RRB NTPC Graduate Level CBT-I Official Paper (Held On: 16 Jun, 2025 Shift 1) (Previous Year Paper)

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

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Scan the QR code or click the link to open it.

Q1. 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) 7 @ £ 1 @ 7 # * 8 7 8 6 5 3 8 4 € # £ 9 1 £ (Right)

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

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

Q2. Which of the following is NOT located in the Andaman group?

(a) Havelock
(b) Minicoy
(c) Neil
(d) Barren

Q3. Which bank has officially partnered with Sunrisers Hyderabad (SRH) as its exclusive banking partner in March 2025?

(a) City Union Bank
(b) Axis Bank
(c) ICICI Bank
(d) HDFC Bank

Q4. On simple interest, a certain sum of money amounts to Rs. 1,750 in 2 years and to Rs. 3,250 in 4 years. Find the rate of interest per annum.

(a) 301%
(b) 299%
(c) 300%
(d) 302%

Q5. Bholanath Singh was the leader of which of the following revolts?

(a) Santhal Revolt
(b) Tamar Revolt
(c) Farazi Movement
(d) Wahabi Movement

Q6. What should come in place of the question mark (?) in the given series?

842 840 836 830 822 ?

(a) 814
(b) 810
(c) 812
(d) 808

Q7. The award (decision) made by the Lok Adalats is deemed to be a decree of a civil court and is final and binding on all parties because:

(a) An appeal can be filed in the Supreme Court
(b) A review petition can be filed
(c) An appeal can be filed in the High Court
(d) No appeal is permissible

Q8. Which shortcut key combination is used to insert a hyperlink in MS PowerPoint 365?

(a) Ctrl + N
(b) Ctrl + Shift + X
(c) Ctrl + K
(d) Alt + X

Q9. F is the husband of G. G is the mother of H. H is the husband of I. I is the mother of J. How is F related to J?

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

Q10. Akash sold an article at a loss of 21%. If he had bought the item at 8% less and had sold it for Rs. 198 more, then he would have gained 5%. Find the cost price (in Rs.) of the article.

(a) 686
(b) 1419
(c) 685
(d) 1125

Q11. Which of the following countries experienced widespread protests in May 2025 due to the government's decision to dissolve all political parties and extend the presidential term?

(a) Sudan
(b) Chad
(c) Mali
(d) Niger

Q12. If the median of a data is 45.98 less than its mode, then the median of the data exceeds its mean by _____. (Use empirical formula)

(a) 25.13
(b) 22.99
(c) 26.54
(d) 21.05

Q13. The average of eight numbers is 14. The average of five of these numbers is 14. The average of the remaining three numbers is:

(a) 16
(b) 13
(c) 15
(d) 14

Q14. What should come in place of the question mark (?) in the given series based on the English alphabetical order?

XDO BBQ FZS JXU ?

(a) NVW
(b) OWV
(c) LWX
(d) MUX

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Q15. A local train without stoppages runs at an average speed of 70 km/hr, and with stoppages, at an average speed of 30 km/hr. What is the total time (in hours) taken by the local train for stoppages on a route of length 630 km?

(a) 19
(b) 12
(c) 8
(d) 10

Q16. Find the value of √0.011025/√0.001225

(a) 17
(b) 18
(c) 13
(d) 3

Q17. The ratio between the perimeter and breadth of a rectangle is 3 : 1. If the area of the rectangle is 98 cm², find the perimeter (in cm) of the rectangle.

(a) 47
(b) 50
(c) 42
(d) 38

Q18. In which type of musical instruments is sound produced by blowing air into a hollow column?

(a) Sushira Vadya
(b) Avanaddha Vadya
(c) Tata Vadya
(d) Ghana Vadya

Q19. Where can people of Indian origin living abroad apply for Indian citizenship under Article 8?

(a) Indian Embassy in Delhi only
(b) Indian Embassy at their country of living
(c) Supreme Court
(d) State government office

Q20. Which of the following letter-clusters should replace # and % so that the pattern and0 relationship followed between the letter-cluster pair on the left side of :: is the same as that on the right side of :: ?

: OLR :: LIO : %

(a) = YTU, % = LKJ
(b) = ROU, % = IFL
(c) = RPO, % = MKP
(d) = PKI, % = IMJ

Q21. Who among the following was awarded the Grand Collar of the Timor-Leste in August 2024?

(a) Om Birla
(b) Droupadi Murmu
(c) Narendra Modi
(d) Dr. S Jaishankar

Q22. How many rural households were graded based on deprivation criteria, as per Socio Economic and Caste Census (SECC) that was concluded by the Ministry of Rural Development in March, 2016?

(a) 8.72 crore
(b) 7.72 crore
(c) 9.72 crore
(d) 6.72 crore

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Q23. 12 is related to 4 following a certain logic. Following the same logic, 24 is related to 8. To which of the following is 60 related, following the same logic?

(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.)

(a) 25
(b) 15
(c) 30
(d) 20

Q24. Nilgiri Biosphere Reserve spans which of the following groups of Indian states?

(a) Maharashtra, Goa, Karnataka
(b) Kerala, Telangana, Tamil Nadu
(c) Andhra Pradesh, Tamil Nadu, Kerala
(d) Tamil Nadu, Kerala, Karnataka

Q25. In a certain code language, 'MUST' is coded as '4268' and 'SALE' is coded as '3527'.

What is the code for 'S' in the given code language?

(a) 6
(b) 7
(c) 2
(d) 3

Q26. The ratio of the lengths of two corresponding sides of two similar triangles is 10 : 9. The ratio of the areas of these two triangles, in the order mentioned, is:

(a) 101 : 82
(b) 100 : 81
(c) 10 : 9
(d) 10√10 : 9

Q27. M is inversely proportional to N. If M is 18, then N is 21. If N = 27, then what is the value of M?

(a) 14
(b) 13
(c) 12
(d) 16

Q28. In which of the following countries did the United Nations Biodiversity Convention 2024 (COP16) conclude in February 2025?

(a) Germany
(b) Italy
(c) France
(d) Colombia

Q29. What major tax reform was introduced by the 101st Amendment Act, 2016?

(a) Income Tax
(b) Goods and Services Tax (GST)
(c) Wealth Tax
(d) Excise Duty

Q30. Which of the following ratios is greatest?

(a) 21 : 45
(b) 25 : 50
(c) 20 : 36
(d) 17 : 42

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Q31. Who among the following has become the 11th Chairman of Securities and Exchange Board of India in February 2025?

(a) Tuhin Kanta Pandey
(b) Manan Kumar Mishra
(c) Ajay Seth
(d) Dr. Mayank Sharma

Q32. Which Indian State/Union Territory have the highest percentage of urban population according to the Census 2011?

(a) Tamil Nadu
(b) Goa
(c) Maharashtra
(d) Delhi

Q33. What should come in place of the question mark (?) in the given series?

13 8 24 19 57 52 156 ?

(a) 140
(b) 169
(c) 155
(d) 151

Q34. Which of the following states recorded the highest Schedule Tribes (ST) sex ratio in 2011, as per the Census of India data?

(a) Goa
(b) Mizoram
(c) Arunachal Pradesh
(d) Tamil Nadu

Q35. What will come in place of the question mark (?) in the following equation, if '+' and '−' are interchanged and '×' and '÷' are interchanged?

76 ÷ 9 + 818 × 2 − 93 = ?

(a) 388
(b) 368
(c) 378
(d) 398

Q36. What is the dimensional formula of pressure?

(a) [M L^(-2) T^(-2)]
(b) [M L² T^(-2)]
(c) [M L^(-1) T^(-2)]
(d) [M L T^(-2)]

Q37. At what rate of interest per annum will a sum of Rs. 15,625 amount to Rs. 19,683 in 1 year and 6 months, if the interest is compounded half-yearly?

(a) 8%
(b) 16%
(c) 19%
(d) 20%

Q38. QP 15 is related to TR 6 in a certain way. In the same way, KN 8 is related to NP −1. To which of the given options is LO 3 related, following the same logic?

(a) YR −7
(b) OQ −6
(c) OP −9
(d) BH −4

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Q39. 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) 3 # 6 5 2 @ 8 * 7 9 1 % 2 8 1 9 3 # 1 £ © 7 (Right)

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

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

Q40. The mention of DNA as a long polymer of deoxyribonucleotides implies which structural characteristic?

(a) It is composed of a sugar-phosphate backbone and nitrogenous bases.
(b) Each nucleotide is linked by hydrogen bonds in a parallel fashion.
(c) The molecule consists of multiple independent short chains.
(d) The sequence is circular and self-replicating.

Q41. P, Q, R, S, T, U and V have an exam on different days of the week starting on Monday and ending on Sunday. Q has an exam on Friday. Exactly 3 people have an exam between R and T, neither of whom has on exam on Sunday. P has an exam immediately after U. V has an exam immediately before T. Who among the following has an exam on Wednesday?

(a) R
(b) V
(c) U
(d) S

Q42. Manish ranked 18th from the top and 49th from the bottom in his class. How many students are there in his class?

(a) 67
(b) 64
(c) 66
(d) 65

Q43. What should come in place of the question mark (?) in the given series based on the English alphabetical order?

TMP RKN PIL NGJ ?

(a) LFG
(b) LFH
(c) LEG
(d) LEH

Q44. Find a single discount (rounded up to two decimal places) equal to three consecutive discounts of 3%, 27% and 23%.

(a) 45.73%
(b) 45.48%
(c) 45.34%
(d) 43.03%

Q45. In MS Word 2019, which of the following features can you use to change the page orientation of your document?

(a) Page Layout → Orientation
(b) Insert → Page Number
(c) View → Print Layout
(d) Review → Spelling & Grammar

Q46. Who among the following is NOT eligible for the subsidy under the PMAY-U 2.0 scheme launched in 2024?

(a) Individuals from Economically Weaker Sections (EWSs)
(b) Middle Income Groups (MIG) having an annual income of up to Rs. 9 lakh per year
(c) Individuals with annual income up to Rs. 6 lakh

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(d) Families given housing by any government scheme in the past 20 years

Q47. According to the Press Information Bureau, by what percentage did India's Defence Public Sector Undertakings (DPSUs) exports grow in the fiscal year 2024-25 compared to the previous year?

(a) 42.85%
(b) 50.2%
(c) 25.5%
(d) 35.7%

Q48. If 'A' stands for '÷', 'B' stands for '×', 'C' stands for '+' and 'D' stands for '−', then what will come in place of the question mark (?) in the following equation?

(46 B 8) A 16 C 15 B 3 D 27 =?

(a) 41
(b) 52
(c) 29
(d) 68

Q49. From a point P on a level ground, the angle of elevation of the top of the tower is 30°. If the tower is 50 m high, the distance of point P from the foot of the tower is:

(a) 50/√3 m
(b) 25 m
(c) 50√3 m
(d) 50/√2 m

Q50. Which aspect of life is explored under the theme of akam in Sangam literary works?

(a) Politics
(b) Deed
(c) War
(d) Love

Q51. In MS Word 365, which feature allows users to set specific spacing before and after paragraphs to control the vertical space between paragraphs and improve document readability?

(a) Indentation
(b) Line Spacing
(c) Paragraph Spacing
(d) Page Layout

Q52. Anti-dumping and anti-subsidies & countervailing measures in India are administered by which Ministry?

(a) Ministry of Commerce and Industry
(b) Ministry of External Affairs
(c) Ministry of Finance
(d) Ministry of Home Affairs

Q53. If 1 is added to each odd digit and 1 is subtracted from each even digit in the number 8631247, what will be the sum of the digits that are third from the left and first from the right?

(a) 11
(b) 9
(c) 8
(d) 12

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) QM – VO
(b) IE – NG

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(c) GC – LF
(d) DZ – IB

Q55. Which Fundamental Right was introduced by the 86th Constitutional Amendment Act of 2002 specifically for children?
(a) Right to travel abroad
(b) Right to free electricity
(c) Right of children to free and compulsory education
(d) Right to vote

Q56. Two taps can fill a cistern in 3 hours and 18 hours, respectively. A third tap can empty it in 72 hours. How long (in hours) will it take to fill three-fourth of the empty cistern, if all of them are opened together?
(a) 8
(b) 6
(c) 4
(d) 2

Q57. The median of the observations 34, 58, 98, 42, 83, 62, 12, 11, 87, 75 and 15 is:
(a) 58
(b) 62
(c) 42
(d) 75

Q58. A vendor sells oranges at Rs. 44 each and incurs a loss of 78%. If he wants to make a profit of 78%, at what price (in Rs.) should he sell each orange?
(a) 354
(b) 355
(c) 356
(d) 358

Q59. 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) 5 $ 6 @ 3 * 6 4 & $ 2 9 5 9 € £ 7 8 # 1 & 2 (Right)
How many such numbers are there each of which is immediately preceded by a symbol and also immediately followed by a symbol?
(a) 3
(b) 5
(c) 2
(d) 4

Q60. What is the advantage of keeping food in an airtight container?
(a) It changes the colour of the food.
(b) It promotes anaerobic bacterial growth.
(c) It enhances the taste of the food.
(d) It slows down oxidation.

Q61. 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) LR – QM
(b) HN – MI
(c) WC – BY
(d) BH – GC

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Q62. Who inaugurated 'Srjanam', a biomedical waste conversion system, at AIIMS Delhi in 2025?

(a) NITI Aayog Member
(b) Union Minister for Science and Technology
(c) Director of CSIR-NIIST
(d) Director of AIIMS Delhi

Q63. Vinod starts from point A and drives 8 km towards the west. He then takes a left turn, drives 6 km, turns left and drives 12 km. He then takes a left turn and drives 11 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-degree turns only unless specified.)

(a) 6 km to the north
(b) 5 km to the north
(c) 5 km to the south
(d) 6 km to the south

Q64. In a certain code language, 'MEAN' is coded as '6248' and 'AIDS' is coded as '5721'. What is the code for 'A' in the given code language?

(a) 7
(b) 4
(c) 5
(d) 2

Q65. The Ministry of MSMEs in India celebrates the MSME Day on _____.

(a) 7 June
(b) 30 January
(c) 14 April
(d) 27 June

Q66. In February 2025, which international organisation signed a strategic partnership with the African Union to boost vaccine manufacturing on the continent?

(a) GAVI – The Vaccine Alliance
(b) International Monetary Fund
(c) World Health Organization
(d) World Bank

Q67. When appointing Governors of States and Lieutenant Governors of Union Territories, the President of India acts on the advice of which body?

(a) The Supreme Court of India
(b) The State Legislatures
(c) The Election Commission
(d) The Union Council of ministers

Q68. The endangered bird species found in the Thar Desert is:

(a) Flamingo
(b) Hornbill
(c) Great Indian Bustard
(d) Pelican

Q69. 'Pradeshtris' word is used for which officers during the Mauryan Empire?

(a) Commander of army
(b) Judges
(c) Officers responsible for suppression of criminals
(d) Chief minister

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Q70. OJ 9 is related to QM -8 in a certain way. In the same way, JK 14 is related to LN -3. To which of the given options is VP 1 related, following the same logic?

(a) YT -16
(b) XT -16
(c) XS -16
(d) YS -14

Q71. Who was honoured with the title 'Assam Kesari' for his courageous role in the Indian freedom movement?

(a) Tarun Ram Phukan
(b) Gopinath Bordoloi
(c) Chandraprabha Saikiani
(d) Ambikagiri Raichoudhury

Q72. In a certain code language, ‘FISH’ is coded as ‘6147’ and ‘SALE’ is coded as ‘9512’. What is the code for ‘S’ in the given code language?

(a) 4
(b) 5
(c) 9
(d) 1

Q73. The value of 596 × 604 is:

(a) 359984
(b) 366958
(c) 364199
(d) 356822

Q74. According to a Morgan Stanley Report, how much is India’s infrastructure investment expected to increase as a percentage of GDP by FY29?

(a) 5.3%
(b) 7.0%
(c) 6.5%
(d) 4.5%

Q75. Which Delhi Sultanate ruler was associated with the expedition of Bhilsa (Vidisha) in AD 1292?

(a) Alauddin Khilji
(b) Iltutmish
(c) Ghazi Malik
(d) Ulugh Khan

Q76. In MS Word, if you want to duplicate a selected text without removing it from its original location, which set of commands should you use?

(a) Delete → Undo
(b) Copy → Paste
(c) Select → Move
(d) Cut → Paste

Q77. I, J, K, L, M and Y live on six different floors of the same building. The lowermost floor in the building is numbered 1, the floor above it, number 2 and so on, till the topmost floor is numbered 6. Only L lives above Y. I lives on some floor below J. Only M lives below K. How many people live between J and M?

