RRB NTPC UG Memory Based Mock (18 Aug Exam)

Q1. Who was sworn in as the 52nd Chief Justice of India (CJI) on May 14, 2025?
(a) Justice Sanjiv Khanna
(b) Justice D.Y. Chandrachud
(c) Justice B.R. Gavai
(d) Justice N.V. Ramana

Q2. According to the Nebular Hypothesis, planets formed from:
(a) Detached particles from a companion star
(b) Filament-shaped gaseous particles
(c) A cloud of material associated with a youthful sun
(d) Ejected mass under the influence of another star

Q3. Who won the 2025 Laureus World Sportswoman of the Year award?
(a) Athing Mu
(b) Iga Świątek
(c) Faith Kipyegon
(d) Simone Biles

Q4. The 128th Constitution Amendment Bill, 2023, which was introduced recently, is associated with?
(a) Reserve 33% of seats for women in Lok Sabha and State Assemblies
(b) Identify Other Backward Classes (OBCs)
(c) Reservation for Economically Weaker Sections (EWSs)
(d) Goods and Services Tax

Q5. The term 'Bhukti' in post-Gupta polity referred to:
(a) tax
(b) officer
(c) king
(d) province

Q6. Consider the following statements:
1. The Indian Civil Services (ICS) was established under the Charter Act of 1833.
2. Indians were allowed to take the ICS examination only after the enactment of the Charter Act of 1853.
3. Satyendranath Tagore was the first Indian to pass the ICS examination in 1863.
Which of the above statements is/are correct?
(a) 3 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

Q7. What is the main role of the State Finance Commission?
(a) The distribution and determination of the net proceeds of taxes, tolls and fees between the state and local bodies.
(b) To advise the government on the legal financial matters referred to it by the President.
(c) To secure the accountability of the executive to the Parliament in the sphere of financial administration.
(d) To look after the elections of the panchayats and municipalities and also provide fund for that elections.

Q8. Consider the following statements with reference to World wildlife fund:
1. The iconic racoon logo symbolizes WWF's commitment to wildlife preservation.
2. WWF works to preserve habitats, combat climate change, and conserve biodiversity.
Which of the above statement is/are correct?
(a) Only 1
(b) Only 2
(c) Both 1 and 2
(d) Neither 1 nor 2

Q9. Under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), how many days of guaranteed wage employment are provided to rural households?
(a) 50 days
(b) 75 days
(c) 100 days
(d) 150 days

Q10. Who among the following was the viceroy of India when Indian University act, 1904 was passed?
(a) Lord Dufferin.
(b) Lord Lansdowne.
(c) Lord Minto.
(d) Lord Curzon.

Q11. Which city will host the AI Action Summit 2025?
(a) New York
(b) Paris
(c) Geneva
(d) Tokyo

Q12. Which Indian state has 'KOKBOROK' as one of its official languages?
(a) Himachal Pradesh
(b) Goa
(c) Tripura
(d) west bengal

Q13. Who established the foundations of the quantum theory?
(a) Max Planck
(b) Mark Nicholas
(c) Albert Einstein
(d) Alfred Hitchcock

Q14. Who among the following was an Indian tribal freedom fighter, religious leader, and folk hero who belonged to the Munda tribe?
(a) Tantia Bhil
(b) Birsa Munda
(c) Sidho Kanhu
(d) Rani Gaidinliu

Q15. Which vitamin is fat soluble?
(a) Vitamin B
(b) Vitamin D
(c) Vitamin C
(d) Vitamin B12

Q16. What is the primary objective of the Railways (Amendment) Bill, 2024?
(a) To merge the Indian Railway Board Act, 1905 into the Railways Act, 1989
(b) To privatise the Indian Railways
(c) To introduce high-speed bullet trains across India
(d) To establish a new ministry for railway operations

Q17. Gipmochi Mountain is located in which Indian state along with China and Bhutan?
(a) Sikkim
(b) Assam
(c) Arunachal Pradesh
(d) Manipur

Q18. In India, which mode of transport provides door-to-door services?
(a) Waterways
(b) Road transport
(c) Railways
(d) Airways

Q19. What fraction of the positions in all panchayat institutions is reserved for women?
(a) 1/5
(b) 1/4
(c) 1/3
(d) 1/2

Q20. _____ is known as father of Modern Hindi Literature?
(a) Bharatendu Harishchandra
(b) Munshi Premchand
(c) Maithili Sharan Gupt
(d) Suryakant Tripathi Nirala

Q21. In which format did Virat Kohli surpass the 9,000 runs mark?
(a) One Day Internationals (ODIs)
(b) T20 Internationals
(c) Test Matches
(d) Domestic Cricket

Q22. Which of the following physiographic divisions of India has extensive alluvial soil ?
(a) The Himalayan Range
(b) The North Indian Plain
(c) The Island Group
(d) The Great Indian Desert

Q23. Which of the following statements correctly describes the state of Telangana based on its official overview?
(a) Capital – Warangal; Area – 75,000 sq. km; Official Language – Hindi
(b) Capital – Hyderabad; Area – 112,077 sq. km; Official Language – Telugu
(c) Capital – Nizamabad; Population – 2 crore; Literacy Rate – 82.15%
(d) Capital – Hyderabad; Number of Districts – 25; Major City – Vijayawada

Q24. The Constitution (Scheduled Castes and Scheduled Tribes) Orders (Amendment) Bill, 2024, was related to which state?
(a) Bihar
(b) Tamil Nadu
(c) Odisha
(d) Punjab

Q25. Which of the following roman worshipped god/goddesses is not correct?
(a) Jupiter - sent the rain for the crops
(b) Mars - helped them in war
(c) Neptune - carried their messages
(d) Juno - protected their women

Q26. What is the Line of Actual Control (LAC), and where is it located?
(a) India-Pakistan boundary
(b) India-China boundary
(c) US-Mexico boundary
(d) Russia-Ukraine boundary

Q27. As per global data in 2025, which country possesses the highest number of nuclear weapons?
(a) United States
(b) China
(c) Russia
(d) France

Q28. Which Article of the Constitution of India empowers a high court to issue a writ?
(a) Article 132
(b) Article 226
(c) Article 143
(d) Article 32

Q29. Which nutrient is spinach particularly rich in?
(a) Vitamin C
(b) Iron
(c) Vitamin B12
(d) Calcium

Q30. Which of these is a key theme in modern geography?
(a) Regional geography only
(b) Systematic geography only
(c) Both regional and systematic approaches
(d) Neither regional nor systematic

Q31. The Waqf (Amendment) Bill, 2024, introduced in the Indian Lok Sabha on 8 August 2024, aims to repeal which of the following Acts?
(a) Mussalman Wakf Act, 1923
(b) Mussalman Wakf Act, 1926
(c) Mussalman Wakf Act, 1924
(d) Mussalman Wakf Act, 1925

Q32. Rigveda consists of a collection of:
(a) 1028 hymns
(b) 4023 hymns
(c) 2028 hymns
(d) 3028 hymns

Q33. The term 'Geography' is derived from which language and what is its meaning?
(a) Latin: Study of maps
(b) Greek: Description of the Earth
(c) Arabic: Science of the sky
(d) Sanskrit: Measurement of land

Q34. Which of the following 'state-major language' pairs has been INCORRECTLY matched?
(a) Manipur – Meitei
(b) Kerala – Kannada
(c) Meghalaya – Khasi
(d) Andhra Pradesh – Telugu

Q35. The Tomar Dynasty of Delhi is famous for building which fort?
(a) Qila Rai Pithora
(b) Red Fort
(c) Lal Kot Fort
(d) Fatehpur Sikri

Q36. The most popular combination of short cut keys to copy some selected text and paste the same at some other location in most of the MS office applications is :
(a) Alt +C and Alt +V
(b) Ctrl + C and Ctrl + V
(c) Ctrl + V and Ctrl + C
(d) Alt + V and Alt + C

Q37. Deccan Plateau is mainly made up of
(a) Limestone
(b) Basalt
(c) Sandstone
(d) None of these

Q38. When was the Jawaharlal Nehru Manipur Dance Academy established?
(a) 1951
(b) 1953
(c) 1954
(d) 1952

Q39. Which Article of Constitution deals with National Commission for Scheduled Castes?
(a) Article 326
(b) Article 333
(c) Article 330
(d) Article 338

Q40. The most controversial amendment passed during the emergency was :
(a) 43rd
(b) 41st
(c) 42nd
(d) 44th

Q41. In a mixture of 66 litres, the ratio (by volume) of milk and water is 2 : 1. If X litres of water is added to the mixture, the ratio of milk and water becomes 11 : 10. What is the value of X?
(a) 14
(b) 18
(c) 10
(d) 20

Q42. Find the cost (in ₹) of digging a cuboidal pit that is 6 m long, 64 m broad and 10 m deep at the rate of ₹15 per m^3.
(a) 57,600
(b) 57,598
(c) 57,602
(d) 57,591

Q43. Average of 8 students is 15 years. If two more students of age 20 and 10 years join. What will be the new average age?
(a) 25
(b) 20
(c) 10
(d) Remain same

Q44. Five bells commence tolling together and toll at intervals of 2, 4, 9, 12 and 15 seconds respectively. In 45 minutes, how many times do they toll together?
(a) 8
(b) 10
(c) 16
(d) 15

Q45. A completes1881 part of a given work in 8 days while B completes2552 part of the same work in 16 days. If A and B work together, then what will be the number of days taken by them to finish the work?
(a) 3201212320
(b) 3201313320
(c) 25
(d) 32

Q46. A single discount of 50 percent is given on the marked price of an article of ₹1050. If two successive discounts of 40 percent and 10 percent are given, then what will be the difference between both the selling prices?
(a) ₹36
(b) ₹38
(c) ₹40
(d) ₹42

Q47. Divide 2310 people into three parties such that half of the number in the first party, one-third of the number in the second party and one-sixth of the number in the third party, are all equal.
(a) 230, 820, 1260
(b) 410, 640, 1260
(c) 420, 630, 1260
(d) 1200, 690, 420

Q48. A, B and C start a partnership. They invested Rs. 45000, Rs. 36000 and Rs. 54000 respectively. They stayed in partnership for 4 years, 3 years and 2 years. If B's share in profit is Rs. 1800, then what is the total profit?
(a) Rs. 6000
(b) Rs. 6600
(c) Rs. 7200
(d) Rs. 7000

Q49. The difference between two numbers is 760. If 12% of one number is equal to 20% of the other number. then find the greater of the two numbers.
(a) 800
(b) 1900
(c) 1240
(d) 1140

Q50. The number of diagonals in a regular heptagon is:
(a) 18
(b) 15
(c) 14
(d) 19

Q51. A shopkeeper buys 20 pens at ₹15 each and another 30 pens at ₹10 each. He mixes all the pens and sells them at ₹14 each. What is the profit or loss per pen he makes on an average?
(a) ₹0.50 loss
(b) ₹1 profit
(c) ₹0.20 loss
(d) ₹2 profit

Q52. The speed of a plane was raised by 60% by the pilot and then the raised speed was reduced by 50%. The speed measured by the sonic radar at this point of time was 2400 km/h. Find the initial speed of the plane.
(a) 2400 km/h
(b) 3200 km/h
(c) 2800 km/h
(d) 3000 km/h

Q53. The total surface area of a cube is 384cm3cm3 then its volume would be —
(a) 384cm3cm3
(b) 512cm3cm3
(c) 64cm3cm3
(d) 524cm3cm3

Q54. The lines L_1 and L_2 are parallel lines cut by a transversal. If the measure of one of the corresponding angles is 75°, then what is the measure of the other corresponding angle?
(a) 45°
(b) 85°
(c) 65°
(d) 75°

Q55. Sunny and Bunny together have Rs. 3450. If2992 of Sunny's amount is equal to7337 of Bunny's amount . How much amount does Bunny have?
(a) Rs. 300
(b) Rs. 845
(c) Rs. 2340
(d) Rs. 3150

Q56. Find the average of all the prime numbers that lie between 70 and 100.
(a) 80
(b) 86
(c) 84
(d) 82

Q57. A is 5 percent more than B and B is 10 percent more than C, then by what percentage is A more than C.
(a) 20 percent
(b) 15.5 percent
(c) 10 percent
(d) 12 percent

Q58. A vertical stick 14 m long, casts a shadow 5 m long on the ground. At the same time, a tower casts a shadow of 44.5 m long on the ground. The height of the tower is ____.
(a) 124.6 m
(b) 128.8 m
(c) 130.3 m
(d) 122.2 m

