STAFF SELECTION COMMISSION

SUB-INSPECTOR IN DELHI POLICE AND CENTRAL ARMED POLICE FORCES EXAMINATION (PAPER-I)

SOLVED PAPER

(9th November 2022: Shift-1)

Time Allotted- 2 hours

Max marks- 200

General Intelligence and Reasoning

 If × means +, ÷ means ×, - means ÷, and + means -, then what will be the value of the following expression? 32 × 6 + 10 - 4 ÷ 8 = ?

2. If A denotes '+', B denotes '×', C denotes '-', and D denotes '÷', then what will be the value of the following expression?

50 A 86 C 40 D 10 B 5 = ?

- **1.** 124 **2.** 150 **3.** 116 **4.** 134
- **3.** Select the number from among the given options that can replace the question mark (?) in the following series. 72, 85, 68, 81, ?, 77
- **1.** 70 **2.** 61 **3.** 64 **4.** 67
- **4.** Three statements are given followed by four conclusions numbered 1, 2, 3, and 4. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically does NOT follow(s) from the statements.

Statements:

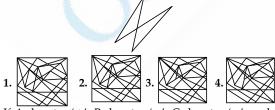
Some Nights are Lights

- No Light is a Van.
- All Vans are Whips.

Conclusions:

(1) Some Nights are not Vans.

- (2) No Van is a Light.
- (3) Some Whips are not Lights.
- (4) Some Nights are Whips.
- 1. Only conclusion 4 does not follow.
- 2. Only conclusion 2 does not follow.
- 3. Only conclusion 1 does not follow.
- 4. Only conclusion 3 does not follow.
- 5. Based on the position in the English alphabetical order, three of the following letter- clusters are alike in some manner and one is different. Select the odd letter-cluster.
 1. CEIO
 2. HJNU
 3. JLPV
 4. FHLR
- 6. Select the option figure in which the given figure is embedded (rotation is NOT allowed).



If A denotes '+', B denotes '×', C denotes '-', and D denotes '÷', then what will be the value of the following expression?
 25 C 21 D 7 B 3 A 4

8. Select the option that represents the letters that, when sequentially placed from left to right in the blanks, will complete the letter series.

_M_XJ_PX_MP_J__X

- **1.** J O J M X M P **2.** J P M J X M P
- **3.** J P M X J M P **4.** J P X M J M P
- **9.** Two statements are given followed by three conclusions numbered I, II and III. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements. **Statements:**

All coffees and milkshakes are teas.

- None of the coffees are milkshakes. Conclusions:
- I. Some coffees are milkshakes.
- II. Some teas are coffees
- III. Some milkshakes are teas.
- 1. Only conclusions II and III follow
- 2. Only conclusions I and II follow
- 3. Only conclusions I and III follow
- 4. All of the conclusions follow
- **10.** Neha departs from her home and walks 51 m towards the south and then turns left and walks 44 m. Now she turns left again and walks 83 m. How far is she from a pole that is exactly 32 m north from her home now? (Assuming that all turns are 90 degree turns only)
- 1. 14 m
 2. 44 m
 3. 7 m
 4. 39 m

 11. If 31 December 2003 was a Wednesday, then what was
 - the day of the week on 7 March 2005? **1.** Tuesday **2.** Sunday **3.** Saturday **4.** Monday
- Which of the following numbers will replace the question mark (?) in the given series? 164, 172, 145, ?, 84
 - 1. 209
 2. 308
 3. 283
 4. 234
- **13.** Select the word-pair that best represents a similar relationship to the one expressed in the pair of words given below.

(The words must be considered as meaningful English words and must not be related to each other based on the number of letters/number of consonants/vowels in the word)

Lend : Borrow **1.** Happy : Joyous

1.3

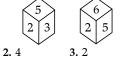
3. Exciting : Boring

2. Stern : Strict

4. Sharp : Edged

4.5

14. Two different positions of the same dice are shown, the six faces of which are numbered from 1 to 6. Select the number that will be on the face opposite to the one showing 6.

