEI) Target Rules, 2025, was notified by which Ministry of India in April 2025?

(a) Ministry of Health and Family Welfare
(b) Ministry of Agriculture & Farmers' Welfare
(c) Ministry of Chemicals and Fertilizers
(d) Ministry of Environment, Forest and Climate Change

Q8. On simple interest, a certain sum of money amounts to Rs. 1,750 in 2 years and to Rs. 3,000 in 4 years. Find the rate of interest per annum.

(a) 125%
(b) 127%
(c) 126%
(d) 124%

Q9. Which of the following communities was NOT included for fast-track citizenship under Citizenship Amendment Act (CAA) of 2019?

(a) Sikh
(b) Christian
(c) Hindu
(d) Muslims

Q10. A person saves 20% of his income. If his expenditure is Rs. 960, then his income (in Rs.) is:

(a) 1,200
(b) 768
(c) 192
(d) 1,240

Q11. Reduce the equation x^4 - 13x² + 36 = 0 into a quadratic equation and find the roots of the reduced quadratic equation.

(a) 9, 4
(b) 18, 2
(c) 12, 3
(d) 6, 6

Q12. Select the triad that follows the same pattern as that followed by the two triads given below. Both triads follow the same pattern.

GB-IE-LN

KF-MI-PR

(a) PJ-QN-TU
(b) PJ-QM-TU
(c) OJ-QM-TV
(d) OJ-QM-TU

Q13. Which Chinese traveler mentions a Maitraka ruler named Shiladitya?

(a) I-Tsing
(b) Fa-Hien
(c) Hiuen Tsang
(d) Faxian

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Q14. Which of the following letter-number clusters will replace the question mark (?) in the given series to make it logically complete?

SM13 QK25 OI37 MG49 ?

(a) KF62
(b) KE61
(c) KE62
(d) KF61

Q15. Who among the following received the Padma Bhushan posthumously in 2025 for his contribution to music?

(a) Sharda Sinha
(b) Anant Nag
(c) Lakshminarayana Subramaniam
(d) Pankaj Udhas

Q16. What was the breakdown of India's medals in the Special Olympics World Winter Games 2025?

(a) 12 gold, 10 silver, 11 bronze
(b) 15 gold, 10 silver, 8 bronze
(c) 10 gold, 15 silver, 8 bronze
(d) 8 gold, 18 silver, 7 bronze

Q17. Why is a voltmeter connected in parallel in a circuit?

(a) To reduce the voltage drop
(b) To allow maximum current through it
(c) To measure the total resistance
(d) To measure the difference in potential between two points

Q18. Barun starts from Point A and drives 8 km towards West. He then takes a left turn, drives 9 km, turns left and drives 12 km. He then takes a left turn and drives 13 km. He takes a final left turn, drives 4 km and stops at Point P. How far (shortest distance) and towards which direction should he drive in order to reach Point A again? (All turns are 90° turns only, unless specified.)

(a) 4 km to the south
(b) 3 km to the south
(c) 5 km to the south
(d) 2 km to the south

Q19. Based on the English alphabetical order, three of the following four letter-clusters are alike in a certain way and thus form a group. Which letter-cluster DOES NOT belong to that group? (Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)

(a) JGBZ
(b) BYTR
(c) ROIH
(d) TQLJ

Q20. Which of the following statements about the National Mission on Natural Farming (NMNF), launched in 2024, is/are correct?

1. NMNF aims to reach 1 crore farmers and cover 7.5 lakh ha. Model Demonstration Farms will be set up only at Agricultural Universities.
2. Natural Farming practices aim to reduce dependency on externally purchased inputs.
3. It is a Central Sector Scheme under the Ministry of Agriculture and Farmers' Welfare.

(a) Only 1 and 3
(b) Only 2 and 3
(c) Only 1
(d) 1, 2, 3 and 4

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Q21. A vendor sells oranges at Rs. 29 each and incurs a loss of 75%. If he wants to make a profit of 75%, at what price (in Rs.) should he sell each orange?

(a) 205
(b) 201
(c) 203
(d) 206

Q22. What will come in the place of the question mark '(?)' in the following equation, if '+' and '−' are interchanged and '×' and '÷' are interchanged?

175 ÷ 5 + 213 × 3 − 75 = ?

(a) 898
(b) 869
(c) 879
(d) 889

Q23. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusion(s) logically follow(s) from the statements.

Statements: All lions are tigers. Some tigers are leopard. No leopard is giraffe. Conclusions: (I) Some leopards are lions. (II) Some giraffe can be tigers

(a) Only conclusion (II) follows
(b) Both conclusions (I) and (II) follow
(c) Only conclusion (I) follows
(d) Either conclusion (I) or conclusion (II) follows

Q24. What will come in place of the question mark (?) in the following equation, if '+' and '–' are interchanged, and '×' and '÷' are interchanged?

34 + 43 − 17 ÷ 121 × 11 = ?

(a) 181
(b) 178
(c) 156
(d) 164

Q25. Which of the following is a 'Tata Vadya'?

(a) Bansuri
(b) Veena
(c) Dhol
(d) Manjira

Q26. Chetan travels from City A to City B. If Chetan drives his car at 2/3 of his normal speed, then he reaches City B 46 minutes late. Find the time (in minutes) that Chetan would have taken to travel from City A to City B if he drove at his normal speed.

(a) 82
(b) 92
(c) 85
(d) 99

Q27. Two numbers are respectively 47% and 25% more than a third number. The ratio of the two numbers is:

(a) 161 : 137
(b) 155 : 132
(c) 149 : 124
(d) 147 : 125

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Q28. Two sets of numbers are given below. In each set of numbers, certain mathematical operation(s) on the first number results in the second number. Similarly, certain mathematical operation(s) on the second number results in the third number and so on. Which of the given options follows the same set of operations as in the given sets? (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g. 13 – Operations on 13 such as adding / subtracting / multiplying to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

13 - 26 - 30 - 60; 5 - 10 - 14 - 28

(a) 7 - 14 - 18 - 22
(b) 2 - 4 - 8 - 12
(c) 3 - 6 - 10 - 30
(d) 10 - 20 - 24 - 48

Q29. F is the husband of G. G is the mother of H. H is the wife of I. I is the father of J. How is F related to J?

(a) Mother's brother
(b) Father's brother
(c) Mother's father
(d) Father's father

Q30. This question is based on the five, three-digit numbers given below. (Left) 190 735 494 761 781 (Right)

(Example- 697 – First digit = 6, second digit = 9 and third digit = 7)

(NOTE: All operations to be done from left to right.) What will be the resultant if the second digit of the highest number is subtracted from the second digit of the lowest number?

(a) 0
(b) 1
(c) 2
(d) 4

Q31. What positive value of X satisfies the equation X/147 = 48/X?

(a) 83
(b) 86
(c) 84
(d) 82

Q32. Amit bought 51 books at Rs. 1,120 per book from one shop and 49 books at Rs. 900 per book from another. What is the average price (in Rs.) he paid per book?

(a) 1,027.2
(b) 1,022.2
(c) 1,002.2
(d) 1,012.2

Q33. Which of the following numbers is divisible by 47?

(a) 4416
(b) 3674
(c) 3995
(d) 3816

Q34. In April 2025, who was appointed as the new Deputy Governor of the Reserve Bank of India (RBI)?

(a) Raghuram Rajan
(b) Poonam Gupta
(c) Urjit Patel
(d) Michael Patra

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Q35. The caloric theory replaced which older theory of heat and combustion?

(a) Kinetic theory
(b) Thermodynamic theory
(c) Entropy theory
(d) Phlogiston theory

Q36. Keshav gets a 4% increase in his sale amount in the first year and a 20% increase in the second year, and with that his present sale is Rs. 1,56,000. What was his sale (in Rs.) two years ago?

(a) 1,05,000
(b) 1,30,000
(c) 1,25,000
(d) 1,50,000

Q37. What type of vegetation is mostly found in the Thar Desert?

(a) Low-growing plants and shrubs
(b) Alpine meadows
(c) Evergreen forest
(d) Stone forests

Q38. Which of the following is the new criteria for becoming a small enterprise in the definition of the Ministry of Micro, Small & Medium Enterprises (MSMEs) that was announced in Union Budget 2025-26?

(a) Turnover less than Rs. 100 crore
(b) Turnover more than Rs. 500 crore
(c) Turnover more than Rs. 125 crore
(d) Turnover more than Rs. 100 crore

Q39. In which year did the Government of India introduce Securities Transaction Tax (STT) to reduce the complexities involved in the taxation of securities transactions, promote fair trading, and prevent market manipulation?

(a) 2004
(b) 2010
(c) 2000
(d) 2015

Q40. If the manufacturer gains 10%, the wholesaler gains 15%, and the retailer gains 28%, then find the cost of production of a table (in Rs.), whose retail price for the customer is Rs. 75,900. (NOTE: Manufacturer sells to wholesaler, wholesaler sells to retailer and retailer sells to customers.)

(a) 46,875
(b) 60,000
(c) 53,906.25
(d) 51,562.5

Q41. Three numbers are in the ratio 4/14 : 7/14 : 16/15. The difference between the largest and the smallest number is 41. Find the largest number.

(a) 56
(b) 55
(c) 58
(d) 54

Q42. The Shivalik Hills, forming the outermost part of the Himalayan ranges, extend across which Indian states?

(a) Arunachal Pradesh to Manipur
(b) Jammu and Kashmir to Uttarakhand
(c) Punjab to Sikkim
(d) Bihar to West Bengal

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Q43. Which of the following letter-clusters should replace # and % so that the pattern and relationship followed between the letter-cluster pair on the left side of :: is the same as that on the right side of :: ?

: CRX :: ELU : %

(a) = APW, % = GNV
(b) = BIY, % = HNW
(c) = AHW, % = GMY
(d) = BPU, % = DNY

Q44. Which Constitutional provision directs the State to ensure that justice is not denied to any citizen due to economic or other disabilities?

(a) Article 32
(b) Article 14
(c) Article 21
(d) Article 39A

Q45. Which organisation collaborated with ISRO in developing the Vikram 3201 and Kalpana 3201 microprocessors?

(a) Semiconductor Laboratory (SCL) in Chandigarh
(b) National Aerospace Laboratories (NAL) in Bengaluru
(c) Semiconductor Laboratory (SCL) in Mohali
(d) Indian Institute of Technology (IIT) in Delhi

Q46. What should come in place of the question mark (?) in the given series?

862 860 856 850 842 ?

(a) 833
(b) 830
(c) 831
(d) 832

Q47. Seven friends, F, G, H, I, O, P and Q, are sitting in a row facing north. Only two people sit between I and G. Only H sits to the right of F. Only one person sits between G and F. O sits at some place to the right of P but at some place to the left of Q. Who sits third from the right end of the line?

(a) F
(b) G
(c) H
(d) Q

Q48. Which of the following actions is performed when the Ctrl + V shortcut is used in most computer applications?

(a) Opens the Find dialog box
(b) Opens the new file creation dialog box
(c) Saves the current document
(d) Paste the copied or cut content

Q49. In a certain code language, ‘BEST’ is coded as ‘4568’ and ‘STAB’ is coded as ‘8965’. What is the code for ‘A’ in the given code language?

(a) 6
(b) 5
(c) 8
(d) 9

Q50. What should come in place of the question mark (?) in the given series?

176 168 159 149 138 ? 113

(a) 125
(b) 126
(c) 123
(d) 129

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Q51. According to the Ministry of Tribal Affairs, how many Scheduled Tribes are notified under Article 342 of the Constitution of India as of December 2022?

(a) Over 730
(b) Over 530
(c) Over 630
(d) Over 430

Q52. Which city will host the Web Summit 2025 from 10 to 13 November?

(a) Barcelona, Spain
(b) Dublin, Ireland
(c) Lisbon, Portugal
(d) Rome, Italy

Q53. Sewa Singh Thikriwala was commemorated on his death anniversary on 20th January 2025. Which movement was he primarily associated with?

(a) Green Revolution
(b) White Revolution
(c) Praja Mandal Movement
(d) Goa's Liberation Movement

Q54. Based on the English alphabetical order, three of the following four letter-cluster pairs are alike in a certain way and thus form a group. Which letter-cluster pair DOES NOT belong to that group? (Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)

(a) SV – XQ
(b) JM – OH
(c) BE – GZ
(d) OR – TN

Q55. Which of the following letter-clusters should replace # and % so that the pattern and relationship followed between the letter-cluster pair on the left side of :: is the same as that on the right side of :: ?

: MRN :: HMI : %

(a) = LPR, % = JHG
(b) = KLJ, % = KHI
(c) = PUQ, % = EJF
(d) = JIQ, % = FDJ

Q56. Which of the following tribal uprising leaders was/were NOT executed during the revolt but deported to another country?

(a) Tirot Sing
(b) Nilamber and Pitamber
(c) Tilka Manjhi
(d) Sidhu and Kanhu Murmu

Q57. If 2 is added to each odd digit and 3 is subtracted from each even digit in the number 7516438, what will be the difference between the greatest and smallest digits in the new number thus formed?

(a) 8
(b) 2
(c) 4
(d) 6

Q58. The cost of 3 pens and 12 notebooks is Rs. 195. The cost of 7 notebooks exceeds the cost of 4 pens by Rs. 39. What is the cost of 12 pens and 6 notebooks?

(a) Rs. 236
(b) Rs. 234
(c) Rs. 229

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(d) Rs. 237

Q59. Considering the fundamental operations of a computer, what is the immediate effect of pressing the Tab key within a command-line interface (CLI) or terminal?

(a) It switches to a different virtual terminal or console.
(b) It deletes the last typed character.
(c) It executes the currently typed command.
(d) It attempts to auto-complete the currently typed command or filename.

Q60. Refer to the following number and symbol series and answer the question that follows. Counting to be done from left to right only. (NOTE: All numbers are single digit numbers only.)

(Left) 8 & 1 9 5 £ $ 6 8 $ # 8 & @ * 5 $ # * 5 $ 9 (Right)

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

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

Q61. 'Tuhfat-ul-Muwahhidin' was written by:

(a) Sayyid Ahmed Khan
(b) Rammohan Roy
(c) Akshay Kumar Dutt
(d) Keshub Chandra Sen

Q62. Kanav starts from point A and drives 11 km towards the east. He then takes a left turn, drives 7 km, turns left and drives 13 km. He then takes a left turn and drives 12 km. He takes a final left turn, drives 2 km and stops at point P. How far (shortest distance) and towards which direction should he drive in order to reach point A again? (All turns are 90-degree turns only unless specified.)

(a) 5 km to the north
(b) 4 km to the north
(c) 5 km to the south
(d) 4 km to the south

Q63. Karuna, Jyoti, Shiv, Ram, Puran, Om and Luv are sitting around a circular table, facing the centre. Shiv sits third to the left of Luv. Karuna sits second to the left of Shiv. Jyoti sits third to the right of Puran. Ram sits second to the right of Jyoti. Ram is not an immediate neighbour of Shiv. Who sits to the immediate left of Ram?

(a) Puran
(b) Luv
(c) Om
(d) Karuna

Q64. Which airport was named the World's Best Airport in 2025 by Skytrax?

(a) Singapore Changi Airport
(b) Incheon International Airport
(c) Hamad International Airport
(d) Tokyo Haneda Airport

Q65. Seven boxes, A, B, C, D, E, F and G, are kept one above the other but not necessarily in the same order. Only C is kept above B. Only two boxes are kept between B and F. Only E is kept below A. G is not kept immediately above F. How many boxes are kept above G?

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

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Q66. Which Article of the Constitution of India provides directives to the state for taking steps to raise the standard of living?

(a) Article 47
(b) Article 50
(c) Article 48
(d) Article 49

Q67. What was the main issue debated during the 1905 Banaras Session of the INC, right after the announcement of Bengal's partition?

(a) Formation of All India Muslim League
(b) Immediate resignation of British administrators in Bengal
(c) Use of Swadeshi and Boycott
(d) Demand for Swaraj

Q68. A cylindrical rod has an curved surface area of 4,900 cm^2. If the length of the rod is 97 cm, then the radius (in cm) of the rod, correct to two places of decimal, is: (Take $\pi = 22/7$)

(a) 8.04
(b) 7.95
(c) 8.55
(d) 6.97

Q69. In a certain code language, 'FAIR' is coded as '9357' and 'ROSE' is coded as '8632'. What is the code for R' in the given code language?

(a) 7
(b) 2
(c) 3
(d) 8

Q70. Which of the following materials has been mainly used for building the Jahangiri Mahal in Agra Fort?

(a) Concrete
(b) White marble
(c) Red sandstone
(d) Ceramic

Q71. Nirbhay can complete a piece of work alone in 19 days and Vismay can complete the same piece of work alone in 6 days. They started the work together, but Nirbhay had to leave 4 days before the completion of the work. In how many days will the work get completed?

(a) 56/25 days \
(b) 524/25 days \
(c) 58/25 days \
(d) 513/25 days

Q72. Which of the following is the keyboard shortcut to save an MS Excel workbook?

(a) Ctrl + S
(b) Tab + S
(c) Ctrl + K
(d) Alt + S

Q73. The Milindapanho is a:

(a) military manual
(b) political treaty
(c) Buddhist philosophical text
(d) civil code

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Q74. The Eastern Peripheral Expressway is built to decongest traffic in _____.

(a) Chennai
(b) Mumbai
(c) Bengaluru
(d) Delhi

Q75. What was the slogan of the 2024 United Nations Biodiversity Convention (COP16) initially held in 2024?

(a) From Biodiversity to Nature
(b) Environmental Peace
(c) Biodiversity to Peace
(d) Peace with Nature

Q76. Two taps can fill a cistern in 2 hours and 64 hours, respectively. A third tap can empty it in 2 hours. How long (in hours) will it take to fill half of the empty cistern, if all of them are opened together?