Q59. If1A+1A+1A+1A=48A1+A1+A1+A1=48, then what is the value of A?
(a) 112121
(b) 114141
(c) 110101
(d) 1881

Q60. Smaller diagonal of a rhombus is equal to length of its sides. If length of each side is 4 cm, then what is the area (in square cm) of an equilateral triangle with side equal to the bigger diagonal of the rhombus?
(a) $12\sqrt{3}$
(b) 6
(c) 12
(d) $9\sqrt{3}$

Q61. Two cars are travelling from the same location, moving in the same direction at speeds of 6 km/h and 4 km/h, respectively, starting at the same time. Calculate the approximate distance between the cars after 10 minutes.
(a) 562.4 m
(b) 333.3 m
(c) 245.6 m
(d) 258.6 m

Q62. Which is the smallest 5-digit number that is divisible by each of 54, 120 and 96?
(a) 18280
(b) 17280
(c) 14260
(d) 12960

Q63. Find the value of K, for which the quadratic equation $x^2 + 4x + K = 0$ has equal roots.
(a) 3
(b) 5
(c) 4
(d) 6

Q64. The value of $(\sec\theta - \tan\theta)^2 (1 + \sin\theta)^2 \div \cos^2\theta$ is
(a) −2
(b) 2
(c) 0
(d) 1

Q65. If the selling price of an item becomes six times of what it actually is, the nominal profit becomes seven times of what it actually is. Find the actual profit percentage.
(a) 300%
(b) 500%
(c) 100%
(d) 250%

Q66. A vegetable seller had some apples. He sells 50% apples and still has 650 apples left. Originally, he had _____ apples.
(a) 1300
(b) 850
(c) 700
(d) 1200

Q67. A bus has to travel from A to B. The bus covers the first one-third of the distance at 25 km/h and the next one-fourth of the distance at 30 km/h. For the rest of the journey, the bus travels at 50 km/h. The average speed of the bus (in km/h) for the entire journey is _____.
(a) 33133331
(b) 37123721
(c) 33
(d) 35

Q68. The arithmetic mean of 22.5,56,42.5,2x+1,x-2,3x,36 is 30 . Find x , where x>0.
(a) 9
(b) 7
(c) 6
(d) 4

Q69. Evaluate the given expression:[0.360.012of0.4]×0.5[0.012 of 0.40.36]×0.5
(a) 37.5
(b) 0.18
(c) 5.45
(d) 15

Q70. The adjacent sides of a parallelogram are 36 cm and 27 cm in length. If the perpendicular distance between the shorter sides is 12 cm, then what is the perpendicular distance between the longer sides?
(a) 16 cm
(b) 12 cm
(c) 9 cm
(d) 10 cm

Q71. A statement is followed by two assumptions numbered as I and II. Assuming the statement to be true, decide which of the given assumptions is implicit in the statement.
Statement:
"The performance of XYZ washing machine is much better for Indian conditions than the highly advertised ABC washing machine."
Assumptions:
I. ABC washing machine spends more on advertising because their product is not good.
II. ABC washing machine is a foreign brand.
(a) Only assumption I is implicit.
(b) Only assumption II is implicit.
(c) Neither assumption I nor II is implicit.
(d) Both assumptions I and II are implicit.

Q72. Three statements are followed by four conclusions numbered I, II, III and IV. You have to consider these statements to be true, even if they seem at variance from commonly known facts. Decide which of the given conclusions logically(s) follow from the given statements.
Statements:
1. All petrol are diesel.
2. No diesel is kerosene.
3. All fuels are kerosene.
Conclusions:
I. Some fuels are petrol.
II. No kerosene is petrol.
III. No petrol is fuel.
IV. Some kerosene are petrol.
(a) Only conclusions I, II and IV follows.
(b) Only conclusions I and IV follows.
(c) Only conclusions II and III follows.
(d) Only conclusions I and II follows.

Q73. In a certain code language 'CADET' is written as 7-22-23-26-24. In that code language 'MASON' will be written as?
(a) 13-12-8-26-14
(b) 13-26-8-12-14
(c) 14-26-8-12-13
(d) 14-26-9-11-13

Q74. Select the letter-cluster from among the given options that can replace the question mark (?) in the following series.
ENU, FLS, GJQ, ?, IFM
(a) HHO
(b) HOP
(c) HIO
(d) HIP

Q75. In a certain code language, 'DEAF' is coded as '6458' and 'FLIP' is coded as '4723'. What is the code for 'F' in the given code language?
(a) 2
(b) 7
(c) 8
(d) 4

Q76. Eight friends (A, B, C, D, E, F, G, H) sit around a circular table, all of them facing the centre. Only three people sit between F and E. E sits second to the right of G. B is immediate the neighbour of E but not D. C sits third to the left of D. A sits second, to the right of B. H and C are not immediate neighbours of each other. Who is sitting between D and H, when counted from the right of D?
(a) E
(b) F
(c) G
(d) A

Q77. In a row of men, Sujal is 30th from the right and Garvit is 20th from the left. When they interchange their positions, Sujal becomes 35th from the right. What is the total number of men in the row?
(a) 44
(b) 34
(c) 54
(d) 45

Q78. In a certain code language, 'DSBQCA' is coded as '4' and 'SJTB' is coded as '2'. What is the code for 'XTPLIKAE' in the given language ?
(a) 7
(b) 8
(c) 6
(d) 5

Q79. In the following question, a group of letters is given. The letters of each group are related with the letters of the same group by some Logic/Rule/Relation. From the given alternatives, select a group of letters which follows the same Logic/Rule/Relation.
(AG, BK, CP)
(a) (TA, SE, RJ)
(b) (PC, QG, RK)
(c) (FM, GQ, HV)
(d) (JF, LJ, KO)

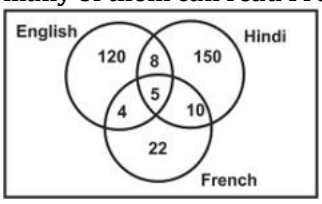
Q80. Select the pair that has the same relationship as the given pair.
Triangle : Rectangle :: ?
(a) Pentagon : Hexagon
(b) Angle : Quadrilateral
(c) Rhombus : Octagon
(d) Cone : Sphere

Q81. Arrange the given words in the order in which they occur in the dictionary.
1. Dollar
2. Doll
3. Dominos
4. Donkey
5. Dealer
(a) 5, 2, 1, 3, 4
(b) 2, 1, 3, 4, 5
(c) 3, 1, 2, 4, 5
(d) 5, 4, 3, 2, 1

Q82. Which two numbers should be interchanged to make the following equation correct?
4 × 12 ÷ 9 + 7 – 10 = 0
(a) 9, 10
(b) 9, 12
(c) 4, 7
(d) 9, 4

Q83. What will come in the place of '?' in the following equation, if '+' and '–' are interchanged and '×' and '÷' are interchanged?
45 ÷ 12 – 75 × 5 + 13 = ?
(a) 546
(b) 542
(c) 545
(d) 544

Q84. The given Venn diagram shows the number of students who can read English, Hindi and French. How many of them can read French?



(a) 30
(b) 41
(c) 39
(d) 38

Q85. K, R, I, H, G and F are six candidates who are selected for the programme of M.Ed of 'XYZ' university. Each has to join in different months of the same year viz. January, April, June, August, September and December. H has to join in April. Only K has to join after I. F has to join immediately after G. Who has to join in January?
(a) K
(b) R
(c) I
(d) G

Q86. Pointing to a photograph, a man said, "I have no brother or sister but that man's father is my father's son". Whose photograph was it?
(a) His son's
(b) His father's
(c) His own
(d) None of these

Q87. In the following letter series, some of the letters are missing which are given in that order as one of the alternatives below it. Choose the correct alternative.
a _ b c a _ bcab _ ca _ bc
(a) abca
(b) aaba
(c) bacb
(d) baba

Q88. Shashank's mother, Sarita, is Priyanka's daughter. Chahat is Priyanka's wife. Lakshita is Chahat's daughter. Garv is Sarita's son. What is the relationship between Garv and Chahat?
(a) Brother
(b) Granddaughter
(c) Grandson
(d) Son

Q89. L, M, N, O, P, Q, and R are sitting around a circular table facing the centre. Only one person sits between R and N when counted from the left of N. M sits third to the right of Q. L sits third to the left of O. M sits to the immediate right of L. P is not an immediate neighbour of L. How many people sit between P and N when counted from the right of P?
(a) One
(b) Four
(c) Three
(d) Two

Q90. If '–' means '÷', '×' means '+', '÷' means '×' and '+' means '–' what will be the value of the following expression?
[{(7 + 3) × (3 × 1)} – (1 ÷ 2)] ÷ 2 = ?
(a) 1
(b) 2
(c) 4
(d) 8

Q91. 'J + K' means 'J is the wife of K',
'J - K' means 'J is the father of K,'
'J × K' means 'J is the daughter of K'
and 'J ÷ K' means 'J is the son of K'.
If 'G ÷ N × D + M - S', then how is 'N' related to 'S'?
(a) Niece
(b) Sister
(c) Brother
(d) Aunt

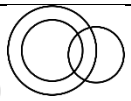
Q92. In a certain code language, 'BLUE' is coded as '4628' and 'LOAD' is coded as '3567'. What is the code for 'L' in the given code language?
(a) 3
(b) 6
(c) 7
(d) 8

Q93. What is the angle between the clock hands at 11 : 20?
(a) 130°
(b) 150°
(c) 120°
(d) 140°

Q94. Based on the English alphabetical order, three of the following four letter-clusters are alike in a certain way and thus form a group. Which letter-cluster DOES NOT belong to that group?
(Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)
(a) WQNJ
(b) KEBW
(c) QKHC
(d) FZWR

Q95. Seven boxes V, U, T, S, R, Q and P are kept one above the other, but not necessarily in the same order. S is at the lowermost position. Only V is kept above R. Only three boxes are kept between U and S. Q is kept immediately above T, which is kept above P. How many boxes are kept between V and P?
(a) 4
(b) 5
(c) 3
(d) 2

Q96. This question is based on the five, three-digit numbers given below.
(Left) 614 457 249 625 150 (Right)
(Example: 697 – First digit = 6, second digit = 9 and third digit = 7)
(NOTE: All operations to be done from left to right.)
What will be the resultant if the second digit of the highest number is subtracted from the second digit of the lowest number?
(a) 4
(b) 3
(c) 6
(d) 2

Q97. Select the Venn diagram that best illustrates the relationship between the following classes.
Males, Fathers, Females
(a) 
(b) 
(c) 
(d) 

Q98. Complete the following series.
Z1, Y4, X9, ____
(a) W25
(b) D16
(c) D25
(d) W16

Q99. Find the missing number in the following number series:
22.5, ?, 26.5, 30, 34.5
(a) 23.5
(b) 24.5
(c) 27
(d) 24

Q100. Select the option that is related to the third term in the same way as the second term is related to the first term and the sixth term is related to the fifth term.
15 : 27 :: 100 : ? :: 45 : 81
(a) 112
(b) 180
(c) 36
(d) 1

Solutions

S1. Ans.(c)
Sol. The correct answer is option (c) Justice B.R. Gavai
Explanation
Justice Bhushan Ramakrishna Gavai was sworn in as the 52nd Chief Justice of India on May 14, 2025, in a ceremony held at Rashtrapati Bhavan. The oath of office was administered by President Droupadi Murmu. This event is historically significant as Justice Gavai is the second Dalit judge to become the Chief Justice of India after Justice K.G. Balakrishnan. Justice Gavai succeeded Justice Sanjiv Khanna, who demitted office on May 13, 2025. His tenure will last until November 23, 2025.
Justice Gavai's appointment is not only a legal milestone but also a social one, symbolizing the Indian judiciary's evolving inclusivity. His career in law spans several decades, during which he has held several key judicial positions. Before becoming CJI, he served as a judge of the Supreme Court, where he was known for his judgments on constitutional matters and human rights.
This appointment adheres to the convention of seniority in the judiciary, where the senior-most judge of the Supreme Court is appointed as the Chief Justice. The office of CJI is vital, as it ensures the independence of the judiciary, supervises court administration, and represents the judiciary in its relations with the executive and the legislature.
Information Booster
- →Justice B.R. Gavai is the 52nd CJI of India.
- →His term began on May 14, 2025, and will end on November 23, 2025.
- →He is the second Dalit CJI in India's history.
- →Sworn in by President Droupadi Murmu at Rashtrapati Bhavan.
- →Succeeded Justice Sanjiv Khanna.

•→Follows the seniority principle in appointment to the CJI post.