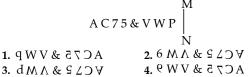


15. Select the option that is related to the third term in the same way as the second term is related to the first term and sixth term is related to fifth term. 6 : 32 :: 10 : ? :: 11 : 117

16. If A denotes '+', B denotes '×', C denotes '-', and D denotes '÷', then what will come in place of '?' in the following equation?
27 B 5 C 38 A 16 D 4 A 42 C 8 B 4 = ?

1. 130 **2.** 120 **3.** 111 **4.** 109

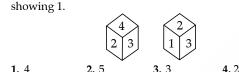
17. Select the correct mirror image of the given figure when the mirror is place at MN as shown below.



- **18.** In a certain code language, 'ANYWAY' is written as 'YNAYAW' and 'BATTLE' is written as 'TABELT'. How will 'COSTLY' be written in that language?
 - 1. SOCYLT 2. SCTOLY 3. OCTSLY 4. YLTSOC
- 19. If M denotes '-', N denotes '+', O denotes '×', and P denotes '+', then what will come in place of '?' in the following equation?

324 P 35 M 184 M 17 O 3 P 39 = ?

1. 163
 2. 171
 3. 159
 4. 153
 20. Two different positions of the same dice are shown, the six faces of which are numbered from 1 to 6. Select the number that will be on the face opposite to the one



21. 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 sixth term is related to fifth term.

 1. 730
 2. 28
 3. 513
 4. 82

 22. Two statements are given followed by two conclusions

numbered I and II. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements. Statements:

Some laces are shoes.

Some laces are socks.

Conclusions:

- I. All socks are shoes.
- II. Some socks are laces.
- 1. Only conclusion I follows.
- 2. Both conclusions I and II follow.
- 3. Neither conclusion I nor II follows
- 4. Only conclusion II follows.
- **23.** Select the word-pair that best represents a similar relationship to the one expressed in the pair of words given below.

(The words must be considered as meaningful English words and must NOT be related to each other based on the number of letters/number of consonants/vowels in the word)

- Chickenpox : Virus
- **1.** Anthrax : Viruses **2.** Anthrax : Parasites

3. Anthrax : Fungi **4.** Anthrax : Bacteria

24. Select the correct combination of mathematical signs to sequentially replace the * signs and balance the given equation.

234 * 345 * 456 * 567 * 678 * 12 1. -, +, +, -, = 2. ÷, -, +, -, = 3. +, ×, +, -, = 4. +, -, +, -, =

- 25. Eight people are sitting in two parallel rows with 4 people each in such a way that there is equal distance between adjacent persons. In Row I 1, 2, 3 and 4 are seated and all of them are facing south. In Row II 6, 7, 8 and 9 are seated and all of them are facing north. 1 and 2 are not seated at the extreme ends and 1 sits to the immediate left of 2. 9 and 7 sit opposite 1 and 2 and 7 sits exactly opposite 1. 7 is not the immediate neighbour of 6. Who sits at the extreme right corner of Row II facing north?
 1. 8
 2. 7
 3. 9
 4. 6
- **26.** Two different positions of the same dice are shown, the six faces of which are numbered from 1 to 6. Select the number that will be on the face opposite to the one showing '1'.





27. In a code language, 'SPACE' is written as '5-91' and 'ROTTEN' is written as '6-70'. How will 'MEAN' be written in that language?

1. 4-75 **2.** 4-74 **3.** 4-73 4. 4-76

- 28. Which option represents the correct order of the given words as they would appear in the English dictionary?
 - 1. Method2. Methanol3. Metrics4. Metro5. Melody
 - **1.** 5,2,1,3,4 **2.** 5,3,1,2,4 **3.** 5,2,1,4,3 **4.** 5,1,2,4,3
- 29. Select the set in which the numbers are related in the same way as are the numbers of the following set.
 (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 Operations on 13 such as adding /subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is NOT allowed)

(23, 308, 15)

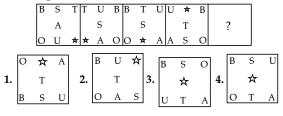
- (18, 187, 12) **1.** (14, 104, 9) **2.** (19, 325, 27) **4.** (14, 102, 7)
- **3.** (20, 280, 14) **4.** (16, 122, 7)
- **30.** Which of the following numbers will replace the question mark (?) in the given series?
 - 23, 50, 73, 100, ?