(a) 96
(b) 64
(c) 128
(d) 32

Q77. In a certain code language, ‘MANY’ is coded as ‘5391’ and ‘ARCS’ is coded as ‘2458’. What is the code for ‘A’ in the given code language?

(a) 8
(b) 5
(c) 3
(d) 2

Q78. Select the letter-cluster from among the given options that can replace the question mark (?) in the following series.

YOD WNF UMH SLJ ?

(a) QKL
(b) QLK
(c) QKK
(d) QLL

Q79. Anand has Rs. 1,617 with him. He divided it amongst his sons Anil and Ashok and asked them to invest it at 10% rate of interest per annum, compounded annually. It was seen that Anil and Ashok got same amount after 12 and 13 years, respectively. How much (in Rs.) did Anand give to Anil?

(a) Rs. 697
(b) Rs. 770
(c) Rs. 870
(d) Rs. 847

Q80. What is the median of the following data?

61, 55, 18, 49, 52, 80, 60, 33, 54, 56, 28

(a) 55
(b) 53.5
(c) 54
(d) 54.5

Q81. On the MS PowerPoint 2019 home screen, which option or section should you click to start a new blank presentation when the 'Start Screen' is enabled?

(a) The Design tab from the ribbon
(b) The Recent tab in the left sidebar
(c) The Open button at the bottom left corner
(d) The tile labeled 'Blank Presentation' on the right panel

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Q82. The greatest number that divides 93 and 190 leaving remainders 5 and 3, respectively, is:

(a) 21
(b) 17
(c) 14
(d) 11

Q83. If the mode of the following data is 160, then what is the value of x?

Class	145-150	150-155	155-160	160-165	165-170
Frequency	10	18	31	x	24

(a) 42
(b) 31
(c) 32
(d) 43

Q84. How does the parliamentary system ensure a “responsible government”?

(a) By allowing the President to dismiss the Prime Minister at any time
(b) By giving the judiciary the power to review executive decisions
(c) By permitting the military to oversee governance
(d) By making the council of ministers collectively accountable to the Parliament

Q85. A train P going at the speed of 58 km/hr completely passes train Q of length 238 m, going in the same direction on parallel tracks, at 27 km/hr, in 7.5 minutes. How much time (in seconds) will P take to cross completely train R of length 123 m, going at 38 km/hr in the opposite direction?

(a) 134
(b) 161
(c) 132
(d) 141

Q86. During the third leg of Navika Sagar Parikrama II, which significant milestone did INSV Tarini achieve in January 2025?

(a) Docked at Port Stanley for the first time
(b) Crossed the International Date Line
(c) Completed a full circumnavigation of Antarctica
(d) Crossed Point Nemo, the Oceanic Pole of Inaccessibility

Q87. The distance between the easternmost and westernmost points of India is approximately:

(a) 3500 km
(b) 2500 km
(c) 3214 km
(d) 2933 km

Q88. What will come in the place of the question mark ‘(?)’ in the following equation, if ‘+’ and ‘−’ are interchanged and ‘×’ and ‘÷’ are interchanged?

43 ÷ 9 − 988 × 2 + 11 = ?

(a) 875
(b) 870
(c) 880
(d) 895

Q89. Evaluate: 37 - [37 - {37 - (37 - 37 × 2)}]

(a) 90
(b) 74
(c) 70
(d) 65

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Q90. Find the value of √0.018496/√0.001156

(a) 18
(b) 4
(c) 12
(d) 19

Q91. Which of the following letter-clusters should replace # and % so that the pattern and relationship followed between the letter-cluster pair on the left side of :: is the same as that on the right side of :: ? # : EIC :: QLZ : %

(a) = FHD, % = PMY
(b) = ERB, % = RNW
(c) = EDG, % = PNY
(d) = DJF, % = UPV

Q92. A shop earns Rs. 500, Rs. 600, Rs. 450, Rs. 550, and Rs. 400 over five days. What is the average earning per day?

(a) Rs. 460
(b) Rs. 520
(c) Rs. 500
(d) Rs. 480

Q93. For a regular polygon, the sum of the interior angles is 300% more than the sum of its exterior angles. Each interior angle of the polygon measures x°. What is the value of x?

(a) 140
(b) 144
(c) 134
(d) 156

Q94. Which Constitutional Amendment explicitly inserted the term 'Cabinet' into the Indian Constitution in the context of Article 352?

(a) 42nd Constitutional Amendment Act, 1976
(b) 43rd Constitutional Amendment Act, 1977
(c) 44th Constitutional Amendment Act, 1978
(d) 45th Constitutional Amendment Act, 1980

Q95. The NK Singh Committee, which was formed in 2016, was associated with which of the following?

(a) Introduction of Standing Deposit Facility
(b) Reviewing the trade deficit in India
(c) Introduction of Monetary Policy Committee
(d) Reviewing the FRBM Act, 2003

Q96. If the polynomial $ax^3 + 4x^2 + 3x - 4$ and $x^3 - 7x + a$ leaves the same remainder, when divided by (x−2), then find the value of a.

(a) (-36)/5 \
(b) (-17)/5 \
(c) (-21)/8 \
(d) (-24)/7

Q97. A shopkeeper marked his goods at X% above their cost price and sold them at a discount of 60%. If he gained 84% profit, then find the value of X.

(a) 359
(b) 361
(c) 362
(d) 360

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Q98. Which of the following is an example of a mixed cell reference in MS Excel?

(a) =SUM(A1:A5)
(b) A1
(c) $A1
(d) A1

Q99. Find the circumference (in m) of the largest circle that can be inscribed in a rectangle whose dimensions are given as 114 m and 63 m. (Take π = 22/7)

(a) 202
(b) 199
(c) 201
(d) 198

Q100. Which of the following best describes the impact of human genome sequencing?

(a) It marked a milestone toward transcriptional regulation.
(b) It eliminated the need for classical genetics.
(c) It clarified all RNA-related functions
(d) It initiated a new scientific domain.

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (c) 10

Given: (Left) 657 435 578 659 619 (Right)

According to the question:

Given numbers	657	435	578	659	619
Number are arranged in ascending order	435	578	619	657	659

So,

Second digit of the highest number → 659 → 5

Third digit of the lowest number → 435 → 5

Thus, if the second digit of the highest number is added to the third digit of the lowest number then the resultant will be → 5 + 5 → 10

Hence, "Option 3" is the correct answer.

Q2. Answer: (d) Privatisation of Internet Services

The Correct answer is Privatisation of Internet Services.

Key Points

• The Digital India initiative, launched in 2015, aims to transform India into a digitally empowered society and knowledge economy.

• The initiative is based on three core pillars:

• Digital Infrastructure as a Utility to Every Citizen: Ensures high-speed internet access, mobile connectivity, and digital identity for all citizens.

• Governance and Services on Demand: Focuses on integrating government services digitally to ensure real-time availability and transparency.

• Digital Empowerment of Citizens: Aims to make citizens digitally literate and empower them to access digital services.

• Privatisation of Internet Services is NOT a pillar of the Digital India initiative. The initiative focuses on making internet services accessible and affordable to all citizens, rather than privatizing them.

• The Digital India initiative emphasizes inclusivity and affordability, ensuring universal access to technology without promoting privatization.

• The correct answer highlights the distinction between the core principles of the initiative and unrelated concepts like privatization.

Additional Information

• Governance and Services on Demand

• Focuses on the real-time availability of government services.

• Includes e-Governance platforms to enhance accessibility and transparency.

• Examples include platforms like DigiLocker and UMANG.

• Digital Infrastructure as a Utility to Every Citizen

• Aims to provide universal internet access and digital identity to citizens.

• Includes initiatives like Aadhaar and BharatNet for robust digital infrastructure.

• Ensures cybersecurity measures to protect citizen data.

• Digital Empowerment of Citizens

• Focuses on improving digital literacy among citizens.

• Promotes the availability of local language content and digital platforms.

• Empowers citizens to participate in the digital economy.

Q3. Answer: (d) Four

Given: Each of P, Q, R, S, T, U and V has an exam on a different day of a week starting from Monday and ending on Sunday of the same week.

1) R has the exam on Tuesday.

2) Only two people have exams between U and R.

Weekdays	Person
Monday	
Tuesday	R
Wednesday	
Thursday	
Friday	U
Saturday	
Sunday	

3) Q has the exam immediately before V but not on Wednesday.

Weekdays	Person
Monday	
Tuesday	R
Wednesday	
Thursday	

Friday	U
Saturday	Q
Sunday	V

4) S has the exam immediately before T.

After positioning S and T only one position is left which will be occupied by the only person left i.e. P.

Weekdays	Person
Monday	P
Tuesday	R
Wednesday	S
Thursday	T
Friday	U
Saturday	Q
Sunday	V

Thus, four people have exams between Q and P.

Hence, "Option 4" is the correct answer.

Q4. Answer: (b) 1

Given: Each of P, Q, R, S, T, U and V has an exam on a different day of a week starting from Monday and ending on Sunday of the same week.

1) V has an exam on Thursday.

2) Exactly 4 people have their exams between U and Q, neither of whom has an exam on Sunday.

Weekdays	Person
Monday	U/Q
Tuesday	
Wednesday	
Thursday	V
Friday	
Saturday	U/Q
Sunday	

3) T has an exam immediately before S.

4) U does not have an exam after S.

Weekdays	Person
Monday	U
Tuesday	T
Wednesday	S
Thursday	V
Friday	
Saturday	Q
Sunday	

5) R does not have an exam on Friday.

After positioning R only one position is left which will be occupied by the only person left i.e. P.

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Weekdays	Person
Monday	U
Tuesday	T
Wednesday	S
Thursday	V
Friday	P
Saturday	Q
Sunday	R

Thus, one person has exam after Q.

Hence, "Option 2" is the correct answer.

**Q5. Answer: (a) 9 m **

Shortcut Trick

In a 30°-60°-90° triangle, the ratio of sides is 1 : √3 : 2.

Side opposite to 30° (base) = 1 unit = 4.5 m.

The ladder is the hypotenuse (opposite to 90°), which is 2 units.

Length of ladder = 2 × 4.5 = 9 m.

Therefore The correct answer is 9 m.

Alternate Method

Given:

Angle of elevation (θ) = 60°

Distance from wall (Base) = 4.5 m

Formula Used:

cos θ = Base / Hypotenuse

Calculations:

=> cos 60° = 4.5 / Length of ladder

=> 1/2 = 4.5 / Length of ladder

=> Length of ladder = 4.5 × 2

=> Length of ladder = 9 m

Therefore The correct answer is 9 m.

Additional Information

Trigonometric Ratios

For a right-angled triangle, sin θ = P/H, cos θ = B/H, and tan θ = P/B where P is perpendicular, B is base, and H is hypotenuse.

Standard Values

Commonly used values: sin 30° = 1/2, cos 60° = 1/2, tan 45° = 1, and tan 60° = √3.

Angle of Elevation

The angle formed between the horizontal line and the line of sight when looking up at an object.

Q6. Answer: (b) 43

Shortcut Trick

Perimeter of sector = Length of arc + 2 × Radius

Angle θ = 2π/3 radians, which is equivalent to 120°.

Arc length = (120/360) × 2 × (22/7) × 10.5 = 22 cm.

Perimeter = 22 + 2 × 10.5 = 22 + 21 = 43 cm.

Therefore The correct answer is 43 cm.

Alternate Method

Given:

Radius (r) = 10.5 cm

Sector Angle (θ) = 2π/3 radians

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Formula Used:

Length of arc (l) = r × θ (where θ is in radians)

Perimeter of sector = l + 2r

Calculations:

=> Length of arc (l) = 10.5 × (2 × 22 / (7 × 3))

=> l = 10.5 × (44 / 21)

=> l = 0.5 × 44 = 22 cm

=> Perimeter of sector = 22 + 2 × 10.5

=> Perimeter = 22 + 21 = 43 cm

Therefore The correct answer is 43 cm.

Additional Information

Area of a Sector

The area is given by (1/2) × r^2 × θ (radians) or (θ/360) × πr^2 (degrees).

Arc Length Formula

Length l = rθ when θ is in radians; l = (θ/360) × 2πr when θ is in degrees.

Radian to Degree Conversion

To convert radians to degrees, multiply by 180/π. Here, (2π/3) × (180/π) = 120°.

Q7. Answer: (d) Ministry of Environment, Forest and Climate Change

The correct answer is Ministry of Environment, Forest and Climate Change.

Key Points

• The Ministry of Environment, Forest and Climate Change (MoEFCC) is responsible for the planning, promotion, and coordination of environmental and forestry-related policies in India.

• In April 2025, the Ministry notified the Draft Greenhouse Gases Emissions Intensity (GEI) Target Rules, 2025, aiming to regulate and set targets for reducing greenhouse gas emissions in line with India's commitments under global climate agreements.

• The rules align with India's pledge under the Paris Agreement to reduce its greenhouse gas emissions intensity of GDP by 33-35% by 2030 from 2005 levels.

• These targets are critical for India's efforts to transition to a low-carbon economy and address the challenges of climate change.

• MoEFCC plays a central role in implementing policies related to afforestation, biodiversity conservation, pollution control, and climate adaptation and mitigation strategies.

• The Ministry also oversees compliance with environmental laws and regulations, including the Environment Protection Act, 1986 and the Air (Prevention and Control of Pollution) Act, 1981.

• The notification of the draft rules demonstrates India's commitment to achieving its Nationally Determined Contributions (NDCs) under the United Nations Framework Convention on Climate Change (UNFCCC).

Additional Information

• Ministry of Health and Family Welfare

• This Ministry is responsible for policies and programs related to public health, family welfare, and healthcare infrastructure in India.

• It does not deal with environmental or climate-related policies.

• Notable programs include National Health Mission (NHM) and Ayushman Bharat Scheme.

• Ministry of Agriculture & Farmers' Welfare

• This Ministry focuses on agricultural development, farmer welfare, and food security.

• Key initiatives include PM-KISAN Scheme and Soil Health Card Scheme.

• Though agriculture is impacted by climate change, the Ministry is not directly responsible for greenhouse gas emission targets.

• Ministry of Chemicals and Fertilizers

• This Ministry regulates the production and distribution of chemicals, fertilizers, and pharmaceuticals in India.

• It is unrelated to the formulation or implementation of climate or environmental policies.

• Major organizations under this Ministry include National Fertilizers Limited and Rashtriya Chemicals and Fertilizers.

Q8. Answer: (a) 125%

Shortcut Trick

Interest for 2 years (4 − 2) = Rs. 3,000 − Rs. 1,750 = Rs. 1,250.

Interest for 1 year = Rs. 1,250 ÷ 2 = Rs. 625.

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Principal (P) = Rs. 1,750 − Rs. 1,250 = Rs. 500.

Rate % = (Interest for 1 yr ÷ Principal) × 100 = (625 ÷ 500) × 100 = 125%.

Therefore The correct answer is 125%.

Alternate Method

Given:

Amount after 2 years (A1) = Rs. 1,750

Amount after 4 years (A2) = Rs. 3,000

Formula Used:

Simple Interest (SI) = (P × R × T) ÷ 100

Amount (A) = Principal (P) + SI

Calculations:

=> Simple Interest for 2 years (from yr 2 to yr 4) = A2 − A1

=> SI for 2 years = Rs. 3,000 − Rs. 1,750 = Rs. 1,250

=> Principal (P) = Amount (A1) − SI for 2 years

=> P = Rs. 1,750 − Rs. 1,250 = Rs. 500

=> Simple Interest for 1 year = Rs. 1,250 ÷ 2 = Rs. 625

=> Now, Rate (R) = (SI for 1 year × 100) ÷ Principal

=> R = (625 × 100) ÷ 500

=> R = 625 ÷ 5 = 125%

Therefore The correct answer is 125%.

Additional Information

Simple Interest Concept

In simple interest, the interest remains constant for every year as it is always calculated on the original principal.

Principal Formula

Principal (P) can be calculated if Amount (A) and Interest (I) are known: P = A − I.

Rate of Interest Formula

The annual rate of interest (R) is given by R = (SI × 100) ÷ (P × T).

Q9. Answer: (d) Muslims

The Correct answer is Muslims.

Key Points

• The Citizenship Amendment Act (CAA) of 2019 was introduced to provide fast-track citizenship to individuals belonging to specific religious communities who faced persecution in Pakistan, Afghanistan, and Bangladesh.

• The act specifically included Hindu, Sikh, Buddhist, Jain, Parsi, and Christian communities but excluded Muslims.

• It applies to individuals who entered India on or before December 31, 2014 and were fleeing religious persecution.

• The exclusion of Muslims was widely debated and criticized as it was perceived to be discriminatory and against the principle of secularism in India.

• The act is linked to the Illegal Migrants determination, and its provisions aim to regularize immigrants from specific groups.

• The act is based on the assumption that the mentioned religious groups are more likely to face religious persecution in the three neighboring countries.

• The CAA has faced opposition due to concerns about its alignment with the principles of Article 14 of the Indian Constitution, which guarantees equality to all.

Additional Information

• Sikh

• The Sikh community is included under the CAA for fast-track citizenship. Sikhs are known for their rich cultural heritage and strong presence in Punjab, India.

• Sikhs have faced persecution in neighboring countries like Pakistan and Afghanistan.

• Guru Nanak, the founder of Sikhism, is a prominent figure in the religion.

• Christian

• The Christian community is also included under the CAA. Christianity is one of the major religions globally, with significant populations in India, the United States, and Europe.

• Christians in countries like Pakistan have faced discrimination and violence due to their religious beliefs.

• Hindu

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• Hindus are the majority religious group in India and are included under the CAA.