Additional Knowledge

(a) Justice Sanjiv Khanna: Justice Khanna served as the 51st Chief Justice of India before retiring on May 13, 2025. Known for his progressive judgments in matters of civil liberties, environment, and constitutional law, he was part of several constitutional benches. His tenure was brief but impactful, as he emphasized judicial transparency and access to justice.

(b) Justice D.Y. Chandrachud: Justice D.Y. Chandrachud served as the 50th CJI from November 2022 to November 2024. He is renowned for his liberal and reformist approach in judgments on LGBTQ+ rights, abortion laws, and civil liberties. His judgments have had far-reaching implications on Indian society and jurisprudence, making him one of the most influential CJIs of recent times.

(c) Justice B.R. Gavai: Justice Gavai's rise to the CJI post is significant as he represents historically marginalized communities, being only the second Dalit CJI after K.G. Balakrishnan. His journey from the Bombay High Court to the Supreme Court and now as the CJI reflects the inclusiveness of the Indian judiciary. His judgments have been recognized for balancing constitutional morality with social justice. His brief tenure as CJI will see him overseeing critical administrative reforms and judicial proceedings in the apex court.

(d) Justice N.V. Ramana: Justice N.V. Ramana served as the 48th CJI from April 2021 to August 2022. Known for his strong stance on press freedom, judicial independence, and electoral reforms, he was instrumental in several landmark decisions concerning free speech and civil rights. His term was marked by efforts to strengthen the judiciary's relationship with the executive and bring transparency in judicial appointments.

S2. Ans.(c)

Sol. The Nebular Hypothesis proposed by Laplace suggests that planets formed from a rotating cloud of material (nebula) surrounding a youthful sun.

S3. Ans.(d)

Sol. Ans. (d)

Simone Biles, the American gymnastics legend, was awarded the **2025 Laureus World Sportswoman of the Year** for her extraordinary comeback and record-breaking performance at the **Paris 2024 Olympic Games**. After stepping away from competition during the Tokyo 2020 Olympics to focus on her mental health, Biles made a historic return in Paris, winning multiple medals and reaffirming her dominance in artistic gymnastics.

Her performance included winning **individual all-around** and **balance beam gold**, further cementing her legacy as the most decorated gymnast in history. The award celebrates not only her athletic excellence but also her courage, resilience, and advocacy for mental health in sports. Biles has become a global symbol of strength, not just for her physical feats, but for her openness about the psychological pressures faced by elite athletes.

This marks her **third time winning** a Laureus award, highlighting her sustained excellence and impact in the world of sports.

Information Booster

•→**Award**: Laureus World Sportswoman of the Year 2025
•→**Winner**: Simone Biles
•→**Country**: United States
•→**Sport**: Artistic Gymnastics
•→**Olympic Performance**: Multiple golds at Paris 2024
•→**Legacy**: Most decorated gymnast in history
•→**Previous Laureus Wins**: 2017, 2019

Additional Knowledge

(a) Athing Mu: The American middle-distance runner and Olympic gold medalist has been a rising star in track and field. While she was a nominee, she did not win the award in 2025.

(b) Iga Świątek: The Polish tennis player had an excellent season, continuing her dominance in women's tennis. A nominee for the award, she is known for her Grand Slam wins and consistency but did not secure the top honor in 2025.

(c) Faith Kipyegon: The Kenyan runner achieved record-breaking performances in the 1500m and 5000m events, making her a strong nominee. However, she did not win the 2025 award.

(d) Simone Biles: This is the **correct answer**. Her triumphant return to the Olympic stage, combined with her advocacy and impact on mental health awareness, made her a deserving winner of the 2025 Laureus World Sportswoman of the Year.

S4. Ans.(a)

Sol. The 128th Constitution Amendment Bill, 2023 is associated with the reservation of 33% of seats for women in the Lok Sabha and State Legislative Assemblies. This bill, often referred to as the Women's Reservation Bill, aims to enhance the representation of women in legislative bodies by reserving one-third of the seats. The bill has been a long-standing demand to ensure gender equity in the political sphere and promote women's active participation in governance at both the national and state levels.

S5. Ans.(d)
Sol. The correct answer is:(d) province
Explanation:

- In the **post-Gupta period**, the term **'Bhukti'** referred to a **province** or an administrative division.
- The **Gupta Empire** used a well-structured administrative system, and after the fall of the Gupta dynasty, the term **'Bhukti'** continued to be used in various regional kingdoms to denote an administrative region or a subdivision of the empire.
- The head of a **Bhukti** was usually an officer known as a **'Bhuktin'**, who was responsible for managing the administrative functions in that region.

Information Booster:

- **Gupta Administration:** The Gupta Empire had a well-established system of provinces or regions under the control of governors. The term **'Bhukti'** was used for these provinces, and it was a key feature of their territorial organization.
- The head of each **Bhukti** was tasked with overseeing revenue collection, law and order, and local administration.

Additional Information

- The Gupta Empire was initially founded by Sri Gupta, but it was **Chandragupta I** who is recognized as the first significant ruler and the one who established the Gupta Era.
- The capital of the empire was **Pataliputra.**

S6. Ans.(c)
Sol. Statement 1 is incorrect.
The Indian Civil Services (ICS), which was initially known as the Covenanted Civil Services, was not formally established under the Charter Act of 1833. The Act did mention the recruitment of civil servants, but the formal structure of the ICS was established later. The Act of 1833 did, however, lay the groundwork for a merit-based system and allowed for the recruitment of civil servants through competitive exams, but it was the Charter Act of 1853 that further developed the structure and opened the doors for Indians to compete.
Statement 2 is correct.
The Charter Act of 1853 marked a significant change in the Indian Civil Services, as it allowed Indians to take the ICS examination. However, the exam was held in London, making it difficult for many Indians to participate.
Statement 3 is correct.
Satyendranath Tagore, the elder brother of Rabindranath Tagore, became the first Indian to pass the ICS examination in 1863. His success marked an important milestone in the history of Indian participation in the administration under British rule.

S7. Ans.(a)
Sol. Correct Answer: (A). The distribution and determination of the net proceeds of taxes, tolls and fees between the state and local bodies.
Information Booster:
The State Finance Commission (SFC) is established under Article 243-I of the Indian Constitution.
It is constituted by the Governor of the state every five years to recommend:

- The distribution of tax revenues between the state government and local bodies (panchayats and municipalities).
- The allocation of financial resources to local bodies.
- Measures to improve the financial position of these local bodies.

Other Options Analysis:

- Advising on financial matters referred by the President is the role of the Finance Commission of India, not the SFC.
- Accountability of the executive to Parliament in financial matters is handled by Pbarliamentary Committees, particularly the Public Accounts Committee (PAC).
- Looking after panchayat and municipal elections is the role of the State Election Commission (SEC), not the SFC.

S8. Ans.(b)
Sol. Statement 1 is incorrect.
The iconic panda logo symbolizes WWF's commitment to wildlife preservation, not a raccoon.
Statement 2 is correct.
WWF's mission includes preserving habitats, combatting climate change, and conserving biodiversity on a global scale.

S9. Ans.(c)
Sol. The correct answer is (c)
The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), enacted in 2005, guarantees 100 days of wage employment in a financial year to every rural household whose adult members volunteer to do unskilled manual work. The scheme aims to enhance livelihood security in rural areas by providing employment opportunities and promoting sustainable development through the creation of durable assets such as roads, canals, and ponds. MGNREGA also empowers rural communities by involving them in the planning and execution of works, thus fostering inclusive growth and reducing rural-urban migration.

S10. Ans.(d)
Sol. •→During the time period of Indian University act, 1904 lord Curzon was the viceroy of India.

S11. Ans.(b)
Sol. Sol. The AI Action Summit 2025 will be held in Paris, France.
Correct Answer: Paris
Key Points:
•→PM Modi to attend the AI Action Summit in Paris on February 10-11, 2025, hosted by French President Emmanuel Macron. The summit focuses on AI governance, innovation, combating misinformation, and global AI collaboration.
•→**Event Name:** AI Action Summit
•→**Event Date**: February 10-11, 2025
•→**Host Country**: France
•→**Host Leader:** French President Emmanuel Macron

S12. Ans.(c)
Sol. The correct answer is**(c) Tripura.**

- **Kokborok**is one of the official languages of**Tripura**, a state in northeastern India. It is the native language of the Tripuri people and holds significant cultural importance in the state.
- The language is part of the Tibeto-Burman language family and is widely spoken by the indigenous communities in Tripura.

•→As of January 2023, the**Chief Minister**of Tripura is**Professor (Dr.) Manik Saha**, who assumed office on May 15, 2022.
•→The**Governor**of Tripura is**Shri Indra Sena Reddy Nallu**, who took office on October 25, 2021.
Information Booster:

- **Himachal Pradesh**: The official language is Hindi.
- **Goa**: The official languages are Konkani and Marathi.
- **West Bengal**: The official language is Bengali.

S13. Ans.(a)
Sol. Max Planck was a German theoretical physicist, considered to be the initial founder of quantum theory, and one of the most important physicists of the 20th Century.
• Niels Bohr and Max Planck, two of the founding fathers of Quantum.

S14. Ans.(b)
Sol. Sol. Birsa Munda was a tribal freedom fighter, religious leader, and folk hero of the Munda tribe.

S15. Ans.(b)
Sol. Vitamin D is fat soluble. The main natural source of vitamin D is sunlight. Vitamin D is produced by the synthesis of cholecalciferol in the lower layers of the skin's epidermis through a chemical reaction in the presence of sunlight.

S16. Ans.(a)
Sol. The correct answer is **(A) To merge the Indian Railway Board Act, 1905 into the Railways Act, 1989**
Explanation:

- The **Railways (Amendment) Bill, 2024** was introduced to **repeal the Indian Railway Board Act, 1905**, and **incorporate its provisions into the Railways Act, 1989**.
- This consolidation aims to **simplify the legal framework** governing Indian Railways, reducing the need to refer to multiple laws and enhancing operational efficiency.
- The Bill also empowers the **Central Government** to prescribe the **composition**, **qualifications**, and **terms of service** for the **Railway Board**, streamlining governance.

- While the Bill retains the current organizational structure of Indian Railways, it seeks to **enhance the functioning and independence** of the Railway Board within a unified legal framework.
- The **Minister of Railways**, Ashwini Vaishnaw, emphasized that the Bill would **modernize and strengthen** Indian Railways without affecting its public ownership or introducing privatization.
- The **budgetary allocation** for the Railway Board for the financial year 2024-25 is **₹440.01 crore**, indicating continued government support under the new framework.

Information Booster:

- The **Indian Railway Board Act, 1905** was enacted to establish a central authority for managing and controlling Indian Railways.
- The **Railways Act, 1989** serves as the primary legislation governing the operation and regulation of railways in India.
- The merger of these Acts is intended to **streamline administrative processes**, reduce legal redundancies, and improve the overall governance of Indian Railways.

S17. Ans.(a)

Sol. The correct answer is (a) Sikkim

Explanation:

Gipmochi (Gyemochen) is a mountain located at the tri-junction of India (Sikkim), China (Tibet), and Bhutan.

•→It lies near the Doklam plateau, which was the site of the 2017 India–China border standoff.

•→The location is strategically important for India's security due to its proximity to the Siliguri Corridor.

Information Booster:

•→Gipmochi is considered part of the Lesser Himalayas in this region.

•→Bhutan recognizes Batang La as the tri-junction point, while China claims Gipmochi as the point, leading to disputes.

Additional Knowledge:

Assam (Option b)

•→Incorrect — Assam shares borders with Bhutan and Arunachal Pradesh but does not have this mountain.

Arunachal Pradesh (Option c)

•→Incorrect — Located further east along the India–China border.

Manipur (Option d)

•→Incorrect — Located in Northeast India but shares borders with Myanmar, not China or Bhutan.

S18. Ans.(b)

Sol. Correct Answer: (b) Road transport

Explanation: Road transport is the only mode of transport in India that offers **door-to-door services**. This is due to its flexibility, extensive network, and ability to reach even remote areas. Road transport ensures both goods and passengers can directly reach their destinations without requiring additional modes of transport for last-mile connectivity.

Information Booster:

•→**Road Transport** is the most preferred mode for short to medium distances due to its convenience.

•→It includes national highways, state highways, and rural and urban roads.

•→It is versatile, supporting both freight and passenger movement across the country.

•→Road transport accounts for over 65% of the freight and 80% of passenger movement in India.

•→**Waterways**: Suitable for bulk goods over long distances but restricted to navigable rivers and coastal areas. Lacks door-to-door connectivity.