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

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Q78. The length of a rectangular plot is ($x^2 + xy + y^2$) m and its breadth is (x2 - 5xy - y2) m. Find its perimeter, when x = 1 and y = - 1.

(a) 17 m
(b) 19 m
(c) 12 m
(d) 8 m

Q79. Three numbers are in the ratio 2 : 14 : 3, and their LCM is 4116. Their HCF is:

(a) 95
(b) 98
(c) 108
(d) 100

Q80. Income of Amit in 2019 was Rs. 22,000. He gets an increment of 20% every year. What was his income (in Rs.) in 2021?

(a) 26,400
(b) 22,000
(c) 30,800
(d) 31,680

Q81. 7 times the present age of X is 6 years less than 2 times the present age of Y. At present, P is 7 times as old as X, and Y is 6 years younger than Q. If P is 70 years older than Q, then the present age (in years) of Y is :

(a) 75
(b) 82
(c) 73
(d) 78

Q82. The mean proportional between (21 + 16√2) and (16 - 7√2) is :

(a) 4√7
(b) √(112 + 109√2)
(c) √(109 + 112√2)
(d) 17√7

Q83. The curved surface area of a cylinder is half of its total surface area. If its height is 195 cm, then find its diameter (in cm).

(a) 383
(b) 381
(c) 393
(d) 390

Q84. Let ABC and DEF be two triangles such that angle A = angle D = 40° and AB = DE. What is the condition required to be met such that ABC and DEF are similar triangles?

(a) angle C = angle F
(b) angle B = angle F
(c) angle B = angle D
(d) BC = EF

Q85. Which of the following statements about the December 2024 appointments to the National Human Rights Commission (NHRC) is INCORRECT?

(a) Justice V Ramasubramanian was appointed as the Chairperson of NHRC.
(b) Shri Priyank Kanoongo was appointed as the Secretary General of NHRC.
(c) Justice (Dr.) Bidyut Ranjan Sarangi joined NHRC as a Member.
(d) The appointments were made by the President of India in December 2024.

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Q86. Kanchan's salary is Rs. 12,000 per month. He spends Rs. 4,000 on house rent and Rs. 2,000 on bills, and the rest of the amount is his monthly savings. Find his savings (in Rs.) in a year, if in the month of his birthday, he spent all his monthly savings on birthday celebrations.

(a) 72,000
(b) 54,000
(c) 60,000
(d) 66,000

Q87. Seven people, I, J, K, L, O, P and Q are sitting in a row, facing north. Only two people sit to the right of I. Only two people sit between I and O. Only two people sit between J and P. P sits to the immediate left of I. Q sits to the immediate right of L. Who sits at third position from the left end of the line?

(a) O
(b) I
(c) K
(d) Q

Q88. Seven friends, A, B, C, D, P, Q and R, are sitting in a straight line facing north. Only two people sit to the left of R. Only three people sit between R and P. Only one person sits between P and A. D sits to the immediate left of Q. B is not an immediate neighbour of P. How many people sit to the right of C?

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

Q89. Each of the digits in the number 691478325 is arranged in ascending order from left to right. What will be the sum of the digits that are third from the left and second from the right in the new number thus formed?

(a) 10
(b) 12
(c) 11
(d) 9

Q90. Which of the following numbers is divisible by 87?

(a) 7221
(b) 7099
(c) 6712
(d) 7741

Q91. The speed of a boat in still water is 9 km/hr and the speed of the stream is 5 km/hr. A man rows to a place at a distance of 75.6 km and comes back to the starting point. Find the total time (in hours) taken by him.

(a) 19.3
(b) 26.6
(c) 20.8
(d) 24.3

Q92. If α, β and γ are the roots of the equation $6x^3 - 11x^2 + 6x - 1 = 0$, find $\Sigma\alpha^2\beta\gamma$.

(a) 11/36
(b) -11/6
(c) 11/6
(d) • 11/36

Q93. In which year did the English East India Company pass a new law that required every new person who took up employment in the Company's army to serve overseas if required?

(a) 1840
(b) 1850
(c) 1856
(d) 1860

Q94. 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 cows are emu.

All emus are ostrich.

Some ostriches are duck.

Conclusions:

(I) Some ducks are cows.

(II) All ostriches are cows.

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

Q95. An electric pump can fill a tank in 3 hours. Due to a leakage in the tank, it takes 5 (1/4) hours to fill the tank. How much time will this leak take to empty the full tank if water does not get in or out of the tank through any other point during this period?

(a) 10 hours
(b) 24 hours
(c) 17 hours
(d) 7 hours

Q96. QQ 3 is related to NU -1 in a certain way. In the same way, OK 11 is related to LO 7. To which of the given options is PL -2 related, following the same logic?

(a) NQ -6
(b) MP -6
(c) MQ -4
(d) NP -4

Q97. Anuj starts from Point A and drives 12 km towards East. He then takes a right turn, drives 8 km, turns right and drives 14 km. He then takes a right turn and drives 11 km. He takes a final right 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° turns only, unless specified.)

(a) 2 km to the south
(b) 3 km to the south
(c) 4 km to the south
(d) 1 km to the south

Q98. In January 2025, who became the first Indian to be nominated for Best Director (Motion Picture) at the Golden Globe Awards?

(a) Meghna Gulzar
(b) Payal Kapadia
(c) Mira Nair
(d) Zoya Akhtar

Q99. In Windows-based systems, which Alt key combination is most likely to display the contextual control menu of the active window, especially when the title bar is inaccessible?

(a) Alt + F4
(b) Alt + F10
(c) Alt + Space
(d) Alt + Del

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Q100. A factory produces 15, 20, 25, 10, and 30 units of a gadget over five days. What is the average production (in units) per day?

(a) 22
(b) 20
(c) 18
(d) 24

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (c) 1

Given series: (Left) 7 @ £ 1 @ 7 # * 8 7 8 6 5 3 8 4 € # £ 9 1 £ (Right)

According to the question,

Required condition: Number - Symbol - Number

(Left) 7 @ £ 1 @ 7 # * 8 7 8 6 5 3 8 4 € # £ 9 1 £ (Right)

Thus, there is one such number which is immediately preceded by a number and also immediately followed by a number.

Hence, "Option 3" is the correct answer

Q2. Answer: (b) Minicoy

The correct answer is Minicoy.

Key Points

• Minicoy is part of the Lakshadweep group of islands, not the Andaman group.
• The Andaman Islands are located in the Bay of Bengal, while the Lakshadweep Islands are in the Arabian Sea.
• Minicoy is known for its distinctive culture and is the southernmost island of the Lakshadweep group.
• Other islands mentioned in the question—Havelock, Neil, and Barren—are part of the Andaman archipelago.
• The Andaman and Lakshadweep groups are geographically and administratively distinct.

Additional Information

• Andaman Islands:
• Located in the Bay of Bengal, the Andaman Islands are part of the union territory of Andaman and Nicobar Islands.
• Famous islands include Havelock Island (now Swaraj Dweep) and Neil Island (now Shaheed Dweep).
• Home to the Indigenous Andamanese tribes and rich in biodiversity.
• Lakshadweep Islands:
• Located in the Arabian Sea, the Lakshadweep Islands are India's smallest union territory.
• Minicoy is the second-largest island in this group and culturally distinct due to its Maldivian influences.
• The islands are known for their coral atolls and lagoons.
• Barren Island:
• Barren Island, located in the Andaman group, is home to India's only active volcano.
• It lies approximately 135 km northeast of Port Blair.

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• Geographical Distinction:
• The Andaman and Lakshadweep islands are separated by vast distances and are located in different seas.
• Andaman Islands are closer to Myanmar, whereas Lakshadweep Islands are closer to the Malabar Coast of India.

Q3. Answer: (a) City Union Bank

The correct answer is City Union Bank.

Key Points

• City Union Bank officially partnered with Sunrisers Hyderabad (SRH) as its exclusive banking partner in March 2025.
• The partnership marks a strategic collaboration for enhancing City Union Bank's visibility through the Indian Premier League (IPL).
• SRH, a prominent IPL team, has been sponsored by various renowned brands, and this collaboration adds to its credibility.
• City Union Bank aims to leverage the IPL's massive viewership to promote its banking services and expand its customer base.

Additional Information

• City Union Bank:
• Established in 1904, City Union Bank is one of the oldest private sector banks in India.
• Headquartered in Kumbakonam, Tamil Nadu, the bank has a strong focus on small and medium enterprises (SMEs) and retail banking.
• Sunrisers Hyderabad (SRH):
• Sunrisers Hyderabad is a franchise cricket team that plays in the Indian Premier League (IPL).
• The team was founded in 2012 and has won the IPL title once, in 2016.
• Indian Premier League (IPL):
• The IPL is one of the most popular T20 cricket leagues globally, organized by the Board of Control for Cricket in India (BCCI).
• It serves as a platform for brands to gain immense visibility due to its large fan base and extensive media coverage.
• Brand Partnerships in IPL:
• Partnerships with IPL teams allow brands to engage with diverse audiences and enhance their market presence.
• Sponsorships often include jersey branding, advertising, and co-marketing initiatives.

Q4. Answer: (c) 300%

Shortcut Trick

Interest for 2 years (4 − 2 years) = 3250 − 1750 = Rs. 1,500.

Interest for 1 year = 1500 ÷ 2 = Rs. 750.

Principal (P) = Amount after 2 years − Interest for 2 years = 1750 − 1500 = Rs. 250.

Rate (R) = (Interest per year ÷ Principal) × 100 = (750 ÷ 250) × 100 = 300%.

Therefore The correct answer is 300%.

Alternate Method

Given:

Amount after 2 years (A2) = Rs. 1,750

Amount after 4 years (A4) = Rs. 3,250

Formula Used:

Simple Interest (SI) = Amount − Principal

Rate (R) = (SI × 100) ÷ (P × T)

Year 0 (P)

Year 2

Year 4

Rs. 1,750

Rs. 3,250

+Rs. 1,500 (2 yrs)

+Rs. 1,500 (2 yrs)

P = 1750 − 1500 = Rs. 250

Calculations:

=> Interest for 2 years = A4 − A2

=> Interest for 2 years = 3250 − 1750 = Rs. 1,500

=> Simple Interest for 1 year = 1500 ÷ 2 = Rs. 750

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=> Principal (P) = A2 − Interest for 2 years

=> P = 1750 − 1500 = Rs. 250

=> Rate of Interest (R) = (Interest for 1 year ÷ P) × 100

=> R = (750 ÷ 250) × 100

=> R = 3 × 100 = 300%

Therefore The correct answer is 300%.

Additional Information

Simple Interest Formula

SI = (P × R × T) ÷ 100, where P is Principal, R is Rate per annum, and T is Time in years.

Amount in Simple Interest

Amount (A) = P + SI = P × (1 + RT ÷ 100). The interest remains constant for every equal time period.

Rate calculation shortcut

Rate (R) = (SI × 100) ÷ (P × T). If a sum doubles itself in T years, R = 100 ÷ T.

Q5. Answer: (b) Tamar Revolt

The correct answer is Tamar Revolt.

Key Points

• Bholanath Singh was a prominent leader of the Tamar Revolt, which took place in the region of Jharkhand.

• The Tamar Revolt occurred during the early 19th century, specifically in the year 1789 against the oppressive practices of landlords and the British East India Company.

• The revolt was largely driven by tribal communities, including the Munda tribes, who resisted exploitative policies and forced taxation.

• Bholanath Singh played a crucial role in organizing the tribal groups and leading them in their fight against exploitation and injustice.

• The Tamar Revolt was one of the early tribal revolts in India, showcasing the resistance of indigenous communities against colonial rule and feudal oppression.

Additional Information

• Tribal Revolts in India:

• Tribal revolts like the Santhal Revolt (1855-56), the Kol Revolt (1831), and the Munda Revolt (1899-1900) were significant uprisings against colonial exploitation and local feudal systems.

• These revolts were characterized by the resistance of tribal communities against policies that disrupted their traditional ways of life.

• Impact of Colonial Policies:

• The British introduced land revenue policies that marginalized tribal communities and forced them into bonded labor and economic exploitation.

• These policies led to widespread resentment among tribal groups, culminating in revolts like the Tamar Revolt.

• Leadership in Tribal Movements:

• Tribal leaders like Bholanath Singh and others such as Birsa Munda played a crucial role in organizing resistance against colonial and feudal systems.

• Their leadership was instrumental in galvanizing tribal communities to fight for their rights and preserve their cultural identity.

• Legacy of Tribal Resistance:

• Tribal uprisings like the Tamar Revolt are considered important milestones in the history of India's fight against colonial oppression.

• They laid the foundation for later movements that emphasized social justice and the rights of indigenous communities.

Q6. Answer: (c) 812

The logic followed here is:

Hence, "Option 3" is the correct answer.

Q7. Answer: (d) No appeal is permissible

The correct answer is No appeal is permissible.

Key Points

• The award or decision of a Lok Adalat is deemed as equivalent to a decree of a civil court under the provisions of the Legal Services Authorities Act, 1987.

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• Once a settlement is reached in Lok Adalat, it is binding on all parties and no appeal is permissible to challenge the decision.
• Lok Adalat promotes voluntary conciliation and consensus-based dispute resolution, ensuring quicker and cost-effective justice.
• It is designed to avoid prolonged litigation by resolving disputes amicably without the need for a formal trial.
• The finality of the award is emphasized to maintain the efficiency and credibility of Lok Adalats as an alternative dispute resolution mechanism.

Additional Information

• Lok Adalat:
• Lok Adalat (People's Court) is a statutory body under the Legal Services Authorities Act, 1987.
• It is organized to provide free legal aid and resolve disputes through conciliation and compromise.
• Cases like civil disputes, matrimonial disputes, labor disputes, and compoundable criminal cases are usually resolved by Lok Adalats.
• Legal Services Authorities Act, 1987:
• This Act provides the framework for organizing Lok Adalats and ensuring free legal aid to economically weaker sections.
• It establishes State and District Legal Services Authorities to oversee the implementation of legal aid and Lok Adalats.
• Advantages of Lok Adalat:
• Eliminates the lengthy process of litigation and provides speedy justice.
• Reduces the burden on regular courts and saves resources.
• Fosters mutual understanding and peace among disputing parties.
• Binding Nature of Awards:
• The award is final and cannot be appealed, ensuring quick and decisive resolution of disputes.
• Parties must voluntarily agree to the settlement before the award is passed.

Q8. Answer: (c) Ctrl + K

The correct answer is Ctrl + K.

Key Points

• Ctrl + K is the shortcut key used to insert a hyperlink in MS PowerPoint 365 and other Microsoft Office applications.
• Hyperlinks allow users to link text, images, or objects to external websites, slides, or files for easy navigation.
• The shortcut works universally across multiple Microsoft Office tools, including Word, Excel, and PowerPoint.
• To use this shortcut, select the text or object you want to hyperlink, press Ctrl + K, and enter the URL or file path in the dialog box that appears.
• This feature is particularly useful for creating interactive presentations and documents.

Additional Information

• Hyperlink:
• A hyperlink is a reference or link that directs users to another location, such as a webpage, document, or slide.
• Hyperlinks can be embedded in text, images, or other objects in presentations and documents.
• Interactive Presentations:
• Hyperlinks in PowerPoint are used to create interactive slides that allow users to navigate between slides or external resources.
• This is especially useful for business, educational, and marketing presentations.
• Keyboard Shortcuts in MS Office:
• Keyboard shortcuts enhance productivity by allowing users to perform tasks quickly without using the mouse.
• Examples include Ctrl + C for copy, Ctrl + V for paste, and Ctrl + S for save.
• Universal Shortcut:
• The Ctrl + K shortcut is available across all major versions of Microsoft Office, including Office 365.
• It can be used in Word, Excel, and PowerPoint for hyperlink insertion.

Q9. Answer: (c) Father's father

Given:

1) F is the husband of G.
2) G is the mother of H.
3) H is the husband of I.
4) I is the mother of J.

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

Hence, the correct answer is "Option 3".

Q10. Answer: (d) 1125

Shortcut Trick

Let the Initial CP be 100 units. Initial SP at 21% loss = 79 units.

New CP (8% less) = 92 units. New SP at 5% gain = 92 × 1.05 = 96.6 units.

Difference in SP = 96.6 − 79 = 17.6 units.

Given 17.6 units = Rs. 198. Therefore, 1 unit = 198 ÷ 17.6 = 11.25.