• Hindus have faced persecution in Bangladesh and Pakistan, leading to migration to India.

• Hinduism is one of the oldest religions in the world, with texts like the Bhagavad Gita and the Vedas being central to its teachings.

Q10. Answer: (a) 1,200

Shortcut Trick

If Savings = 20%, then Expenditure = 100% − 20% = 80%.

80% of Income = Rs. 960

1% of Income = 960 ÷ 80 = Rs. 12

100% (Total Income) = 12 × 100 = Rs. 1,200

Therefore The correct answer is Rs. 1,200.

Alternate Method

Given:

Savings percentage = 20%

Expenditure = Rs. 960

Formula Used:

Income = Expenditure + Savings

Calculations:

=> Let Income be x.

=> Savings = 20% of x = 0.20x

=> Expenditure = Income − Savings

=> 960 = x − 0.20x

=> 960 = 0.80x

=> x = 960 ÷ 0.80

=> x = 96000 ÷ 80

=> x = 1,200

Therefore The correct answer is Rs. 1,200.

Additional Information

Percentage Basics

To calculate the Original Value when a part is known: Value = (Given Part ÷ Corresponding %) × 100.

Income-Expenditure Relation

Income is always treated as the Base (100%) unless specified otherwise in the question context.

Ratio Method

20% Savings means a ratio of 1:4 between Savings and Expenditure, making the Total Income 5 units.

Q11. Answer: (a) 9, 4

Shortcut Trick

To find the roots of the reduced quadratic equation, identify two numbers whose product is the constant term (36) and whose sum is the absolute value of the middle term coefficient (13).

Factors of 36 that sum to 13 are 9 and 4 (since 9 × 4 = 36 and 9 + 4 = 13).

Since the sign of the constant term is positive and the middle term is negative, both roots of the reduced equation will be positive.

Therefore The correct answer is 9, 4.

Alternate Method

Given Equation: x^4 − 13x² + 36 = 0

Method Used: Reduction to Quadratic Form (Substitution Method)

To reduce the bi-quadratic equation to a quadratic equation, let us substitute $x^2 = y$.

=> $(x^2)^2 − 13(x^2) + 36 = 0$

=> $y^2 − 13y + 36 = 0$

Now, solve the quadratic equation using middle-term splitting:

=> $y^2 − 9y − 4y + 36 = 0$

=> $y(y − 9) − 4(y − 9) = 0$

=> $(y − 9)(y − 4) = 0$

Setting each factor to zero:

=> y − 9 = 0 → y = 9

=> y − 4 = 0 → y = 4

The roots of the reduced quadratic equation in terms of y are 9 and 4.

Therefore The correct answer is 9, 4.

Additional Information

Bi-quadratic Equation

An equation of degree 4 where only even powers of x are present ($ax^4 + bx^2 + c = 0$) is called a bi-quadratic equation. It can always be reduced to a quadratic form by substituting $y = x^2$.

Relationship Between Roots

If the roots of the reduced equation are y1 and y2, then the roots of the original bi-quadratic equation are $\pm\sqrt{y1}$ and $\pm\sqrt{y2}$. In this case, the four roots are ±3 and ±2.

Discriminant and Nature of Roots

For any quadratic equation $ay^2 + by + c = 0$, the nature of roots is determined by $D = b^2 − 4ac$. Since $13^2 − 4(1)(36) = 169 − 144 = 25 > 0$, the roots are real and distinct.

Q12. Answer: (c) OJ-QM-TV

The logic followed here is:

GB-IE-LN

And,

KF-MI-PR

So, checking each option one by one:

Option 1) PJ-QN-TU

Option 2) PJ-QM-TU

Option 3) OJ-QM-TV

Option 4) OJ-QM-TU

Thus, out of all the options, 'OJ-QM-TV' follows the same logic as given.

Hence, "Option 3" is the correct answer.

Q13. Answer: (c) Hiuen Tsang

The Correct answer is Hiuen Tsang.

Key Points

• Hiuen Tsang, also known as Xuanzang, was a Chinese Buddhist monk, scholar, and traveler who visited India during the reign of King Harsha in the 7th century CE.

• During his travels, Hiuen Tsang extensively documented the political, social, and religious conditions of India.

• He mentioned a Maitraka ruler named Shiladitya, who was the ruler of Vallabhi (modern-day Gujarat).

• Shiladitya was renowned for his administrative skills and patronage of Buddhism, which Hiuen Tsang appreciated and documented.

• The Maitraka dynasty ruled from around the 6th to 8th century CE, with Vallabhi as its capital.

• Hiuen Tsang's records are considered a valuable source of Indian history, providing insights into the culture, education, and governance of the time.

• His writings include details about major Indian cities, universities like Nalanda, and interactions with kings and scholars during his journey.

Additional Information

• I-Tsing

• I-Tsing was a Chinese Buddhist pilgrim who traveled to India in the 7th century CE.

• He is known for documenting his experiences in a work called the "Record of Buddhist Practices Sent Home from the Southern Sea."

• I-Tsing focused more on religious practices and the study of Buddhism, but he did not mention Shiladitya.

• Fa-Hien

• Fa-Hien was a Chinese Buddhist monk and traveler who visited India in the 5th century CE.

• His accounts primarily document the Gupta Empire and its religious practices, but there is no mention of the Maitraka ruler Shiladitya.

• Faxian

• Faxian is another name for Fa-Hien, and his travel accounts are the same as those attributed to Fa-Hien.

Q14. Answer: (b) KE61

The logic followed here is:

Hence, "Option 2" is the correct answer.

Q15. Answer: (d) Pankaj Udhas

The Correct answer is Pankaj Udhas.

Key Points

• Pankaj Udhas was a renowned Indian ghazal singer who contributed significantly to the revival and popularization of ghazal music in India.

• He started his career with the release of his first ghazal album in the 1980s and soon gained immense popularity for his soulful voice and lyrical compositions.

• Pankaj Udhas is widely known for his ghazals such as "Chitthi Aayi Hai" from the Bollywood movie Naam (1986), which became a cultural phenomenon.

• He was honored with the Padma Bhushan posthumously in 2025 for his exceptional contribution to Indian music and ghazal singing.

• The Padma Bhushan is India's third-highest civilian award, recognizing distinguished service of a high order in any field, including arts and music.

• Pankaj Udhas' contribution to ghazal music has left a lasting legacy, inspiring both contemporary and upcoming artists in the genre.

• His work not only brought ghazal music closer to the younger generation but also ensured its presence in mainstream Indian music.

Additional Information

• Sharda Sinha

• Sharda Sinha is a renowned Indian folk singer from Bihar, known for her Bhojpuri and Maithili songs.

• She received the Padma Bhushan in 2018 for her contribution to folk music.

• Her songs are especially popular during festivals such as Chhath Puja.

• Anant Nag

• Anant Nag is a celebrated Indian actor, primarily working in the Kannada film industry.

• He is known for his versatile roles in films and is one of the most respected figures in South Indian cinema.

• Lakshminarayana Subramaniam

• Dr. L. Subramaniam is a globally acclaimed violinist and composer in the field of Carnatic classical and western fusion music.

• He has performed in numerous prestigious venues and has collaborated with several international musicians.

Q16. Answer: (d) 8 gold, 18 silver, 7 bronze

The Correct answer is 8 gold, 18 silver, 7 bronze.

Key Points

• The Special Olympics World Winter Games is an international competition held for athletes with intellectual disabilities.

• India achieved a remarkable milestone in the 2025 edition of these games by securing 8 gold, 18 silver, and 7 bronze medals.

• This achievement reflects the growing participation and success of Indian athletes in the field of sports for differently-abled individuals.

• These medals were won in various disciplines such as snowboarding, figure skating, alpine skiing, and other winter sports.

• The performance of the athletes highlights their dedication and the efforts of organizations like the Special Olympics Bharat in preparing them for international events.

• This achievement also emphasizes the importance of providing inclusive platforms for individuals with intellectual disabilities to showcase their talents.

Additional Information

• Special Olympics Bharat is the Indian chapter of the Special Olympics, founded to provide year-round sports training and athletic competition for children and adults with intellectual disabilities.

• The Special Olympics is different from the Paralympics. While Paralympics focus on physical disabilities, the Special Olympics caters to athletes with intellectual challenges.

• The World Winter Games are held every four years and feature sports such as alpine skiing, snowboarding, snowshoeing, and figure skating.

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• This event provides an opportunity to promote unity, inclusion, and dignity for individuals with intellectual disabilities globally.

Q17. Answer: (d) To measure the difference in potential between two points

The Correct answer is To measure the difference in potential between two points.

Key Points

• A voltmeter is an instrument used to measure the potential difference (voltage) between two points in an electrical circuit.

• It is always connected in parallel because this configuration ensures that the voltmeter measures the voltage across the specific component or points without disturbing the circuit significantly.

• In a parallel connection, the voltmeter has the same potential difference as the component across which it is connected.

• Voltmeters are designed to have a very high internal resistance, which prevents the flow of significant current through the voltmeter. This minimizes the impact on the circuit.

• Connecting a voltmeter in series would alter the circuit's resistance and change the current flow, leading to incorrect voltage readings.

• By connecting it in parallel, the voltmeter accurately measures the difference in potential between the two points.

• This principle is critical for ensuring precise measurements in various applications, including electrical and electronic systems.

Q18. Answer: (a) 4 km to the south

Given:

Barun starts from Point A and drives 8 km towards West.

He then takes a left turn, drives 9 km, turns left and drives 12 km.

He then takes a left turn and drives 13 km.

He takes a final left turn, drives 4 km and stops at Point P.

Thus, Barun should drive 4 km (13 km - 9 km) in the south direction in order to reach Point A again.

Hence, "Option 1" is the correct answer.

Q19. Answer: (c) ROIH

The logic followed here is:

Option 1) JGBZ

Option 2) BYTR

Option 3) ROIH

Option 4) TQLJ

Thus, out of all the options, 'ROIH' is the odd one out.

Hence, "Option 3" is the correct answer.

Q20. Answer: (b) Only 2 and 3

The Correct answer is Only 1 and 3.

Key Points

• National Mission on Natural Farming (NMNF) was launched to promote Natural Farming practices, emphasizing the reduction of dependency on externally purchased inputs such as fertilizers and pesticides.

• NMNF aims to encourage farmers to adopt chemical-free and eco-friendly farming practices that enhance soil health and improve crop yield.

• The mission targets reaching 1 crore farmers and covering 7.5 lakh hectares of land.

• The focus of Natural Farming includes practices such as composting, mulching, bio-fertilizers, and bio-pesticides, which align with sustainable agricultural goals.

• The scheme is implemented as a Central Sector Scheme under the Ministry of Agriculture and Farmers' Welfare, ensuring direct participation and funding by the central government.

• Model Demonstration Farms are not limited to Agricultural Universities; they are established at various locations, including farms of progressive farmers and agricultural institutions.

Additional Information

• Incorrect Option: Model Demonstration Farms

• The statement that Model Demonstration Farms will be set up only at Agricultural Universities is incorrect. These farms are established across diverse locations, including farms owned by progressive farmers, agricultural research institutes, and other demonstration sites.

• This ensures widespread dissemination of Natural Farming practices and makes the mission more accessible to farmers in different regions.

• Incorrect Option: Central Sector Scheme

• NMNF is indeed a Central Sector Scheme, meaning it is fully funded by the central government. This ensures streamlined implementation and greater accountability.

• Such schemes are crucial for promoting nationwide initiatives like Natural Farming, especially in areas where chemical-intensive farming has led to soil degradation.

Q21. Answer: (c) 203

Shortcut Trick

Ratio of Selling Price in two cases: SP1 : SP2 = (100 − Loss%) : (100 + Profit%).

Given: SP1 = 29, Loss1 = 75%, Profit2 = 75%.

Ratio = (100 − 75) : (100 + 75) = 25 : 175 = 1 : 7.

Since 1 unit represents Rs. 29, then 7 units represent 7 × 29 = Rs. 203.

Therefore The correct answer is Rs. 203.

Alternate Method

Given: Initial Selling Price (SP1) = Rs. 29, Loss Percentage = 75%, Target Profit Percentage = 75%.

Formulas: CP = SP × 100 ÷ (100 − Loss%) | SP = CP × (100 + Profit%) ÷ 100.

=> First, find Cost Price (CP): CP = 29 × 100 ÷ (100 − 75) = 29 × 100 ÷ 25

=> CP = 29 × 4 = Rs. 116

=> Now, find New Selling Price (SP2) for 75% profit: SP2 = 116 × (100 + 75) ÷ 100

=> SP2 = 116 × 175 ÷ 100 = 116 × (7 ÷ 4)

=> SP2 = 29 × 7 = Rs. 203

Therefore The correct answer is Rs. 203.

Additional Information

Cost Price and Selling Price

Cost Price (CP) is the price at which an item is bought. Selling Price (SP) is the price at which it is sold. If SP > CP, it is a Profit; if CP > SP, it is a Loss.

Profit and Loss Percentage

Profit% = (Profit ÷ CP) × 100 and Loss% = (Loss ÷ CP) × 100. Note that these are always calculated on the Cost Price unless specified otherwise.

Q22. Answer: (c) 879

Given equation: 175 ÷ 5 + 213 × 3 − 75 = ?

According to the question, after '+' and '−' are interchanged and '×' and '÷' are interchanged:

175 ÷ 5 + 213 × 3 − 75 = ? => 175 × 5 - 213 ÷ 3 + 75 = ?

=> 175 × 5 - 213 ÷ 3 + 75 = ?

=> 175 × 5 - 71 + 75 = ?

=> 875 + 75 - 71 = ?

=> 950 - 71 = ?

=> 879 = ?

Hence, "Option 3" is the correct answer.

Q23. Answer: (a) Only conclusion (II) follows

The least possible Venn diagram for the given statements is as shown below :

Conclusions:

(I) Some leopards are lions. → Does not follow (As all lions are tigers and some tigers are leopard. So it is possible but not definite)

(II) Some giraffe can be tigers → Follow (As some tigers are leopard and no leopard is giraffe. As no statement restricts from some giraffes being tigers, therefore it is true.)

Therefore Here, Only conclusion (II) follows.

Hence, the correct answer is "Option 1".

Q24. Answer: (b) 178

Given equation: 34 + 43 − 17 ÷ 121 × 11 = ?

According to the question, after '+' and '−' are interchanged and '×' and '÷' are interchanged:

34 + 43 − 17 ÷ 121 × 11 = ? => 34 - 43 + 17 × 121 ÷ 11 = ?

=> 34 - 43 + 17 × 121 ÷ 11 = ?

=> 34 - 43 + 17 × 11 = ?

=> 34 + 187 - 43 = ?

=> 221 - 43 = ?

=> 178 = ?

Hence, "Option 2" is the correct answer.

Q25. Answer: (b) Veena

The Correct answer is Veena.

Key Points

• A Tata Vadya refers to a class of musical instruments in Indian classical music where the sound is produced by the vibration of strings.

• The Veena is one of the most ancient and revered Indian string instruments, classified as a melodic Tata Vadya.

• The Veena is used extensively in both Carnatic and Hindustani classical music.

• It has a long, fretted neck and a resonator made of wood, with strings that are plucked to produce sound.

• The Veena is traditionally associated with Saraswati, the Hindu goddess of wisdom and music.

• Different types of Veena include Rudra Veena, Saraswati Veena, and Chitra Veena, each catering to various styles and regions.

• It plays a vital role in Indian music as it produces a rich and melodious sound, making it a cornerstone instrument in classical performances.

Additional Information

• Bansuri

• The Bansuri is a wind instrument and does not belong to the Tata Vadya category.

• It is a traditional Indian bamboo flute associated with Lord Krishna and is widely used in Hindustani classical music.

• The Bansuri produces sound by blowing air across the hole and manipulating finger positions to create different notes.

• Dhol

• The Dhol is a percussion instrument and falls under the category of Avanaddha Vadya (membranous instruments).

• It is prominently used in folk and traditional music across various regions of India.

• The Dhol is played by striking its surface with sticks or hands, producing rhythmic beats.

• Manjira

• The Manjira is a type of Idiophone, which produces sound through vibrations of the instrument itself.

• It is a small, hand-held cymbal used in devotional and folk music.

• The instrument is played by striking two cymbals together to create a rhythmic clinking sound.

Q26. Answer: (b) 92

Shortcut Trick

When distance is constant, speed is inversely proportional to time.

Ratio of Speed = 3 : 2 → Ratio of Time = 2 : 3

Difference in time units = 3 − 2 = 1 unit

Given, 1 unit = 46 minutes

Normal time = 2 units = 2 × 46 = 92 minutes

Therefore The correct answer is 92 minutes.

Alternate Method

Given: Reduced speed = 2/3 of normal speed. Delay = 46 minutes.

Formula Used: Distance = Speed × Time

=> Let Normal Speed = S and Normal Time = T.

=> Distance = S × T

=> New Speed = (2/3)S and New Time = T + 46

=> Distance = (2/3)S × (T + 46)

=> S × T = (2/3)S × (T + 46)

=> T = 2/3 (T + 46)

=> 3T = 2T + 92

=> T = 92 minutes

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Therefore The correct answer is 92 minutes.

Additional Information

Speed-Time Relationship

For a constant distance, speed and time are inversely proportional (S1/S2 = T2/T1).

General Formula for Late/Early Time

If a person travels at a/b of their usual speed, the usual time taken is [Late time × a / (b − a)].

Average Speed

When distances are equal, Average Speed = (2 × S1 × S2) / (S1 + S2).

Q27. Answer: (d) 147 : 125

Shortcut Trick

Let the third number be 100.

First number = 100 + 47% of 100 = 147

Second number = 100 + 25% of 100 = 125

Required ratio = 147 : 125

Therefore The correct answer is 147 : 125.