•→**Road Transport**: Correct answer; offers maximum reach and flexibility, connecting rural, urban, and remote areas.

•→**Railways**: Ideal for bulk and long-distance transport but requires terminals for loading/unloading, lacking direct connectivity.

•→**Airways**: Fastest mode of transport, suitable for long-distance passenger movement but limited to urban areas and requires additional road connectivity for last-mile delivery.

S19. Ans.(c)

Sol. Ans. (c) 1/3

The reservation for women in panchayat institutions is mandated by the 73rd Amendment Act of 1992, which reserves one-third (1/3) of the total positions for women at all levels of panchayat institutions, including village, intermediate, and district levels. This ensures increased participation of women in rural governance.

Important Key Points:

Knowledge Booster:

1. The 73rd Amendment Act, 1992, aimed at strengthening local self-governance and enhancing women's participation in politics.

2. The one-third reservation applies not only to direct election positions but also to the posts of chairpersons in panchayats.
3. The reservation includes women from all categories, such as Scheduled Castes, Scheduled Tribes, and Other Backward Classes.
4. It applies to both rural and urban local bodies, though the percentage may vary in urban areas.
5. Women's representation has been instrumental in bringing more gender-sensitive policies and initiatives at the grassroots level.
6. The reservation is implemented through a system of rotational reservation, which means that the reserved seats for women rotate in each election cycle.

- **One-third reservation** for women in panchayats aims to address historical gender imbalances in political representation, promoting gender equality.
- This provision has been a key factor in the rise of women in local governance, enabling them to influence policies related to rural development, education, healthcare, and infrastructure.
- While the reservation exists at all levels of panchayats, **one-third** also refers to the minimum number of positions reserved, and states may reserve additional seats depending on local conditions or legal provisions.

S20. Ans.(a)

Sol. The correct answer is (a) **Bharatendu Harishchandra**

Bharatendu Harishchandra (1850–1885) is considered the Father of Modern Hindi Literature and Hindi Theatre.

He played a pivotal role in the development of modern prose and poetry in Hindi and was a key figure in the Hindi Renaissance during the 19th century.

Contributions:

- **Modern Hindi Literature:**
  - Wrote extensively on social reform, patriotism, and cultural revival.
  - Prominent works include *Bharat Durdasha* and *Andher Nagari*.
- **Hindi Journalism:**
  - Started several Hindi newspapers and magazines to promote Hindi as a modern language.
- **Hindi Theatre:**
  - Introduced modern themes and realism in Hindi drama.

Additional Information:

- **Munshi Premchand:** Known as the Emperor of Hindi Novels, famous for works like *Godaan* and *Nirmala*.
- **Maithili Sharan Gupt:** A noted Hindi poet and pioneer of Khadi Boli poetry.
- **Suryakant Tripathi Nirala:** A key figure in the Chhayavad movement of Hindi poetry.

S21. Ans.(c)

Sol. Sol. Virat Kohli surpassed the 9,000 Test runs mark during India's first test match against New zealand.

S22. Ans.(b)

Sol. The correct answer is **(b) The North Indian Plain.**

•→The North Indian Plain is characterized by extensive alluvial soil, which is primarily deposited by the rivers flowing from the Himalayas.

•→This region includes the fertile Indo-Gangetic Plain and is known for its agricultural productivity due to the rich, fertile alluvial soil.

•→Alluvial soil is formed by the deposition of sediment carried by rivers, making it highly suitable for agriculture.

Additional Information:

Alluvial soil is particularly fertile and is suitable for growing crops like rice, wheat, sugarcane, and various pulses. The abundance of water from rivers such as the Ganges, Yamuna, and Brahmaputra contributes to the soil's fertility.

Other Options:

•→**The Himalayan Range:** This region primarily consists of rocky and mountainous terrain, with limited agricultural land and different types of soil.

•→**The Island Group:** The islands of India, such as the Andaman and Nicobar Islands, have diverse soil types but do not have extensive alluvial soil comparable to the North Indian Plain.

•→**The Great Indian Desert:** This region is characterized by arid conditions and sandy soil, which is not conducive to agriculture in the same way that alluvial soil is.

S23. Ans.(b)
Sol. The correct answer is option (b) Capital – Hyderabad; Area – 112,077 sq. km; Official Language – Telugu.
Explanation
1. **Capital**: The capital of **Telangana is Hyderabad**, which also serves as a major economic and IT hub in India.
2. **Area**: Telangana covers an area of **112,077 square kilometers**, making it one of the moderately sized states in India.
3. **Population**: As per the **2011 Census**, the population of Telangana is approximately **3.5 crore (35 million)**.
4. **Districts**: The state currently comprises **33 districts**, having been reorganized from the initial 10 districts.
5. **Official Language**: **Telugu** is the official language of the state. Urdu is also widely spoken, particularly in urban areas like Hyderabad.
6. **Literacy Rate**: According to the 2011 Census, the **literacy rate** of Telangana is **66.54%**.
7. **Major Cities**: Key urban centers include **Hyderabad**, **Warangal**, and **Nizamabad**.
Information Booster
•→**Capital**: Hyderabad
•→**Area**: 112,077 sq. km
•→**Population** (2011): 3.5 crore
•→**Official Language**: Telugu
•→**Number of Districts**: 33
•→**Literacy Rate**: 66.54%
•→**Major Cities**: Hyderabad, Warangal, Nizamabad

S24. Ans.(c)
Sol. The correct option is: (c) Odisha
Explanation:
- The **Constitution (SC/ST) Amendment Bill 2024** aimed to **update the list of Scheduled Tribes** in **Odisha**.
- It involved inclusion and correction of tribe names to ensure **constitutional recognition and benefits**.

Information Booster:
- **Proposed by**: Ministry of Tribal Affairs.
- **Impact**: Tribal communities gain access to **education, jobs, and legal protection**.
- **Legislative Need**: Required for accurate identification and welfare.

S25. Ans.(c)
Sol. The correct answer is option (c) Neptune - carried their messages
Explanation
- **Neptune** was the **Roman god of the sea**, equivalent to the Greek god **Poseidon**. He was associated with **oceans, rivers, and horses**, not with **carrying messages**.
- The deity known for **carrying messages** was **Mercury**, the **messenger of the gods**, and the Roman counterpart of the Greek god **Hermes**.
- Thus, option (c) incorrectly attributes **Neptune** with Mercury's role.
- The rest of the pairings are accurate:
    - **Jupiter** was the **king of gods** and controlled the **sky and weather**, including rain.
    - **Mars** was the **god of war**, protector of Rome in battle.
    - **Juno** was the **protector of women and marriage**, and the wife of Jupiter.

Information Booster
- **Jupiter**: Supreme god, controlled rain, thunder, and law.
- **Mars**: God of war, and a father of Romulus and Remus.
- **Neptune**: God of the sea and horses.
- **Mercury**: True messenger god in Roman mythology.
- **Juno**: Guardian of women, especially in marriage and childbirth.

Additional Knowledge
Jupiter
- Chief deity in Roman religion.
- Associated with **thunder, lightning, and rain**.
- Worshipped for **law, order, and agriculture**.
- Temples like **Capitoline Hill** were dedicated to him.

Mars
- Second in importance after Jupiter.
- Represented **military power** and **Roman glory**.

- Celebrated during **festivals before battle seasons**.

Neptune
- Roman counterpart of **Greek Poseidon**.
- Controlled **seas, rivers, earthquakes**, and **horses**.
- Honored in naval festivals like **Neptunalia**.

Mercury *(not in options, but relevant)*
- God of **commerce, messages, travel**, and **thieves**.
- Depicted with **winged sandals and caduceus**.
- Carried messages between gods and mortals.

Juno
- Protector of **women, marriage, and childbirth**.
- Roman equivalent of **Greek Hera**.
- Honored in festivals like **Matronalia**.

S26. Ans.(b)
Sol. Correct Answer: **(b) India-China boundary**
Explanation:
•→The **Line of Actual Control (LAC)** is the de facto boundary between **India and China**.
•→It spans **3,488 km**, running across **Ladakh, Uttarakhand, Himachal Pradesh, Sikkim, and Arunachal Pradesh**.
•→The LAC is divided into the **Western, Middle, and Eastern sectors**.
Information Booster: ● **Disputes:** Frequent standoffs occur, including recent clashes in **Ladakh (2020)**. ● **Historical Context:** The LAC was established after the **1962 Sino-Indian War**, though it remains undefined in many areas. ● **Key Passes:** Aksai Chin, Galwan Valley, and Tawang are flashpoints.

S27. Ans.(c)
Sol. The correct answer is (c) Russia
- In **2025**, **Russia** has the **largest stockpile of nuclear weapons** globally, with approximately **5,449 nuclear warheads**.
- This surpasses even the United States, which ranks second with **5,277 nuclear weapons**.
- Russia continues to **modernize its nuclear arsenal**, focusing on both strategic and tactical capabilities.
- These weapons serve as part of its **nuclear deterrence strategy**, especially in the context of global tensions and its geopolitical stance.
- The information is confirmed by global security think tanks and defence monitoring agencies.

Information Booster:
•→Russia and the United States collectively hold over **90% of the world's nuclear weapons**.
•→The **first nuclear weapon** was used by the United States in **1945** during World War II.
•→Russia inherited the Soviet Union's nuclear arsenal after its dissolution in **1991**.
•→**NPT (Non-Proliferation Treaty)** recognizes only 5 nuclear-weapon states: US, UK, France, China, Russia.
•→**India, Pakistan, North Korea, and Israel** possess nuclear weapons but are **not signatories** to the NPT.
•→**South Africa** is the only country to have **voluntarily dismantled** its nuclear arsenal (1991).
Additional Information:
- **United States (5,277):** Second-highest; spends the most on nuclear modernization and has global deployment capability.
- **China (600):** Rapidly expanding its arsenal with hypersonic and mobile launch capabilities.
- **France (290):** Maintains nuclear deterrence primarily through its naval fleet and air force.
- **United Kingdom (225):** All warheads are deployed via **Trident submarines**.
- **India (180):** Develops **minimum credible deterrence** and a **no-first-use policy**.
- **Pakistan (170):** Focuses on short-range nuclear weapons and a first-use doctrine.
- **Israel (90):** Maintains a **policy of ambiguity** and has never officially declared its nuclear status.
- **North Korea (50):** Conducts regular missile tests; withdrew from the **NPT in 2003**.

S28. Ans.(b)
Sol. The correct answer is (b) Article 226.
Article 226 of the Constitution of India empowers a high court to issue writs for the enforcement of fundamental rights and for other purposes. The writs that can be issued by a high court under Article 226 are:
• **Habeas corpus:** This writ is used to secure the release of a person who is being illegally detained.
• **Mandamus:** This writ is used to compel a public authority to perform a duty that it is legally bound to perform.

• **Prohibition:** This writ is used to prevent a lower court from exceeding its jurisdiction.
• **Certiorari:** This writ is used to quash an order or judgment of a lower court that is illegal or erroneous.
• **Quo warranto:** This writ is used to inquire into the authority by which a person is holding a public office.
Article 32 of the Constitution of India also empowers the Supreme Court to issue writs for the enforcement of fundamental rights. However, the Supreme Court can only issue writs to the Union government, the state governments, and their agencies. High courts can issue writs to all persons, including private individuals and organizations.
So, the answer is (b), Article 226.

S29. Ans.(b)
Sol. Spinach is particularly known for being rich in iron, although it also contains other nutrients such as vitamin C, vitamin A, and folate. Iron is essential for the formation of hemoglobin in red blood cells, which carries oxygen throughout the body.

S30. Ans.(c)
Sol. Correct Answer: (C). Both regional and systematic approaches
Explanation:
Modern geography adopts two complementary approaches:
→ **Systematic Geography** studies one geographical phenomenon (e.g., climate, landforms, population) globally, comparing its distribution and causes.
→ **Regional Geography** studies all geographical aspects (both physical and human) within a specific area to understand its uniqueness.
Together, they provide a holistic understanding of spatial patterns and processes.
Information Booster:
→ **Systematic Approach —** Introduced by Alexander von Humboldt: suitable for thematic studies like world climate zones or global trade patterns.
→ **Regional Approach —** Popularized by Carl Ritter: useful for in-depth analysis of specific areas (e.g. Indian Monsoon in South Asia).
Additional Knowledge (Other Options):
(A). Regional geography only → Too narrow; ignores global thematic comparisons.
(B). Systematic geography only → Lacks localized understanding and cultural context.