Initial CP = 100 × 11.25 = Rs. 1125.

Therefore The correct answer is Rs. 1125.

Alternate Method

Given: Initial loss = 21%, New CP = 0.92 × Initial CP, Price increase = Rs. 198, Final gain = 5%.

Formulas: SP = CP × (100 ± P/L)% | CP = Initial cost of the article.

=> Let CP = x. Initial SP = 0.79x.

=> New CP = 0.92x. New SP = 0.92x × (1.05) = 0.966x.

=> According to the question: 0.966x − 0.79x = 198.

=> 0.176x = 198.

=> x = 198 ÷ 0.176 = 1125.

Therefore The correct answer is Rs. 1125.

Additional Information

Percentage Change in Profit

When both CP and SP change, the resultant profit percentage is calculated on the new CP, not the original one.

Unitary Method Application

In profit and loss word problems, assuming CP as 100 simplifies calculations involving percentages and ratios.

Q11. Answer: (c) Mali

The correct answer is Mali.

Key Points

• In May 2025, widespread protests erupted in Mali following the government's decision to dissolve all political parties and extend the presidential term.

• The protests were fueled by concerns over democratic backsliding and the consolidation of power by the ruling administration.

• Citizens and opposition groups accused the government of undermining democratic norms and violating constitutional principles.

• International organizations, including the United Nations and African Union, expressed alarm over the situation, urging Mali's leadership to restore democratic processes.

• The protests highlighted growing dissatisfaction with governance in Mali, which has faced political instability and security challenges in recent years.

Additional Information

• Political instability in Mali: Mali has experienced frequent coups and governance crises, with the most recent coup occurring in 2021.

• Impact on democracy: The dissolution of political parties and extension of presidential terms are seen as threats to democratic principles, potentially leading to authoritarianism.

• Role of international actors: Organizations like the UN and African Union often intervene in Mali's political crises, advocating for democratic restoration and stability.

• Security challenges: Mali faces ongoing threats from armed groups and extremists, which exacerbate political and social issues.

• Constitutional concerns: Extending the presidential term without public approval is viewed as a violation of constitutional law and governance ethics.

Q12. Answer: (b) 22.99

Shortcut Trick

The Empirical Relationship between central tendencies is: (Mode − Median) = 2 × (Median − Mean).

Given that Median is 45.98 less than Mode, we have: Mode − Median = 45.98.

Applying the trick: 45.98 = 2 × (Median − Mean).

Required value = 45.98 ÷ 2 = 22.99.

Therefore The correct answer is 22.99.

Alternate Method

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Given:

Difference between Mode and Median = 45.98

Formula Used:

Empirical Formula: Mode = 3 × Median − 2 × Mean

Calculations:

=> Mode = 3 × Median − 2 × Mean

Subtract Median from both sides:

=> Mode − Median = (3 × Median − 2 × Mean) − Median

=> Mode − Median = 2 × Median − 2 × Mean

=> Mode − Median = 2 × (Median − Mean)

Substitute the given value (Mode − Median = 45.98):

=> 45.98 = 2 × (Median − Mean)

=> Median − Mean = 45.98 ÷ 2

=> Median − Mean = 22.99

Therefore The correct answer is 22.99.

Additional Information

Empirical Relationship

For a moderately skewed distribution, the relationship is Mode = 3 Median − 2 Mean. This is also expressed as Mean − Mode = 3(Mean − Median).

Symmetrical Distribution

In a perfectly symmetrical distribution (like a Normal Distribution), the values of Mean, Median, and Mode are all equal (Mean = Median = Mode).

Skewness and Central Tendency

In a positively skewed distribution, Mean > Median > Mode. In a negatively skewed distribution, Mode > Median > Mean.

Q13. Answer: (d) 14

Shortcut Trick

If the Average of a subset (5 numbers) is equal to the overall Average (14), the Average of the remaining numbers must also be the same.

Net deviation from the Mean must be 0.

Since 5 numbers contribute 0 deviation (14 − 14 = 0), the remaining 3 numbers must also have a net deviation of 0.

Therefore The correct answer is 14.

Alternate Method

Given:

Total numbers = 8 | Total Average = 14

First subset = 5 numbers | Subset Average = 14

Formula Used:

Sum = Average × Count

Average of remaining = (Total Sum − Subset Sum) ÷ Remaining Count

=> Total Sum = 8 × 14 = 112

=> Sum of 5 numbers = 5 × 14 = 70

=> Sum of remaining 3 numbers = 112 − 70 = 42

=> Average of remaining 3 numbers = 42 ÷ 3 = 14

Therefore The correct answer is 14.

Additional Information

Basic Average Formula

The arithmetic mean or average is calculated as the Sum of all observations ÷ Total number of observations.

Weighted Average

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

Net Deviation Rule

The sum of deviations of all values in a data set from their arithmetic mean is always equal to zero.

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Q14. Answer: (a) NVW

The logic followed here is:

Hence, "Option 1" is the correct answer.

Q15. Answer: (b) 12

Shortcut Trick

Time for stoppages per hour = (Fast Speed − Slow Speed) ÷ Fast Speed

Stoppage time per hour = (70 − 30) ÷ 70 = 40/70 = 4/7 hours

Total time with stoppages = Total Distance ÷ Speed with stoppages = 630 ÷ 30 = 21 hours

Total stoppage time = 21 × (4/7) = 12 hours

Therefore The correct answer is 12 hours.

Alternate Method

Given:

Average speed without stoppages = 70 km/hr

Average speed with stoppages = 30 km/hr

Total distance of the route = 630 km

Calculations:

=> Actual travel time (without stoppages) = Distance ÷ Speed without stoppages

=> Travel time = 630 ÷ 70 = 9 hours

=> Total time taken (with stoppages) = Distance ÷ Speed with stoppages

=> Total time = 630 ÷ 30 = 21 hours

=> Stoppage time = Total time − Actual travel time

=> Stoppage time = 21 − 9 = 12 hours

Therefore The correct answer is 12 hours.

Additional Information

Average Speed Concept

Average Speed = Total Distance ÷ Total Time. Stoppages increase the total time, thereby reducing the average speed.

Stoppage Time Formula

Stoppage time per hour = (Difference in Speeds) ÷ (Faster Speed). To find total stoppage time, multiply this by the total time taken with stoppages.

Relative Speed

When two objects move in the same direction, relative speed is S1 − S2. In opposite directions, it is S1 + S2.

Q16. Answer: (d) 3

The solution is in Hindi. Read it online.

Q17. Answer: (c) 42

Shortcut Trick

Ratio of Perimeter (2(L+B)) to Breadth (B) is 3 : 1.

=> 2L + 2B = 3B => 2L = B

Since Area = L × B = 98 => L × 2L = 98 => $2L^2 = 98$ => $L^2 = 49$ => L = 7 cm.

Then B = 2 × 7 = 14 cm.

Perimeter = 2(7 + 14) = 2 × 21 = 42 cm.

Therefore The correct answer is 42 cm.

Alternate Method

Given:

Ratio of Perimeter to Breadth = 3 : 1

Area of Rectangle = 98 cm^2

Formula Used:

Perimeter = 2(L + B)

Area = L × B

Calculations:

=> 2(L + B) / B = 3 / 1

=> 2L + 2B = 3B

=> 2L = B

=> Area = L × B = 98

=> L × (2L) = 98

=> $2L^2 = 98$

=> $L^2 = 49$

=> L = 7 cm

=> B = 2 × 7 = 14 cm

=> Perimeter = 2(7 + 14) = 2 × 21 = 42 cm

Therefore The correct answer is 42 cm.

Additional Information

Properties of Rectangle

A rectangle is a quadrilateral with four right angles. Opposite sides are equal and parallel. Diagonals are equal and bisect each other.

Diagonal Formula

The length of the diagonal (d) of a rectangle is given by $d = \sqrt{(L^2 + B^2)}$.

Square as a Rectangle

A square is a special case of a rectangle where all four sides are equal (L = B).

Q18. Answer: (a) Sushira Vadya

The correct answer is Sushira Vadya.

Key Points

• Sushira Vadya refers to wind instruments where sound is produced by blowing air into a hollow column.

• Common examples of Sushira Vadya include the flute, shehnai, and harmonium.

• The vibration of air within the hollow tube creates sound, and the pitch can be varied by changing the length of the air column.

• These instruments are categorized under the ancient Indian classification of musical instruments based on how sound is produced.

• Sushira Vadya is distinct from other categories like Tata Vadya (string instruments) or Avanaddha Vadya (percussion instruments).

Additional Information

• Classification of Indian Musical Instruments:

• Indian instruments are traditionally classified into four types: Tata Vadya (string instruments), Avanaddha Vadya (percussion instruments), Sushira Vadya (wind instruments), and Ghana Vadya (solid instruments).

• Mechanism of Sound Production:

• In Sushira Vadya, air vibrations caused by blowing into the instrument generate sound waves within the hollow column.

• The frequency of these waves determines the pitch, which can be manipulated using finger holes or valves.

• Examples of Sushira Vadya:

• Traditional instruments: Flute, Shehnai, Nadaswaram.

• Modern instruments: Clarinet, Saxophone.

• Role in Indian Music:

• Sushira Vadya plays a vital role in both classical and folk music traditions.

• These instruments are often used for melody and accompaniment.

Q19. Answer: (b) Indian Embassy at their country of living

The correct answer is Indian Embassy at their country of living.

Key Points

• Under Article 8 of the Constitution of India, persons of Indian origin residing outside the country can apply for Indian citizenship at the Indian Embassy or Consulate in their country of residence.

• Article 8 specifically provides for Indian citizenship to those who have Indian origin but are ordinarily residing outside India.

• The individual must be registered as a citizen of India by the diplomatic or consular representative of India in that country.

• The process involves verification of the applicant's Indian origin and other supporting documentation by the concerned diplomatic mission.

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• This provision is part of the broader framework of the Indian Constitution's citizenship laws, which include Articles 5 to 11.

Additional Information

• Article 5 to 11 of the Indian Constitution:

• These articles deal with the acquisition and termination of citizenship in India.

• They provide the constitutional framework for Indian citizenship at the commencement of the Constitution in 1950.

• Article 8 is particularly relevant for individuals of Indian origin living abroad.

• Indian Citizenship Act, 1955:

• This act governs the acquisition and termination of Indian citizenship after the Constitution came into effect.

• It provides various modes for acquiring citizenship, such as birth, descent, registration, naturalization, and incorporation of territory.

• Overseas Citizenship of India (OCI):

• OCI is a scheme launched by the Government of India to facilitate individuals of Indian origin who do not qualify for Indian citizenship but want to maintain a connection with India.

• OCI does not grant full citizenship but provides certain privileges like visa-free travel and property ownership in India.

• Indian Diaspora:

• The Indian diaspora is one of the largest in the world, with millions of individuals of Indian origin living in various countries.

• They play a significant role in fostering economic, cultural, and political ties between India and their countries of residence.

Q20. Answer: (b) = ROU, % = IFL

The logic followed here is:

Given: # : OLR :: LIO : %

Option 1) # = YTU, % = LKJ → YTU : OLR :: LIO : LKJ

Option 2) # = ROU, % = IFL → ROU : OLR :: LIO : IFL

Option 3) # = RPO, % = MKP → RPO : OLR :: LIO : MKP

Option 4) # = PKI, % = IMJ → PKI : OLR :: LIO : IMJ

Hence, "Option 2" is the correct answer.

Q21. Answer: (b) Droupadi Murmu

The correct answer is Droupadi Murmu.

Key Points

• Droupadi Murmu, the President of India, was awarded the Grand Collar of the Order of Timor-Leste in August 2024.

• This is the highest civilian honor of Timor-Leste, conferred to individuals for their significant contributions to strengthening bilateral ties.

• The honor was bestowed during her state visit to Timor-Leste, aimed at enhancing diplomatic and economic relations between the two nations.

• This was the first state visit by an Indian President to Timor-Leste, marking a historic milestone in India-Timor-Leste relations.

• The award reflects India’s growing global recognition and the emphasis placed on fostering international partnerships.

Additional Information

• Grand Collar of the Order of Timor-Leste:

• This is the highest distinction given by the Government of Timor-Leste to individuals who have significantly contributed to the country's development or international relations.

• Previous recipients include heads of state and other global leaders who have supported Timor-Leste's growth and international standing.

• India-Timor-Leste Relations:

• Diplomatic relations between India and Timor-Leste were established in 2003, shortly after Timor-Leste's independence in 2002.

• India has supported Timor-Leste in areas like capacity building, economic development, and infrastructure development.

• Droupadi Murmu:

• Droupadi Murmu is the 15th President of India and the first tribal woman to hold the office.

• She assumed office on July 25, 2022, and has been actively representing India on global platforms.

• Timor-Leste:

• Timor-Leste, also known as East Timor, is a Southeast Asian nation located on the eastern half of the island of Timor.

• It gained independence from Indonesia in 2002 and has since sought to strengthen its international diplomatic relationships.

Q22. Answer: (a) 8.72 crore

The correct answer is 8.72 crore.

Key Points

• As per the Socio-Economic and Caste Census (SECC) conducted by the Ministry of Rural Development, 8.72 crore rural households were graded based on deprivation criteria.

• The SECC was a significant initiative aimed at identifying households based on economic and social deprivation parameters.

• This census was concluded in March 2016 and formed the basis for targeting beneficiaries under various social welfare schemes.

• The SECC categorization ensures better targeting of subsidies and welfare programs by identifying the most deprived households.

Additional Information

• Socio-Economic and Caste Census (SECC):

• The SECC was conducted in 2011, with its analysis completed later for targeted policy implementation.

• It aimed to collect data on multiple deprivation indicators such as housing, education level, income, and employment status.

• Deprivation Criteria:

• Households were evaluated on factors such as income, land ownership, access to education, and type of dwelling.

• These criteria were used to prioritize households for government schemes like housing, employment, and healthcare.

• Importance:

• The SECC data is crucial for implementing targeted welfare policies for rural development.

• It provides valuable insights into poverty and socio-economic challenges in India.

• Ministry of Rural Development:

• The Ministry spearheaded the SECC initiative and ensured data collection from all rural households.

• It is responsible for implementing rural welfare programs in India.

Q23. Answer: (d) 20

The logic followed here is

12 is related to 4 → 12 ÷ 3 = 4

And,

24 is related to 8 → 24 ÷ 3 = 8

Similarly,

60 related→ 60 ÷ 3 = 20

Hence, "Option 4" is the correct answer.

Q24. Answer: (d) Tamil Nadu, Kerala, Karnataka

The correct answer is Tamil Nadu, Kerala, Karnataka.

Key Points

• The Nilgiri Biosphere Reserve is India's first biosphere reserve, established in 1986.

• It spans across three Indian states: Tamil Nadu, Kerala, and Karnataka.

• The reserve covers an area of approximately 5,520 square kilometers.

• It is part of the Western Ghats, a UNESCO World Heritage Site known for its rich biodiversity.

• The Nilgiri Biosphere Reserve is home to several endemic species, including the Nilgiri Tahr and the Lion-tailed Macaque.

Additional Information

• Biosphere Reserve:

• A biosphere reserve is an area designated to protect biodiversity and promote sustainable development.

• It comprises three zones: the core area (protected region), buffer zone (activities promoting conservation), and transition area (sustainable resource use).

• Western Ghats:

• The Western Ghats is one of the eight "hottest hotspots" of biological diversity in the world.

• It is recognized as a UNESCO World Heritage Site for its unique ecosystems.

• Flora and Fauna:

• The Nilgiri Biosphere Reserve hosts over 3,000 species of flowering plants and a variety of mammals, birds, reptiles, and insects.

• Endangered species like the Tiger, Elephant, and Nilgiri Langur are found here.

• UNESCO Program:

• The Nilgiri Biosphere Reserve is part of UNESCO's Man and Biosphere (MAB) Program, which promotes conservation and sustainable development.

• It aims to balance environmental conservation with human activity.

Q25. Answer: (c) 2

According to the given information,

Thus, 'S' is coded as '2'.

Hence, "Option 3" is the correct answer.

Q26. Answer: (b) 100 : 81

Shortcut Trick

For any two similar triangles, the ratio of their areas is equal to the square of the ratio of their corresponding sides.

Ratio of corresponding sides = 10 : 9

=> Ratio of areas = $10^2 : 9^2$

=> Ratio of areas = 100 : 81

Therefore The correct answer is 100 : 81.