Alternate Method

Given:

Let the third number be x.

First number (N1) = x + 47% of x

Second number (N2) = x + 25% of x

Calculations:

=> N1 = x + 0.47x = 1.47x

=> N2 = x + 0.25x = 1.25x

=> Ratio = N1 : N2

=> Ratio = 1.47x : 1.25x

=> Ratio = 147 : 125

Therefore The correct answer is 147 : 125.

Additional Information

Percentage Change

When a value increases by r%, the new value is Base × (1 + r/100).

Ratio Comparison

A ratio a : b can be expressed as a fraction a/b. To simplify, multiply both terms by the same number to remove decimals.

Base Selection

In comparison questions, always assume the common reference point (third number) as 100 for easier calculation.

Q28. Answer: (d) 10 - 20 - 24 - 48

The logic followed here is:

13 - 26 - 30 - 60

13 × 2 = 26

26 + 4 = 30

30 × 2 = 60

And,

5 - 10 - 14 - 28

5 × 2 = 10

10 + 4 = 14

14 × 2 = 28

So, checking each option one by one:

Option 1) 7 - 14 - 18 - 22

7 × 2 = 14

14 + 4 = 18

18 × 2 = 36 ≠ 22

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Option 2) 2 - 4 - 8 - 12

2 × 2 = 4

4 + 4 = 8

8 × 2 = 16 ≠ 12

Option 3) 3 - 6 - 10 - 30

3 × 2 = 6

6 + 4 = 10

10 × 2 = 20 ≠ 30

Option 4) 10 - 20 - 24 - 48

10 × 2 = 20

20 + 4 = 24

24 × 2 = 48

Thus, out of all the options, '10 - 20 - 24 - 48' follows the same logic as given.

Hence, "Option 4" is the correct answer.

Q29. Answer: (c) Mother's father

1) F is the husband of G.

2) G is the mother of H.

3) H is the wife of I.

4) I is the father of J.

Thus, F is J's mother's father.

Hence, the correct answer is "Option 3".

Q30. Answer: (b) 1

Given: (Left) 190 735 494 761 781 (Right)

According to the question:

Given numbers	190	735	494	761	781
Number are arranged in ascending order	190	494	735	761	781

So,

Second digit of the highest number → 781 → 8

Second digit of the lowest number → 190 → 9

Thus, if the second digit of the highest number is subtracted from the second digit of the lowest number then the resultant will be → 9 - 8 → 1

Hence, "Option 2" is the correct answer.

Q31. Answer: (c) 84

Shortcut Trick

For the equation X / 147 = 48 / X, we have $X^2 = 147 \times 48$.

Factorize: $X^2 = (49 \times 3) \times (3 \times 16)$.

$X = \sqrt{(49 \times 9 \times 16)} = 7 \times 3 \times 4 = 84$.

Therefore The correct answer is 84.

Alternate Method

Given: X / 147 = 48 / X

Formula Used: Cross-multiplication and Square root.

=> X × X = 147 × 48

=> $X^2 = 7056$

=> $X = \sqrt{7056}$

=> X = 84

Therefore The correct answer is 84.

Additional Information

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Mean Proportional

If a/x = x/b, then x is the mean proportional between a and b, calculated as x = √(ab).

Square Root Calculation

To find the square root of large numbers, use prime factorization or the long division method.

Q32. Answer: (d) 1,012.2

Shortcut Trick

Total books = 51 + 49 = 100.

Assume a Base Price of Rs. 900 for all books.

Extra cost from first shop = 51 × (1120 − 900) = 51 × 220 = Rs. 11,220.

Distributed extra cost per book = 11220 ÷ 100 = Rs. 112.2.

Required Average = 900 + 112.2 = Rs. 1,012.2.

Therefore The correct answer is Rs. 1,012.2.

Alternate Method

Given:

Books from Shop 1 (n1) = 51 | Price (p1) = Rs. 1,120

Books from Shop 2 (n2) = 49 | Price (p2) = Rs. 900

Formula Used:

Average Price = (Total Cost) ÷ (Total Number of Books)

Average = (n1p1 + n2p2) ÷ (n1 + n2)

Calculations:

=> Total cost from Shop 1 = 51 × 1120 = Rs. 57,120

=> Total cost from Shop 2 = 49 × 900 = Rs. 44,100

=> Total cost of all books = 57120 + 44100 = Rs. 1,01,220

=> Total number of books = 51 + 49 = 100

=> Average Price = 101220 ÷ 100

=> Average Price = Rs. 1,012.2

Therefore The correct answer is Rs. 1,012.2.

Additional Information

Weighted Average

It is the average of a data set where different parts contribute differently to the total, calculated as Σwx ÷ Σw.

Deviation Method for Averages

Used to simplify large numbers by assuming a mean and adjusting it based on the net deviation: New Avg = Assumed Avg + (Net Deviation ÷ Total Count).

Combined Average

When two groups of sizes n1 and n2 with averages A1 and A2 are combined, the new average is (n1A1 + n2A2) ÷ (n1 + n2).

Q33. Answer: (c) 3995

Shortcut Trick

To check divisibility by 47, use the osculator method (oscillator for 47 is 14).

Multiply the last digit by 14 and add it to the remaining part of the number.

For 3995: 399 + (5 × 14) = 399 + 70 = 469.

Repeat: 46 + (9 × 14) = 46 + 126 = 172 (Not clearly divisible, try direct division for speed).

Direct Check: 3995 ÷ 47 => 47 × 8 = 376; 399 − 376 = 23; Bring down 5 → 235; 47 × 5 = 235. It is divisible.

Therefore The correct answer is 3995.

Alternate Method

Given: A set of numbers and divisor 47.

Method: Perform direct division for each option to find the number that leaves a remainder of zero.

Calculation for Option 1:

=> 4416 ÷ 47

=> 47 × 9 = 423

=> 441 − 423 = 18; 186 ÷ 47 ≈ 3 (Remainder = 45)

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Calculation for Option 2:

=> 3674 ÷ 47

=> 47 × 7 = 329

=> 367 − 329 = 38; 384 ÷ 47 ≈ 8 (Remainder = 8)

Calculation for Option 3:

=> 3995 ÷ 47

=> 47 × 8 = 376

=> 399 − 376 = 23

=> Bring down 5 to get 235

=> 47 × 5 = 235

=> Remainder = 0

Therefore The correct answer is 3995.

Additional Information

Divisibility Rule for Prime Numbers

For a prime number p, find an osculator k such that 10k ± 1 is a multiple of p. For 47, 47 × 3 = 141, so the positive osculator is 14.

Divisibility by 7

Double the last digit and subtract it from the rest of the number. If the result is divisible by 7, the original number is also divisible.

Divisibility by 13

Multiply the last digit by 4 and add it to the remaining part of the number. Check if the result is divisible by 13.

Q34. Answer: (b) Poonam Gupta

The correct answer is Poonam Gupta.

Key Points

• Poonam Gupta was appointed as the new Deputy Governor of the Reserve Bank of India (RBI) in April 2025.

• She is recognized for her strong background in macroeconomics and policy research.

• Poonam Gupta has previously served as the Director General of the National Council of Applied Economic Research (NCAER), one of India's premier economic think tanks.

• She has also worked with international organizations such as the World Bank and has vast experience in economic policy formulation.

• Her expertise in economic research and her significant contributions to policy-making make her an ideal candidate for this prestigious role.

• The appointment of Poonam Gupta as Deputy Governor is expected to strengthen RBI’s focus on macroeconomic stability and effective policy implementation.

• The role of Deputy Governor in the RBI involves overseeing critical functions such as monetary policy, financial stability, and banking regulation.

Additional Information

• Raghuram Rajan

• Raghuram Rajan is a renowned economist who served as the 23rd Governor of the Reserve Bank of India from 2013 to 2016.

• He is widely recognized for his contributions to global financial stability and his work on economic reforms in India.

• Raghuram Rajan has also served as the Chief Economist of the International Monetary Fund (IMF).

• Urjit Patel

• Urjit Patel was the 24th Governor of the Reserve Bank of India, serving from 2016 to 2018.

• He is known for his strong stance on inflation targeting and ensuring the independence of the central bank.

• Urjit Patel has expertise in economic and monetary policies and has contributed significantly to India’s financial system.

• Michael Patra

• Michael Patra is currently serving as one of the Deputy Governors of the Reserve Bank of India.

• He oversees the Monetary Policy Department and plays a key role in formulating and implementing India’s monetary policy.

• Michael Patra is an expert in economic research and has a strong background in macroeconomic policy.

Q35. Answer: (d) Phlogiston theory

The correct answer is Phlogiston theory.

Key Points

• Phlogiston theory was a scientific theory proposed in the late 17th century to explain processes of combustion and rusting.

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• It suggested that a substance called phlogiston was released when materials burned or oxidized.

• According to the theory, substances rich in phlogiston burned more easily, while substances that had lost phlogiston were considered "dephlogisticated."

• The theory was eventually replaced by the caloric theory and later by modern theories based on the laws of thermodynamics and atomic structure.

• The work of scientists such as Antoine Lavoisier demonstrated that combustion involved the chemical combination of substances with oxygen, debunking the phlogiston theory.

Additional Information

• Kinetic theory

• The Kinetic theory of heat explains that heat is a form of energy associated with the random motion of particles (atoms or molecules) within a substance.

• It is a modern theory and is based on statistical mechanics, not related to the caloric or phlogiston theories.

• Thermodynamic theory

• The Thermodynamic theory deals with the principles of energy conservation, heat transfer, and the relationships among temperature, pressure, and volume.

• It is a macroscopic theory that replaced earlier theories like the caloric theory.

• Entropy theory

• The Entropy theory is part of thermodynamics, describing the degree of disorder or randomness in a system.

• It has no direct connection with the outdated concepts of caloric or phlogiston theories.

Q36. Answer: (c) 1,25,000

Shortcut Trick

Using the Successive Multiplier method:

Initial Sale × (1 + 4/100) × (1 + 20/100) = 1,56,000

Initial Sale × 1.04 × 1.2 = 1,56,000

Initial Sale = 1,56,000 ÷ 1.248 = 1,25,000

Therefore The correct answer is Rs. 1,25,000.

Alternate Method

Given:

First Year Increase = 4% => Multiplier = 104/100 = 26/25

Second Year Increase = 20% => Multiplier = 120/100 = 6/5

Present Sale = Rs. 1,56,000

Calculations:

Let the sale two years ago be X.

=> X × (26/25) × (6/5) = 1,56,000

=> X × (156/125) = 1,56,000

=> X = (1,56,000 × 125) ÷ 156

=> X = 1,000 × 125

=> X = 1,25,000

Therefore The correct answer is Rs. 1,25,000.

Additional Information

Successive Percentage Change

If a value changes by a% and then by b%, the effective change is [a + b + (a × b)/100]%.

Fractional Equivalence

4% = 1/25 (Increase → 26/25) and 20% = 1/5 (Increase → 6/5). Using fractions simplifies large calculations.

Reverse Percentage

To find the initial value from the final value, multiply the final value by the reciprocal of the growth multipliers.

Q37. Answer: (a) Low-growing plants and shrubs

The correct answer is Low-growing plants and shrubs.

Key Points

• The Thar Desert, also known as the Great Indian Desert, is primarily characterized by arid climatic conditions.

• Due to low rainfall (less than 200 mm annually) and high temperatures, the vegetation is limited to low-growing plants, shrubs,

and thorny bushes.

• Plants found in the Thar Desert include Cacti, Acacia, and Prosopis juliflora, which are well-adapted to survive in dry conditions.

• These plants exhibit xerophytic adaptations, such as reduced leaves, thick cuticles, and deep root systems to conserve water.

• The region is dominated by grasses and hardy shrubs, providing limited grazing opportunities for livestock.

• The sparse vegetation helps reduce soil erosion caused by strong winds in the desert.

• These plants play an important role in maintaining the ecological balance of the desert and supporting the local fauna.

Additional Information

• Alpine Meadows

• Alpine meadows are found in mountainous regions with high altitudes, such as the Himalayas or the Alps.

• These areas are characterized by cool temperatures, moderate rainfall, and flora such as grasses, mosses, and flowering plants.

• Such vegetation is not suitable for the arid conditions of the Thar Desert.

• Evergreen Forests

• Evergreen forests are dense forests found in regions with high rainfall and moderate to warm temperatures, such as the Western Ghats or the northeastern states of India.

• These forests maintain their foliage throughout the year and are rich in biodiversity.

• The Thar Desert's climate does not support the growth of evergreen forests.

• Stone Forests

• Stone forests refer to unique geological formations made of limestone or other sedimentary rocks, commonly seen in regions like China's Stone Forest in Yunnan Province.

• These are not vegetative landscapes and are unrelated to the vegetation types found in the Thar Desert.

Q38. Answer: (a) Turnover less than Rs. 100 crore

The Correct answer is Turnover less than Rs. 100 crore.

Key Points

• In the Union Budget 2025-26, the government revised the definition of Micro, Small, and Medium Enterprises (MSMEs) to ensure a more inclusive approach and align with global standards.

• The new definition of a small enterprise is based on the turnover threshold rather than the earlier investment-based criteria.

• Under the updated criteria, any enterprise with a turnover less than Rs. 100 crore is classified as a small enterprise.

• This change aims to provide better support and facilities to businesses falling under the small enterprise category by making them eligible for various government schemes and benefits.

• The revised definition also helps in better identification of businesses for financial assistance under programs like subsidized credit, tax exemptions, and infrastructure support.

• This turnover-based classification ensures a more dynamic and scalable framework for MSMEs in India.

• The change reflects the government’s commitment to fostering economic growth, encouraging entrepreneurship, and improving the ease of doing business.

Q39. Answer: (a) 2004

The Correct answer is 2004.

Key Points

• Securities Transaction Tax (STT) was introduced by the Government of India in the year 2004.

• The primary objective of STT is to simplify the taxation of securities transactions and ensure transparency in the trading process.

• It is a tax levied on the purchase and sale of securities such as shares, equity-oriented mutual funds, and derivatives.

• This tax is collected at the source by the stock exchanges, which makes it easier for the government to monitor and enforce compliance.

• The introduction of STT was aimed at curbing market manipulation and promoting fair trading practices.

• Unlike capital gains tax, STT is applicable irrespective of whether the transaction results in a profit or loss.

• It is governed under the provisions of the Income Tax Act, 1961.

• STT has contributed significantly to creating a more efficient and streamlined tax collection system for securities transactions.

Q40. Answer: (a) 46,875

Shortcut Trick

Let the cost of production be x.

Retail Price = Cost × (1 + g1%) × (1 + g2%) × (1 + g3%)

75,900 = x × (110 ÷ 100) × (115 ÷ 100) × (128 ÷ 100)

75,900 = x × (11 ÷ 10) × (23 ÷ 20) × (32 ÷ 25)

x = (75,900 × 10 × 20 × 25) ÷ (11 × 23 × 32)

Therefore The correct answer is Rs. 46,875.

Alternate Method

Given: Manufacturer Gain = 10%, Wholesaler Gain = 15%, Retailer Gain = 28%, Retail Price = Rs. 75,900.

Formulas: SP = CP × (100 + Gain%) ÷ 100

=> Let Cost of Production be CP.

=> Price for Wholesaler = CP × 1.10

=> Price for Retailer = (CP × 1.10) × 1.15

=> Price for Customer = (CP × 1.10 × 1.15) × 1.28 = 75,900

=> CP × 1.6192 = 75,900

=> CP = 75,900 ÷ 1.6192 = 46,875

Therefore The correct answer is Rs. 46,875.

Additional Information

Successive Percentage Change

When a value changes multiple times in sequence, the net multiplier is the product of individual multipliers: M_(net) = (1 + r1) × (1 + r2) × ... × (1 + r_n).

Effective Profit Percentage

In a chain of transactions, the final price is calculated by applying each profit margin consecutively on the preceding value.

Q41. Answer: (a) 56

Shortcut Trick

Simplify ratio: 4/14 : 7/14 : 16/15 → 2/7 : 1/2 : 16/15.

LCM of 7, 2, 15 is 210. Multiply ratio by 210: 60 : 105 : 224.

Difference (224 − 60) = 164 units. Given 164 units = 41.

1 unit = 41 ÷ 164 = 1/4.

Largest number = 224 × 1/4 = 56.

Therefore The correct answer is 56.

Alternate Method

Given: Ratio = 4/14 : 7/14 : 16/15, Difference (Largest − Smallest) = 41.

Formula: Actual Value = (Ratio Part / Difference in parts) × Actual Difference.

=> Simplified Ratio = 2/7 : 1/2 : 16/15

=> Converting to integers by multiplying with LCM(7, 2, 15) = 210:

=> First number = (2/7) × 210 = 60

=> Second number = (1/2) × 210 = 105

=> Third number = (16/15) × 210 = 224

=> Difference between largest (224) and smallest (60) = 164 units

=> 164 units = 41

=> 1 unit = 41/164 = 1/4

=> Largest number = 224 × 1/4 = 56

Therefore The correct answer is 56.

Additional Information

Ratio Simplification

To convert a fractional ratio a/b : c/d into an integer ratio, multiply both terms by the Least Common Multiple (LCM) of the denominators b and d.

Difference and Units

In ratio problems, always equate the "unit difference" to the "actual value difference" to find the value of a single unit (k-method).

Q42. Answer: (b) Jammu and Kashmir to Uttarakhand

The Correct answer is Jammu and Kashmir to Uttarakhand.

Key Points

• The Shivalik Hills, also known as the Outer Himalayas, are the southernmost range of the Himalayan mountain system.

• The Shivalik range stretches from Jammu and Kashmir in the west to Uttarakhand in the east, covering parts of Himachal

Pradesh as well.