S31. Ans.(a)
Sol. The correct answer is **(A) Mussalman Wakf Act, 1923**.
Explanation:
The **Waqf (Amendment) Bill, 2024** aims to repeal the **Mussalman Wakf Act, 1923**, which was an earlier legislation dealing with the administration of Waqf properties. The Bill proposes changes to modernize the regulation of Waqf properties.
Information Booster:
- The **Mussalman Wakf Act, 1923** was introduced during the British colonial period to regulate the administration and management of **Waqf properties** in India.
- The **Waqf (Amendment) Bill, 2024** seeks to improve the **Waqf** management system, making it more transparent and effective for better governance of Waqf properties.
- The **1923 Act** has been criticized for being outdated and not in line with modern governance standards.
- The **Waqf Act of 1995** is the current law in place, but this amendment is designed to address administrative concerns in the existing framework.

S32. Ans.(a)
Sol. The Correct Answer **is (a) 1028 hymns.**
Rigveda:
- The Rigveda is one of the Oldest Veda.
- It is the oldest of the Vedas and consists of a collection of 1028 hymns or Suktas.
- The Rigveda is divided into 10 Mandalas (books).
- The priest who recites the hymns of the Rigveda is known as "Hotri".
- The Aitareya Brahmana and the Kaushitaki (Shankhayana) Brahmana
- Upveda of Rigveda is Ayurveda.

Information Booster:
The Vedas: An Overview
The Vedas comprise four texts: the Rigveda, Samaveda, Yajurveda, and Atharvaveda. The first three are collectively referred to as Vedatrayi and are considered the oldest and most significant. The Atharvaveda was added later to this sacred corpus.

Bharatamuni's Natyashastra is often regarded as the Panchama Veda (Fifth Veda). Traditionally, the Vedas remained in oral form for a long period before being documented in written texts.

Structure of the Vedas

Scholars hold different views regarding the structure of the Vedas. Some classify them into two parts: the Samhitas and the Brahmanas, while others categorize them into four sections:

1. **Samhitas - Collection of hymns and mantras**
2. **Brahmanas - Ritualistic explanations**
3. **Aranyakas - Philosophical discussions**
4. **Upanishads - Metaphysical and spiritual knowledge**

The Samhitas and Brahmanas form the **Karma-Kanda (ritualistic segment), whereas the Aranyakas and Upanishads constitute the Jnana-Kanda (philosophical segment).**

Highlights of Each Veda

- **Rigveda -** The oldest Veda, containing 1,028 hymns divided into 10 mandalas. The Purushasukta, explaining the four varnas, is found in the 10th mandala.
- **Samaveda -** A collection of 1,603 verses, mostly borrowed from Rigveda, used in Soma sacrifices and significant in Indian music traditions.
- **Yajurveda -** Prescribes rituals and sacrifices; classified into Shukla Yajurveda (Vajasaneyi) and Krishna Yajurveda.
- **Atharvaveda -** The most distinct of the four, containing 711 hymns and 5,987 mantras in 20 kandas, often linked to folk traditions, superstitions, and protective charms.

Brahmanas: The Ritualistic Texts

The Brahmanas serve as commentaries on the Samhitas, elaborating on Vedic rituals and their significance.

- **Rigveda -** Aitareya Brahmana and Kausitaki Brahmana
- **Yajurveda -** Satapatha Brahmana, the most extensive Brahmana
- **Atharvaveda -** Gopatha Brahmana

Aranyakas: The Forest Treatises

The Aranyakas (forest texts) were composed by hermits who sought solitude in forests for deep spiritual study. These texts bridge the transition from ritualistic practices (Karma Marga) to philosophical knowledge (Jnana Marga).

- They emphasize symbolism and mysticism.
- Considered appendices to the Brahmanas.
- Prepare the foundation for Upanishadic teachings.

Upanishads: The Philosophical Texts

The Upanishads mark the culmination of Vedic thought, delving into metaphysics, spirituality, and philosophy. The term **'Upanishad'** signifies sitting close to a guru to receive esoteric knowledge.

- Composed between 800 BCE - 500 BCE.
- 108 Upanishads, categorized according to their associated Veda.
- Prominent Upanishads: **Isha, Kena, Katha, Prashna, Mundaka, Mandukya, Chhandogya, Brihadaranyaka, Aitareya, and Taittiriya.**
- Major contributors: **Maharshi Yagnavalkya, Rajarshi Janak, Mandukya Muni, and Pippalad Muni.**
- Key concepts: Brahman (Supreme Reality), Atman (Self), Karma, and Moksha (liberation).
- Influence: Inspired Indian philosophers like Shankara, Ramanuja, and Aurobindo.
- **National Motto: "Satyameva Jayate"** originates from the Mundaka Upanishad.

Vedangas: The Ancillary Sciences

The Vedangas emerged towards the later Vedic period, aiding in the understanding and preservation of Vedic knowledge. The six Vedangas:

1. **Shiksha (Phonetics) - Proper pronunciation of Vedic texts.**
2. **Kalpa (Rituals) - Guidelines for conducting sacrifices.**
3. **Vyakarana (Grammar) - Sanskrit grammar and structure.**
4. **Nirukta (Etymology) - Explanation of difficult words in the Vedas.**
5. **Chandas (Meter) - Study of poetic meters used in hymns.**
6. **Jyotisha (Astronomy) - Determining auspicious times for rituals.**

The Vedangas played a pivotal role in preserving the sanctity and transmission of Vedic knowledge through generations.

S33. Ans.(b)

Sol. Correct Answer: (B). Greek: Description of the Earth

Explanation:

The word **"Geography"** comes from the **Greek words Geo (Earth) and Graphia (Description/Writing). It originally meant "description of the Earth"** but in modern context, it is the scientific study of the Earth as the home of human beings, focusing on spatial relationships between physical and human phenomena.

Information Booster:
→ **Geo = Earth; Graphia = Description/Writing.**
→ **Coined in the 3rd century BCE by Eratosthenes (Father of Ancient Geography).**
Additional Knowledge (Other Options):
(A). Latin: Study of maps → The study of maps is called Cartography; Latin influenced scientific terminology but "Geography" is Greek in origin.
(C). Arabic: Science of the sky → Refers more to astronomy; medieval Arab scholars like Al-Idrisi made major contributions to mapping.
(D). Sanskrit: Measurement of land → The Sanskrit term for land measurement is Bhugol, used in ancient Indian texts, but it's not the origin of the word "Geography."

S34. Ans.(b)
Sol. The **incorrectly matched pair** is **(b) Kerala – Kannada**. The official language of **Kerala** is **Malayalam**, not Kannada. Malayalam is widely spoken across Kerala and is an important language in the Dravidian language family. Kannada, on the other hand, is primarily spoken in the state of Karnataka, not Kerala.
The other options are correctly matched:
- **Manipur – Meitei**: Meitei (also called Manipuri) is the predominant language spoken in Manipur.
- **Meghalaya – Khasi**: Khasi is one of the major languages spoken in Meghalaya, along with Garo.
- **Andhra Pradesh – Telugu**: Telugu is the official language of Andhra Pradesh and is one of the most widely spoken Dravidian languages.

Important Key Points:
1. Malayalam is the official language of Kerala, while Kannada is for Karnataka.
2. Manipur's primary language, Meitei, is also referred to as Manipuri.
3. Meghalaya recognizes Khasi and Garo as significant regional languages.
4. Andhra Pradesh has Telugu as its official and most widely spoken language.
5. Each state in India generally has its own official language, often tied to regional identity.
6. Language distribution in India reflects cultural and historical diversity.

Knowledge Booster:
- **Kannada** is spoken in Karnataka, with major dialects like Mysore and Mangalore Kannada.
- **Telugu** is one of the oldest Dravidian languages, with rich literary traditions.
- **Khasi** is part of the Austroasiatic language family, unique among Indian languages.
- **Meitei** has its own script, Meitei Mayek, and is also recognized in the Indian Constitution

S35. Ans.(c)
Sol. The correct answer is (c) Lal Kot Fort.
•→The **Tomar Rajput dynasty**, particularly **Anangpal Tomar II**, is credited with building the **Lal Kot Fort** in **Delhi around 1052 CE**, considered the **first known fort of Delhi**.
•→It laid the foundation for the city's later political prominence.
Information Booster:
•→Lal Kot was later expanded by the **Chauhan king Prithviraj III**, and renamed **Qila Rai Pithora**.
•→The **Tomars** ruled Delhi before it came under the **Chauhans** and then the **Delhi Sultanate**.
•→Anangpal Tomar is also said to have installed the **Iron Pillar of Delhi** at Mehrauli.
Additional Information:
•→Option (a) Qila Rai Pithora – built by **Prithviraj Chauhan** using Lal Kot as the base.
•→Option (b) Red Fort – built by **Shah Jahan** in the 17th century.
•→Option (d) Fatehpur Sikri – built by **Akbar** in the 16th century.

S36. Ans.(b)
Sol. The most commonly used shortcut keys to copy and paste selected text in MS Office applications are Ctrl + C for copying and Ctrl + V for pasting. These shortcuts are standard across nearly all Windows-based applications, making them widely known and used for efficient text handling.
Important Key Points:
1. Ctrl + C (Copy): Copies the selected content to the clipboard without removing it from the original location.
2. Ctrl + V (Paste): Inserts the copied content from the clipboard to the desired location.
Knowledge Booster:
•→**Alt + C and Alt + V:** Not standard shortcuts for copy-paste functions in MS Office.
•→**Ctrl + V and Ctrl + C:** Incorrect sequence; Ctrl + C is for copy and must come before Ctrl + V for pasting.
•→**Alt + V and Alt + C:** These are typically used for menu navigation and are not associated with copying and pasting.

S37. Ans.(b)
Sol. The correct answer is: **(B) Basalt**
Explanation:
- The **Deccan Plateau** is primarily composed of **basalt** rock, which is the result of volcanic eruptions that occurred millions of years ago, leading to the formation of large lava fields.
- This volcanic rock forms extensive **Deccan Traps**, which are the largest volcanic formations in the world.

Information Booster:
- The Deccan Plateau is a vast highland region covering parts of **Maharashtra**, **Karnataka**, **Telangana**, **Andhra Pradesh**, and **Tamil Nadu**.
- The basalt rock formation gives the plateau its distinctive topography, with **flat-topped hills** and **deep gorges**.
- These volcanic rocks are rich in **minerals** like iron and magnesium, which contribute to the fertility of the soil in the region.

Additional Information:
- **Limestone** and **Sandstone** are not the primary constituents of the Deccan Plateau, though they can be found in some other regions of India.
- **Basalt** is the defining feature of the Deccan Plateau, making it geologically unique.

S38. Ans.(c)
Sol. The correct answer is (c) **1954**.
Jawaharlal Nehru Manipur Dance Academy (JNMDA) was established in **1954** in **Imphal, Manipur**, as a premier institution for the preservation and promotion of **Manipuri classical dance and culture**.
Information Booster
Jawaharlal Nehru Manipur Dance Academy (JNMDA)
- Established in **1954** under the **Sangeet Natak Akademi**.
- Dedicated to the **promotion and teaching of Manipuri dance, theatre, and allied art forms**.
- Provides training in **Ras Lila, Pung Cholom, and Thang-Ta** martial arts.
- Recognized for its contribution to **reviving and spreading Manipuri dance globally**.

S39. Ans.(d)
Sol. The correct answer is (d) Article 338.
Article 338 of the Indian Constitution establishes the National Commission for Scheduled Castes (NCSC). This body monitors the implementation of safeguards for Scheduled Castes, investigates complaints, and advises on socio-economic development policies.
Information Booster:
● Originally, the provisions were under Article 338, but later divided into 338 and 338A.
● Article 338A establishes the National Commission for Scheduled Tribes (NCST).
● The NCSC presents annual reports to the President.
● It ensures adherence to reservation policies.
● Key focus areas include education, employment, and social justice.
● It can summon and enforce the attendance of witnesses.
Additional Information:
- **(a) Article 326:** Deals with adult suffrage in elections.
- **(b) Article 333:** Reservation of seats for Anglo-Indian representatives.
- **(c) Article 330:** Reservation of seats in Lok Sabha for Scheduled Castes and Scheduled Tribes.

S40. Ans.(c)
Sol. Correct Option: (C) 42nd
Explanation:
- The **42nd Amendment Act, 1976**, is widely regarded as the **most controversial amendment** to the Indian Constitution.
- Passed during the **Emergency period (1975–77)** under **Prime Minister Indira Gandhi's government**, it is often referred to as the **"Mini Constitution"** due to its extensive changes.
- The amendment aimed to **strengthen the central government's authority** and **curb the powers of the judiciary**, among other far-reaching modifications.