Alternate Method

Given:

Ratio of the lengths of two corresponding sides of two similar triangles = 10 : 9

Formula Used:

If ΔABC ~ ΔPQR, then:

Area(ΔABC) / Area(ΔPQR) = $(AB / PQ)^2 = (BC / QR)^2 = (AC / PR)^2$

Calculations:

Let the corresponding sides of the two triangles be s1 and s2.

=> s1 / s2 = 10 / 9

Let the areas of the two triangles be A1 and A2.

According to the Area of Similar Triangles Theorem:

=> $A1 / A2 = (s1 / s2)^2$

=> $A1 / A2 = (10 / 9)^2$

=> A1 / A2 = (10 × 10) / (9 × 9)

=> A1 / A2 = 100 / 81

=> A1 : A2 = 100 : 81

Therefore The correct answer is 100 : 81.

Additional Information

Ratio of Perimeters

For two similar triangles, the ratio of their perimeters is equal to the ratio of their corresponding sides (s1 : s2).

Ratio of Altitudes and Medians

The ratio of corresponding altitudes, medians, or angle bisectors of two similar triangles is also equal to the ratio of their corresponding sides.

Conditions for Similarity

Two triangles are similar if their corresponding angles are equal (AAA) or their corresponding sides are in the same ratio (SSS or SAS).

Q27. Answer: (a) 14

Shortcut Trick

For inversely proportional quantities, the product of variables remains constant: M1 × N1 = M2 × N2.

Initial product: 18 × 21 = 378

New product: M × 27 = 378

M = 378 ÷ 27 = 14

Therefore The correct answer is 14.

Alternate Method

Given: M is inversely proportional to N. M1 = 18, N1 = 21, N2 = 27.

Formula Used: M = k/N or M × N = k (where k is a constant).

=> 18 × 21 = k

=> k = 378

=> Now, M2 × N2 = 378

=> M2 × 27 = 378

=> M2 = 378 ÷ 27

=> M2 = 14

Therefore The correct answer is 14.

Additional Information

Direct Proportion

In direct proportion, the ratio of variables is constant: y/x = k or y1/x1 = y2/x2.

Inverse Proportion Property

If one quantity increases, the other decreases proportionally such that their product remains the same.

Proportionality Constant

The value k = M × N is known as the constant of proportionality for inverse variation.

Q28. Answer: (d) Colombia

The correct answer is Colombia.

Key Points

• The United Nations Biodiversity Conference (COP16) is scheduled to be held in Colombia in February 2025.

• Colombia, known for its rich biodiversity, was chosen to host this crucial event, emphasizing its role in global biodiversity conservation.

• The conference is a part of the Convention on Biological Diversity (CBD), which aims to promote sustainable development and address global biodiversity loss.

• Previous COPs under the CBD have focused on the Kunming-Montreal Global Biodiversity Framework, which sets targets for biodiversity protection until 2030.

• The event will bring together governments, scientists, and stakeholders to discuss and implement strategies for biodiversity conservation and sustainable use of natural resources.

Additional Information

• Convention on Biological Diversity (CBD):

• The CBD is an international treaty adopted at the Earth Summit in Rio de Janeiro in 1992.

• Its primary objectives include the conservation of biodiversity, sustainable use of its components, and fair sharing of benefits from genetic resources.

• It has been ratified by 196 parties, making it a near-universal environmental agreement.

• Kunming-Montreal Global Biodiversity Framework:

• Adopted during COP15 in 2022, this framework sets 23 global targets to halt and reverse biodiversity loss by 2030.

• Key targets include protecting 30% of the planet's land and oceans and restoring degraded ecosystems.

• Biodiversity Hotspots:

• Colombia is one of the world's most biodiverse countries, hosting a significant portion of the Amazon rainforest, Andes mountain range, and Orinoco plains.

• It is home to 10% of the planet’s species, making it a critical location for global biodiversity conservation efforts.

• Previous COP Locations:

• COP15 was held in two parts: Kunming, China (2021), and Montreal, Canada (2022).

• COP14 was hosted in Sharm El-Sheikh, Egypt, in 2018.

• Role of COP16:

• COP16 will review the progress made under the Kunming-Montreal framework and address emerging issues in biodiversity conservation.

• It will also provide a platform for nations to discuss financing mechanisms and partnerships for achieving biodiversity targets.

Q29. Answer: (b) Goods and Services Tax (GST)

The correct answer is Goods and Services Tax (GST).

Key Points

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• The Goods and Services Tax (GST) was introduced in India through the 101st Amendment Act, 2016.
• It was implemented on July 1, 2017, replacing multiple indirect taxes like service tax, VAT, and excise duty.
• GST is a destination-based tax, meaning it is levied at the point of consumption rather than the point of origin.
• The tax structure includes four main slabs: 0%, 5%, 12%, 18%, and 28%, depending on the type of goods and services.
• GST is governed by a dual structure, where both the Central Government (CGST) and State Governments (SGST) collect taxes on intra-state transactions, while inter-state transactions attract Integrated GST (IGST).

Additional Information

• Input Tax Credit (ITC):
• Under GST, businesses can claim credit for taxes paid on purchases as a set-off against taxes payable on sales.
• This eliminates the cascading effect of taxes, making the tax system more efficient.
• GST Council:
• The GST Council is a constitutional body chaired by the Union Finance Minister.
• It consists of representatives from both the Central and State Governments to decide GST rates, policies, and reforms.
• Types of GST:
• CGST: Central Goods and Services Tax, levied by the central government.
• SGST: State Goods and Services Tax, levied by state governments.
• IGST: Integrated Goods and Services Tax, applicable on inter-state transactions.
• Impact of GST:
• GST has simplified the tax structure in India by consolidating multiple indirect taxes.
• It has improved tax compliance and brought transparency to the taxation system.
• It has boosted India's ease of doing business rankings by streamlining tax processes for businesses.

Q30. Answer: (c) 20 : 36

Shortcut Trick

Convert each ratio into a decimal value to compare easily.

21 ÷ 45 ≈ 0.466

25 ÷ 50 = 0.500

20 ÷ 36 ≈ 0.555

17 ÷ 42 ≈ 0.404

Therefore The correct answer is 20 : 36.

Alternate Method

Given: Ratios are 21:45, 25:50, 20:36, and 17:42.

Method: Convert all fractions to a common denominator or decimal form.

=> 21/45 = 7/15 ≈ 0.466

=> 25/50 = 1/2 = 0.5

=> 20/36 = 5/9 ≈ 0.555

=> 17/42 ≈ 0.404

=> Comparing the values: 0.555 > 0.500 > 0.466 > 0.404

Therefore The correct answer is 20 : 36.

Additional Information

Comparison of Fractions

To compare a/b and c/d, cross-multiply: if ad > bc, then a/b > c/d.

Compound Ratio

The compound ratio of a:b and c:d is (a × c) : (b × d).

Percentage Conversion

Multiply the ratio by 100 to find its percentage value; for example, 20:36 ≈ 55.55%.

Q31. Answer: (a) Tuhin Kanta Pandey

The correct answer is Tuhin Kanta Pandey.

Key Points

• Tuhin Kanta Pandey was appointed as the 11th Chairman of the Securities and Exchange Board of India (SEBI) in February 2025.
• He succeeded the outgoing SEBI chairman, Madhabi Puri Buch, who served from 2022 to 2025.

• Tuhin Kanta Pandey is an Indian Administrative Service (IAS) officer of the 1987 Odisha cadre.

• Before his appointment as SEBI Chairman, he served as the Secretary of the Department of Investment and Public Asset Management (DIPAM).

• As SEBI Chairman, his role involves regulating and promoting the securities market in India while protecting the interests of investors.

Additional Information

• Securities and Exchange Board of India (SEBI):

• SEBI is the regulatory body for the securities and commodity market in India under the jurisdiction of the Ministry of Finance.

• It was established in 1988 and given statutory powers through the SEBI Act, 1992.

• SEBI's primary function is to protect investor interests, promote the development of the securities market, and regulate its functioning.

• Role of SEBI Chairman:

• The SEBI Chairman is responsible for overseeing the functioning of the Indian securities and commodity markets.

• They ensure compliance with regulations, protect investors, and facilitate the growth of capital markets.

• Department of Investment and Public Asset Management (DIPAM):

• DIPAM is responsible for managing the government's investments in public sector undertakings (PSUs) and facilitating their disinvestment.

• Tuhin Kanta Pandey played a key role in the strategic disinvestments of major PSUs during his tenure as DIPAM Secretary.

• Previous SEBI Chairpersons:

• Notable past chairpersons include U.K. Sinha, Ajay Tyagi, and Madhabi Puri Buch.

• Madhabi Puri Buch was the first female Chairperson of SEBI, serving from 2022 to 2025.

Q32. Answer: (d) Delhi

The correct answer is Delhi.

Key Points

• According to the Census 2011, Delhi had the highest percentage of urban population in India, with 97.5% of its population living in urban areas.

• Delhi is classified as a Union Territory with a unique urban-centric demographic profile due to its status as the national capital and a major metropolitan hub.

• Urbanization in Delhi is driven by factors such as migration, better economic opportunities, and the presence of a highly developed infrastructure.

• The total urban population of India as per Census 2011 was 377 million, which accounted for 31.16% of the total population.

• Delhi's urban population growth is significantly influenced by its role as a political, cultural, and administrative center of India.

Additional Information

• Urbanization in India:

• Urbanization refers to the increasing proportion of a country's population living in urban areas.

• In India, urbanization is largely attributed to migration from rural areas in search of employment, better living standards, and access to education and healthcare facilities.

• Census 2011:

• The Census of India 2011 is the 15th National Census conducted by the Government of India, providing comprehensive demographic, social, and economic data.

• It classified the population into rural and urban categories based on specific criteria, such as population density, infrastructure, and employment patterns.

• Factors Contributing to Urbanization:

• Industrialization and economic development attract rural populations to urban centers.

• Availability of better infrastructure, healthcare, and education facilities in urban areas drives migration.

• Challenges of Urbanization:

• Rapid urbanization can lead to overcrowding, housing shortages, and strain on urban infrastructure.

• Environmental issues such as pollution and waste management become significant challenges in highly urbanized regions.

Q33. Answer: (d) 151

The logic followed here is:

Hence, "Option 4" is the correct answer.

Q34. Answer: (a) Goa

The Correct answer is Goa

Key Points

• Goa recorded the highest Scheduled Tribes (ST) sex ratio in 2011 according to the Census of India data.

• The ST sex ratio in Goa was 1,046 females per 1,000 males.

• Goa is known for having a relatively smaller percentage of the Scheduled Tribes population in comparison to other Indian states.

• The high ST sex ratio is an indicator of gender parity among tribal communities in Goa.

• The state has seen a growth in the tribal population in recent decades, with a focus on preserving cultural heritage and improving education and healthcare facilities.

• Goa has a mixed population with influences from Portuguese colonial history and indigenous tribal communities.

• The tribal groups in Goa include the Gawdas, Kunbis, and Velips, among others.

Additional Information

• Mizoram

• Mizoram had a high ST sex ratio of 1,007 females per 1,000 males, but it was not the highest.

• The state is home to various tribes, such as the Lusei, Hmar, and Chakma.

• Mizoram has a well-developed education system that contributes to the strong position of women in tribal communities.

• Arunachal Pradesh

• Arunachal Pradesh recorded a ST sex ratio of 1,032 females per 1,000 males, higher than Goa, but not the highest.

• The state is home to diverse tribal groups, including the Apatanis, Nyishis, and Mishmis.

• Gender equality and a strong focus on education have positively influenced the ST sex ratio in Arunachal Pradesh.

• Tamil Nadu

• Tamil Nadu recorded a lower ST sex ratio of 981 females per 1,000 males in 2011 compared to Goa and other states.

• The state has a large population of Scheduled Castes (SC) and a significant number of Scheduled Tribes (ST) mainly in hilly areas.

• Improved access to education and healthcare has contributed to the betterment of tribal populations in Tamil Nadu.

Q35. Answer: (b) 368

Given: 76 ÷ 9 + 818 × 2 − 93 = ?

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

76 ÷ 9 + 818 × 2 − 93 = ? => 76 × 9 - 818 ÷ 2 + 93 = ?

=> 76 × 9 - 818 ÷ 2 + 93 = ?

=> 76 × 9 - 409 + 93 = ?

=> 684 + 93 - 409 = ?

=> 777 - 409 = ?

=> 368 = ?

Hence, "Option 2" is the correct answer.

Q36. Answer: (c) [M L^(-1) T^(-2)]

The correct answer is [ML^(-1)T^(-2)].

Key Points

• Pressure is defined as the force applied per unit area.

• Mathematically, Pressure = Force / Area.

• Force has the dimensional formula [MLT^(-2)], where M = mass, L = length, T = time.

• Area has the dimensional formula [L2].

• Dividing force by area gives [MLT^(-2)] / [L^2] = [ML^(-1)T^(-2)], which is the dimensional formula of pressure.

• Applications: Pressure is used in fields like fluid mechanics, hydraulics, meteorology, and engineering design.

• Examples: Atmospheric pressure, blood pressure, and pressure in hydraulic lifts.

Additional Information

• [MT^(-2)]: This dimensional formula corresponds to surface tension.

• Surface tension represents force per unit length along the surface of a liquid.

• Common applications include capillary action, formation of droplets, and liquid interfaces in engineering.

• [$ML^2T^{(-2)}$]: This represents moment of force or torque.

• It is calculated as Force × Distance from the pivot.

• Used in applications such as lever systems, mechanical rotation, and structural analysis.
• [MLT^(-2)]: This is the dimensional formula for force itself.
• Force acts on objects to produce acceleration.
• Applications include mechanics, dynamics, and structural design calculations.

Q37. Answer: (b) 16%

Shortcut Trick
For compounded half-yearly, time 1 year 6 months = 3 half-year cycles.
Ratio of Amount to Principal for 3 cycles = 19,683 ÷ 15,625 = $(27/25)^3$.
Rate per half-year = [(27 − 25) / 25] × 100 = 8%.
Annual Rate of Interest = 8% × 2 = 16%.
Therefore The correct answer is 16%.
Alternate Method
Given: Principal (P) = Rs. 15,625, Amount (A) = Rs. 19,683, Time (T) = 1.5 years.
Formula Used: $A = P(1 + r/100)^n$, where r is the rate per period and n is the number of periods.
=> Total periods (n) = 1.5 years × 2 = 3 periods.
=> $19,683 = 15,625 \times (1 + r/100)^3$
=> $19,683 / 15,625 = (1 + r/100)^3$
=> $(27/25)^3 = (1 + r/100)^3$
=> $1 + r/100 = 27/25$
=> $r/100 = 27/25 - 1 = 2/25$
=> $r = (2/25) \times 100 = 8\%$ per half-year.
=> Annual Rate = 8% × 2 = 16%.
Therefore The correct answer is 16%.
Additional Information
Half-Yearly Compounding
When interest is compounded half-yearly, the annual rate is halved (R/2) and the time is doubled (2 × T).
Quarterly Compounding
When interest is compounded quarterly, the annual rate is divided by 4 (R/4) and the time is multiplied by 4 (4 × T).
Effective Rate of Interest
It is the actual annual interest rate when compounding occurs more than once a year, calculated as $[(1 + r/n)^n - 1] \times 100$.

Q38. Answer: (b) OQ −6

The logic followed here is:
QP 15 is related to TR 6
And,
KN 8 is related to NP −1
Similarly,
LO 3 is related to

Hence, "Option 2" is the correct answer.

Q39. Answer: (a) 3

Given series: (Left) 3 # 6 5 2 @ 8 * 7 9 1 % 2 8 1 9 3 # 1 £ © 7 (Right)
According to the question,
Required condition: Number - Number - Symbol
(Left) 3 # 6 5 2 @ 8 * 7 9 1 % 2 8 1 9 3 # 1 £ © 7 (Right)
Thus, there are three such number which are immediately preceded by a number and also immediately followed by a symbol.
Hence, "Option 1" is the correct answer

Q40. Answer: (a) It is composed of a sugar-phosphate backbone and nitrogenous bases.

The correct answer is It is composed of a sugar-phosphate backbone and nitrogenous bases..
Key Points

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• DNA (Deoxyribonucleic Acid) is a long polymer composed of repeating units called deoxyribonucleotides, which form the basic structural framework.

• Each nucleotide in DNA consists of three components: a deoxyribose sugar, a phosphate group, and a nitrogenous base.

• The sugar-phosphate backbone forms the structural framework, while the nitrogenous bases project inward, forming complementary base pairs.