• These hills are characterized by their low altitude, generally ranging between 600 to 1500 meters.

• The range is known for its narrow valleys and gravelly soil, which is less stable compared to the higher Himalayan ranges.

• The Shivaliks act as a transitional zone between the Gangetic plains and the Himalayan ranges, providing a rich biodiversity and scenic beauty.

• Important rivers such as the Ganga, Yamuna, and Beas originate or flow through these regions.

• The region is home to several protected areas and national parks, such as Rajaji National Park in Uttarakhand.

Additional Information

• Arunachal Pradesh to Manipur

• The region from Arunachal Pradesh to Manipur is part of the Eastern Himalayas, not the Shivalik Hills.

• This area is characterized by dense forests and is home to the Patkai and Mikir Hills.

• The Eastern Himalayas are known for their high biodiversity and are part of the Indo-Burma biodiversity hotspot.

• Punjab to Sikkim

• This stretch covers parts of the Himalayan foothills, but the Shivalik Hills are not continuous through this range.

• Sikkim is part of the Eastern Himalayan range, which is distinct from the Shivalik Hills.

• Punjab mainly features parts of the northwestern Shivaliks, but it doesn't extend all the way to Sikkim.

• Bihar to West Bengal

• This region is part of the Gangetic plains and does not include the Shivalik Hills.

• The area is primarily known for its alluvial soil and agricultural productivity.

• Rivers like the Ganga, Son, and Kosi dominate this region.

Q43. Answer: (a) = APW, % = GNV

The logic followed here is:

Given: # : CRX :: ELU : %

Option 1) # = APW, % = GNV → APW : CRX :: ELU : GNV

Option 2) # = BIY, % = HNW → BIY : CRX :: ELU : HNW

Option 3) # = AHW, % = GMY → AHW : CRX :: ELU : GMY

Option 4) # = BPU, % = DNY → BPU : CRX :: ELU : DNY

Hence, "Option 1" is the correct answer.

Q44. Answer: (d) Article 39A

The Correct answer is Article 39A.

Key Points

• Article 39A of the Indian Constitution is part of the Directive Principles of State Policy (DPSPs).

• It directs the State to ensure that the operation of the legal system promotes justice based on equal opportunity.

• This article emphasizes that no citizen should be denied access to justice due to economic or other disabilities.

• It mandates the State to provide free legal aid to economically weaker sections of society.

• The provision was added by the 42nd Amendment Act of 1976, which is considered one of the most significant amendments to the Indian Constitution.

• This article reflects the constitutional commitment to achieving social, economic, and political justice, as mentioned in the Preamble.

• It forms the basis for the establishment of bodies like the National Legal Services Authority (NALSA), which ensures free legal aid and advice to the weaker sections of society.

• Legal aid clinics and programs under this article aim to bridge the gap between the privileged and the underprivileged in accessing justice.

Additional Information

• Article 32

• Article 32 is referred to as the "Right to Constitutional Remedies."

• It allows individuals to move the Supreme Court for enforcement of their fundamental rights.

• It empowers the Supreme Court to issue orders, directions, or writs like habeas corpus, mandamus, prohibition, quo warranto, and certiorari.

• Dr. B.R. Ambedkar called this article the "Heart and Soul of the Constitution."

• Article 14

• Article 14 guarantees "Equality before the Law" and "Equal Protection of the Laws" in India.

• It is a fundamental right ensuring that no individual is discriminated against on the grounds of religion, race, caste, sex, or place of birth.

• This article forms the cornerstone of the Rule of Law in India.

• Article 21

• Article 21 guarantees the Right to Life and Personal Liberty.

• It states that no person shall be deprived of their life or personal liberty except according to the procedure established by law.

• This article has been interpreted to include various rights such as the right to privacy, right to a clean environment, right to health, and right to education.

Q45. Answer: (a) Semiconductor Laboratory (SCL) in Chandigarh

The Correct answer is Semiconductor Laboratory (SCL) in Chandigarh.

Key Points

• The Semiconductor Laboratory (SCL) in Chandigarh collaborated with ISRO to develop the Vikram 3201 and Kalpana 3201 microprocessors.

• SCL is a premier institution under the Department of Space, Government of India, specializing in the design and fabrication of semiconductors and microelectronics.

• The development of these microprocessors is a significant milestone in India's efforts to achieve self-reliance in space-grade electronics.

• Microprocessors are critical for applications in space missions, as they ensure efficient computation and processing for various onboard systems.

• The collaboration aligns with India's vision to reduce dependency on foreign technologies and foster indigenous innovation in the field of electronics.

• Both Vikram 3201 and Kalpana 3201 represent advanced technologies that can be utilized in satellites and other ISRO missions.

• These microprocessors are designed to meet the stringent requirements of space-grade reliability, radiation tolerance, and operational efficiency.

Additional Information

• National Aerospace Laboratories (NAL) in Bengaluru

• NAL is a constituent of the Council of Scientific and Industrial Research (CSIR).

• It specializes in the development of aerospace technologies, including aircraft design, wind tunnels, and composite materials.

• Although NAL contributes significantly to India's aerospace sector, it is not involved in semiconductor or microprocessor development.

• Semiconductor Laboratory (SCL) in Mohali

• The reference to Mohali is incorrect, as the SCL is officially located in Chandigarh.

• SCL's expertise lies in the design and manufacture of semiconductor devices and systems.

• Indian Institute of Technology (IIT) in Delhi

• IIT Delhi is one of India's premier institutions for engineering education and research.

• While it contributes to various technological advancements, IIT Delhi is not associated with the specific development of the Vikram 3201 and Kalpana 3201 microprocessors.

Q46. Answer: (d) 832

The logic followed here is:

Hence, the correct answer is "Option 4".

Q47. Answer: (d) Q

Given: Seven friends, F, G, H, I, O, P and Q, are sitting in a row facing north.

1) Only H sits to the right of F.

2) Only one person sits between G and F.

3) Only two people sit between I and G.

4) O sits at some place to the right of P but at some place to the left of Q.

Thus, Q sits third from the right end of the line.

Hence, "Option 4" is the correct answer.

Q48. Answer: (d) Paste the copied or cut content

The Correct answer is Paste the copied or cut content.

Key Points

• The Ctrl + V shortcut is widely used in computer applications to paste content.

• This action inserts the content that has been previously copied (Ctrl + C) or cut (Ctrl + X) into the current location of the cursor.

• The clipboard is a temporary storage area for data that is being copied or cut and is accessed when the paste command is executed.

• The shortcut works across most operating systems such as Windows, macOS, and Linux, and is also supported in various applications like Microsoft Word, Excel, Notepad, and browsers.

• Using this shortcut improves productivity and simplifies the process of transferring data between documents or applications.

• It works for different types of data such as text, images, files, and other multimedia elements, depending on the application being used.

• In systems with graphical user interfaces, the paste action is commonly represented by a clipboard icon.

Additional Information

• Opens the Find dialog box

• The Find dialog box is typically opened using the shortcut Ctrl + F.

• This function helps users to locate specific words, phrases, or patterns within a document or webpage.

• It is commonly used in text editors, browsers, and PDF readers for quick navigation.

• Opens the new file creation dialog box

• To open a new file creation dialog box, the shortcut Ctrl + N is generally used.

• This command is employed in software like Microsoft Word, Excel, and Photoshop to start a new project or document.

• Saves the current document

• The action of saving a document is executed using the shortcut Ctrl + S.

• It ensures that the current progress in a file is stored and prevents data loss.

Q49. Answer: (d) 9

According to the given information,

Thus, 'A' is coded as '9'.

Hence, the correct answer is "Option 4".

Q50. Answer: (b) 126

The logic followed here is:

Hence, "Option 2" is the correct answer.

Q51. Answer: (a) Over 730

The Correct answer is Over 730.

Key Points

• As per the Ministry of Tribal Affairs of India, more than 730 Scheduled Tribes have been notified under Article 342 of the Constitution of India as of December 2022.

• Article 342 deals with the process of identifying and notifying Scheduled Tribes in India. It grants the President of India the authority to specify tribes or tribal communities in certain states or union territories as Scheduled Tribes.

• Scheduled Tribes are recognized as socially and economically disadvantaged groups in India, requiring special provisions for their welfare and development.

• India's Scheduled Tribes are spread across various states and union territories, with notable populations in states such as Madhya Pradesh, Odisha, Chhattisgarh, Jharkhand, Gujarat, and Maharashtra.

• The government has implemented numerous welfare schemes for Scheduled Tribes, including initiatives in areas such as education, healthcare, infrastructure, and employment.

• Scheduled Tribes are entitled to reservations in educational institutions, government jobs, and legislatures to ensure their socio-economic upliftment.

• The accurate identification and enumeration of Scheduled Tribes help in ensuring that the benefits of government schemes reach the target population effectively.

Additional Information

• Scheduled Tribes

• Scheduled Tribes are defined under Article 366(25) of the Constitution of India, which refers to tribes or tribal communities deemed to be Scheduled Tribes under Article 342.

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• India conducts a decadal Census to collect data on Scheduled Tribes' population, which is vital for planning and implementing welfare programs.

• The National Commission for Scheduled Tribes (NCST) was established to oversee the implementation of safeguards provided to Scheduled Tribes and address issues related to their socio-economic development.

• The government also promotes the preservation of the unique culture, traditions, and languages of Scheduled Tribes.

Q52. Answer: (c) Lisbon, Portugal

The Correct answer is Lisbon, Portugal.

Key Points

• Lisbon, the capital city of Portugal, has been hosting the Web Summit since 2016.

• It is known for being a hub of technology, innovation, and entrepreneurship, attracting participants from around the globe.

• The Web Summit is one of the largest and most influential technology conferences in the world, focusing on topics like AI, fintech, startups, and sustainability.

• The decision to host the summit in Lisbon is attributed to its strategic location, excellent infrastructure, and the city's vibrant tech ecosystem.

• Lisbon offers a unique blend of culture, history, and modern technology, making it an attractive destination for global events.

• The summit brings together CEOs, founders, investors, media professionals, and policymakers to discuss emerging trends and innovations.

• Lisbon's hosting of the Web Summit has significantly contributed to its recognition as a global tech hub.

Additional Information

• Barcelona, Spain

• Barcelona is known for hosting the Mobile World Congress (MWC), one of the largest events focused on mobile technology and innovation.

• The city is a hub for creative industries, including technology, art, and design.

• Barcelona is also recognized for its architectural landmarks, such as the works of Antoni Gaudí.

• Dublin, Ireland

• Dublin was the original home of the Web Summit before it moved to Lisbon in 2016.

• The city is known for its vibrant startup ecosystem and headquarters of major tech companies like Google, Facebook, and Microsoft.

• Dublin has a rich cultural and literary heritage, making it an attractive destination for international events.

• Rome, Italy

• Rome is known for its historical significance and architectural wonders, such as the Colosseum, Vatican City, and Roman Forum.

• The city is less prominent in hosting global technology conferences but attracts events related to culture, history, and art.

• Rome's focus on its rich heritage makes it a destination for tourism rather than tech summits.

Q53. Answer: (c) Praja Mandal Movement

The Correct answer is Praja Mandal Movement.

Key Points

• Sewa Singh Thikriwala was a prominent freedom fighter and social reformer from Punjab.

• He was associated with the Praja Mandal Movement, which aimed to fight against the oppressive policies of princely states under the British rule.

• The Praja Mandal Movement focused on organizing people in princely states to demand democratic rights, oppose feudal oppression, and support the broader national independence movement.

• Sewa Singh Thikriwala strongly worked for the rights of the common people and was instrumental in raising awareness about social and political issues.

• His efforts contributed significantly to the struggle against autocratic princely rulers and the British imperial system.

• The Praja Mandal Movement was part of the larger freedom struggle in India, emphasizing the role of people from princely states in achieving independence.

Additional Information

• Green Revolution

• The Green Revolution refers to the period during the 1960s and 70s in India when agricultural productivity was significantly increased through the use of high-yield crop varieties, chemical fertilizers, and advanced irrigation techniques.

• This initiative was led by M. S. Swaminathan, known as the "Father of the Green Revolution in India."

• The revolution primarily benefited states like Punjab, Haryana, and Uttar Pradesh.

• White Revolution
• The White Revolution in India was initiated to increase milk production and make India self-sufficient in dairy products.
• It was spearheaded by Dr. Verghese Kurien, known as the "Father of the White Revolution."
• This revolution led to the establishment of the National Dairy Development Board (NDDB) and the success of Operation Flood.
• Goa's Liberation Movement
• The Goa Liberation Movement was aimed at ending Portuguese colonial rule in Goa.
• It culminated in the military operation called Operation Vijay in December 1961, leading to Goa's integration into India.
• Leaders like T. B. Cunha and organizations like the Azad Gomantak Dal played a crucial role in this movement.

Q54. Answer: (d) OR – TN

The logic followed here is:
Option 1) SV – XQ
Option 2) JM – OH
Option 3) BE – GZ
Option 4) OR – TN
Thus, out of all the options, 'OR – TN' is the odd one out.
Hence, "Option 4" is the correct answer.

Q55. Answer: (c) = PUQ, % = EJF

The logic followed here is:
Given: # : MRN :: HMI : %
Option 1) # = LPR, % = JHG → LPR : MRN :: HMI : JHG
Option 2) # = KLJ, % = KHI → KLJ : MRN :: HMI : KHI
Option 3) # = PUQ, % = EJF → PUQ : MRN :: HMI : EJF
Option 4) # = JIQ, % = FDJ → JIQ : MRN :: HMI : JIQ

Hence, "Option 3" is the correct answer.

Q56. Answer: (a) Tirot Sing

The Correct answer is Tirot Sing.
Key Points
• Tirot Sing, also known as Tirot Sing Syiem, was a tribal chief of the Khasi people in the northeastern region of India (modern-day Meghalaya).
• He led the resistance against the British colonial forces in the 19th century when they attempted to control Khasi hills through treaties and military power.
• Tirot Sing was not executed after his capture. Instead, he was deported to Dhaka (present-day Bangladesh), where he eventually died in captivity in 1835.
• He is considered a symbol of bravery and resistance against British colonialism in the northeastern part of India.
• The state of Meghalaya honors his memory with a state holiday on 17th July, celebrated as Tirot Sing Day.
• Tirot Sing's legacy is a reminder of the indigenous resistance to colonial exploitation and the preservation of regional autonomy.
Additional Information
• Nilamber and Pitamber
• Nilamber and Pitamber were brothers who led the Kol uprising against British forces in the region of present-day Jharkhand.
• Both brothers were captured and executed by the British in 1859.
• The Kol uprising was one of the most significant tribal revolts in the history of India.
• Tilka Manjhi
• Tilka Manjhi was a Santhal leader who fought against the British forces in the 18th century.
• He was captured, tied to a horse, and executed by the British in 1785.
• He is often regarded as the first tribal leader to rise against British rule in India.
• Sidhu and Kanhu Murmu
• Sidhu and Kanhu Murmu were leaders of the Santhal rebellion (also known as the Hul rebellion) against British rule in 1855.
• They were executed by the British after the rebellion was suppressed.
• The Santhal rebellion is remembered for its intensity and is a significant part of India's tribal history.

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Q57. Answer: (a) 8

Given number: 7516438

According to the question,

Number given	7	5	1	6	4	8
Odd digit → (+2) Even digit → (-3)	(+2)	(+2)	(+2)	(-3)	(-3)	(-3)
Resultant number	9	7	3	3	1	5

So, the difference between the greatest and smallest digits in the new number thus formed → 9 - 1 = 8

Hence, "Option 1" is the correct answer.

Q58. Answer: (b) Rs. 234

Shortcut Trick

Simplify the first cost relation: 3 Pens + 12 Notebooks = Rs. 195 → 1 Pen + 4 Notebooks = Rs. 65.

Using 7 Notebooks − 4 Pens = Rs. 39 and solving, we find the cost of each item is Rs. 13.

Required cost for 12 Pens and 6 Notebooks = (12 + 6) × 13 = 18 × 13.

Total Cost = Rs. 234.

Therefore The correct answer is Rs. 234.

Alternate Method

Given:

Cost of 3 pens and 12 notebooks = Rs. 195

Cost of 7 notebooks − Cost of 4 pens = Rs. 39

Formula Used:

Linear Equations in two variables: ax + by = c

Let the cost of one pen be P and one notebook be N.

=> 3P + 12N = 195

Dividing by 3: P + 4N = 65 ..... (i)

=> 7N − 4P = 39 ..... (ii)

Multiply equation (i) by 4:

=> 4P + 16N = 260 ..... (iii)

Adding equation (ii) and equation (iii):

=> (4P + 16N) + (7N − 4P) = 260 + 39

=> 23N = 299

=> N = 299 ÷ 23 = 13

Substituting N = 13 in equation (i):

=> P + 4(13) = 65

=> P + 52 = 65 => P = 13

Required Cost:

=> 12P + 6N = 12(13) + 6(13)

=> 156 + 78 = 234

Therefore The correct answer is Rs. 234.

Additional Information

Linear Equations in Two Variables

Systems of equations can be solved using the Elimination method (canceling one variable) or the Substitution method (expressing one variable in terms of the other).

Consistency of Equations

A system has a unique solution if the ratios of coefficients a1/a2 ≠ b1/b2.

Cost Analysis

Total Cost = (Quantity1 × Price1) + (Quantity2 × Price2). Scaling the quantities helps in finding the unit price quickly.

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Q59. Answer: (d) It attempts to auto-complete the currently typed command or filename.

The Correct answer is It attempts to auto-complete the currently typed command or filename.

Key Points

• Pressing the Tab key in a Command-Line Interface (CLI) or terminal serves the function of auto-completion.