31. Select the set in which the numbers are related in the same way as are the numbers of the following sets. (**NOTE** : Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13- Operations on 13 such as adding /subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.) (17, 12, 612)

(6, 14, 252)

1. (3, 6, 108) **2.** (11, 4, 144) **3.** (13, 7, 273) **4.** (2, 3, 12)

32. Which figure should replace the question mark (?) if the following series were to continue?



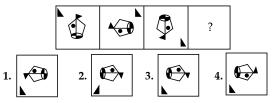
33. If \times means +, \div means - , + means \times , - means \div , what will come in place of the question mark (?) in the given expression? $182 - 13 \times 5 + 16 \div 44 = ?$

1. 50 **2.** 62 3.86

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

4.48

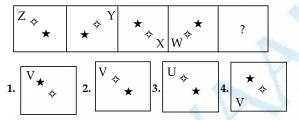
- SSRS _SS_S_
- 2. RSRRS 1. RRRSR 3. SRRSR 4. RSSRR
- 35. Select the figure that will replace the question mark (?) in the following figure series.



- 36. A # B means 'A is the mother of B' A @ B means 'A is the sister of B' A & B means 'A is the father of B' A % B means 'A is the wife of B'
 - If W # Q @ T & Y @ M % K, then how is K related to T? 1. Wife's brother 2. Son
 - 3. Daughter's husband 4. Brother
- 37. Suman drives 3 km towards north from point A. She takes a right turn and drives 4 km more. Then she takes another right turn and drives 3 km. Finally, she takes one more right turn and drives 6 km to reach point B. How far and towards which direction should she drive in order to reach point A again?
 - **1.** 2 km towards south 2. 3 km towards north

3. 3 km towards west 4. 2 km towards east

38. Select the figure that will come in place of the question mark (?) in the following figure series.



39. Select the option that represents the letters that, when sequentially placed from left to right in the blanks below, will complete the letter series.

FU	U	E	UT_	_ E F	Т	RE	TU_E	
1. TI	RFU	RUI	JFUR		2	2. FUI	FRUUFTRF	

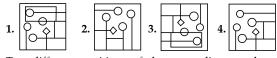
3. TRFUFRUTUF	4. FUFRUTFRRF

40. Seven people, P, Q, R, S, T, U and V, are sitting in a straight row, facing the north. Only two people sit to the right of U. Only two people sit to the left of R. Only two people sit between U and Q. Only three people sit between R and V. T is not an immediate neighbour of U. S sits to the right of U. Who sits to the immediate right of U?

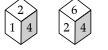
41. In a certain code language, 'CASTLE' is written as 'IFWWNF' and 'DRIVER' is written as 'JWMYGS'. How will 'FEMALE' be written in that language?

1. MKPDOF 2. KKQEMG 3. MJRDNO 4. LJQDNF

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

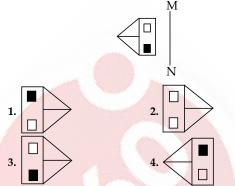


43. Two different positions of the same dice are shown, the six faces of which are numbered from 1 to 6. Select the number that will be on the face opposite to the one showing '3'.

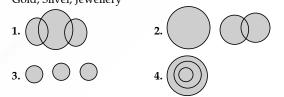


1. 4 3.5 44. Select the correct mirror image of the given figure when the mirror is placed at line MN as shown.