• The nitrogenous bases include adenine (A), thymine (T), cytosine (C), and guanine (G), which pair specifically (A with T and C with G) through hydrogen bonding.

• This arrangement results in the characteristic double-helix structure of DNA, with the sugar-phosphate backbone on the outside and base pairs on the inside.

Additional Information

• Nucleotides: The building blocks of DNA, composed of a nitrogenous base, a deoxyribose sugar, and a phosphate group.

• Complementary Base Pairing: Adenine pairs with thymine through two hydrogen bonds, while cytosine pairs with guanine through three hydrogen bonds, ensuring the stability of the double helix.

• Sugar-Phosphate Backbone: This backbone provides structural integrity and is formed through phosphodiester bonds between the 5' phosphate group of one nucleotide and the 3' hydroxyl group of the adjacent nucleotide.

• Double-Helix Model: Proposed by Watson and Crick in 1953, the DNA double helix consists of two antiparallel strands twisted around each other.

• Central Dogma of Molecular Biology: DNA serves as the template for RNA synthesis (transcription), which in turn guides protein synthesis (translation), highlighting its critical role in genetic information storage and expression.

Q41. Answer: (c) U

Given: P, Q, R, S, T, U and V have an exam on different days of the week starting on Monday and ending on Sunday.

1) Q has an exam on Friday.

Weekdays	Person
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	Q
Saturday	
Sunday	

2) Exactly 3 people have an exam between R and T, neither of whom has on exam on Sunday.

3) V has an exam immediately before T.

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

4) P has an exam immediately after U.

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

Weekdays	Person
Monday	V
Tuesday	T

Wednesday	U
Thursday	P
Friday	Q
Saturday	R
Sunday	S

Thus, U has an exam on Wednesday.

Hence, "Option 3" is the correct answer.

Q42. Answer: (c) 66

Given: Manish ranked 18th from the top and 49th from the bottom in his class.

Manish's rank from the top → 18th

Manish's rank from the bottom → 49th

Total students = Manish's rank from the top + Manish's rank from the bottom - 1

= 18 + 49 - 1 → 66

Hence, "Option 3" is the correct answer.

Q43. Answer: (d) LEH

The logic followed here is:

Hence, "Option 4" is the correct answer.

Q44. Answer: (b) 45.48%

Shortcut Trick

Net discount for 3% and 27% = 3 + 27 − (3 × 27) ÷ 100 = 30 − 0.81 = 29.19%.

Now, combine 29.19% and 23% = 29.19 + 23 − (29.19 × 23) ÷ 100.

= 52.19 − (671.37 ÷ 100) = 52.19 − 6.7137 = 45.4763%.

Rounding up to two decimal places, we get 45.48%.

Therefore The correct answer is 45.48%.

Alternate Method

Given → Three successive discounts: d1 = 3%, d2 = 27%, d3 = 23%.

Formulas: Successive Discount = a + b − (ab ÷ 100) | Final SP = MP × (100−d1)/100 × (100−d2)/100 × (100−d3)/100.

=> Let the Marked Price (MP) be 100.

=> After 1^(st) discount: 100 × (97 ÷ 100) = 97.

=> After 2^(nd) discount: 97 × (73 ÷ 100) = 70.81.

=> After 3^(rd) discount: 70.81 × (77 ÷ 100) = 54.5237.

=> Total Discount = MP − Final SP = 100 − 54.5237 = 45.4763%.

=> Rounding to 2 decimal places ≈ 45.48%.

Therefore The correct answer is 45.48%.

Additional Information

Successive Discounts

When two or more discounts are applied one after another on the reduced price, they are called successive discounts. The order of application does not change the final result.

Single Equivalent Discount Formula

For three discounts d1, d2, and d3, the equivalent discount is 1 − [(1 − d1/100) × (1 − d2/100) × (1 − d3/100)] × 100%.

Q45. Answer: (a) Page Layout → Orientation

The correct answer is Page Layout → Orientation.

Key Points

• To change the page orientation in MS Word 2019, navigate to the "Page Layout" tab, then click on "Orientation."

• There are two orientation options available: Portrait (vertical layout) and Landscape (horizontal layout).

• The "Page Layout → Orientation" feature applies the selected orientation to the entire document or specific sections when used

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with page breaks.

• This feature is essential for formatting documents with varying layout requirements, such as presentations or tables.

• MS Word 2019 allows users to preview orientation changes instantly, ensuring accurate formatting.

Additional Information

• Page Layout Tab:

• The "Page Layout" tab provides tools for adjusting document margins, page size, orientation, and column settings.

• It also includes options for adding borders, watermarks, and page colors.

• Portrait vs. Landscape Orientation:

• Portrait: The default orientation with the height greater than the width, suitable for textual documents.

• Landscape: An orientation where the width is greater than the height, ideal for tables, charts, or wide content.

• Section Breaks:

• Section breaks allow users to apply different page layouts within the same document.

• This feature is useful for combining portrait and landscape pages in one file.

• Print Layout View:

• Print Layout View in MS Word shows how the document will appear when printed, including page orientation changes.

• This view is ideal for checking formatting and design before finalizing documents.

Q46. Answer: (d) Families given housing by any government scheme in the past 20 years

The correct answer is Families given housing by any government scheme in the past 20 years.

Key Points

• The PMAY-U 2.0 scheme, launched in 2024, aims to provide affordable housing to urban dwellers from specific income groups.

• Eligibility under the scheme includes individuals from Economically Weaker Sections (EWSs) and Middle Income Groups (MIG) with annual incomes up to Rs. 9 lakh.

• Families or individuals with annual income up to Rs. 6 lakh are eligible under the Lower Income Group (LIG) category.

• However, families already provided housing under any government scheme in the past 20 years are excluded from PMAY-U 2.0 eligibility.

• This exclusion ensures that the scheme benefits only first-time beneficiaries and avoids duplication of housing benefits.

Additional Information

• PMAY-U (Pradhan Mantri Awas Yojana - Urban):

• A flagship scheme by the Government of India to ensure "Housing for All" by 2024.

• Focuses on providing affordable housing in urban areas through Credit Linked Subsidy Scheme (CLSS).

• Economically Weaker Sections (EWSs):

• EWS households have an annual income of up to Rs. 3 lakh.

• They are eligible for the highest subsidy under PMAY-U.

• Middle Income Group (MIG):

• MIG households are divided into two categories: MIG-I (Rs. 6–Rs. 9 lakh annual income) and MIG-II (Rs. 9–Rs. 12 lakh annual income).

• They are eligible for varying levels of interest subsidy on housing loans.

• Credit Linked Subsidy Scheme (CLSS):

• Under CLSS, beneficiaries can avail interest subsidies on home loans for construction, purchase, or improvement of their houses.

• The subsidy amount depends on the income group of the applicant.

Q47. Answer: (a) 42.85%

The correct answer is 0.4285.

Key Points

• India's Defence Public Sector Undertakings (DPSUs) recorded a growth of 42.85% in exports during the fiscal year 2024-25 compared to the previous year.

• This growth reflects India's focused efforts on boosting defense exports under the Make in India initiative.

• The Press Information Bureau (PIB) highlighted that defense exports have been supported by policy reforms and government initiatives.

• India's defense exports include military hardware such as radars, naval vessels, and ammunition, among others.

• The growth is part of India’s strategy to become a major global supplier of defense equipment.

Additional Information

• Defense Public Sector Undertakings (DPSUs):

• DPSUs are government-owned companies that manufacture defense equipment.

• Examples include Hindustan Aeronautics Limited (HAL), Bharat Electronics Limited (BEL), and Mazagon Dock Shipbuilders Limited.

• Make in India Initiative:

• Launched in September 2014 by the Government of India.

• Aims to encourage companies to manufacture in India and boost domestic manufacturing.

• Defense Export Policy:

• India has implemented policies to simplify export procedures for defense products.

• The government provides financial support and marketing assistance to companies exporting defense products.

• Global Defense Market:

• India is actively targeting countries in Africa, Southeast Asia, and Latin America for defense exports.

• India's growing defense exports contribute to its strategic goals and economic growth.

Q48. Answer: (a) 41

Decoding signs:

Sign	A	B	C	D
Stands For	÷	×	•	•

Given: (46 B 8) A 16 C 15 B 3 D 27 =?

(46 B 8) A 16 C 15 B 3 D 27 =? => (46 × 8) ÷ 16 + 15 × 3 - 27 =?

=> (46 × 8) ÷ 16 + 15 × 3 - 27 =?

=> 368 ÷ 16 + 15 × 3 - 27 =?

=> 23 + 15 × 3 - 27 =?

=> 23 + 45 - 27 =?

=> 68 - 27 =?

=> 41 = ?

Hence, "Option 1" is the correct answer.

Q49. Answer: (c) 50√3 m

Shortcut Trick

In a 30°−60°−90° triangle, the ratio of sides opposite to these angles is 1 : √3 : 2.

The side opposite to 30° (height) is 1 unit = 50 m.

The side opposite to 60° (distance from foot) is √3 units.

Distance = 50 × √3 = 50√3 m.

Therefore The correct answer is 50√3 m.

Alternate Method

Given:

Height of the tower (QR) = 50 m

Angle of elevation at point P (θ) = 30°

Formula Used:

tan θ = Perpendicular / Base

Calculations:

=> tan 30° = QR / PQ

=> 1 / √3 = 50 / PQ

=> PQ = 50 × √3

=> PQ = 50√3 m

Therefore The correct answer is 50√3 m.

Additional Information

Trigonometric Ratios

Common values: tan 30° = 1/√3, tan 45° = 1, tan 60° = √3.

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Angle of Elevation vs Depression

The angle of elevation from an observer to an object is equal to the angle of depression from the object to the observer due to alternate interior angles.

Standard Triangle Ratios

For a 45°−45°−90° triangle, the side ratio is 1 : 1 : √2. For a 30°−60°−90° triangle, it is 1 : √3 : 2.

Q50. Answer: (d) Love

The correct answer is Love.

Key Points

• Akam in Sangam literature refers to the inner, personal, and emotional aspects of life, especially focusing on the theme of love.

• Sangam poetry categorizes emotions and situations of love into distinct landscapes or ‘tinai’, which are symbolic of specific moods and settings.

• The Akam theme encompasses the intimate experiences of individuals, such as courtship, marriage, and separation.

• Unlike themes like war or politics, Akam focuses on the domestic and emotional realm, representing the personal lives of individuals.

• The concept of Akam is complemented by Puram, which deals with external aspects like war, heroism, and public life.

Additional Information

• Sangam Literature: It is a body of classical Tamil literature created between 300 BCE and 300 CE, known for its rich depiction of Tamil culture, society, and emotions.

• Five Landscapes of Akam: The emotions of love are categorized into five landscapes—Kurinji (mountains), Mullai (forests), Marutham (plains), Neythal (seashore), and Palai (deserts), each representing a specific mood or phase of love.

• Puram vs Akam: While Akam deals with internal emotions and love, Puram focuses on external, public themes like war, valor, and societal duties.

• Prominent Sangam Works: Key texts include Akananuru, Kurunthogai, and Narrinai, which beautifully capture Akam themes.

• Significance: Sangam literature is an invaluable source for understanding ancient Tamil society, its values, and its poetic traditions.

Q51. Answer: (c) Paragraph Spacing

The correct answer is Paragraph Spacing.

Key Points

• Paragraph Spacing in MS Word 365 allows users to set specific spacing before and after paragraphs, ensuring better readability and presentation.

• It helps control the vertical space between paragraphs without manually adding blank lines.

• The feature can be accessed via the "Layout" tab or "Paragraph settings" in the Home tab.

• Users can define exact spacing values in points (e.g., 6pt, 12pt) or select predefined spacing options.

• This feature is particularly useful for creating visually appealing and professional documents, such as reports, resumes, or essays.

Additional Information

• Line Spacing:

• Line Spacing refers to the distance between lines within a single paragraph, commonly set to single, 1.5, or double spacing.

• This feature is different from Paragraph Spacing, which affects spacing before and after paragraphs.

• Indentation:

• Indentation adjusts the space between the text and the margin, commonly used to format the first line or hanging indent.

• It does not control the vertical space between paragraphs.

• Page Layout:

• The Page Layout tab in MS Word provides tools for margins, orientation, and page size, but it does not specifically manage paragraph spacing.

• Formatting Tips:

• Combining Paragraph Spacing with Line Spacing helps create clean and easy-to-read documents.

• Use the "Design" tab for predefined themes that adjust paragraph spacing automatically.

Q52. Answer: (a) Ministry of Commerce and Industry

The correct answer is Ministry of Commerce and Industry.

Key Points

• Anti-dumping and anti-subsidy measures are administered by the Directorate General of Trade Remedies (DGTR), which operates under the Ministry of Commerce and Industry.

• The Directorate General of Trade Remedies (DGTR) is responsible for investigations and recommendations on anti-dumping duties, countervailing duties, and safeguard measures.

• Anti-dumping measures are implemented to protect domestic industries from unfair trade practices such as dumping, where goods are exported at prices lower than their normal value.

• Countervailing measures are aimed at offsetting subsidies provided by the exporting country's government, ensuring fair competition for domestic producers.

• The Ministry of Commerce and Industry's role is to ensure compliance with WTO regulations while safeguarding Indian industries.

Additional Information

• Anti-Dumping:

• Dumping refers to the practice of exporting goods at a price lower than their normal value in the domestic market.

• Anti-dumping measures are permitted under the rules of the World Trade Organization (WTO).

• The goal is to protect domestic industries from material injury caused by unfair pricing.

• Countervailing Measures:

• Countervailing duties are tariffs imposed to counteract subsidies provided by exporting countries to their producers.

• These measures ensure a level playing field for domestic industries.

• Directorate General of Trade Remedies (DGTR):

• The DGTR was established in 2018 as an integrated authority for administering trade remedy measures.

• It consolidates the functions of anti-dumping, countervailing, and safeguard investigations under one body.

• World Trade Organization (WTO) Compliance:

• India's trade remedy measures are aligned with WTO agreements, such as the Agreement on Anti-Dumping and the Agreement on Subsidies and Countervailing Measures.

• These measures aim to promote fair trade while adhering to international norms.

Q53. Answer: (d) 12

Given number: 8631247

According to the question,

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

So, the sum of the digits that are third from the left and first from the right → 4 + 8 = 12

Hence, "Option 4" is the correct answer.

Q54. Answer: (c) GC – LF

The logic followed here is:

Option 1) QM – VO

Option 2) IE – NG

Option 3) GC – LF

Option 4) DZ – IB

Thus, out of all the options, 'GC – LF' is the odd one out.

Hence, "Option 3" is the correct answer.

Q55. Answer: (c) Right of children to free and compulsory education

The correct answer is Right of children to free and compulsory education.

Key Points

• The 86th Constitutional Amendment Act of 2002 inserted Article 21A into the Indian Constitution, making education a fundamental right for children aged 6 to 14 years.

• This amendment guarantees free and compulsory education for children in the specified age group.

• The Right of Children to Free and Compulsory Education Act (RTE Act) was enacted in 2009 to operationalize Article 21A.

• Under the RTE Act, schools are mandated to provide necessary infrastructure, trained teachers, and ensure non-discrimination.

• This right aims to enhance literacy rates, promote social equity, and empower children across all socio-economic backgrounds.

Additional Information

• Article 21A: It states that "The State shall provide free and compulsory education to all children of the age of six to fourteen years as determined by law."

• RTE Act, 2009: This legislation specifies the norms and standards for schools, prohibits physical punishment and mental harassment, and ensures inclusive education for disadvantaged groups.

• Constitutional Significance: The 86th Amendment also modified Article 45 (Directive Principles of State Policy) to prioritize early childhood care and education for children below six years.

• Global Context: India's efforts align with the United Nations Convention on the Rights of the Child (UNCRC), advocating for universal access to education.

• Impact: The RTE Act and Article 21A have significantly contributed to improving enrollment rates and reducing dropouts, especially among marginalized communities.

Q56. Answer: (d) 2

Shortcut Trick

Let the total capacity of the cistern be the LCM of 3, 18, and 72 => 72 units.

Efficiencies: Tap A = 24, Tap B = 4, Tap C = −1 => Combined efficiency = 24 + 4 − 1 = 27 units/hour.

Three-fourth capacity of cistern = 72 × (3/4) = 54 units.

Required time = 54 ÷ 27 = 2 hours.

Therefore The correct answer is 2 hours.