Information Booster:
Key features of the 42nd Amendment:
1. **Preamble changes** – Added the words "**Socialist**" and "**Secular**" and changed "unity of the nation" to "**unity and integrity of the nation**".

2. **Fundamental Duties** – Introduced **Article 51A**, listing **10 Fundamental Duties** for Indian citizens.
3. **Power to Parliament** – Strengthened Parliament's power to amend any part of the Constitution.
4. **Judiciary weakening** – Restricted the **judicial review** power of courts.
5. **Directive Principles over Fundamental Rights** – Gave **DPSPs** priority in governance.

Additional Information:

- **43rd Amendment (1977)**:
  - Reversed some provisions of the 42nd Amendment and **restored judicial powers**.
- **41st Amendment (1976)**:
  - Provided that **no criminal proceedings** shall be instituted against the **President or Governors** for acts done during their term.
- **44th Amendment (1978)**:
  - Passed after the Emergency to **restore democratic values**, including protecting **Fundamental Rights** and **strengthening the judiciary**.

S41. Ans.(b)
Sol. Given:
Total mixture = 66 litres
Initial milk : water = 2 : 1
New milk : water = 11 : 10 after adding X litres of water
Formula Used:
Let initial milk = 2x, water = 1x, total = 3x
Use ratio and total quantity to find x
Apply new water amount and equate to new ratio
Solution:
From ratio 2:1, total parts = 3
So, each part = 66 / 3 = 22 litres
=> Milk = 2 × 22 = 44 litres, Water = 1 × 22 = 22 litres
Let X litres of water added => new water = 22 + X
New ratio = Milk : Water = 11 : 10
So, (44) / (22 + X) = 11 / 10
Cross multiply: 44 × 10 = 11 × (22 + X)
=> 440 = 242 + 11X
=> 11X = 198
=> X = 198 / 11 = 18
Therefore, the value of X is 18 litres.

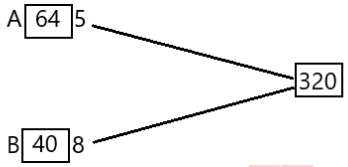
S42. Ans.(a)
Sol. Given:
Length = 6 m
Breadth = 64 m
Depth (Height) = 10 m
Rate = ₹15 per m^3
Formula Used:
Volume of cuboid = Length × Breadth × Height
Cost = Volume × Rate
Solution:
Volume of cuboid = 6 × 64 × 10 = 3840 m^3
Cost = 3840 × 15 = ₹57600

S43. Ans.(d)
Sol. Given:
Average age of 8 students = 15 years
Ages of two more students = 20 years and 10 years
Formula Used:
New Average = (Sum of Ages of All Students) ÷ (Total Number of Students)
Solution:
Sum of ages of 8 students = 8 × 15 = 120 years
Total sum after adding two more students = 120 + 20 + 10 = 150 years

Total number of students = 8 + 2 = 10
New average = 150 ÷ 10 = 15 years
So, the average remains same.

S44. Ans.(c)
Sol. Given:
Five bells start together. Intervals = 2 s, 4 s, 9 s, 12 s, 15 s
Total time = 45 min = 2700 s
Formula Used:
Number of times = LCM + 1
Solution:
LCM(2,4,9,12,15) =22×32×5=180s22×32×5=180 s
2700180+1=15+1=161802700+1=15+1=16
The bells toll together 16 times in 45 minutes.

S45. Ans.(b)
Sol. Given:
A completes1881 of the work in 8 days
B completes2552 of the work in 16 days
Solution:
A does1881 work in 8 days
RateA=188=164A=881=641
Step 2: Rate of B
B does2552 work in 16 days
RateB=2516=280=140B=1652=802=401
RateA+B=164+140A+B=641+401
5320+8320=133203205+3208=32013
Total time =113320=32013320131=13320
Alternate Method:
A××18=881=8 = 64
B××2552 = 16 = 40



Total Work = 320 Unit
Together Efficiency = 5 + 8 = 13 Unit
Total Time =Total WorkTotal Efficiency=32013Total EfficiencyTotal Work=13320

S46. Ans.(d)
Sol. Given:
- Marked Price = ₹1050
- Single Discount = 50%
- Two Successive Discounts = 40% and 10%
We are to find the difference between the selling prices in both cases.
Formula Used:
Selling Price after Single Discount = Marked Price × (1 − Discount/100)
Selling Price after Successive Discounts =MarkedPrice×(1−FirstDiscount100)×(1−SecondDiscount100)MarkedPrice×(1−100First Discount)×(1−100Second Discount)
Solution:
Single Discount Case:
Selling Price = ₹1050 × (1 − 50/100) = ₹1050 × 0.5 = ₹525
Successive Discount Case:
First discount price = ₹1050 × 0.6 = ₹630
Second discount on ₹630 = ₹630 × 0.9 = ₹567
Difference = ₹567 − ₹525 = ₹ 42.0
Hence, the difference between both the selling prices is ₹ 42.0.

S47. Ans.(c)
Sol. Given:
The total number of people to be divided into three parties is 2310.
The ratio of the number of people in the first, second, and third parties is based on the relationship:
P12=P23=P362P1=3P2=6P3
From this, we deduce the ratio of people in each party:
P1 : P2 : P3 = 2 : 3 : 6
Solution:
Total parts = 2 + 3 + 6 = 11 parts
Determine the number of people in each party:
First Party (P1):
P1 =211112×2310 = 2 × 210 = 420 people
Second Party (P2):
P2 =(311)×2310(113)×2310 =3×2103×210 = 630 people
Third Party (P3):
P3 =(611)×2310=6×210(116)×2310=6×210 = 1260 people

S48. Ans.(b)
Sol. Given:
Amount invested by A, B, and C = Rs. 45000, Rs. 36000 and Rs. 54000
Number of years they stayed in partnership = 4 years, 3 years, and 2 years
B's share of profit = Rs 1800
Concept used:
Profit = Amount invested × Number of years
Solution:
Profit ratio of A, B and C = 45000 × 4 : 36000 × 3 : 54000 × 2 = 5 : 3 : 3
It is given, B's profit
3 units = Rs. 1800
Then, total profit = 5 + 3 + 3 = 11 units
11 units =1800331800 × 11 = Rs. 6600.
∴ The total profit obtained is Rs. 6600.

S49. Ans.(b)
Sol. Given:
Let the two numbers be x and y, where x > y
x - y = 760
12% of one number = 20% of the other
Solution:
12100×x=20100×y12×x=20×yxy=2012=5310012×x=10020×y 12×x=20×y yx=1220=35
let x = 5k , y = 3k
Substituting into x - y = 760:
5k - 3k = 760
2k = 760
k = 4=380
Now,
x = 5 × 380 = 1900

S50. Ans.(c)
Sol. Given:
A regular heptagon (7-sided polygon)
Concept Used:
The number of diagonals in an n-sided polygon is given by the formula:
Total diagonals =n(n−3)22n(n−3)
Solution:
For a heptagon, n = 7
Diagonals =7(7−3)2=7×42=28227(7−3)=27×4=228 = 14

S51. Ans.(d)
Sol. Given:- 20 pens at ₹15 each
- 30 pens at ₹10 each

- Selling price of each pen = ₹14
- We need to find the profit or loss per pen on average.

Formula Used:

- Total cost = (Cost price of first batch × Quantity) + (Cost price of second batch × Quantity)
- Total selling price = Selling price × Total quantity
- Profit or Loss = Total selling price - Total cost
- Profit or Loss per pen = (Profit or Loss) / Total quantity

Solution:

- Total cost for first batch = 20 × ₹15 = ₹300
- Total cost for second batch = 30 × ₹10 = ₹300
- Total cost = ₹300 + ₹300 = ₹600
- Total selling price = 50 × ₹14 = ₹700
- Profit = ₹700 - ₹600 = ₹100
- Profit per pen = ₹100 / 50 = ₹2

Therefore, the profit per pen is ₹2.

S52. Ans.(d)

Sol. Given:

Increase in speed by pilot = 60% of initial speed
Decrease after increase = 50% of raised speed
Final speed measured = 2400 km/h

Formula Used:

Final Speed = Initial Speed × (1 + Increase%) × (1 − Decrease%)

Solution:

Let the initial speed be x km/h.
Final speed=x×(1+60100)×(1−50100)2400=x×160100×501002400=x×160×50100002400=x×8000100002400=x×45x=2400×54x=3000km/hFinal speed=x×(1+10060)×(1−10050) 2400=x×100160×10050 2400=x×10000160×50 2400=x×100008000 2400=x×54 x=2400×45 x=3000 km/h
The initial speed of the plane was 3000 km/h.

S53. Ans.(b)

Sol. Given:

Total Surface Area (TSA) of cube = 384 cm^2

Formula Used:

TSA of cube=6a2⟹a2=TSA6Volume of cube=a3TSA of cube=6a2 ⟹a2=6TSA Volume of cube=a3

Solution:

Now, from TSA formula;
a2=3846a2=64a2=6384 a2=64
a = 8 cm
Volume of cube = 8^3 = 512 cm^3

S54. Ans.(d)

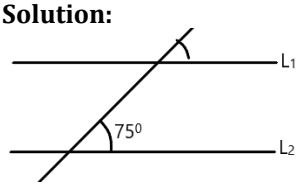
Sol. Given:

Lines L_1 and L_2 are parallel
They are cut by a transversal
One of the corresponding angles = 75°
Required: Measure of the other corresponding angle.

Concept Used:

When two parallel lines are cut by a transversal, corresponding angles are equal.

Solution:



Given corresponding angle = 75°
Other corresponding angle = 75° (by the property of parallel lines)

S55. Ans.(a)
Sol. Given:
Sunny and Bunny together have Rs. 3450
2992 of Sunny's amount is equal to7337of Bunny's amount.
Solution:
Let Sunny's amount be x and Bunny's amount be y.
x + y = 3450 ---- (1)
(29)x=(73)y—-(2)x=(73)×(92)yx=(212)y(92)x=(37)y—-(2)x=(37)×(29)yx=(221)y
Substituting the value of y in (1),
(212)y+y=345023y=3450×2y=690023=300(221)y+y=345023y=3450×2y=236900=300
∴ Bunny has Rs. 300

S56. Ans.(d)
Sol. Given:
We need to find the average of all the prime numbers between 70 and 100.
Concept Used:
A prime number is a number greater than 1 that has no divisors other than 1 and itself.
Average =Sum of the numbersTotal number of numbersTotal number of numbersSum of the numbers
Solution:
The prime numbers between 70 and 100 are: 71, 73, 79, 83, 89, 97.
Sum of these prime numbers:
= 71 + 73 + 79 + 83 + 89 + 97 = 492
There are 6 prime numbers between 70 and 100.
Average =49266492 = 82

S57. Ans.(b)
Sol. Given:
A is 5 percent more than B
B is 10 percent more than C
Solution:
A=B+5%ofB=B×(105100)B=C+10%ofC=C×(110100)A=C×(110100)×(105100)=11551000Ais1551000more thanCA=C×(1551000)×100=15.5%A=B+5% of B=B×(100105)B=C+10% of C=C×(100110)A=C×(100110)×(100105)=10001155A is 1000155 more than CA=C×(1000155)×100=15.5%

S58. Ans.(a)
Sol. Given:
Height of the stick = 14 m
Length of the shadow of the stick = 5 m
Length of the shadow of the tower = 44.5 m
Concept Used:
The problem involves similar triangles. The height of the stick and its shadow form one triangle, and the height of the tower and its shadow form another triangle.
The ratio of the height to the length of the shadow will be the same for both.
Formula Used:
Using the property of similar triangles:
Height of stickLength of shadow of stick=Height of towerLength of shadow of towerLength of shadow of stickHeight of stick =Length of shadow of towerHeight of tower
Solution:
Let the height of the tower be h.
145=h44.5514=44.5h
h=44.55×14h=544.5×14
h=8.9×14=124.6h=8.9×14=124.6
Thus, The height of the tower is 124.6 meters.