• The terminal attempts to complete the currently typed command, filename, or directory based on the available options or context.

• This feature is particularly useful for improving efficiency and reducing errors when navigating through complex directory structures or entering lengthy commands.

• If there are multiple possible completions, pressing the Tab key multiple times may provide a list of suggestions or options.

• Auto-completion is supported by many widely-used shells like Bash, Zsh, and Fish, enhancing user experience and productivity.

• For example, typing "cd /usr/lo" and pressing Tab might auto-complete to "cd /usr/local" if the directory exists.

• This mechanism works by analyzing the current context of the CLI, often referring to existing files, directories, or commands.

• The feature aids users in minimizing typing errors, such as incorrect spellings or syntax.

Q60. Answer: (c) 4

Given series: (Left) 8 & 1 9 5 £ $ 6 8 $ # 8 & @ * 5 $ # * 5 $ 9 (Right)

According to the question,

Required condition: Number - Symbol - Symbol

(Left) 8 & 1 9 5 £ $ 6 8 $ # 8 & @ * 5 $ # * 5 $ 9 (Right)

Thus, there are four such symbols are there which are immediately preceded by a number and also immediately followed by a symbol.

Hence, "Option 3" is the correct answer.

Q61. Answer: (b) Rammohan Roy

The Correct answer is Rammohan Roy.

Key Points

• Tuhfat-ul-Muwahhidin (A Gift to Monotheists) was written by Rammohan Roy, one of the key figures in the Indian Renaissance.

• The book was written in the year 1804 and primarily aimed at advocating for monotheism (the belief in one God) and criticizing the superstitions associated with polytheistic practices.

• Rammohan Roy emphasized the need to return to the original teachings of religious texts, which were often distorted by later traditions and rituals.

• He is regarded as the father of modern India and a pioneer in introducing social, religious, and educational reforms during the 19th century.

• The work reflects his profound knowledge of Islamic theology, Hindu scriptures, and Western philosophy, which he used as tools to present his arguments.

• The book was written in Persian, the court language at that time, and included an introduction in Arabic, showcasing his linguistic versatility.

• Through this work, Rammohan Roy made a significant contribution to the movement against idol worship and the promotion of rationality in religion.

Additional Information

• Sayyid Ahmed Khan

• Sayyid Ahmed Khan was a prominent reformer and educationist who founded the Aligarh Muslim University.

• He worked to promote modern education among Muslims and is known for his role in the Aligarh Movement.

• Akshay Kumar Dutt

• Akshay Kumar Dutt was a rationalist and a social reformer associated with the Brahmo Samaj.

• He worked extensively on issues such as caste discrimination, superstitions, and women's rights.

• Keshub Chandra Sen

• Keshub Chandra Sen was a leader of the Brahmo Samaj and played a significant role in spreading its ideals.

• He worked on issues such as education for women, widow remarriage, and abolition of child marriage.

Q62. Answer: (a) 5 km to the north

Given:

Kanav starts from point A and drives 11 km towards the east.

He then takes a left turn, drives 7 km, turns left and drives 13 km.

He then takes a left turn and drives 12 km.

He takes a final left turn, drives 2 km and stops at point P.

Thus, Kanav should drive 5 km (12 km - 7 km) in the north direction in order to reach Point A again.

Hence, "Option 1" is the correct answer.

Q63. Answer: (b) Luv

Given: Karuna, Jyoti, Shiv, Ram, Puran, Om and Luv are sitting around a circular table, facing the centre.

1) Shiv sits third to the left of Luv.

2) Karuna sits second to the left of Shiv.

3) Ram sits second to the right of Jyoti.

4) Ram is not an immediate neighbour of Shiv.

5) Jyoti sits third to the right of Puran.

After positioning Puran only one position is left which will be occupied by the only person left i.e. Om.

Thus, Luv sits to the immediate left of Ram.

Hence, "Option 2" is the correct answer.

Q64. Answer: (a) Singapore Changi Airport

The Correct answer is Singapore Changi Airport.

Key Points

• Singapore Changi Airport is consistently recognized as one of the best airports worldwide due to its exceptional facilities and services.

• The airport is located in Singapore, serving as a major hub for international travel and connecting flights.

• It is renowned for its innovative design, including features such as the Jewel Changi, a nature-themed entertainment complex with a stunning indoor waterfall called the Rain Vortex.

• Changi Airport offers a wide range of amenities, such as free movie theaters, swimming pools, gardens, and world-class dining and shopping experiences.

• The airport is widely appreciated for its efficiency, cleanliness, and customer-focused approach, making it a favorite among travelers.

• Skytrax, a leading global airport rating organization, has consistently awarded Changi Airport the title of World's Best Airport for several years based on passenger surveys.

• The airport serves as a key gateway for major airlines such as Singapore Airlines, enhancing its reputation as a global aviation hub.

Additional Information

• Incheon International Airport

• Incheon International Airport is located in South Korea and is the primary airport serving Seoul.

• It is known for its modern architecture, efficient operations, and cultural exhibitions.

• The airport has won several awards for its customer service and has a reputation for its luxury shopping facilities.

• Hamad International Airport

• Hamad International Airport is located in Doha, Qatar.

• It is recognized for its state-of-the-art facilities and unique features such as the "Lamp Bear" art installation.

• The airport serves as a major hub for Qatar Airways, one of the leading airlines worldwide.

• Tokyo Haneda Airport

• Tokyo Haneda Airport is one of the primary airports serving Tokyo, Japan.

• It is known for its punctuality and convenience, being closer to the city center compared to Narita Airport.

• The airport has modern amenities and provides excellent customer service to travelers.

Q65. Answer: (c) 2

Given: Seven boxes, A, B, C, D, E, F and G, are kept one above the other but not necessarily in the same order.

1) Only C is kept above B.

2) Only two boxes are kept between B and F.

Person
C
B

F

3) Only E is kept below A.

Person
C
B
F
A
E

4) G is not kept immediately above F.

After positioning G only one position is left which will be occupied by the only box left i.e. D.

Person
C
B
G
D
F
A
E

Thus, two boxes are kept above G.

Hence, "Option 3" is the correct answer.

Q66. Answer: (a) Article 47

The correct answer is Article 47.

Key Points

• Article 47 of the Constitution of India is part of the Directive Principles of State Policy (DPSP).

• It directs the state to aim at raising the standard of living of its people and improving public health.

• Under Article 47, the state is also required to endeavor to prohibit the consumption of intoxicating drinks and drugs, which are injurious to health.

• This article emphasizes the importance of nutrition, standard of living, and public health as essential elements for the well-being of citizens.

• The Directive Principles of State Policy are non-justiciable in nature, meaning they cannot be enforced by the courts, but they are fundamental in the governance of the country.

• Article 47 reflects the commitment of the state to social welfare and equitable development.

• It forms an important foundation for policies related to health care, food security, and eradication of malnutrition in India.

Additional Information

• Article 50

• Article 50 deals with the separation of judiciary from the executive. It directs the state to ensure the independence of the judiciary from the executive machinery.

• Its primary objective is to establish an independent judicial system for fair and unbiased administration of justice.

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• Article 48

• Article 48 focuses on the organization of agriculture and animal husbandry.

• It directs the state to take steps for preserving and improving the breeds of cattle and prohibiting the slaughter of cows and other milch and draught animals.

• Article 49

• Article 49 pertains to the protection of monuments and places of national importance.

• It directs the state to safeguard objects of historical significance from destruction and damage.

Q67. Answer: (c) Use of Swadeshi and Boycott

The Correct answer is Use of Swadeshi and Boycott.

Key Points

• The 1905 Banaras Session of the Indian National Congress was significant in the context of the Partition of Bengal, which was announced by the British in July 1905.

• The main issue debated during this session was the adoption of Swadeshi and Boycott movements as a response to the partition.

• The Swadeshi movement aimed at promoting Indian goods while boycotting British products, thereby encouraging self-reliance and economic independence.

• Boycott included refusal to use British goods, services, and institutions to express dissatisfaction with colonial rule.

• The partition of Bengal was viewed as an attempt to divide Indians along religious lines, creating discord between Hindus and Muslims.

• The session under the leadership of Gopal Krishna Gokhale emphasized the importance of unity and mass mobilization against British policies.

• The Swadeshi and Boycott movements became a cornerstone of the Indian freedom struggle, inspiring future movements against British rule.

• It also marked a shift towards a more assertive stance by the Congress against British colonialism.

Additional Information

• Formation of All India Muslim League

• The All India Muslim League was formed later in 1906 in Dhaka, not directly linked to the 1905 Banaras session.

• It was established to represent the interests of Muslims in India and eventually played a role in the demand for Pakistan.

• The league's formation was influenced by the political atmosphere created by the partition of Bengal but was not debated at the Banaras session.

• Immediate resignation of British administrators in Bengal

• There was no direct demand during the session for the resignation of British administrators.

• The focus was more on mass mobilization and economic strategies like Swadeshi and Boycott rather than administrative changes.

• Demand for Swaraj

• The demand for Swaraj (self-rule) became a major goal of the Congress later, especially after the Calcutta Session of 1906.

• At the Banaras session, the focus was still on immediate resistance to the Partition of Bengal.

Q68. Answer: (a) 8.04

Shortcut Trick

Curved Surface Area (CSA) = $2 \times \pi \times r \times h$

$4900 = 2 \times (22/7) \times r \times 97$

$r = (4900 \times 7) \div (2 \times 22 \times 97) \approx 34300 \div 4268$

$r \approx 8.0365...$

Therefore The correct answer is 8.04 cm.

Alternate Method

Given:

Curved Surface Area (CSA) of the cylindrical rod = 4,900 cm^2

Length (Height) of the rod (h) = 97 cm

Value of $\pi = 22/7$

Formula Used:

CSA of a cylinder = $2\pi rh$

Calculations:

=> 4900 = 2 × (22/7) × r × 97

=> 4900 × 7 = 44 × 97 × r

=> 34300 = 4268 × r

=> r = 34300 ÷ 4268

=> r = 8.03655...

=> r ≈ 8.04 cm (rounded to two decimal places)

Therefore The correct answer is 8.04 cm.

Additional Information

Total Surface Area of Cylinder

The sum of curved surface area and the area of two circular bases: TSA = 2πr(h + r).

Volume of Cylinder

The capacity of the cylindrical rod: Volume = $\pi r^2 h$.

Base Area

The area of the circular cross-section of the rod: Area = πr^2.

Q69. Answer: (c) 3

According to the given information,

Thus, 'R' is coded as '3'.

Hence, the correct answer is "Option 3".

Q70. Answer: (c) Red sandstone

The Correct answer is Red sandstone.

Key Points

• The Jahangiri Mahal is one of the most significant structures inside the Agra Fort, which is a UNESCO World Heritage site located in Agra, Uttar Pradesh, India.

• This architectural marvel was primarily constructed using red sandstone, a material commonly used in Mughal architecture during the medieval period.

• Red sandstone was chosen for its durability, strength, and aesthetic appeal. It also provided the structure with a distinctive reddish hue, which is iconic to Mughal buildings.

• The use of red sandstone reflects the Mughal preference for combining functional durability with artistic elegance.

• The Jahangiri Mahal served as a residential palace for the royal women, particularly the wives of Emperor Akbar and other Mughal queens.

• The intricate carvings and designs on the red sandstone highlight the artistic advancements of the Mughal era and their expertise in architectural detailing.

• The Agra Fort itself, including the Jahangiri Mahal, was commissioned by Emperor Akbar in the 16th century as a symbol of the Mughal Empire's grandeur.

Additional Information

• Concrete

• Concrete is a modern construction material made from a mixture of cement, sand, gravel, and water.

• It was not available during the Mughal era, making it historically inaccurate as a material for the Jahangiri Mahal.

• Concrete is widely used in modern-day constructions for its strength and versatility.

• White marble

• White marble was another material prominently used during the Mughal period, especially in structures like the Taj Mahal.

• However, white marble was used more for structures emphasizing grandeur and purity, while red sandstone was preferred for forts and palaces.

• Ceramic

• Ceramic refers to materials made from clay that are hardened by heat.

• This material is more suited for decorative tiles, pottery, or small-scale architectural features, not large-scale buildings like the Jahangiri Mahal.

Q71. Answer: (d) 513/25 days

Shortcut Trick

Total Work = LCM(19, 6) = 114 units.

Efficiency: Nirbhay = 6, Vismay = 19.

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Trick: When someone leaves before completion, add their potential work for those days to the Total Work.

Total units = 114 + (6 × 4) = 114 + 24 = 138 units.

Total time = 138 ÷ (6 + 19) = 138 ÷ 25 = 5(13/25) days.

Therefore The correct answer is 5(13/25) days.

Alternate Method

Person	Days	Total Work	Efficiency
Nirbhay	19	114	6
Vismay	6	19	

Given: Nirbhay leaves 4 days before completion.

=> Let the total work be completed in x days.

=> Nirbhay worked for (x − 4) days and Vismay worked for x days.

=> 6 × (x − 4) + 19 × x = 114

=> 6x − 24 + 19x = 114

=> 25x = 114 + 24

=> 25x = 138

=> x = 138 ÷ 25 = 5(13/25) days.

Therefore The correct answer is 5(13/25) days.

Additional Information

Leaving Before Completion

If a person leaves 'n' days before completion, add (Efficiency × n) to total work and divide by combined efficiency.

Leaving After Starting

If a person leaves 'n' days after starting, subtract (Efficiency × n) from total work and remove that person's efficiency from the denominator.

Work and Wages

Wages are always distributed in the ratio of work done, which is (Efficiency × Time) for each individual.

Q72. Answer: (a) Ctrl + S

The Correct answer is Ctrl + S

Key Points

• Ctrl + S is the universal keyboard shortcut used to save files across various applications, including MS Excel.

• Pressing Ctrl + S enables users to quickly save the current workbook without navigating through menus.

• It improves efficiency, especially during tasks that require frequent saving of data.

• This shortcut is widely supported in Microsoft Office applications such as Word, Excel, and PowerPoint.

• In MS Excel, saving ensures that all changes made to the workbook are stored securely in the specified location.

• Users can utilize this shortcut to avoid data loss due to unexpected system shutdowns or application crashes.

• Ctrl + S can also be used to save files for the first time, prompting the user to choose a file name and location.

• It is recommended to save work regularly using Ctrl + S to ensure the protection of critical data.

Additional Information

• Tab + S

• This combination is not a recognized shortcut for saving files in MS Excel.

• Tab is typically used for navigating between cells or options within the Excel interface, but it does not function as part of a save shortcut.

• Ctrl + K

• Ctrl + K is the shortcut used to insert a hyperlink in MS Excel, not for saving a workbook.

• Hyperlinks allow users to link external files, web pages, or locations within the workbook.

• Alt + S

• Alt + S is not a standard shortcut for saving files in MS Excel.

• It is often used in specific contexts or customized shortcuts but does not perform the save function by default.

• Blank Option

• No functionality can be attributed to a blank option. It is an invalid or incomplete choice.

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Q73. Answer: (c) Buddhist philosophical text

The Correct answer is Buddhist philosophical text.

Key Points

• The Milindapanho, meaning "Questions of Milinda," is a famous Buddhist philosophical text written in the form of a dialogue.

• The text is a record of the conversation between King Menander I (Milinda), a Greek ruler of the Indo-Greek Kingdom, and the Buddhist sage Nagasena.

• It is a unique piece of literature that combines elements of Greek philosophical inquiry with Buddhist teachings.

• It was composed around the 1st century BCE and is considered a vital work in understanding the interaction between Hellenistic and Indian cultures.

• The text is divided into several sections, addressing topics such as the nature of the self, karma, rebirth, and enlightenment.

• The Milindapanho is highly regarded in the Theravada Buddhist tradition and is included in the Pali Canon in some Southeast Asian countries.

• This dialogue is an excellent example of how different philosophical traditions can come together to explore profound existential questions.

Additional Information

• Military manual

• A military manual typically contains instructions, strategies, and information related to warfare and defense mechanisms.

• It is unlikely to include philosophical or religious discussions, unlike the Milindapanho.

• Political treaty

• A political treaty is a formal agreement between states or rulers to resolve disputes or form alliances.

• The Milindapanho does not serve this purpose; it is a dialogue exploring Buddhist philosophy.

• Civil code

• A civil code is a systematic collection of laws designed to regulate civil relationships, such as property, contracts, and family law.

• The Milindapanho is focused on philosophical discussions, not legal regulations.

Q74. Answer: (d) Delhi

The Correct answer is Delhi.

Key Points

• The Eastern Peripheral Expressway (EPE) is a 135-kilometer-long expressway constructed to decongest traffic in Delhi, particularly by diverting non-essential traffic away from the city.

• It is part of the Peripheral Expressway project designed to create a bypass around Delhi, reducing the load on the city's roads.

• The expressway connects major highways such as NH-1, NH-2, NH-8, NH-24, NH-58, and NH-91.

• The EPE is India's first smart and green expressway, equipped with solar power plants, advanced traffic management systems, and rainwater harvesting systems.

• It was inaugurated by Prime Minister Narendra Modi on May 27, 2018.

• The project aims to curb pollution in Delhi by reducing vehicular emissions caused by traffic congestion within the city.

• It also facilitates the smooth movement of goods and vehicles, improving connectivity between the states of Haryana, Uttar Pradesh, and Delhi.

• The expressway includes several amenities such as rest areas, fueling stations, and surveillance systems to ensure commuter safety and convenience.

Additional Information

• Chennai

• Chennai is the capital city of Tamil Nadu and is known for its port-based economy.

• It is a major hub for automobile manufacturing and is often referred to as the Detroit of India.

• The traffic issues in Chennai are addressed through projects such as the Chennai Peripheral Ring Road (CPRR) rather than the Eastern Peripheral Expressway.