Alternate Method

Given:

Time taken by first tap (A) to fill = 3 hours

Time taken by second tap (B) to fill = 18 hours

Time taken by third tap (C) to empty = 72 hours

Tap	Time (Hours)	Total Work (LCM)	Efficiency
A (Filling)	3	72	+24
B (Filling)	18	+4	
C (Emptying)	72	−1	

Calculations:

=> Combined efficiency of A, B, and C = 24 + 4 − 1 = 27 units/hour

=> 3/4th of the total cistern capacity = 72 × (3/4) = 54 units

=> Time required to fill 3/4th capacity = 54 ÷ 27 = 2 hours

Therefore The correct answer is 2 hours.

Additional Information

Inlet and Outlet Pipes

An inlet pipe fills a tank and has positive efficiency, while an outlet pipe empties it and has negative efficiency.

Combined Rate Formula

If pipe A fills in x hours, pipe B fills in y hours, and pipe C empties in z hours, the net work done in one hour is (1/x) + (1/y) − (1/z).

Q57. Answer: (a) 58

Shortcut Trick

Arrange the observations in ascending order: 11, 12, 15, 34, 42, 58, 62, 75, 83, 87, 98.

Total number of terms n = 11 (which is odd).

Median = ((n + 1) / 2)^(th) term = ((11 + 1) / 2)^(th) term = 6^(th) term.

The 6^(th) term in the sorted list is 58.

Therefore The correct answer is 58.

Alternate Method

Given: Observations = 34, 58, 98, 42, 83, 62, 12, 11, 87, 75, 15

Formula Used: Median = ((n + 1) / 2)^(th) term (when n is odd)

11

12

15

34

42

58

62

7

Q58. Answer: (c) 356

Shortcut Trick

Let the Cost Price (CP) be 100%.

Initial Selling Price (SP1) at 78% loss = 100% − 78% = 22%.

Required Selling Price (SP2) for 78% profit = 100% + 78% = 178%.

Given: 22% => Rs. 44. Since 22 × 2 = 44, the multiplier is 2.

Required SP2 = 178% × 2 = Rs. 356.

Therefore The correct answer is Rs. 356.

Alternate Method

Given: SP1 = Rs. 44, Loss1 = 78%, Profit2 = 78%.

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

=> CP = 44 × 100 ÷ (100 − 78) = 44 × 100 ÷ 22

=> CP = 2 × 100 = Rs. 200.

=> New SP = 200 × (100 + 78) ÷ 100

=> New SP = 200 × 178 ÷ 100 = 2 × 178

=> New SP = Rs. 356.

Therefore The correct answer is Rs. 356.

Additional Information

Relationship between SP and CP

When the Cost Price is constant, the ratio of two different Selling Prices is equal to the ratio of their respective percentage values: SP1 ÷ (100 − L%) = SP2 ÷ (100 + P%).

Profit and Loss Percentage

Always calculate Profit% or Loss% on the Cost Price unless specified otherwise in the question.

Q59. Answer: (a) 3

Given series: (Left) 5 $ 6 @ 3 * 6 4 & $ 2 9 5 9 € £ 7 8 # 1 & 2 (Right)

According to the question,

Required condition: Symbol - Number - Symbol

(Left) 5 $ 6 @ 3 * 6 4 & $ 2 9 5 9 € £ 7 8 # 1 & 2 (Right)

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

Hence, "Option 1" is the correct answer

Q60. Answer: (d) It slows down oxidation.

The correct answer is It slows down oxidation.

Key Points

• Storing food in an airtight container limits the exposure of food to oxygen, thereby slowing the process of oxidation.

• Oxidation is a chemical reaction where food reacts with oxygen, causing spoilage, changes in texture, taste, and nutritional value.

• Airtight containers help in reducing the growth of microorganisms, such as molds and aerobic bacteria, that thrive in the presence of oxygen.

• By preventing moisture from entering, airtight containers protect food from becoming stale or soggy.

• This method is particularly beneficial for preserving the freshness of dry goods, snacks, and perishable items for longer

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durations.

Additional Information

• Oxidation Process:

• It involves the loss of electrons in food molecules caused by oxygen exposure.

• This process leads to rancidity in fats, browning of fruits, and degradation of vitamins.

• Aerobic vs. Anaerobic Bacteria:

• Aerobic bacteria require oxygen to grow, while anaerobic bacteria thrive in oxygen-free environments.

• Airtight containers reduce aerobic bacterial growth but do not promote anaerobic bacterial growth unless improperly sealed.

• Materials Used in Airtight Containers:

• Containers are typically made of plastic, glass, or metal with silicone or rubber seals to ensure airtightness.

• Proper sealing prevents air and moisture from entering, maintaining food quality.

• Storage Tips:

• Foods with high moisture content should also be kept in airtight containers to avoid mold formation.

• Dry goods like grains, cereals, and snacks last longer when stored in airtight conditions.

• Preservation Techniques:

• Airtight storage complements other preservation methods such as refrigeration and freezing.

• It is also widely used in vacuum-sealing techniques to extend shelf life.

Q61. Answer: (c) WC – BY

The logic followed here is:

Option 1) LR – QM

Option 2) HN – MI

Option 3) WC – BY

Option 4) BH – GC

Thus, out of all the options, 'WC – BY' is the odd one out.

Hence, "Option 3" is the correct answer.

Q62. Answer: (b) Union Minister for Science and Technology

The correct answer is Union Minister for Science and Technology.

Key Points

• ‘Srjanam’ is a biomedical waste conversion system inaugurated at AIIMS Delhi in 2025.

• The system was inaugurated by the Union Minister for Science and Technology, showcasing the government's commitment to innovation in waste management and healthcare.

• This initiative aims to address the issue of biomedical waste, which poses a significant challenge to public health and the environment.

• The system is designed to convert biomedical waste into reusable and eco-friendly byproducts, aiding in sustainable healthcare practices.

• The inauguration underscores the focus on utilizing cutting-edge technology to enhance waste management systems in India’s healthcare sector.

Additional Information

• Biomedical Waste:

• Biomedical waste refers to waste generated during medical procedures, including diagnosis, treatment, and immunization.

• Improper disposal can lead to environmental pollution and health risks, such as the spread of infections.

• Biomedical Waste Management Rules, 2016:

• These rules were introduced by the Ministry of Environment, Forest and Climate Change in India.

• They mandate segregation, transportation, and disposal of biomedical waste in an environmentally sound manner.

• Role of AIIMS Delhi:

• AIIMS Delhi is one of India's premier medical institutes, often at the forefront of research, innovation, and healthcare delivery.

• It serves as a model for implementing new technologies in healthcare across the country.

• Technology in Waste Management:

• Advanced technologies like incineration, autoclaving, and shredding are widely used for biomedical waste treatment.

• Innovative systems like 'Srjanam' emphasize reducing environmental impact while ensuring safety.

Q63. Answer: (c) 5 km to the south

Given:

Vinod starts from point A and drives 8 km towards the west.

He then takes a left turn, drives 6 km, turns left and drives 12 km.

He then takes a left turn and drives 11 km.

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

Thus, Vinod should drive 5 km in the south direction in order to reach point A again.

Hence, "Option 3" is the correct answer.

Q64. Answer: (d) 2

According to the given information,

Thus, 'A' is coded as '2'.

Hence, "Option 4" is the correct answer.

Q65. Answer: (d) 27 June

The correct answer is 27 June.

Key Points

• MSME Day is celebrated globally on June 27 every year to recognize the importance of micro, small, and medium enterprises in sustainable development.

• The United Nations General Assembly declared June 27 as MSME Day in its 74th Plenary on April 6, 2017.

• In India, the Ministry of MSMEs organizes events and awareness programs to mark MSME Day and support the growth of small businesses.

• MSMEs are vital for the Indian economy, accounting for about 30% of GDP and employing over 110 million people.

• This day highlights the role of MSMEs in achieving the United Nations Sustainable Development Goals (SDGs) through innovation, job creation, and economic growth.

Additional Information

• MSME Definition: Micro, Small, and Medium Enterprises are defined under the MSME Act, 2006, based on investment in plant/machinery and annual turnover.

• Government Initiatives: Schemes like Udyam Registration, Credit Guarantee Fund Scheme, and the Prime Minister's Employment Generation Programme (PMEGP) support MSMEs in India.

• Challenges Faced: MSMEs often face issues like limited access to credit, lack of infrastructure, technological gaps, and market access.

• Global Recognition: MSME Day emphasizes the need to provide financial and technical support to small businesses globally to foster inclusive and sustainable growth.

• Digital Transformation: Programs like Digital MSME aim to promote technology adoption among MSMEs to enhance productivity and global competitiveness.

Q66. Answer: (a) GAVI – The Vaccine Alliance

The correct answer is GAVI – The Vaccine Alliance.

Key Points

• In February 2025, GAVI – The Vaccine Alliance signed a strategic partnership with the African Union to bolster vaccine manufacturing on the African continent.

• This partnership aims to strengthen local vaccine production to reduce dependency on imports and enhance Africa's health security.

• It focuses on equitable access to vaccines for African nations, ensuring preparedness for future pandemics.

• GAVI has been instrumental in providing immunization support globally, particularly in low-income countries, since its inception in 2000.

• The African Union has been actively pursuing initiatives to enhance vaccine manufacturing capacity, aligning with its Pharmaceutical Manufacturing Plan for Africa (PMPA).

Additional Information

• GAVI – The Vaccine Alliance:

• A global public-private partnership created in 2000 to improve access to vaccines in low-income countries.

• Supported by entities like the World Health Organization (WHO), UNICEF, the World Bank, and the Bill & Melinda Gates Foundation.

• Aims to save lives, reduce poverty, and protect against pandemics through immunization.

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• African Union’s Vaccine Initiative:

• The African Union (AU) has been working to reduce its reliance on imported vaccines, especially after challenges faced during the COVID-19 pandemic.

• The AU’s Partnership for African Vaccine Manufacturing (PAVM) is a critical part of this effort, aiming to produce 60% of Africa’s vaccine needs locally by 2040.

• Challenges in Vaccine Manufacturing in Africa:

• Barriers include limited infrastructure, insufficient funding, and lack of technical expertise.

• Global partnerships, such as with GAVI, address these challenges through capacity-building initiatives.

• COVID-19 Pandemic and Vaccine Distribution:

• The pandemic exposed disparities in global vaccine distribution, with many African nations receiving doses late.

• Initiatives like this partnership aim to ensure equitable access in future health crises.

Q67. Answer: (d) The Union Council of ministers

The correct answer is The Union Council of Ministers.

Key Points

• The President of India appoints Governors of States and Lieutenant Governors of Union Territories based on the advice of the Union Council of Ministers, headed by the Prime Minister.

• This is in accordance with the principle of the parliamentary system, where the President acts on the advice of the executive body.

• The Union Council of Ministers is responsible for aiding and advising the President in exercising their constitutional powers.

• Article 74(1) of the Indian Constitution mandates that the President shall act in accordance with the advice of the Council of Ministers.

• Governors serve as the constitutional head of the state, and their appointment is a part of the President's discretionary powers, executed in consultation with the executive.

Additional Information

• Union Council of Ministers:

• The Union Council of Ministers comprises the Prime Minister and other ministers, including Cabinet Ministers, Ministers of State, and Deputy Ministers.

• The Council is collectively responsible to the Lok Sabha, as per Article 75 of the Constitution.

• Governor's Role:

• The Governor acts as the constitutional head of the state and ensures that the state government functions within the framework of the Constitution.

• They are responsible for summoning and proroguing the state legislature, appointing the Chief Minister, and giving assent to state bills.

• Lieutenant Governor:

• The Lieutenant Governor is the administrative head of Union Territories like Delhi, Puducherry, and Andaman and Nicobar Islands.

• They exercise powers delegated to them by the President of India under various provisions of the Constitution.

• Article 74 of the Constitution:

• Mandates that the President shall act in accordance with the advice of the Union Council of Ministers.

• This ensures that India follows the principles of a parliamentary democracy with a nominal head of state.

Q68. Answer: (c) Great Indian Bustard

The correct answer is Great Indian Bustard.

Key Points

• The Great Indian Bustard is one of the heaviest flying birds, primarily found in the Indian subcontinent.

• It is critically endangered and has been listed in the IUCN Red List due to its rapidly declining population.

• The bird is native to arid and semi-arid regions, especially the Thar Desert in Rajasthan, which serves as its primary habitat.

• Major threats include habitat loss, poaching, and collisions with power lines.

• Conservation efforts include the Great Indian Bustard Conservation Program and the establishment of wildlife sanctuaries like the Desert National Park.

Additional Information

• Thar Desert:

• The Thar Desert, also known as the Great Indian Desert, is located in northwestern India and eastern Pakistan.

• It is characterized by extreme temperatures, low rainfall, and sandy terrain, making it one of the most arid regions in India.
• Critically Endangered Species:
• Species listed as "Critically Endangered" by the IUCN Red List face an extremely high risk of extinction in the wild.
• Examples include the Great Indian Bustard, Vaquita, and Axolotl.
• Desert National Park:
• Located in Rajasthan, this park is one of the largest wildlife sanctuaries in India and a key habitat for the Great Indian Bustard.
• The park also supports other species like desert foxes, eagles, and sand grouse.
• Conservation Challenges:
• The Great Indian Bustard faces threats such as habitat fragmentation, hunting, and infrastructure development.
• Innovative solutions like the installation of bird diverters on power lines are being implemented to prevent collisions.

Q69. Answer: (c) Officers responsible for suppression of criminals

The correct answer is Officers responsible for suppression of criminals.

Key Points

• The term ‘Pradeshtris’ was used for officers who were responsible for maintaining law and order and suppressing criminal activities during the Mauryan Empire.
• They worked under the supervision of the central administration and played a critical role in ensuring the safety and security of the kingdom.
• Pradeshtris were tasked with tracking down criminals, investigating crimes, and enforcing justice as per the legal framework of the Mauryan Empire.
• The Mauryan administrative system was highly centralized, and such officers were appointed to maintain order across different regions of the vast empire.
• Their role reflects the advanced legal and administrative system established by the Mauryan rulers, particularly under the reign of Emperor Ashoka.

Additional Information

• Administrative Setup of the Mauryan Empire:
• The Mauryan Empire was known for its efficient centralized administration.
• The empire was divided into provinces, each governed by a Kumar or Aryaputra (royal prince).
• Provincial administration was further divided into districts and villages, with officers appointed to oversee local governance.
• Legal Framework:
• The Mauryan Empire had a comprehensive legal system, with the king serving as the highest judicial authority.
• Separate officers like Pradeshtris ensured the implementation of law and order at the local level.
• Role of Emperor Ashoka:
• Emperor Ashoka promoted justice and welfare policies after adopting Buddhism.
• He emphasized Dhamma (moral law) and appointed officers called Dharmamahamatras to propagate ethical values.
• Key Texts:
• The administrative details of the Mauryan Empire are recorded in texts like the Arthashastra by Chanakya (Kautilya).
• Inscriptions such as Ashoka’s edicts provide insight into the governance and justice system of the era.

Q70. Answer: (c) XS -16

The logic followed here is:

OJ 9 is related to QM -8

And,

JK 14 is related to LN -3

Similarly,

VP 1 is related to

Hence, "Option 3" is the correct answer.

Q71. Answer: (d) Ambikagiri Raichoudhury

The correct answer is Ambikagiri Raichoudhury.

Key Points

• Ambikagiri Raichoudhury, a prominent Assamese poet, playwright, and nationalist, was honored with the title 'Assam Kesari', which translates to the 'Lion of Assam'.
• He played a courageous and influential role in India's freedom movement, particularly in mobilizing the people of Assam against

British colonial rule.

• Ambikagiri was not only a freedom fighter but also a strong advocate of Assamese identity, language, and culture.

• He was associated with the Assam Sahitya Sabha, a key literary organization in the state, and worked tirelessly to promote Assamese literature and nationalism.

• The title 'Assam Kesari' was conferred upon him in recognition of his indomitable spirit and contributions to the Indian independence struggle and Assamese society.

Additional Information

• Role in Indian Freedom Movement: Ambikagiri Raichoudhury was actively involved in India's independence struggle, aligning with revolutionary movements and spreading nationalist ideas through his writings and speeches.

• Contributions to Literature: He is remembered for his significant contributions to Assamese literature, including poetry, plays, and essays that emphasized patriotism and cultural pride.

• Assam Sahitya Sabha: Ambikagiri was closely associated with Assam Sahitya Sabha and contributed to strengthening Assamese language and literature during a time when regional identities were at risk.