S59. Ans.(a)
Sol. Given:
1A+1A+1A+1A=48A1+A1+A1+A1=48
Solution:
1A+1A+1A+1A=484A=48A=448=112A1+A1+A1+A1=48 A4=48 A=484=121

S60. Ans.(a)
Sol. Given:
Length of each side = 4 cm = length of smallest diagonal
Concept Used:
Diagonals of the rhombus bisect each other.
Also, diagonals are perpendicular to each other.
Formula Used:
Area of equilateral triangle=34×a2=43×a2
Solution:
Let the longest diagonal be d.
42=22+(d2)216−4=d2412×4=d×dd=4342=22+(2d)216−4=4d212×4=d×dd=43
Side of the equilateral triangle=43=43
Area of the triangle=34×a2=34×(43)×(43)=43×a2=43×(43)×(43)
Area of the triangle=123cm2=123cm2

S61. Ans.(b)
Sol. Given:
Speed of Car A = 6 km/h
Speed of Car B = 4 km/h
Time = 10 minutes =1060=166010=61 hour
Formula Used:
Distance = Speed × Time
Solution:
Relative speed = 6 – 4 = 2 km/h
Distance =2×16=26=13km2×61=62=31 km = 333.33 metres

S62. Ans.(d)
Sol. Given:
We need to find the smallest 5-digit number divisible by 54, 120, and 96.
Solution:
54 =2×332×33
120 =23×3×523×3×5
96 =25×325×3
LCM =25×33×5=32×27×525×33×5=32×27×5 = 4320
Smallest 5-digit number divisible by 4320. To do this, we divide 10000 (the smallest 5-digit number) by 4320:
=100004320≈2.31=432010000≈2.31
Rounding up to the nearest whole number, we get 3. Then, we multiply 4320 by 3:
4320 × 3 = 12960
Thus, the smallest 5-digit number divisible by 54, 120, and 96 is 12960

S63. Ans.(c)
Sol. Given:
Quadratic equation: $x^2 + 4x + K = 0$
We are to find the value of K for which the equation has equal roots.
Formula Used:
Discriminant $D = b^2 - 4ac$
For equal roots: D = 0

Solution:
Here, a = 1, b = 4, c = K
Substitute in the discriminant formula:
4^2 - 4(1)(K) = 0
16 - 4K = 0
4K = 16
K = 4

S64. Ans.(d)
Sol. Given:
$(\sec\theta - \tan\theta)^2 (1 + \sin\theta)^2 \div \cos^2\theta$
=(1cosØ−sinØcosØ)2×(1+sinØ)21−sin2Ø=(1−sinØcosØ)2×(1+sinØ)(1−sinØ)=(1−sinØ)2cos2Ø×(1+sinØ)(1−sinØ)=(1−sinØ)2(1−sinØ)(1+sinØ)×(1+sinØ)(1−sinØ)=1=(cosØ1−cosØsinØ)2×1−sin2Ø(1+sinØ)2 =(cosØ1−sinØ)2×(1−sinØ)(1+sinØ) =cos2Ø(1−sinØ)2×(1−sinØ)(1+sinØ) =(1−sinØ)(1+sinØ)(1−sinØ)2×(1−sinØ)(1+sinØ) =1
Identity Used:
sin2θ+cos2θ=1sin2θ+cos2θ=1
Solution:
$(\sec\theta - \tan\theta)^2 (1 + \sin\theta)^2 \div \cos^2\theta$
=(1cosØ−sinØcosØ)2×(1+sinØ)21−sin2Ø=(1−sinØcosØ)2×(1+sinØ)(1−sinØ)=(1−sinØ)2cos2Ø×(1+sinØ)(1−sinØ)=(1−sinØ)2(1−sinØ)(1+sinØ)×(1+sinØ)(1−sinØ)=1=(cosØ1−cosØsinØ)2×1−sin2Ø(1+sinØ)2 =(cosØ1−sinØ)2×(1−sinØ)(1+sinØ) =cos2Ø(1−sinØ)2×(1−sinØ)(1+sinØ) =(1−sinØ)(1+sinØ)(1−sinØ)2×(1−sinØ)(1+sinØ) =1

S65. Ans.(b)
Sol. Given:
New SP = 6 × Original SP
New Profit = 7 × Actual Profit
Concept Used:
Profit = SP − CP
Use variable to represent SP and CP
Set up equation and solve for CP
Solution:
Let original SP = x
Let CP = c
Then, actual profit = x − c
According to question:
New SP = 6x, New Profit = 6x − c = 7(x − c)
=> 6x − c = 7x − 7c
=> 6x − 7x = −7c + c
=> −x = −6c => c = x / 6
Now, Actual Profit = x − c =x−(x6)=(5x6)x−(6x)=(65x)
Profit % =(ProfitCP)×100=[(5x6)(x6)]×100=5×100=500%(CPProfit)×100=[(6x)(65x)]×100=5×100=500%

S66. Ans.(a)
Sol. Given:
A vegetable seller sold 50% of his apples and still had 650 apples left.
Solution:
If 50% of the apples remain after selling 50%, then the remaining apples are half of the original apples.
Let the total apples be x
50%ofx=650(50100)×x=650x=650×(10050)=650×2=130050% of x=650(10050)×x=650x=650×(50100)=650×2=1300

S67. Ans.(a)
Sol. Given:
First1331 of distance at 25 km/h
Next1441 of distance at 30 km/h
Remaining distance at 50 km/h
Formula Used:
Time =DistanceSpeedSpeedDistance
Average Speed =Total DistanceTotal TimeTotal Time Total Distance

Solution:
Let the total distance be 12 km, so
First1331 of 12 = 4 km at 25 km/h
Time =425254 hr
Next1441 of 12 = 3 km at 30 km/h
Time =330=110303=101 hr
Remaining distance = 12 - 4 - 3 = 5 km at 50 km/h
Time =550=110505=101 hr
Total time =425+110+110=425+210=425+525=925254+101+101=254+102=254+255=259 hr
Average speed =12925=12×259=3009=1003=331325912=12×925=9300=3100=3331km/h

S68. Ans.(a)
Sol. Given:
Numbers: 22.5, 56, 42.5, 2x + 1, x - 2, 3x, 36
Arithmetic mean of these numbers = 30
Formula Used:
Arithmetic mean =(Sumofallnumbers)(Totalnumberofnumbers)(Total number of numbers)(Sum of all numbers)
Solution:
Total number of numbers = 7
Arithmetic mean =(22.5+56+42.5+2x+1+x−2+3x+36)77(22.5+56+42.5+2x+1+x−2+3x+36)
=>30=(22.5+56+42.5+2x+1+x−2+3x+36)7=>30=(156+6x)7=>30=7(22.5+56+42.5+2x+1+x−2+3x+36) =>30=7(156+6x)
=> 30 × 7 = 156 + 6x
=> 210 = 156 + 6x
=> 210 - 156 = 6x
=> 54 = 6x
=> x = 54 / 6
=> x = 9
The correct answer is option 1.

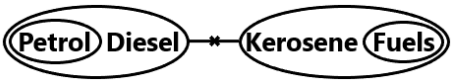
S69. Ans.(a)
Sol. Given:
[0.360.012of0.4]×0.5[0.012 of 0.40.36]×0.5
Solution:
[0.360.012of0.4]×0.5=[0.360.0048]×0.5=[30.04]×0.5=1.50.04=37.5[0.012 of 0.40.36]×0.5 =[0.00480.36]×0.5 =[0.043]×0.5 =0.041.5=37.5

S70. Ans.(c)
Sol. Given:
The adjacent sides of a parallelogram are 36 cm and 27 cm in length.
The perpendicular distance between shorter sides is 12 cm,
Formula Used:
Area of the parallelogram = base × height
Solution:
Let the perpendicular distance between the longer sides be x cm.
Area of parallelogram taking base = 27 and height = 12 cm: 27 × 12 sq. cm
Area of parallelogram taking base = 36 cm and height = x cm: 36 × x sq. cm
As the parallelogram is the same, its area is the same as well.
So, Area 1 = Area 2
27 × 12 = 36 × x
x = 9 cm

S71. Ans.(c)
Sol. Statement:
"The performance of XYZ washing machine is much better for Indian conditions than the highly advertised ABC washing machine."
Assumptions:
I. ABC washing machine spends more on advertising because their product is not good.
This is not necessarily true. Just because they advertise more doesn't mean the product is bad. The statement doesn't say anything about the reason behind the advertising.

Assumption I is NOT implicit.
II. ABC washing machine is a foreign brand.
The statement says XYZ is better for Indian conditions, but it doesn't say that ABC is a foreign brand. Maybe ABC is also Indian but just not suited for local needs.
Assumption II is NOT implicit.
So, **Neither assumption I nor II is implicit.**
Thus, correct option is (c).

S72. Ans.(c)
Sol. Statements:
1. All petrol are diesel.
2. No diesel is kerosene.
3. All fuels are kerosene.
From the given statements possible Venn diagram will be.



Conclusions:
I. Some fuels are petrol. (**False**, there is no direct or indirect relation between fuels and petrol).
II. No kerosene is petrol. (**True**, petrol and kerosene are completely separate sets).
III. No petrol is fuel. (**True**, petrol and fuel are disjoint sets).
IV. Some kerosene are petrol. (**False**, there is no direct or indirect relation between kerosene and petrol).
So, **Only conclusions II and III follows.**
Thus, correct option is (c).

S73. Ans.(a)
Sol. Given: In a certain code language 'CADET' is written as 7-22-23-26-24.

1	2	3	4	5	6	7	8	9	10	11	12	13
A	B	C	D	E	F	G	H	I	J	K	L	M
Z	Y	X	W	V	U	T	S	R	Q	P	O	N
26	25	24	23	22	21	20	19	18	17	16	15	14

Logic: Each letter is reversed in their position and then convert in opposite letter's place values.
For, CADET → 7-22-23-26-24
C = 3 → Reverse = 24
A = 1 → Reverse = 26
D = 4 → Reverse = 23
E = 5 → Reverse = 22
T = 20 → Reverse = 7
Similarly,
MASON → ?
M = 13 → Reverse = 14
A = 1 → Reverse = 26
S = 19 → Reverse = 8
O = 15 → Reverse = 12
N = 14 → Reverse = 13
So, **MASON → 13-12-8-26-14**
Thus, correct option is (a).

S74. Ans.(a)
Sol. Given Series:
ENU, FLS, GJQ, ?, IFM

1	2	3	4	5	6	7	8	9	10	11	12	13
A	B	C	D	E	F	G	H	I	J	K	L	M
Z	Y	X	W	V	U	T	S	R	Q	P	O	N
26	25	24	23	22	21	20	19	18	17	16	15	14

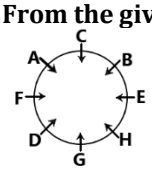
Logic: 1st +1 , 2nd -2 , 3rd -2
E +1 → F +1 → G +1 → **H** +1 → I

N -2 → L -2 → J -2 →**H** -2 → F
U -2 → S -2 → Q -2 → **O** -2 → M
So, missing letters = **H H O**
Thus, correct option is (a).

S75. Ans.(d)
Sol. Given:
In a certain code language, 'DEAF' is coded as '6458' and 'FLIP' is coded as '4723'.
D E A F = 6 4 5 8

F L I P = 4 7 2 3
So, the code of **F** is **4**.
Thus, correct option is (d).

S76. Ans.(c)
Sol. Given:
Eight friends (A, B, C, D, E, F, G, H) sit around a circular table, all of them facing the centre.
Only three people sit between F and E.
E sits second to the right of G.
B is immediate the neighbour of E but not D.
C sits third to the left of D.
A sits second to the right of B.
H and C are not immediate neighbours of each other.
From the given information seating arrangement will be.



G is sitting between D and H, when counted from the right of D.
Thus, correct option is (c).

S77. Ans.(c)
Sol. Given:
Sujal is 30th from the right
Garvit is 20th from the left
After interchanging, Sujal becomes 35th from the right
When Sujal and Garvit interchange positions, Sujal goes to Garvit's original place (20th from left), and now he is 35th from right.
So that means:
Position from left + Position from right − 1=Total number of men
20(left) + 35(right) −1= **54**
Thus, correct option is (c).

S78. Ans.(c)
Sol. Given: DSBQCA → 4
SJTB → 2
XTPLIKAE → ?
Logic: Code = Number of letters - 2
Count number of letters
DSBQCA → 6 letters
SJTB → 4 letters
XTPLIKAE → 8 letters
Let's apply that:
DSBQCA → 6 - 2 = 4
SJTB → 4 - 2 = 2
As the similarly for: **XTPLIKAE → ?**
8 - 2 = 6
Thus, the correct option is **(c) 6.**

S79. Ans.(c)
Sol.