• Mumbai

• Mumbai, the financial capital of India, is located in Maharashtra and faces significant traffic congestion.

• Projects like the Mumbai Trans Harbour Link and the Western Express Highway are designed for traffic management in Mumbai.

• Bengaluru

• Bengaluru, the capital of Karnataka, is known as the Silicon Valley of India.

• The city's traffic congestion is being addressed with projects like the Bengaluru Peripheral Ring Road (PRR) and the NICE Road.

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Q75. Answer: (d) Peace with Nature

The Correct answer is Peace with Nature.

Key Points

• The slogan “Peace with Nature” emphasizes the critical need to establish harmony between human activities and the natural environment.

• The United Nations Biodiversity Convention (COP16) in 2024 aimed to address the growing concerns related to biodiversity loss and the degradation of ecosystems.

• It reflects the United Nations' commitment to ensuring a sustainable future by fostering cooperation for the protection and restoration of natural habitats.

• The slogan aligns with the overarching goals of the Post-2020 Global Biodiversity Framework, which seeks transformative changes to halt biodiversity loss.

• It underscores the importance of integrating environmental conservation into global peace-building efforts, highlighting how ecological balance contributes to societal stability.

• The convention also serves as a platform for countries to pledge actions and policies that promote sustainable development while addressing climate change and conserving biodiversity.

• The slogan resonates deeply with the need for global collaboration to safeguard the planet's natural resources for future generations.

Additional Information

• From Biodiversity to Nature

• This phrase lacks the broader focus on peace and sustainability, which is central to the slogan “Peace with Nature.”

• It may imply a narrower scope, focusing only on biodiversity without addressing human-nature coexistence.

• Environmental Peace

• While this term highlights peace in an environmental context, it does not fully encapsulate the idea of achieving harmony with nature as a whole.

• It focuses more on the abstract concept of peace rather than actionable coexistence with natural ecosystems.

• Biodiversity to Peace

• This option suggests a transition or relationship between biodiversity and peace but lacks the holistic approach of “Peace with Nature.”

• It does not strongly emphasize the integration of human activities with ecological balance.

Q76. Answer: (d) 32

Shortcut Trick

Net rate of filling = Filling Tap 1 + Filling Tap 2 − Emptying Tap 3

Net rate = 1/2 + 1/64 − 1/2 = 1/64 cistern per hour.

Time to fill full cistern = 64 hours.

Time to fill half cistern = 64 ÷ 2 = 32 hours.

Therefore The correct answer is 32 hours.

Alternate Method

Given: Filling time Tap A = 2 hours, Filling time Tap B = 64 hours, Emptying time Tap C = 2 hours.

Formula: Total Work = LCM of time; Efficiency = Work ÷ Time.

Person	Days/Hours	Total Work	Efficiency
Tap A (Fill)	2	64 units	32
Tap B (Fill)	64	1	
Tap C (Empty)	2	−32	

=> Total efficiency when all taps are open = 32 + 1 − 32 = 1 unit/hour.

=> Half of the empty cistern = 64 ÷ 2 = 32 units.

=> Time required = 32 units ÷ 1 unit/hour = 32 hours.

Therefore The correct answer is 32 hours.

Additional Information

Negative Efficiency

An emptying tap or a leak is always considered to have negative efficiency as it reduces the total amount of water in the cistern.

Net Filling Time

If multiple taps are working together, the combined rate is the algebraic sum of their individual rates: (1/T_(total)) = (1/T1) + (1/T2) − (1/T3).

LCM Method for Partial Work

When asked for half or any fraction of the tank, simply multiply the Total Work (LCM) by that fraction before dividing by net efficiency.

Q77. Answer: (b) 5

According to the given information,

Thus, 'A' is coded as '5'.

Hence, the correct answer is "Option 2".

Q78. Answer: (a) QKL

The logic followed here is:

Hence, "Option 1" is the correct answer.

Q79. Answer: (d) Rs. 847

Shortcut Trick

Time difference = 13 − 12 = 1 year.

Rate 10% = 1/10 → Growth factor = (10+1)/10 = 11/10.

Ratio of Anil to Ashok = (Growth factor)^(Time Difference) : 1 = 11 : 10.

Total ratio parts = 11 + 10 = 21 parts.

Anil's share = (11 ÷ 21) × 1617 = Rs. 847.

Therefore The correct answer is Rs. 847.

Alternate Method

Given:

Total amount = Rs. 1,617

Rate of interest (r) = 10% per annum

Time for Anil (t1) = 12 years

Time for Ashok (t2) = 13 years

Formula Used:

Amount (A) = $P(1 + r/100)^n$

Calculations:

=> Let Anil share be P1 and Ashok share be P2.

=> $P1(1 + 10/100)^{12} = P2(1 + 10/100)^{13}$

=> $P1 \div P2 = (1 + 1/10)^{13} \div (1 + 1/10)^{12}$

=> P1 ÷ P2 = (11/10)^(13−12) = 11/10

=> P1 : P2 = 11 : 10

=> Sum of ratios = 11 + 10 = 21

=> Share of Anil = (11 ÷ 21) × 1617

=> Share of Anil = 11 × 77 = Rs. 847

Therefore The correct answer is Rs. 847.

Additional Information

Compound Interest (CI) Amount

The amount after n years is given by $A = P(1 + r/100)^n$, where P is the principal and r is the rate per annum.

Equal Amount Logic

When amounts are equal for different times t1 and t2, the ratio of principals is P1 : P2 = (1 + r/100)^(t2) : (1 + r/100)^(t1).

Successive Growth

Compound interest is a geometric progression where the common ratio is (1 + r/100).

Q80. Answer: (c) 54

Shortcut Trick

Arrange the given data in ascending order:

18, 28, 33, 49, 52, 54, 55, 56, 60, 61, 80

Total number of observations (n) = 11 (which is an odd number).

Median = ((n + 1) ÷ 2)^(th) term = (12 ÷ 2)^(th) term = 6^(th) term = 54

Therefore The correct answer is 54.

Alternate Method

Given:

The dataset is: 61, 55, 18, 49, 52, 80, 60, 33, 54, 56, 28

Formula Used:

To find the median of a dataset:

1. Arrange the data in ascending or descending order.

2. If the number of observations (n) is odd:

Median = ((n + 1) ÷ 2)^(th) observation

3. If the number of observations (n) is even:

Median = [(n ÷ 2)^(th) observation + ((n ÷ 2) + 1)^(th) observation] ÷ 2

Calculations:

Arrange the given observations in ascending order:

=> 18, 28, 33, 49, 52, 54, 55, 56, 60, 61, 80

Count the total number of observations (n):

=> n = 11

Since n is odd, we use the odd formula for median:

=> Median = ((11 + 1) ÷ 2)^(th) term

=> Median = (12 ÷ 2)^(th) term

=> Median = 6^(th) term

Looking at the arranged data, the 6^(th) term is 54.

=> Median = 54

Explanation of incorrect options:

=> Option (1) 55 is the 7^(th) term, which is incorrect because it is not the exact middle term of the sorted dataset.

=> Option (2) 53.5 is incorrect as it is the average of 52 and 55, which does not represent the middle term of this odd-numbered dataset.

=> Option (4) 54.5 is the average of 54 and 55, which would only be calculated if the number of terms (n) was even.

Therefore The correct answer is 54.

Additional Information

Median for Even Number of Terms

When the number of observations (n) is even, the median is the average of the (n ÷ 2)^(th) and ((n ÷ 2) + 1)^(th) terms.

Mean, Median, and Mode Relationship

For a moderately skewed distribution, the empirical relationship is: Mode = 3 × Median − 2 × Mean.

Effect of Outliers

Unlike the mean, the median is a robust measure of central tendency and is not affected by extreme values (outliers) in the dataset.

Q81. Answer: (d) The tile labeled 'Blank Presentation' on the right panel

The Correct answer is The tile labeled 'Blank Presentation' on the right panel.

Key Points

• When the 'Start Screen' is enabled in MS PowerPoint 2019, users are presented with a home screen that provides several options to get started.

• To create a new blank presentation, you need to click on the tile labeled 'Blank Presentation', which is located in the right panel of the Start Screen.

• This option allows users to start with a completely new and fresh presentation without any pre-designed themes or templates.

• The 'Blank Presentation' tile is designed for users who prefer to customize their slides from scratch.

• It provides a clean slate with default settings, such as a white background and basic slide layouts.

• Starting with a blank presentation is ideal for users who want full control over the design and content of their slides.

• The Start Screen is a feature introduced to improve user experience by offering quick access to recent files, templates, and blank presentations.

Additional Information

• The Design tab from the ribbon

• The Design tab in MS PowerPoint allows users to customize the appearance of their slides by applying themes, colors, and background styles.

• It is not used to create a new blank presentation but rather to modify the design of an existing presentation.

• The Recent tab in the left sidebar

• The Recent tab displays a list of recently opened presentations for quick access.

• It is useful for reopening previous presentations but does not provide an option to start a new blank presentation.

• The Open button at the bottom left corner

• The Open button allows users to browse and open existing files stored on their computer or cloud services.

• It is not intended for creating new blank presentations.

Q82. Answer: (d) 11

Shortcut Trick

Subtract the remainders from the given numbers: (93 − 5) = 88 and (190 − 3) = 187.

Find the HCF of 88 and 187.

88 = 8 × 11 and 187 = 17 × 11.

Common factor is 11.

Therefore The correct answer is 11.

Alternate Method

Given:

Numbers: 93 and 190. Remainders: 5 and 3.

Formula Used:

The greatest number that divides x and y leaving remainders a and b is HCF((x − a), (y − b)).

Calculations:

=> First number − Remainder 1 = 93 − 5 = 88

=> Second number − Remainder 2 = 190 − 3 = 187

=> Factors of 88 = 1, 2, 4, 8, 11, 22, 44, 88

=> Factors of 187 = 1, 11, 17, 187

=> Highest Common Factor (HCF) = 11

Therefore The correct answer is 11.

Additional Information

HCF with Same Remainder

If numbers x, y, and z leave the same remainder r, the greatest number is HCF((x−r), (y−r), (z−r)).

HCF of Large Numbers

For very large numbers, use the Long Division Method where you divide the larger number by the smaller until the remainder is zero.

LCM vs HCF Logic

Greatest number dividing others implies HCF, while smallest number divided by others implies LCM.

Q83. Answer: (b) 31

Shortcut Trick

Since the Mode is 160, it lies at the boundary of the class 140−160 and 160−180.

For the Mode to be exactly the upper limit of a class, the frequency of that class (f1) must equal the frequency of the next class (f2).

Given the frequency of the class 140−160 is 31 and the frequency of the class 160−180 is x.

Equating the frequencies: f1 = f2 => 31 = x.

Therefore The correct answer is 31.

Alternate Method

Given:

Mode = 160

Class Intervals and Frequencies:

100−120: 12 | 120−140: 28 | 140−160: 31 | 160−180: x | 180−200: 25

Formula Used:

Mode = l + [(f1 − f0) ÷ (2f1 − f0 − f2)] × h

Where: l = lower limit of modal class, f1 = frequency of modal class, f0 = frequency of preceding class, f2 = frequency of succeeding class, h = class width.

Q84. Answer: (d) By making the council of ministers collectively accountable to the Parliament

The Correct answer is By making the council of ministers collectively accountable to the Parliament.

Key Points

• The parliamentary system ensures a responsible government by making the council of ministers collectively accountable to the Parliament.

• This means that if the council of ministers loses the confidence of the Parliament, they are obligated to resign collectively.

• The principle of collective accountability ensures that the executive remains answerable to the legislature and thereby to the people.

• The system is designed to prevent arbitrary decisions and promote transparency and checks on the executive branch.

• Under this system, discussions, debates, and questioning in Parliament enable the legislature to scrutinize the actions and policies of the government.

• If any minister fails in their duties, the entire council of ministers may face a vote of no confidence, which can lead to their removal.

• This ensures that the government remains responsive and accountable to the will of the elected representatives and, by extension, to the public.

Additional Information

• By allowing the President to dismiss the Prime Minister at any time

• In a parliamentary system, the President does not have the authority to dismiss the Prime Minister arbitrarily.

• The dismissal of the Prime Minister is typically tied to the loss of majority support in the Parliament.

• This option incorrectly describes the mechanism of accountability as the President's role is largely ceremonial.

• By giving the judiciary the power to review executive decisions

• While the judiciary plays a crucial role in ensuring adherence to the Constitution, its role is not directly related to establishing a "responsible government."

• Judicial review is more about maintaining the legality of executive decisions rather than enforcing political accountability.

• By permitting the military to oversee governance

• The military's role in governance is not a feature of a parliamentary system.

• In democracies, the military is strictly under civilian control, and permitting military oversight would contradict the principles of democratic governance.

Q85. Answer: (d) 141

Shortcut Trick

Relative Speed (Same direction) = 58 − 27 = 31 km/hr.

Total Distance (P + Q) = Speed × Time = (31 × 5/18) × (7.5 × 60) = (155/18) × 450 = 3875 m.

Length of P = 3875 − 238 = 3637 m.

Relative Speed (Opposite direction with R) = 58 + 38 = 96 km/hr = 96 × 5/18 = 80/3 m/s.

Time to cross R = (Length of P + Length of R) ÷ Relative Speed = (3637 + 123) ÷ (80/3) = 3760 × 3/80 = 47 × 3 = 141 seconds.

Therefore The correct answer is 141 seconds.

Alternate Method

Given: V_P = 58 km/hr, V_Q = 27 km/hr, L_Q = 238 m, Time1 = 7.5 min, V_R = 38 km/hr, L_R = 123 m.

Formula: Relative Speed = Total Distance ÷ Total Time

=> Relative Speed (P and Q) = 58 − 27 = 31 km/hr = 31 × 5/18 m/s.

=> Total Distance = L_P + 238 = (31 × 5/18) × (7.5 × 60)

=> L_P + 238 = (155/18) × 450 => L_P + 238 = 3875

=> L_P = 3875 − 238 = 3637 m.

=> Relative Speed (P and R) = 58 + 38 = 96 km/hr = 96 × 5/18 = 80/3 m/s.

=> Time to cross R = (L_P + L_R) ÷ Rel. Speed = (3637 + 123) ÷ (80/3)

=> Time = 3760 × 3 / 80 = 47 × 3 = 141 seconds.

Therefore The correct answer is 141 seconds.

Additional Information

Relative Speed Concept

When two objects move in the same direction, relative speed = V1 − V2. When they move in opposite directions, relative speed = V1 + V2.

Conversion Factor

To convert km/hr to m/s, multiply by 5/18. To convert m/s to km/hr, multiply by 18/5.

Train Crossing Objects

When a train crosses another train or platform, the total distance covered is the sum of their lengths (L1 + L2).

Q86. Answer: (d) Crossed Point Nemo, the Oceanic Pole of Inaccessibility

The Correct answer is Crossed Point Nemo, the Oceanic Pole of Inaccessibility.

Key Points

• Point Nemo, also known as the Oceanic Pole of Inaccessibility, is the location in the ocean that is farthest from any land.

• It is situated in the South Pacific Ocean, approximately 2,688 kilometers from the nearest land.

• Named after the famous submarine captain from Jules Verne's novel 20,000 Leagues Under the Sea, the name "Nemo" means "no one" in Latin.

• Crossing Point Nemo is a significant milestone for any maritime expedition, showcasing the vessel's ability to navigate through one of the most remote and challenging areas of the world's oceans.

• During the third leg of Navika Sagar Parikrama II, the INSV Tarini achieved this milestone in January 2025, highlighting the advanced capabilities of the Indian Navy and the resilience of the crew.

• This achievement is part of India’s ongoing effort to promote women’s empowerment in maritime and defense sectors, as the crew of INSV Tarini includes women officers.

• Point Nemo's remoteness is so extreme that the closest humans to it are often the astronauts aboard the International Space Station (ISS), orbiting Earth hundreds of kilometers above.

Additional Information

• Docked at Port Stanley for the first time

• Port Stanley is the capital of the Falkland Islands, a British Overseas Territory located in the South Atlantic Ocean.

• It is a key port for vessels traveling to and from the Antarctic region.

• Docking at Port Stanley is a common event for ships engaged in expeditions, but it is not as significant as crossing Point Nemo in terms of remoteness.

• Crossed the International Date Line

• The International Date Line (IDL) is an imaginary line on the Earth's surface, generally located at 180° longitude, opposite the Prime Meridian.

• Crossing the IDL results in a change of calendar day, but it is a common occurrence for vessels traveling across the Pacific Ocean.

• Completed a full circumnavigation of Antarctica

• A full circumnavigation of Antarctica involves traveling around the entire continent, a challenging and rare accomplishment.

• However, this milestone was not achieved during the third leg of the Navika Sagar Parikrama II.

Q87. Answer: (d) 2933 km

The Correct answer is 2933 km.

Key Points

• The distance between the easternmost and westernmost points of India is approximately 2933 km.

• The easternmost point of India is Kibithu, Arunachal Pradesh, located near the border with Myanmar and China.

• The westernmost point of India is Guhar Moti, Gujarat, located near the border with Pakistan in the Kutch region.

• The measurement of this distance reflects India’s geographical expanse, showcasing the country's vastness from east to west.

• India is the 7th largest country in the world in terms of area, and its east-west stretch contributes significantly to its large geographical size.

• This distance is important for understanding logistical planning, transport, and connectivity across the nation.

• The geographical diversity between these points ranges from mountainous terrains in the east to desert and coastal landscapes in the west.

Additional Information

• Other Incorrect Options

• While options such as 3500 km, 2500 km, and 3214 km are close approximations, they do not accurately reflect the correct distance of 2933 km.