2.1



- 45. Which of the following numbers will replace the question mark (?) in the given series? 822, 817, 807, 787, ?
- 1. 755 2.754 3.750 4.752
- 46. 'X \$ Y' means 'X is the son of Y'
 - 'X @ Y' means 'X is the husband of Y'
 - 'X * Y' means 'X is the sister of Y'
 - 'X # Y' means 'X is the mother of Y'
 - If 'P \$ Q # V @ B', how is P related to B?
 - 2. Son 1. Mother
 - 3. Father 4. Husband's brother
- 47. Select the Venn diagram that best illustrates the relationship between the following classes. Gold, Silver, Jewellery



- 48. Select the option that represents the letters that when placed from left to right in the blanks below will complete the letter series.
 - hk pq h o qj k p jh o q
 - 1. OJKJPHOQPK 2. JOKJPHQOKP
 - 3. JOJKPHOQKP 4. OJJKPHQOKP
- 49. In a code language, 'WINNER' is written as 'XJOOFS' and 'RALLY' is written as 'SBMMZ'. How will 'CARTOON' be written in that language?
 - 1. DBSOPPU 2. CAPTOON

3. DBSUPPO	4. CAPNOOT
5. DD50110	4 . CALINOUT

- 50. Three of the following four letter-clusters are alike in a certain way and one is different. Pick the odd one out.
 - 1. EIO 2. YCI 3. PTY 4. DHN

4.2

General Knowledge and General Awareness

- 51. When and where was the maiden Athletics World Cup organised, that was discontinued after its first edition? **1.** London, 2018 2. Seoul, 2019
 - 3. Tokyo, 2020 4. Beijing, 2018
- 52. Which of the following pair of Thumri singing characteristic is correct?
 - I. Poorab fairly slow and staid
 - II. Punjab more mercurial
 - 1. Only I 2. Both I and II
 - 3. Only II 4. Neither I nor II
- 53. Novelist Damodar Mauzo, who has won the 57th Jnanpith Award, is a writer in which of the following languages? 4. Sanskrit **1.** Assamese **2.** Odia Konkani
- 54. Shijith Nambiar and Parvathy Menon were conferred the 5th Bharat Kala Ratna award for 2020 on 11 December 2021 by Kerala-based Navaneetham Trust for their service to ____

2. Kuchipudi

1. Kathak

3. Mohiniyattam 4. Bharatanatyam

55. With reference to the Land Revenue System of Mughal ' was the amount assessed. Empire, the term '

2. Polaj 3. Hasil 1. Banjar 4. Jama

- 56. Which of the following identity is correct regarding GNP? **1.** GNP = GDP + Factor income earned by the domestic factors of production employed in the rest of the world + Factor income earned by the factors of production of the rest of the world employed in the domestic economy
 - 2. GNP = GDP Factor income earned by the domestic factors of production employed in the rest of the world - Factor income earned by the factors of production of the rest of the world employed in the domestic economy
 - 3. GNP = GDP + Factor income earned by the domestic factors of production employed in the rest of the world - Factor income earned by the factors of production of the rest of the world employed in the domestic economy
 - 4. GNP = GDP Factor income earned by the domestic factors of production employed in the rest of the world + Factor income earned by the factors of production of the rest of the world employed in the domestic economy
- former Prime Minister of India?
- 57. 'Matters of Discretion' is an autobiography of which **1.** PV Narasimha Rao 2. Inder Kumar Gujral 3. Manmohan Singh 4. Atal Bihari Vajpayee is determined by dividing the biomass 58. In ecology, per unit area by the age of the forest ecosystem. 1. Biomass density 2. Biomass size 3. Biomass energy flow 4. Biomass productivity **59.** What is the defined value of kB in the given equation? kB= PV/TN 1. 1.38×10^{-23} J K⁻¹ **2.** 1.08×10^{-23} J K⁻¹ 3. 1.68×10^{-23} J K⁻¹ **4.** 0.38×10^{-23} J K⁻¹ 60. Kathak guru, Shovana Narayan received the in 1992 1. Padma Bhushan 2. Nritya Shiromani 3. Padma Vibhushan 4. Padma Shri 61. 'I Am No Messiah' is an autobiography of the actor 1. Sonu Sood 2. Salman Khan 3. Sonu Nigam 4. Amir Khan

- 62. Which gas is used by chemical leaveners, such as baking powder and baking soda, to lighten and aerate baked goods?
 - 1. Nitrogen 2. Carbon dioxide
 - 3. Helium 4. Hydrogen
- 63. Among the following rivers which is NOT a tributary of the Indus river system?
 - 1. Narmada 2. Satluj 3. Ravi 4. Beas
- 64. The Bahamani Sultanate was founded by which of the following leaders?
 - 1. Mahmud Gavan
 - 2. Alauddin Hasan Bahman Shah
 - 3. Muhammad Shah
 - 4. Mohammad bin Tughlaq
- 65. Who among the following is the author of the novel 'Train to Pakistan'?