1	2	3	4	5	6	7	8	9	10	11	12	13
A	B	C	D	E	F	G	H	I	J	K	L	M
Z	Y	X	W	V	U	T	S	R	Q	P	O	N
26	25	24	23	22	21	20	19	18	17	16	15	14

Logic = first letter of each term increased by 1 and second increased by 4 then 5.
Given Group: (AG, BK, CP)
First Letters: A, B, C
These are increasing by +1 in each term (A → B → C).
Second Letters: G, K, P
The second letters are increasing by +4 and +5:
G → K: +4
K → P: +5
Now, let's check the options:
Option A: (TA, SE, RJ)
First Letters: T → S → R → This is decreasing, not following +1.
Second Letters: A → E → J → The differences are increased by +4 and +5.
Option B: (PC, QG, RK)
First Letters: P → Q → R → These are increasing by +1 (P → Q → R).
Second Letters: C → G → K → The differences are +4 and +4, not alternating by +4 and +5.
Option C: (FM, GQ, HV)
First Letters: F → G → H → These are increasing by +1 (F → G → H).
Second Letters: M → Q → V → The differences are +4 and +5, alternating correctly.
Option D: (JF, LJ, KO)
First Letters: J → L → K → These are not increasing by +1 in each term.
Second Letters: F → J → O → The differences are +4 and +5 :
F → J: +4
J → O: +5
Final Correct Option: **Option C: (FM, GQ, HV)**

S80. Ans.(a)
Sol. Given: Triangle : Rectangle :: ?
A **triangle** is a 2D shape with 3 sides. A **rectangle** is a 2D shape with 4 sides.
So the relationship is: Both are polygons, the second has one more side than the first.
Now check options:
Option (a): Pentagon (5 sides) : Hexagon (6 sides) → matches the rule.
Option (b): Angle (not a polygon) : Quadrilateral (polygon) → does **not** match.
Option (c): Rhombus (4 sides) : Octagon (8 sides) → **not** just one side more.
Option (d): Cone (3D) : Sphere (3D) → does **not** match different category.
Thus, correct option is (a).

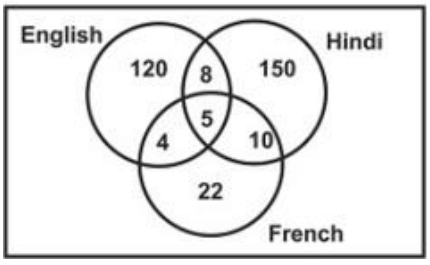
S81. Ans.(a)
Sol. The correct order of the words in a dictionary is as follows:
Dealer (5)
Doll (2)
Dollar (1)
Dominos (3)
Donkey (4)
So the correct sequence is: 5, 2, 1, 3, 4.
Thus, correct option is (a).

S82. Ans.(b)
Sol. Given: 4 × 12 ÷ 9 + 7 – 10 = 0
Using **BODMAS** rule.
OperationpreferencewiseSymbolBrackets[],,()Orders, of(power),√(root),ofDivision÷Multiplication×Addition+Subtraction−Operation preference wiseBracketsOrders, ofDivisionMultiplicationAdditionSubtractionSymbol[],,()(power),√(root),of÷×+−

Now, we check each options.
Option (a): 9, 10
New equation: 4 × 12 ÷ 10 + 7 – 9 = 0
4 × 1.2 + 7 – 9 = 0
4.8 + 7 - 9 = 0
2.8≠□= 0
Option (b): 9, 12
New equation: 4 × 9 ÷ 12 + 7 – 10 = 0
36 ÷ 12 + 7 – 10 = 0
3 + 7 - 10 = 0
10 - 10 = 0
0 = 0
Option (c): 4, 7
New equation: 7 × 12 ÷ 9 + 4 – 10 = 0
7 × 1.3 + 4 – 10 = 0
9.1 + 4 - 10 = 0
3.1≠□= 0
Option (d): 9, 4
New equation: 9 × 12 ÷ 4 + 7 – 10 = 0
9 × 3 + 7 – 10 = 0
27 + 7 - 10 = 0
34 - 10 = 0
24≠□= 0
Thus, correct option is (b).

S83. Ans.(b)
Sol. Given: 45 ÷ 12 – 75 × 5 + 13 = ?
Given sign +×
Interchange–÷
OperationpreferencewiseSymbolBrackets[],,()Orders,
of(power),√(root),ofDivision÷Multiplication×Addition+Subtraction–Operation preference wiseBracketsOrders,
ofDivisionMultiplicationAdditionSubtractionSymbol[],,()(power),√(root),of÷×+–
New Expression: 45 × 12 + 75 ÷ 5 – 13 = ?
45 × 12 + 15 – 13 = ?
540 + 15 – 13 = ?
? = 542
Thus, correct option is (b).

S84. Ans.(b)
Sol. Given



the number of them who read French = 22 + 4 + 5 + 10 = 41
option b is correct.

S85. Ans.(b)
Sol. Given:
K, R, I, H, G and F are six candidates who are selected for the programme of M.Ed of 'XYZ' university.
Each has to join in different months of the same year viz. January, April, June, August, September and December.
H has to join in April.
Only K has to join after I.
F has to join immediately after G.

From the given information arrangement will be.

Months	Candidates
January	R
April	H
June	G
August	F
September	I
December	K

R has to join in January.
Thus, correct option is (b).

S86. Ans.(a)
Sol. Given: Pointing to a photograph, a man said, "I have no brother or sister but that man's father is my father's son".

Symbol in Diagram	Meaning
- / O	Female
+/ □	Male
=	Married Couple
—	Siblings
|	Difference Of Generation

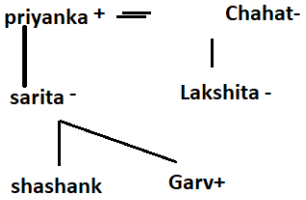
my father means man's father
|
that mans father means photo's father ⇨ man (he has no brother and sister means himself only is here)
|
photo

From the given information blood relation diagram will be.
The photograph man is **his son**.
Thus, correct option is (a).

S87. Ans.(d)
Sol. Given:
a _ b c a _ bcab _ ca _ bc
Option a) abca
a **a** b c / a **b** b c /a b **c** c /a **a** b c
Option b) aaba
a **a** b c / a **a** b c / a b **b** c/ a **a** b c
Option c) bacb
a **b** b c / a **a** b c/ a b **c** c /a **b** b c
Option d) baba
a **b** b c / a **a** b c / a b **b** c/ a **a** b c
(Followas a repeating pattern of abbc)
Thus, correct option is (d).

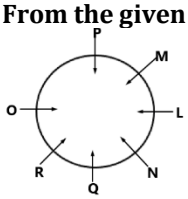
S88. Ans.(c)
Sol. Given -Shashank's mother, Sarita, is Priyanka's daughter. Chahat is Priyanka's wife. Lakshita is Chahat's daughter. Garv is Sarita's son

Symbol in Diagram	Meaning
- / O	Female
+/ □	Male
=	Married Couple
—	Siblings
|	Difference Of Generation



Garv is grandson of Chahat.

S89. Ans.(c)
Sol. Given: L, M, N, O, P, Q, and R are sitting around a circular table facing the centre.
Only one person sits between R and N when counted from the left of N.
M sits third to the right of Q.
L sits third to the left of O.
M sits to the immediate right of L.
P is not an immediate neighbour of L.
From the given information seating arrangement will be.



Three people sit between P and N when counted from the right of P.
Thus, correct option is (c).

S90. Ans.(d)
Sol. Given: [{(7 + 3) × (3 × 1)} − (1 ÷ 2)] ÷ 2 = ?

Given Sign	-	×	÷	+
New Sign	÷	+	×	-

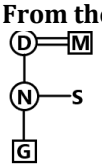
Using **BODMAS** rule.
OperationpreferencewiseSymbolBrackets[],,()Orders,
of(power),√(root),ofDivision÷Multiplication×Addition+Subtraction−Operation preference wiseBracketsOrders,
ofDivisionMultiplicationAdditionSubtractionSymbol[],,()(power),√(root),of÷×+−
New equation: [{(7 - 3) + (3 + 1)} ÷ (1 × 2)] × 2 = ?
(7 - 3) + (3 + 1) ÷ (1 × 2) × 2 = ?
(4) + (4) ÷ (2) × 2 = ?
8 ÷ 2 × 2 = ?
4 × 2 = ?
? = **8**
Thus, correct option is (d).

S91. Ans.(b)
Sol. Given: 'J + K' means 'J is the wife of K',
If 'G ÷ N × D + M - S'

Symbols	+	-	××	÷÷
Relation	Wife	Father	Daughter	Son

Symbol in Diagram	Meaning
- / O	Female
+ / □	Male
═	Married Couple
—	Siblings
|	Difference Of Generation

From the given information blood relation diagram will be.



N is **Sister** of S.
Thus, correct option is (b).

S92. Ans.(b)
Sol. Given:
BLUE → 4628:
LOAD → 3567
B Ⓛ U E → 4 ⑥ 2 8

Ⓛ O A D → 3 5 ⑥ 7

So L is coded as **6**.
Thus, correct option is (b).

S93. Ans.(d)
Sol. Given: The clock hands at 11 : 20
Formula Used:|30H−112M|30H−211M
=|30×11−112×20|30×11−211×20
=|330−110|330−110
=|220|220
Since the maximum possible angle on a clock is **180°**, we take the smaller angle by subtracting from 360°:
= 360 - 220
= **140°**
Thus, correct option is (d).

S94. Ans.(a)
Sol.

1	2	3	4	5	6	7	8	9	10	11	12	13
A	B	C	D	E	F	G	H	I	J	K	L	M
Z	Y	X	W	V	U	T	S	R	Q	P	O	N
26	25	24	23	22	21	20	19	18	17	16	15	14

Logic: 1st letter - 6 = 2nd letter, 2nd letter - 3 = 3rd letter and 3rd letter - 5 = 4th letter
Now, we check each options.
Option (a): WQNJ **(Not Follow)**
W - 6 = Q, Q - 3 = N, N - 5≠□= J
Option (b): KEBW **(Follow)**
K - 6 = E, E - 3 = B, B - 5 = W
Option (c): QKHC **(Follow)**
Q - 6 = K, K - 3 = H, H - 5 = C
Option (d): FZWR **(Follow)**
F - 6 = Z, Z - 3 = W, W - 5 = R
Thus, correct option is (a).

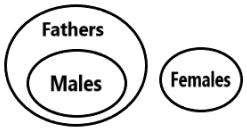
S95. Ans.(a)
Sol. Given: Seven boxes V, U, T, S, R, Q and P are kept one above the other, but not necessarily in the same order.
S is at the lowermost position.
Only V is kept above R.
Only three boxes are kept between U and S.
Q is kept immediately above T, which is kept above P.
From the given information arrangement will be.

Order	Boxes
7	V
6	R
5	U
4	Q
3	T
2	P
1	S

4 boxes are kept between V and P.
Thus, correct option is (a).

S96. Ans.(b)
Sol. Given:
Five 3-digit numbers:
614, 457, 249, 625, 150
Step 1: Identify the highest and lowest numbers
Highest number = 625
Lowest number = 150
Step 2: Extract the second digits
Second digit of 150 = 5
Second digit of 625 = 2
Now subtract:
5 (from 150) − 2 (from 625) = 3
Option B is correct.

S97. Ans.(a)
Sol. Given: Males, Fathers, Females



Thus, the correct option is **(a).**

S98. Ans.(d)
Sol. Given Series: Z1, Y4, X9, ____
Logic:
The first letters are following a backward alphabetical order: Z, Y, X, W.
The numbers are squares of consecutive integers: 1^2, 2^2, 3^2, 4^2.

1	2	3	4	5	6	7	8	9	10	11	12	13
A	B	C	D	E	F	G	H	I	J	K	L	M
Z	Y	X	W	V	U	T	S	R	Q	P	O	N
26	25	24	23	22	21	20	19	18	17	16	15	14

Z (1st letter) → Y (2nd letter) → X (3rd letter) → W (4th letter).
The number sequence follows the squares: $1^2 = 1$, $2^2 = 4$, $3^2 = 9$, $4^2 = 16$.
Final Answer: W16
Final Correct Option: (A) W16

S99. Ans.(d)
Sol. Given: 22.5, ?, 26.5, 30, 34.5
Logic: Numbers are increasing + 1.5, + 2.5, + 3.5 and + 4.5
22.5 + 1.5 = **24**
24 + 2.5 = 26.5
26.5 + 3.5 = 30
30 + 4.5 = 34.5
So, the missing term is **24**.
Thus, correct option is (d).

S100. Ans.(b)
Sol. Given: 15 : 27 :: 100 : ? :: 45 : 81
Logic: 1st number×× 1.8 = 2nd number
For, 15 : 27
15×× 1.8 = 27
For, 45 : 81
45×× 1.8 = 81
Similarly,
100 : ?
100×× 1.8 = **180**
So, 100 : **180**
Thus, correct option is (b).