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• It is important to note that such figures are often rounded off, but precise measurements are crucial in geography-related questions.
• Importance of Geographical Knowledge
• Understanding the geographical dimensions of India helps in planning infrastructure, transportation, and connectivity.
• It also provides insights into the diverse cultural and natural landscapes that exist across the country.

Q88. Answer: (b) 870

Given equation: 43 ÷ 9 − 988 × 2 + 11 = ?
According to the question, after '+' and '−' are interchanged and '×' and '÷' are interchanged:
43 ÷ 9 − 988 × 2 + 11 = ? => 43 × 9 + 988 ÷ 2 − 11 = ?
=> 43 × 9 + 988 ÷ 2 − 11 = ?
=> 43 × 9 + 494 − 11 = ?
=> 387 + 494 − 11 = ?
=> 881 − 11 = ?
=> 870 = ?
Hence, "Option 2" is the correct answer.

Q89. Answer: (b) 74

Given:
Evaluate: 37 - [37 - {37 - (37 - 37 × 2)}]
Formula used:
Use BODMAS rule: Brackets, Orders (powers and roots), Division and Multiplication, Addition and Subtraction.
Calculation:
37 - [37 - {37 - (37 - 37 × 2)}]
=> 37 - [37 - {37 - (37 - 74)}]
=> 37 - [37 - {37 - (-37)}]
=> 37 - [37 - {37 + 37}]
=> 37 - [37 - 74]
=> 37 - (-37)
=> 37 + 37
=> 74
Therefore The correct answer is option (2).

Q90. Answer: (b) 4

Shortcut Trick
Both decimals have 6 decimal places, so the decimal points cancel out directly.
=> √0.018496 ÷ √0.001156 = √(18496 ÷ 1156)
=> √16 = 4
Therefore The correct answer is 4.
Alternate Method
Given:
Expression: √0.018496 ÷ √0.001156
Formula Used:
√a ÷ √b = √(a ÷ b)
Calculations:
=> √0.018496 = √(18496 × 10^(−6)) = 136 × 10^(−3) = 0.136
=> √0.001156 = √(1156 × 10^(−6)) = 34 × 10^(−3) = 0.034
=> 0.136 ÷ 0.034
=> 136 ÷ 34
=> 4
Therefore The correct answer is 4.
Additional Information
Square Root of Decimals

When taking the square root of a decimal number, the number of decimal places in the result is exactly half of the number of decimal places in the original number.

BODMAS Rule

Always perform operations inside roots or brackets first, followed by division, multiplication, addition, and subtraction.

Q91. Answer: (a) = FHD, % = PMY

The logic followed here is:

Given: # : EIC :: QLZ : %

Option 1) # = FHD, % = PMY → FHD : EIC :: QLZ : PMY

Option 2) # = ERB, % = RNW → ERB : EIC :: QLZ : RNW

Option 3) # = EDG, % = PNY → EDG : EIC :: QLZ : PNY

Option 4) # = DJF, % = UPV → DJF : EIC :: QLZ : UPV

Hence, "Option 1" is the correct answer.

Q92. Answer: (c) Rs. 500

Shortcut Trick

Assume a base average of Rs. 500.

Calculate deviations from 500: 0, +100, −50, +50, −100.

Net Deviation = 0 + 100 − 50 + 50 − 100 = 0.

Average = Assumed Average + (Net Deviation ÷ Total Days) = 500 + 0 = 500.

Therefore The correct answer is Rs. 500.

Alternate Method

Given:

Earnings of five days: Day 1 = Rs. 500, Day 2 = Rs. 600, Day 3 = Rs. 450, Day 4 = Rs. 550, Day 5 = Rs. 400.

Formula Used:

Average Earning = (Total Earnings) ÷ (Number of Days)

Calculations:

=> Total Earnings = 500 + 600 + 450 + 550 + 400

=> Total Earnings = Rs. 2500

=> Average Earning = 2500 ÷ 5

=> Average Earning = Rs. 500

Therefore The correct answer is Rs. 500.

Additional Information

Weighted Average

Used when items have different importance or weights. Formula: Average = $\Sigma(w_i \times x_i) \div \Sigma w_i$.

Combined Average

If two groups have sizes n1, n2 and averages a1, a2, the total average is (n1a1 + n2a2) ÷ (n1 + n2).

Average of Arithmetic Progression

For a series with a constant common difference, Average = (First term + Last term) ÷ 2.

Q93. Answer: (b) 144

Shortcut Trick

The sum of exterior angles of any regular polygon is always 360°.

The sum of interior angles is 300% more than the sum of exterior angles:

=> Sum of interior angles = 360° + 300% of 360° = 4 × 360° = 1440°

Number of sides (n) = (Sum of interior angles ÷ 180°) + 2 = (1440° ÷ 180°) + 2 = 10

Each interior angle (x) = Sum of interior angles ÷ n = 1440° ÷ 10 = 144°

Therefore The correct answer is 144°.

Alternate Method

Given:

The sum of the interior angles of a regular polygon is 300% more than the sum of its exterior angles.

Each interior angle of the polygon measures x°.

Formula Used:

Sum of exterior angles of any polygon = 360°

Sum of interior angles of an n-sided polygon = (n − 2) × 180°

Each interior angle of a regular polygon = [(n − 2) × 180°] ÷ n

Calculations:

Let the number of sides of the regular polygon be n.

The sum of the exterior angles of any polygon is always 360°.

=> Sum of exterior angles = 360°

According to the question, the sum of the interior angles is 300% more than the sum of its exterior angles:

=> Sum of interior angles = Sum of exterior angles + 300% of Sum of exterior angles

=> Sum of interior angles = 360° + (300 ÷ 100) × 360°

=> Sum of interior angles = 360° + 3 × 360°

=> Sum of interior angles = 4 × 360° = 1440°

Using the formula for the sum of interior angles:

=> (n − 2) × 180° = 1440°

=> n − 2 = 1440° ÷ 180°

=> n − 2 = 8

=> n = 10

Thus, the polygon has 10 sides (it is a regular decagon).

Now, each interior angle (x) of a regular polygon with 10 sides is:

=> x = Sum of interior angles ÷ n

=> x = 1440° ÷ 10

=> x = 144°

Option Analysis:

Option (1) 140: If each interior angle is 140°, then each exterior angle is 180° − 140° = 40°. The number of sides would be 360° ÷ 40° = 9. For a nonagon, the sum of interior angles is 7 × 180° = 1260°, which is 250% more than 360° (not 300%). Thus, this option is incorrect.

Option (3) 134: If each interior angle is 134°, the number of sides is not an integer (360° ÷ 46° ≈ 7.83), which is impossible for a regular polygon. Thus, this option is incorrect.

Option (4) 156: If each interior angle is 156°, the number of sides is not an integer (360° ÷ 24° = 15, which gives a sum of interior angles of 13 × 180° = 2340°, which is 550% more than 360°). Thus, this option is incorrect.

Therefore The correct answer is 144°.

Additional Information

Sum of Interior Angles

The sum of all interior angles of an n-sided polygon is always equal to (n − 2) × 180°.

Sum of Exterior Angles

The sum of the exterior angles of any convex polygon is always constant and equal to 360°, regardless of the number of sides.

Relationship between Interior and Exterior Angles

At each vertex of a polygon, the interior angle and the exterior angle are supplementary, meaning their sum is always 180°.

Number of Diagonals

The total number of diagonals in an n-sided polygon is given by the formula: [n × (n − 3)] ÷ 2.

Q94. Answer: (c) 44th Constitutional Amendment Act, 1978

The Correct answer is 44th Constitutional Amendment Act, 1978.

Key Points

• The 44th Constitutional Amendment Act, 1978 explicitly added the term "Cabinet" to Article 352 of the Indian Constitution.

• This amendment was introduced to ensure that the decision to impose a National Emergency under Article 352 is made collectively by the entire Cabinet, rather than solely by the Prime Minister.

• The term "Cabinet" was defined under Article 352 to mean the Council of Ministers headed by the Prime Minister.

• It was a significant reform to curb potential misuse of emergency provisions, following the experiences during the Emergency period (1975-77).

• Prior to this amendment, there was no explicit requirement for the Cabinet's concurrence before proclaiming a National Emergency.

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• The 44th Amendment is considered one of the most important amendments to strengthen democratic safeguards and prevent authoritarian misuse of constitutional provisions.

Additional Information

• 42nd Constitutional Amendment Act, 1976

• Often referred to as the "Mini Constitution", it made extensive changes to the Indian Constitution.

• It gave primacy to the Directive Principles of State Policy over Fundamental Rights.

• The amendment also added the words "Socialist" and "Secular" to the Preamble.

• It curtailed the powers of the judiciary and made the Constitution more centralized.

• 43rd Constitutional Amendment Act, 1977

• It was enacted to restore the powers of the judiciary that were curtailed by the 42nd Amendment.

• It removed some of the provisions introduced by the 42nd Amendment that were deemed undemocratic.

• 45th Constitutional Amendment Act, 1980

• This amendment extended the reservation of seats for Scheduled Castes and Scheduled Tribes in the Lok Sabha and State Assemblies for another ten years.

Q95. Answer: (d) Reviewing the FRBM Act, 2003

The Correct answer is Reviewing the FRBM Act, 2003.

Key Points

• The NK Singh Committee was set up in 2016 to review the provisions of the Fiscal Responsibility and Budget Management (FRBM) Act, 2003.

• The FRBM Act, 2003, was enacted by the Indian Government to ensure fiscal discipline and reduce fiscal deficits.

• The Committee, chaired by NK Singh, aimed to make recommendations on revising the fiscal roadmap in light of changing macroeconomic conditions.

• It proposed introducing a new framework for fiscal policy, focusing on debt and deficit targets, and recommended specific escape clauses for unforeseen situations like natural disasters or economic crises.

• The Committee suggested setting a target for the government’s debt-to-GDP ratio and recommended measures for better transparency and accountability in fiscal management.

• It emphasized the importance of fiscal discipline for economic stability and long-term growth.

Additional Information

• Introduction of Standing Deposit Facility

• The Standing Deposit Facility (SDF) is a monetary tool introduced by the Reserve Bank of India (RBI) to manage liquidity in the banking system.

• The SDF allows the RBI to absorb excess funds from banks without requiring the collateral that is typically needed in open market operations.

• The SDF was not related to the NK Singh Committee but was part of broader measures in monetary policy frameworks.

• Reviewing the trade deficit in India

• The term trade deficit refers to a situation where a country's imports exceed its exports.

• Trade deficit reviews are generally conducted by the Ministry of Commerce or related economic bodies, not by the NK Singh Committee.

• Introduction of Monetary Policy Committee

• The Monetary Policy Committee (MPC) was established in 2016 under the Reserve Bank of India Act, 1934, to set the policy interest rates.

• The MPC is composed of six members, including three from the RBI and three external experts appointed by the Government of India.

• This was a separate initiative and not related to the NK Singh Committee.

Q96. Answer: (d) (-24)/7

Shortcut Trick

By Remainder Theorem, if both polynomials leave the same remainder when divided by (x − 2), then their values at x = 2 must be equal.

Substitute x = 2 in both expressions: $a(2)^3 + 4(2)^2 + 3(2) - 4 = (2)^3 - 7(2) + a$

$8a + 16 + 6 - 4 = 8 - 14 + a$

$8a + 18 = a - 6 \Rightarrow 7a = -24 \Rightarrow a = -24/7$

Therefore The correct answer is (−24)/(7).

Alternate Method
Given:
Polynomial 1: P(x) = ax3 + 4x2 + 3x − 4
Polynomial 2: Q(x) = x3 − 7x + a
Divisor: (x − 2)
Formula Used:
According to the Remainder Theorem, when a polynomial f(x) is divided by (x − k), the remainder is f(k).
Calculations:
=> Remainder from P(x) when divided by (x − 2) is P(2):
=> P(2) = a(2)3 + 4(2)2 + 3(2) − 4
=> P(2) = 8a + 16 + 6 − 4 = 8a + 18
=> Remainder from Q(x) when divided by (x − 2) is Q(2):
=> Q(2) = (2)3 − 7(2) + a
=> Q(2) = 8 − 14 + a = a − 6
Since the remainders are same, we equate P(2) and Q(2):
=> 8a + 18 = a − 6
=> 8a − a = −6 − 18
=> 7a = −24
=> a = −24/7
Therefore, the value of a is (−24)/7, which corresponds to the fourth option.
Therefore The correct answer is (−24)/(7).
Additional Information
Remainder Theorem
If a polynomial f(x) is divided by (x − a), then the remainder is f(a).
Factor Theorem
A polynomial f(x) has a factor (x − a) if and only if f(a) = 0.
Division Algorithm for Polynomials
For any polynomial f(x) and divisor g(x), f(x) = g(x) × q(x) + r(x), where deg(r(x)) < deg(g(x)).

Q97. Answer: (d) 360

Shortcut Trick
Use the relationship: MP ÷ CP = (100 + Profit%) ÷ (100 − Discount%).
MP ÷ CP = (100 + 84) ÷ (100 − 60) = 184 ÷ 40 = 4.6 ÷ 1.
Markup Percentage (X%) = [(MP − CP) ÷ CP] × 100.
X = [(4.6 − 1) ÷ 1] × 100 = 3.6 × 100 = 360.
Therefore The correct answer is 360.
Alternate Method
Given: Discount = 60%, Profit = 84%.
Formulas: SP = CP × (100 + P%) ÷ 100 | SP = MP × (100 − D%) ÷ 100 | X% = (MP − CP) ÷ CP × 100.
=> Let Cost Price (CP) be 100.
=> Selling Price (SP) = 100 + 84% of 100 = 184.
=> Marked Price (MP) = SP ÷ (100 − Discount%) × 100 = 184 ÷ 40 × 100 = 460.
=> Markup Amount = MP − CP = 460 − 100 = 360.
=> Value of X = (360 ÷ 100) × 100 = 360.
Therefore The correct answer is 360.
Additional Information
Marked Price and Discount
The Marked Price is the price listed by the seller, and Discount is always calculated on this price to reach the Selling Price.
Net Effect Formula
If markup is m% and discount is d%, the net profit% = m − d − (m × d)/100.

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Q98. Answer: (c) $A1

The Correct answer is $A1

Key Points

• A mixed cell reference in MS Excel is a reference that contains both relative and absolute references.

• In the case of $A1, the column reference (A) is absolute because of the $ sign, while the row reference (1) is relative because it does not have a $ sign.

• Mixed references are useful when you want to keep one part of the cell reference constant (absolute) while allowing the other part to change as the formula is copied to other cells.

• For example, if you have a formula with a mixed reference like $A1 and copy it to another cell, the column (A) will remain the same, but the row will adjust relatively.

• Mixed references are commonly used in scenarios like working with multiplication tables, data analysis, and financial modeling where partial locking of rows or columns is required.

Additional Information

• A1

• A1 represents a relative cell reference in MS Excel.

• In a relative reference, both the column (A) and the row (1) will change when the formula is copied to another location in the worksheet.

• Relative references are the default type of cell reference in Excel.

• A1

• A1 is an absolute cell reference in MS Excel.

• Both the column (A) and the row (1) are fixed because of the $ signs.

• When a formula containing A1 is copied to another location, the reference to the cell A1 remains constant.

• #ERROR!

• The term #ERROR! is not a valid cell reference.

• In MS Excel, #ERROR! typically indicates an issue with a formula or function, such as invalid syntax or unsupported operations.

Q99. Answer: (d) 198

Shortcut Trick

The diameter of the largest inscribed circle in a rectangle is always equal to the shorter side of the rectangle.

Diameter (d) = 63 m

Circumference = $\pi d = (22/7) \times 63 = 22 \times 9 = 198$ m.

Therefore The correct answer is 198 m.

Alternate Method

Given: Length (L) = 114 m, Breadth (B) = 63 m.

Formula Used: Diameter (d) of the largest inscribed circle = Breadth (B) of the rectangle; Circumference = $\pi \times d$.

=> Diameter of the circle (d) = 63 m

=> Radius (r) = d/2 = 63/2 = 31.5 m

=> Circumference = $2 \times \pi \times r = \pi \times d$

=> Circumference = $(22/7) \times 63$

=> Circumference = 22×9

=> Circumference = 198 m

Therefore The correct answer is 198 m.

Additional Information

Inscribed Circle in Square

For a square of side 'a', the diameter of the inscribed circle is exactly equal to the side 'a'. Area = $\pi a^2/4$.

Circumscribed Circle

The diameter of a circle circumscribing a rectangle is equal to the diagonal of the rectangle, calculated as $\sqrt{(L^2 + B^2)}$.

Circle Properties

Area of circle = πr^2. The circumference is the total boundary length, also known as the perimeter of the circle.

Q100. Answer: (d) It initiated a new scientific domain.

The Correct answer is It initiated a new scientific domain.

Key Points

- The Human Genome Project was completed in 2003, marking a milestone in understanding human genetics.
- It involved sequencing the entire human genome, which comprises approximately 3 billion base pairs.
- The initiative laid the foundation for a new scientific domain known as genomics, which integrates genetic information with biological functions.
- The sequencing revolutionized fields such as personalized medicine, enabling treatments tailored to individual genetic profiles.
- Advancements in genome sequencing have facilitated the study of genetic disorders and susceptibility to diseases like cancer, diabetes, and cardiovascular conditions.
- It catalyzed the development of bioinformatics, combining computational tools to analyze vast genetic datasets.
- The project also opened pathways for gene editing technologies, such as CRISPR-Cas9, enabling precise modifications in genetic material.
- Beyond medicine, genome sequencing impacts agriculture, for example, by enhancing crop yield and resistance through genetic studies.
- The Human Genome Project marked a pivotal shift in scientific research, fostering interdisciplinary approaches across biology, chemistry, computer science, and engineering.

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