2. Khushwant Singh

- 1. RK Narayan
- 3. Vikram Seth 4. Chetan Bhagat
- 66. Which of the following is correct regarding 'Monsoon'?
 - 1. The word monsoon is derived from the Arabic word and it refers to the seasonal reversal in the wind direction during a year.
 - 2. The word monsoon is derived from the Tamil word and it refers to the seasonal reversal in the wind direction during a year.
 - 3. The word monsoon is derived from the Tamil word and it refers to the seasonal reversal in the wind direction every month.
 - 4. The word monsoon is derived from the Arabic word and it refers to the seasonal reversal in the wind direction every month.
- 67. The headquarter of the National Remote Sensing Centre (NRSC) is located at:
 - 1. Hyderabad 2. Kolkata 3. Bengaluru 4. Mumbai
- 68. Which of the following is a diverse group of aquatic organisms capable of photosynthesising?
 - 1. Yeast 2. Protozoa 3. Fungi 4. Algae
- 69. Which of the following countries will host the 22nd FIFA World Cup Football in 2022?
 - 1. Oman 2. South Africa
 - 3. Qatar 4. Brazil
- 70. Who among the following founded the 'Asiatic Society of Bengal' in 1784?
 - 1. Sir William Jones 2. Raja Ram Mohan Roy
 - 3. Dwarkanath Tagore 4. Henry Vivian Derozio
- 71. Who among the following Governor Generals enacted the law against the Sati practice in December 1829? 1. Lord Canning 2. Lord William Bentinck
 - 3. Lord Dalhousie 4. Lord Warren Hastings
- 72. Which of the following Fundamental Duty provisions is similar to Article 21A?
 - 2. Article 51A (k) 1. Article 51A (i)
 - 3. Article 51A (h) 4. Article 51A (j)
- 73. Who among the following appoints the Election Commissioners of India? 1. Vice President 2. Prime Minister
 - 3. Attorney General 4. President

74. All changes in the weather of the earth are caused by the

1. altitude 2. tides 3. sun 4. moon

- 75. The rulers of which of the following dynasties built the Khajuraho temples between 950 to 1050 A.D in the central India?
 - 1. Gurjara-Pratihara Dynasty
 - 2. Rashtrakuta Dynasty
 - 3. Pala Dynasty
 - 4. Chandela Dynasty

76.	Which of the	following is	NOT a	a part of	the All	India
	Services?	0		1		

- 1. Indian Forest Service
- 2. Indian Engineering Service
- 3. Indian Administrative Service
- 4. Indian Police Service
- 77. The title of the autobiography of Rassundari Devi is:
 - 1. Amar Jiban
 - 2. Smritichitre: The Memoirs of a Spirited Wife
 - 3. Aalo Aandhari
 - 4. Raseedi Ticket
- 78. GATT was established in 1948 with countries as the global trade organisation to administer all multilateral trade agreements by providing equal opportunities to all countries in the international market for trading purposes. 1. 29 2.23 3.35 4.28
- 79. Which of the following Fundamental Rights CANNOT be suspended even when 'Emergency' is declared in the country?
 - 1. Articles 22 and 23 2. Articles 20 and 21

3. Articles 19 and 20 4. Articles 21 and 22

80. Carbon dating means:

1. a method to determine the density of fissile material

- 2. a method of calculating the remains of sulphur and nitrogen in hard rock
- 3. a method of calculating the age of very old objects by measuring the amounts of different forms of carbon in them
- 4. a method of determination of weight of a very old rock
- 81. In which year was the National Commission for Protection of Child Rights established?
 - **1.** 2014 2. 2007 3. 2005 4.2010
- 82. Through which of the following states does the National Waterway-96 pass?
 - 2. Uttar Pradesh 1. Assam