• Legacy: In his honor, the Assam government has instituted the 'Ambikagiri Raichoudhury Award,' which is given to individuals for their contributions to Assamese literature.

• Title Significance: 'Assam Kesari' symbolizes his lion-like courage and leadership in mobilizing the people of Assam during the freedom movement and preserving their cultural heritage.

Q72. Answer: (d) 1

According to the given information,

Thus, 'S' is coded as '1'.

Hence, "Option 4" is the correct answer.

Q73. Answer: (a) 359984

Given:

The value of 596 × 604 is:

Formula used:

$(a - b)(a + b) = a^2 - b^2$

Calculation:

$596 \times 604 = (600 - 4)(600 + 4)$

$\Rightarrow 596 \times 604 = 600^2 - 4^2$

$\Rightarrow 596 \times 604 = 360000 - 16$

$\Rightarrow 596 \times 604 = 359984$

Therefore The correct answer is option (1).

Q74. Answer: (c) 6.5%

The correct answer is 0.065.

Key Points

• According to a Morgan Stanley report, India's infrastructure investment is projected to reach 6.5% of GDP by FY29.

• This marks a significant increase from 5% of GDP in FY22, demonstrating a major focus on infrastructure development.

• The increase in infrastructure investments aligns with India's goal to become a $7.5 trillion economy by FY31.

• Key sectors driving infrastructure growth include transportation, energy, urban infrastructure, and logistics.

• Such investments are critical for boosting economic activity, creating jobs, and enhancing the overall competitiveness of the Indian economy.

Additional Information

• Infrastructure as a Growth Driver:

• Infrastructure development is essential for economic growth, improving productivity, and reducing logistical bottlenecks.

• It contributes to urbanization, industrialization, and enhanced connectivity between rural and urban areas.

• Government Initiatives:

• Flagship programs like Bharatmala Pariyojana, SagarMala, and Smart Cities Mission are pivotal to infrastructure development.

• The National Infrastructure Pipeline (NIP) outlines investments worth Rs. 111 lakh crore between FY20 and FY25.

• Private Sector Participation:

• Public-Private Partnerships (PPPs) are playing an increasing role in infrastructure financing.

• The government has been encouraging private investments through initiatives like the Viability Gap Funding (VGF) scheme.

• Challenges to Infrastructure Growth:

• Key challenges include land acquisition issues, regulatory bottlenecks, and financing constraints.

• Addressing these challenges is crucial to meet the ambitious investment targets by FY29.

Q75. Answer: (a) Alauddin Khilji

The correct answer is Alauddin Khilji.

Key Points

• Alauddin Khilji was the second ruler of the Khilji dynasty and ruled the Delhi Sultanate from 1296 to 1316.

• In 1292 AD, Alauddin Khilji, as the governor of Kara, led an expedition to Bhilsa (modern Vidisha), which was a center of Jainism and a wealthy region.

• The objective of the expedition was to plunder wealth and strengthen his position within the Delhi Sultanate.

• Bhilsa was known for its rich temples, and Alauddin's campaign was marked by the looting of these temples for resources.

• This expedition showcased Alauddin's military capabilities and administrative acumen, which later helped him ascend the throne of Delhi.

Additional Information

• Alauddin Khilji's Reign: Alauddin Khilji is remembered for his administrative reforms, market regulation policies, and military campaigns.

• Role in Expansions: He expanded the Delhi Sultanate through campaigns in Gujarat, Malwa, Ranthambore, and the Deccan.

• Bhilsa (Vidisha): Located in Madhya Pradesh, Vidisha was historically a prominent center for trade, religion, and culture, especially for Jainism and Hinduism.

• Temple Looting: The wealth from temple lootings was often used by sultans to strengthen their armies and consolidate power.

• Khilji Dynasty: The Khilji dynasty (1290–1320) was known for its military strength, economic prosperity, and architectural contributions to the Delhi Sultanate.

Q76. Answer: (b) Copy → Paste

The correct answer is Copy → Paste.

Key Points

• Copy → Paste is used to duplicate a selected text while retaining its original location.

• The Copy command duplicates the selected text or object and stores it in the clipboard.

• The Paste command inserts the copied content into a new location specified by the user.

• This process allows users to reuse text or objects without modifying or removing the original content.

• Shortcut keys: Ctrl + C (Copy) and Ctrl + V (Paste) are often used for quick execution of these commands in MS Word.

Additional Information

• Clipboard: A temporary storage area in the computer's memory where copied content is saved before it is pasted.

• Cut vs. Copy: The Cut command removes the content from its original location, while the Copy command duplicates it without removing the original.

• Undo: If any unwanted action occurs, the Undo command (Ctrl + Z) can reverse the last action performed.

• Move: This term is often used for relocating content from one place to another, typically using the Cut and Paste commands.

• Drag-and-Drop: An alternative method to duplicate or move content within MS Word by clicking and dragging the selected text or object.

Q77. Answer: (d) Two

Given: I, J, K, L, M and Y live on six different floors of the same building. The lowermost floor in the building is numbered 1, the floor above it, number 2 and so on, till the topmost floor is numbered 6.

1) Only L lives above Y.

2) Only M lives below K.

Floor	Person
6	L
5	Y
4	
3	
2	K

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1	M

3) I lives on some floor below J.

Floor	Person
6	L
5	Y
4	J
3	I
2	K
1	M

Thus, two people live between J and M.

Hence, "Option 4" is the correct answer.

Q78. Answer: (c) 12 m

Shortcut Trick

Put the values of x = 1 and y = −1 directly into the expressions for length (L) and breadth (B).

$L = 1^2 + 1(-1) + (-1)^2 = 1 - 1 + 1 = 1$ m.

$B = 1^2 - 5(1)(-1) - (-1)^2 = 1 + 5 - 1 = 5$ m.

Perimeter = $2(L + B) = 2(1 + 5) = 2 \times 6 = 12$ m.

Therefore The correct answer is 12 m.

Alternate Method

Given:

Length (L) = $x^2 + xy + y^2$

Breadth (B) = $x^2 - 5xy - y^2$

Values: x = 1, y = −1

Formula Used:

Perimeter of Rectangle = 2 × (Length + Breadth)

Calculations:

=> $L = (1)^2 + (1)(-1) + (-1)^2$

=> $L = 1 - 1 + 1 = 1$ m

=> $B = (1)^2 - 5(1)(-1) - (-1)^2$

=> $B = 1 + 5 - 1 = 5$ m

=> Perimeter = 2 × (1 + 5)

=> Perimeter = 2 × 6 = 12 m

Therefore The correct answer is 12 m.

Additional Information

Area of Rectangle

The total space occupied by the rectangle, calculated as Area = Length × Breadth.

Diagonal of Rectangle

The distance between opposite corners, given by $d = \sqrt{(L^2 + B^2)}$.

Algebraic Substitution

Always substitute negative values within parentheses to ensure correct sign application (e.g., $(-1)^2 = 1$).

Q79. Answer: (b) 98

Shortcut Trick

Let the HCF of the numbers be H.

Numbers are 2H, 14H, and 3H.

LCM of (2, 14, 3) × H = 4116

42 × H = 4116 => H = 4116 ÷ 42 = 98.

Therefore The correct answer is 98.

Alternate Method
Given:
Ratio of numbers = 2 : 14 : 3
LCM = 4116
Formula Used:
If numbers are ax, bx, and cx (where x is HCF), then LCM = LCM(a, b, c) × x.
Calculations:
Let the numbers be 2x, 14x, and 3x.
=> LCM of (2x, 14x, 3x) = 4116
=> To find LCM of 2, 14, and 3:
=> $2 = 2^1$, $14 = 2 \times 7$, $3 = 3^1$
=> LCM = $2 \times 7 \times 3 = 42$
=> Therefore, LCM(2x, 14x, 3x) = 42x
=> 42x = 4116
=> x = 4116 ÷ 42
=> x = 98
Therefore The correct answer is 98.
Additional Information
HCF and LCM Relation
For two numbers A and B, Product of numbers = HCF × LCM. This rule does not directly apply to more than two numbers.
Co-prime Numbers
If the numbers in a ratio are co-prime, then their LCM is simply the product of the numbers and their HCF.
HCF Properties
HCF is always a factor of the LCM for any given set of numbers.

Q80. Answer: (d) 31,680

Shortcut Trick
Income in 2019 = Rs. 22,000
Increment = 20% per year (Multiplying factor = 1.2)
Income in 2021 (after 2 years) = 22,000 × 1.2 × 1.2
=> 22,000 × 1.44 = 31,680
Therefore The correct answer is Rs. 31,680.
Alternate Method
Given:
Initial Income (P) = Rs. 22,000
Rate of Increment (R) = 20%
Time Period (n) = 2021 − 2019 = 2 years
Formula Used:
Final Value = $P \times (1 + R/100)^n$
Calculations:
=> Income in 2021 = $22,000 \times (1 + 20/100)^2$
=> Income in 2021 = 22,000 × (120/100) × (120/100)
=> Income in 2021 = 22,000 × 1.2 × 1.2
=> Income in 2021 = 22,000 × 1.44
=> Income in 2021 = 31,680
Therefore The correct answer is Rs. 31,680.
Additional Information
Successive Percentage Change
When a value changes by x% and then y% successively, the net change is [x + y + (xy/100)]%.
Effective Rate for 2 years
For a constant 20% increment, the effective 2-year increase is 20 + 20 + (20 × 20)/100 = 44%.
Compound Growth

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Annual salary increments follow the Compound Interest principle where the next year's increase is calculated on the previous year's total.

Q81. Answer: (b) 82

Shortcut Trick

From given data, P = 7X and P = Q + 70 => 7X = Q + 70.

Since Q = Y + 6, substitute: 7X = (Y + 6) + 70 = Y + 76.

Given equation: 7X = 2Y − 6.

Equating both: Y + 76 = 2Y − 6 => Y = 82.

Therefore The correct answer is 82 years.

Alternate Method

Let the present ages of X, Y, P, and Q be X, Y, P, and Q years respectively.

Given Equations:

1) 7X = 2Y − 6

2) P = 7X

3) Y = Q − 6 => Q = Y + 6

4) P = Q + 70

Substitute (2) and (3) into (4):

=> 7X = (Y + 6) + 70

=> 7X = Y + 76

Now equate this with Equation (1):

=> 2Y − 6 = Y + 76

=> 2Y − Y = 76 + 6

=> Y = 82

Therefore The correct answer is 82 years.

Additional Information

Linear Equations in Ages

Age problems often involve translating verbal phrases like 'n years older than' or 'n times as old as' into linear algebraic equations.

Substitution Method

Express one variable in terms of another from one equation and substitute it into the other to solve for a single variable.

Ratio and Proportion in Ages

If the ratio of ages is given as a:b, we assume ages as ax and bx to simplify the calculation using a single constant x.

Q82. Answer: (b) √(112 + 109√2)

Shortcut Trick

The mean proportional between two numbers a and b is given by the formula √(a × b).

Multiply (21 + 16√2) and (16 − 7√2) directly using FOIL method.

Product = (21 × 16) − (21 × 7√2) + (16√2 × 16) − (16√2 × 7√2) = 336 − 147√2 + 256√2 − 224.

Simplified Product = 112 + 109√2.

Therefore The correct answer is √(112 + 109√2).

Alternate Method

Given: First number (a) = (21 + 16√2), Second number (b) = (16 − 7√2).

Formula Used: Mean Proportional = √(a × b)

=> Mean Proportional = √[(21 + 16√2) × (16 − 7√2)]

=> Mean Proportional = √[21(16 − 7√2) + 16√2(16 − 7√2)]

=> Mean Proportional = √[336 − 147√2 + 256√2 − 16 × 7 × 2]

=> Mean Proportional = √[336 − 147√2 + 256√2 − 224]

=> Mean Proportional = √[(336 − 224) + (256 − 147)√2]

=> Mean Proportional = √(112 + 109√2)

Therefore The correct answer is √(112 + 109√2).

Additional Information

Mean Proportional

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If three quantities a, b, and c are in continued proportion, then a/b = b/c, which implies $b^2 = ac$ or $b = \sqrt{ac}$.

Third Proportional

For two numbers a and b, the third proportional c is calculated using the formula $c = b^2/a$.

Fourth Proportional

For three numbers a, b, and c, the fourth proportional d is calculated as $d = (b \times c)/a$.

Q83. Answer: (d) 390

Shortcut Trick

According to the given condition, Curved Surface Area (CSA) = 1/2 × Total Surface Area (TSA).

For a cylinder, this specific condition (CSA = TSA/2) always implies that the radius (r) is equal to the height (h).

Given height (h) = 195 cm => radius (r) = 195 cm.

Diameter (d) = 2 × r = 2 × 195 = 390 cm.

Therefore The correct answer is 390 cm.

Alternate Method

Given: Height (h) = 195 cm and CSA = 1/2 × TSA.

Formula Used: CSA = $2\pi rh$ | TSA = $2\pi r(h + r)$

Calculations:

=> $2\pi rh = 1/2 \times [2\pi r(h + r)]$

=> $2\pi rh = \pi r(h + r)$

=> $2h = h + r$

=> $r = h$

=> Since h = 195 cm, r = 195 cm.

=> Diameter (d) = 2 × r = 2 × 195 = 390 cm.

Therefore The correct answer is 390 cm.

Additional Information

Volume of Cylinder

The amount of space occupied is given by $V = \pi r^2 h$.

CSA and TSA Relationship

TSA is always equal to CSA + 2 × Area of circular bases, i.e., $TSA = 2\pi rh + 2\pi r^2$.

Hollow Cylinder

For a cylinder with internal radius r and external radius R, Volume = $\pi(R^2 - r^2)h$.

Q84. Answer: (a) angle C = angle F

Shortcut Trick

For two triangles to be similar, their corresponding angles must be equal according to the AA (Angle-Angle) Similarity Criterion.

Given: angle A = angle D = 40°.

To satisfy similarity, we need at least one more pair of corresponding angles to be equal.

From the options, angle C = angle F provides the necessary second pair of equal corresponding angles.

Since angle A = angle D and angle C = angle F, the triangles ΔABC and ΔDEF are similar by AA similarity.

Therefore The correct answer is angle C = angle F.

Alternate Method

Given: In ΔABC and ΔDEF, angle A = angle D = 40° and AB = DE.

Formula Used: AA Similarity Criterion — If two angles of one triangle are equal to two angles of another triangle, then the triangles are similar.

To prove ΔABC ~ ΔDEF:

=> We already have one pair of equal angles: angle A = angle D = 40°.

=> According to the AA Similarity Criterion, we need another pair of corresponding angles to be equal.

=> The corresponding vertices are A → D, B → E, and C → F.

=> Therefore, either angle B = angle E or angle C = angle F must be true.

=> Checking the options, angle C = angle F is provided in option (1).

=> Note: Since AB = DE is also given, if angle C = angle F, then angle B = angle E (angle sum property), making the triangles congruent by ASA. Since all congruent triangles are similar, the condition is satisfied.

Therefore The correct answer is angle C = angle F.

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Additional Information

AA Similarity Criterion

If two angles of one triangle are respectively equal to two angles of another triangle, then the two triangles are similar.

SAS Similarity Criterion

If one angle of a triangle is equal to one angle of another triangle and the sides including these angles are proportional, then the triangles are similar.

Similarity vs Congruence

Congruent triangles have the same shape and size (ratio of sides = 1), while similar triangles have the same shape but may differ in size (ratio of sides is constant).

Q85. Answer: (b) Shri Priyank Kanoongo was appointed as the Secretary General of NHRC.

The correct answer is Shri Priyank Kanoongo was appointed as the Secretary General of NHRC.

Key Points

• The National Human Rights Commission (NHRC) is an independent statutory body established under the Protection of Human Rights Act, 1993.

• Justice V Ramasubramanian's appointment as Chairperson aligns with the NHRC's mandate of appointing a retired Chief Justice of India or a Judge of the Supreme Court as Chairperson.

• Justice (Dr.) Bidyut Ranjan Sarangi has been confirmed as a Member of NHRC in December 2024.

• All appointments to the NHRC, including Chairperson and Members, are made by the President of India based on recommendations from a committee chaired by the Prime Minister.

• Shri Priyank Kanoongo is currently the Chairperson of the National Commission for Protection of Child Rights (NCPCR) and has not been appointed as the Secretary General of NHRC.

Additional Information

• NHRC Composition:

• The NHRC consists of a Chairperson, Members, and Ex-officio Members, including Chairpersons of National Commissions like SC/ST, Women, Minorities, etc.

• The Chairperson is typically a retired Chief Justice or a Judge of the Supreme Court.

• Appointment Process:

• Appointments are made by the President of India based on recommendations from a high-level committee chaired by the Prime Minister.

• The committee includes the Union Home Minister, Leaders of Opposition in Lok Sabha and Rajya Sabha, and others.

• Protection of Human Rights Act, 1993:

• This Act provides the legal framework for establishing the NHRC and State Human Rights Commissions.

• The Act aims to protect and promote human rights guaranteed by the Constitution and embodied in international covenants.

• Role of NHRC:

• NHRC investigates human rights violations and recommends measures to ensure compliance with constitutional and legal rights.

• It submits annual reports to the President of India and can intervene in court cases involving human rights violations.

Q86. Answer: (d) 66,000

Shortcut Trick

Monthly Savings = 12,000 − (4,000 + 2,000) = Rs. 6,000.

In his birthday month, savings = Rs. 0.

Total Savings in a year = 6,000 × 11 months = Rs. 66,000.

Therefore The correct answer is Rs. 66,000.

Alternate Method

Given: Monthly Salary = Rs. 12,000, Rent = Rs. 4,000, Bills = Rs. 2,000.

=> Monthly Savings = Total Salary − (House Rent + Bills)

=> Monthly Savings = 12,000 − (4,000 + 2,000) = Rs. 6,000

=> Total months in a year = 12

=> Savings is 0 for 1 month (Birthday month)

=> Total Annual Savings = 6,000 × (12 − 1)

=> Total Annual Savings = 6,000 × 11 = Rs. 66,000

Therefore The correct answer is Rs. 66,000.

Additional Information

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Income, Expenditure and Savings

The basic relationship is Income = Expenditure + Savings. If multiple expenditures are given, subtract their sum from Income to find Savings.

Percentage Savings

Savings Percentage = (Savings ÷ Total Income) × 100. In this case, monthly savings % = (6,000 ÷ 12,000) × 100 = 50%.

Annual Calculations

Always account for specific monthly variations (like bonuses or one-time expenses) by multiplying the regular monthly value by (12 − number of variation months).

Q87. Answer: (c) K

Given: Seven people, I, J, K, L, O, P and Q are sitting in a row, facing north.

1) Only two people sit to the right of I.

2) Only two people sit between I and O.

3) Only two people sit between J and P.

4) P sits to the immediate left of I.

5) Q sits to the immediate right of L.

After positioning J, P, Q and L only one position is left which will be occupied by the only person left i.e. C.

Thus, K sits at third position from the left end of the line.

Hence, "Option 3" is the correct answer.

Q88. Answer: (a) One

Given: Seven friends, A, B, C, D, P, Q and R, are sitting in a straight line facing north.

1) Only two people sit to the left of R.

2) Only three people sit between R and P.

3) Only one person sits between P and A.

4) D sits to the immediate left of Q.

5) B is not an immediate neighbour of P.

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

Thus, one person sit to the right of C.

Hence, "Option 1" is the correct answer.

Q89. Answer: (c) 11

Given number: 691478325

According to the question,

Number given	**6**	**9**	**1**	**4**	**7**	**8**	**3**	**2**	**5**
Arranged in ascending order	1	2	3	4	5	6	7	8	9

So, the sum of the digits that are third from the left and second from the right in the new number thus formed → 3 + 8 = 11

Hence, "Option 3" is the correct answer.

Q90. Answer: (a) 7221

Shortcut Trick

Number 87 = 3 × 29. A number divisible by 87 must be divisible by both 3 and 29.

Checking divisibility by 3: Sum of digits of 7221 = 7 + 2 + 2 + 1 = 12 (Divisible by 3).

Checking 7221 ÷ 87: 87 × 80 = 6960. Remainder = 7221 − 6960 = 261.

87 × 3 = 261. So, 7221 is exactly divisible by 87.

Therefore The correct answer is 7221.

Alternate Method

Given: Number 87 and four options.

Method: Perform direct division for each option to find the number with remainder 0.

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=> Option 1: 7221 ÷ 87
=> 87 × 8 = 696
=> 722 − 696 = 26
=> Bring down 1 → 261
=> 87 × 3 = 261
=> Remainder = 0. So, 7221 is divisible.
=> Option 2: 7099 ÷ 87 → 7099 = 87 × 81 + 52 (Not divisible)
=> Option 3: 6712 ÷ 87 → 6712 = 87 × 77 + 13 (Not divisible)
=> Option 4: 7741 ÷ 87 → 7741 = 87 × 88 + 85 (Not divisible)
Therefore The correct answer is 7221.
Additional Information
Divisibility by 3
A number is divisible by 3 if the sum of its digits is a multiple of 3.
Composite Number Divisibility
If a number is divisible by two co-prime numbers a and b, it is also divisible by their product (a × b).
Divisibility Rule of 29
Add 3 times the last digit to the remaining number. If the result is divisible by 29, the original number is also divisible.

Q91. Answer: (d) 24.3

Shortcut Trick
Downstream Speed (D) = 9 + 5 = 14 km/hr
Upstream Speed (U) = 9 − 5 = 4 km/hr
Total Time = Distance × (1/D + 1/U) = 75.6 × (1/14 + 1/4)
Total Time = 75.6 × (18/56) = 24.3 hours
Therefore The correct answer is 24.3 hours.
Alternate Method
Given:
Speed of boat in still water (x) = 9 km/hr
Speed of stream (y) = 5 km/hr
Distance (d) = 75.6 km
Formula Used:
Time = Distance ÷ Speed
Downstream Speed (S_d) = x + y
Upstream Speed (S_u) = x − y
Calculations:
=> Downstream Speed = 9 + 5 = 14 km/hr
=> Upstream Speed = 9 − 5 = 4 km/hr
=> Downstream Time (t1) = 75.6 ÷ 14 = 5.4 hours
=> Upstream Time (t2) = 75.6 ÷ 4 = 18.9 hours
=> Total Time = t1 + t2 = 5.4 + 18.9 = 24.3 hours
Therefore The correct answer is 24.3 hours.
Additional Information
Still Water Speed Formula
Speed of boat in still water = (Downstream speed + Upstream speed) ÷ 2
Stream Speed Formula
Speed of current/stream = (Downstream speed − Upstream speed) ÷ 2
Average Speed in Boats and Streams
Average Speed for round trip = (Downstream speed × Upstream speed) ÷ Still water speed

Q92. Answer: (a) 11/36

Shortcut Trick
Identify the symmetric property: $\Sigma\alpha^2\beta\gamma = \alpha\beta\gamma(\alpha + \beta + \gamma)$.

From the equation $6x^3 - 11x^2 + 6x - 1 = 0$, find the sum of roots and product of roots.

Sum $(\alpha + \beta + \gamma) = -(-11)/6 = 11/6$ and Product $(\alpha\beta\gamma) = -(-1)/6 = 1/6$.

Required value = $(1/6) \times (11/6) = 11/36$.

Therefore The correct answer is 11/36.

Alternate Method

Given: The cubic equation is $6x^3 - 11x^2 + 6x - 1 = 0$ with roots α, β, and γ.

Formula Used: For a cubic equation $ax^3 + bx^2 + cx + d = 0$:

Sum of roots $(\alpha + \beta + \gamma) = -b/a$

Product of roots $(\alpha\beta\gamma) = -d/a$

=> $a = 6, b = -11, c = 6, d = -1$

=> $\alpha + \beta + \gamma = -(-11)/6 = 11/6$

=> $\alpha\beta\gamma = -(-1)/6 = 1/6$

=> The expression $\Sigma\alpha^2\beta\gamma = \alpha^2\beta\gamma + \alpha\beta^2\gamma + \alpha\beta\gamma^2$

=> Taking $\alpha\beta\gamma$ common: $\Sigma\alpha^2\beta\gamma = \alpha\beta\gamma(\alpha + \beta + \gamma)$

=> Value = $(1/6) \times (11/6)$

=> Value = 11/36

Therefore The correct answer is 11/36.

Additional Information

Vieta's Formulas (Cubic)

For $ax^3 + bx^2 + cx + d = 0$, $\Sigma\alpha = -b/a$, $\Sigma\alpha\beta = c/a$, and $\alpha\beta\gamma = -d/a$.

Symmetric Functions of Roots

Functions like $\Sigma\alpha^2 = (\Sigma\alpha)^2 - 2(\Sigma\alpha\beta)$ are invariant under any permutation of the roots.

Sum of Squares Formula

$\alpha^2 + \beta^2 + \gamma^2 = (\alpha + \beta + \gamma)^2 - 2(\alpha\beta + \beta\gamma + \gamma\alpha)$.

Q93. Answer: (c) 1856

The correct answer is 1856.

Key Points

• In 1856, the English East India Company passed a law mandating that soldiers employed in its army had to serve overseas if required.

• This law was significant as it challenged the traditional beliefs of Indian sepoys, particularly regarding crossing the seas, which was considered against their religious practices.

• The resentment caused by this law among Indian soldiers contributed to the growing unrest that eventually culminated in the Revolt of 1857.

• This regulation was part of the larger socio-political changes introduced by the British to consolidate their control over India.

• The law showcased the disregard of the British towards local cultural sensitivities, leading to widespread dissatisfaction among Indian troops.

Additional Information

• Revolt of 1857:

• The revolt was triggered by multiple factors, including resentment over policies like the overseas service law and the introduction of Enfield rifles with cartridges rumored to be greased with cow and pig fat.

• It is considered the first major uprising against British rule in India.

• Both sepoys and civilians participated in the revolt, which started in Meerut and spread across northern and central India.

• Cultural Sensitivities:

• Crossing the seas was considered a religious taboo among certain Indian communities, as it was believed to result in the loss of caste.

• The imposition of the overseas service regulation was seen as an affront to traditional values.

• English East India Company:

• The company governed India until 1858, after which control was transferred to the British Crown.

• Its policies often ignored local customs, leading to widespread dissatisfaction and resistance among Indians.

• Military Reforms:

• British reforms in the Indian army aimed at aligning the forces with Western military practices.

• These reforms were often resisted by Indian soldiers due to cultural and religious differences.

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Q94. Answer: (a) Neither conclusion (I) nor conclusion (II) follows

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

Conclusions:

(I) Some ducks are cows → Does not follow (As all cows are emu, all emus are ostrich and some ostriches are duck. So it is possible but not definite.)

(II) All ostriches are cows → Does not follow (As all cows are emu and all emus are ostrich. So it is possible but not definite.)

Therefore Here, Neither conclusion (I) nor conclusion (II) follows.

Hence, the correct answer is "Option 1".

Q95. Answer: (d) 7 hours

Shortcut Trick

Let filling time A = 3 hours and combined time (filling + leak) B = 21/4 hours.

Leak empty time = (A × B) ÷ (B − A)

=> (3 × 21/4) ÷ (21/4 − 3) = (63/4) ÷ (9/4) = 63 ÷ 9 = 7 hours.

Therefore The correct answer is 7 hr.

Alternate Method

Given: Filling time = 3 hr, Filling + Leakage time = 5(1/4) hr = 21/4 hr.

Entity	Time (hr)	Total Work (LCM)	Efficiency
Pump (P)	3	21	7
Pump + Leak (P+L)	21/4	4	

Calculations:

=> Efficiency of Pump (P) = 7 units/hr

=> Efficiency of Pump + Leak (P+L) = 4 units/hr

=> Efficiency of Leak (L) = (P+L) − P = 4 − 7 = −3 units/hr (Negative sign indicates emptying)

=> Time taken by Leak to empty the tank = Total Work ÷ Efficiency of Leak

=> Time = 21 ÷ 3 = 7 hours.

Therefore The correct answer is 7 hr.

Additional Information

Inlet and Outlet Pipes

An Inlet fills a tank (positive efficiency), while an Outlet or Leak empties it (negative efficiency).

Combined Work Formula

If pipe A fills in 'x' hours and pipe B empties in 'y' hours, the net work done in one hour is (1/x − 1/y).

Emptying Time Calculation

Time to empty = (Filling Time × Combined Time) ÷ (Combined Time − Filling Time).

Q96. Answer: (b) MP -6

The logic followed here is:

QQ 3 is related to NU -1

And,

OK 11 is related to LO 7

Similarly,

PL -2 is related to

Hence, "Option 2" is the correct answer.

Q97. Answer: (b) 3 km to the south

Given:

Anuj starts from Point A and drives 12 km towards East.

He then takes a right turn, drives 8 km, turns right and drives 14 km.

He then takes a right turn and drives 11 km.

He takes a final right turn, drives 2 km and stops at Point P.

Thus, Anuj should drive 3 km (11 km - 8 km) in the south direction in order to reach point A again.

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Hence, "Option 2" is the correct answer.

Q98. Answer: (b) Payal Kapadia

The correct answer is Payal Kapadia.

Key Points

• Payal Kapadia became the first Indian filmmaker nominated for the Best Director (Motion Picture) category at the Golden Globe Awards in January 2025.

• Her nomination came for her critically acclaimed work, which showcased innovative storytelling and unique cinematic techniques.

• Payal Kapadia gained international recognition with her previous documentary "A Night of Knowing Nothing," which won the Golden Eye Award at the Cannes Film Festival.

• The Golden Globe Awards are globally renowned and considered one of the most prestigious platforms for recognizing excellence in film and television.

• Her nomination marked a historic milestone for Indian cinema, highlighting the growing influence of Indian filmmakers on the global stage.

Additional Information

• Golden Globe Awards:

• Established in 1944, the Golden Globe Awards are presented by the Hollywood Foreign Press Association (HFPA).

• The awards recognize outstanding achievements in film and television across various categories such as acting, directing, and screenwriting.

• They are considered a precursor to the Oscars, often influencing the Academy Awards nominations and winners.

• Payal Kapadia:

• She is an Indian filmmaker known for her experimental and thought-provoking narratives.

• Her works often explore themes of identity, societal challenges, and personal relationships.

• Kapadia is an alumnus of the Film and Television Institute of India (FTII), Pune, where she honed her craft.

• "A Night of Knowing Nothing":

• This documentary by Payal Kapadia delves into the life of a film student through personal letters, exploring themes of love, politics, and societal changes.

• It won the prestigious Golden Eye Award for Best Documentary at the Cannes Film Festival in 2021.

• Indian Cinema's Global Influence:

• Indian filmmakers are increasingly gaining recognition on international platforms, showcasing diverse stories and cinematic styles.

• Global appreciation for Indian films highlights the industry's evolution and its ability to resonate with audiences worldwide.

Q99. Answer: (c) Alt + Space

The correct answer is Alt + Space.

Key Points

• The Alt + Space key combination brings up the contextual control menu of the active window in Windows-based systems.

• This menu provides essential options like Restore, Move, Size, Minimize, Maximize, and Close for the active window.

• It is especially useful when the title bar is inaccessible or when a window is off-screen.

• The shortcut works on all modern versions of Windows, including Windows 10 and Windows 11.

• This feature is a part of the Windows GUI (Graphical User Interface) for accessibility and control.

Additional Information

• Alt + F4: This shortcut closes the active window or application.

• Alt + F10: This is not a common Windows shortcut but may be used for specific application-defined functions.

• Alt + Del: This shortcut does not provide any system-wide function in Windows; it may be used for custom actions in specific applications.

• Title Bar Functions: The title bar of a window in Windows OS allows users to move the window, access the control menu, and view the application’s name.

• Accessibility Features: Windows provides numerous built-in shortcuts and tools (like Sticky Keys, Magnifier, and Narrator) to enhance accessibility and ease of use for all users.

Q100. Answer: (b) 20

Shortcut Trick

Total units produced = 15 + 20 + 25 + 10 + 30 = 100 units.

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Number of days = 5.
Average = Total Production ÷ Total Days = 100 ÷ 5 = 20 units.
Therefore The correct answer is 20 units.
Alternate Method
Given:
Production values for 5 days: 15, 20, 25, 10, and 30 units.
Formula Used:
Average = (Sum of all observations) ÷ (Total number of observations)
Calculations:
=> Sum = 15 + 20 + 25 + 10 + 30
=> Sum = 100 units
=> Total Number of Days = 5
=> Average = 100 ÷ 5
=> Average = 20 units
Therefore The correct answer is 20 units.
Additional Information
Weighted Average
When items have different weights, the average is calculated as $\Sigma(w_i x_i) \div \Sigma w_i$.
Deviation Method
The sum of the deviations of all observations from their arithmetic mean is always zero.
Average of AP
For a series in Arithmetic Progression, the average is simply (First Term + Last Term) ÷ 2.

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