3. Odisha 4. Madhya Pradesh

- 83. Sudha Chandran is a known actress and an accomplished dancer.
 - Kathakali 2. Kuchipudi
 - 3. Bharatanatyam 4. Sattriya
- 84. In August 1907, Madam Bhikaji Cama became the first person to hoist Indian flag on foreign soil in:
- 1. Germany 2. Belgium 3. Poland Sweden 85. Mohiniyattam is associated with which Hindu God? 1. Ganapati 2. Brahma 3. Vishnu 4. Shiva
- 86. Growth with stability and progressive achievement of self-reliance was the objective of the Five-Year Plan. 1. Fifth 3. Fourth 2. Third 4. Second
- 87. A species of grass named is on the verge of extinction due to its insensitivity towards the environment.
 - 1. Helianthus annuus 2. Saccharum officinarum
 - 3. Hubbardia heptaneuron 4. Bellis perennis
- 88. The Constitution provides for reservation of seats in the Lok Sabha and State Legislative Assemblies for the: 1. scheduled tribes 2. other backward classes
 - 3. differently abled 4. women
- 89. Which of the following countries hosted the inaugural FIVB Volleyball Men's World Cup?
 - 1. 1965, Poland 3. 1977, Japan
 - 3. 1969, East Germany 4. 1981, Japan
- 90. The ratio between the nominal and real GDP is called 3. Value added GDP 1. Net national income

 - 3. Green GDP 4. GDP deflator
- 91. Who was the captain of the Indian women's cricket team for World Cup - 2022? 1. Shafali Verma
 - 2. Mithali Raj
 - 3. Smriti Mandhana 4. Harmanpreet Kaur

- 92. Which of the following is the formula of barium peroxide **2.** $BaSO_4$ **3.** BaO **1.** Ba₂O₂ 4. BaO,
- 93. Which of the following is the correct sequence of river lengths?
 - 1. Ganga, Godavari, Krishna, Yamuna
 - 2. Ganga, Yamuna, Godavari, Krishna
 - 3. Godavari, Krishna, Ganga, Yamuna
 - 4. Godavari, Ganga, Krishna, Yamuna
- **94.** Which is NOT correct about the High Court?
 - 1. It can deal with cases within the jurisdiction of the state.
 - 2. It can hear appeals from the lower courts.
 - 3. It can issue various writs for the protection of the Fundamental Rights.
 - 4. It gives advisory opinion to the President of India.
- 95. The Mettur Dam is on which of the following rivers? 2. Krishna 3. Vaigai **1.** Cauvery 4. Perivar
- 96. The Battle of Buxar was fought between the forces under the command of the British East India Company led by Hector Munro, and the combined armies of _____
 - 1. Mir jafar, Siraj-ud-Daulah and Mughal Emperor Shah Alam II
 - 2. Mir Qasim, Mughal Emperor Shah Alam & Shuja-uddaulah of Awadh
 - 3. Mir Jafar, Mughal Emperor Bahadur Shah II, Shujaud-Daulah
 - 4. Siraj-ud-Daulah, Shuja-ud-Daulah, Mughal Emperor Shah Alam II
- 97. Around the time of its arrival, the normal rainfall increases suddenly and continues constantly for several of the monsoon, and days. This is known as the can be distinguished from the pre-monsoon showers.
 - 1. opening 2. burst 3. thrust 4. breaking
- 98. Which of the following elements are included in the same group in the periodic table?
 - 2. He, Li, Mg, K 1. Ne, Ar, Na, Mg
 - 3. H, Li, Mg, Ca 4. H, Li, Na, K
- 99. Which of the following codes signify the Cold Climate with Dry Winters according to Koeppen? 1. EF
 - 2. Df 3. ET 4. Dw
- **100.** The moon completes rotation on its axis as it completes one revolution around the Earth.
 - 2.2 1.3 3.1 4.4

Quantitative Aptitude

101. Two trains - A and B- having the lengths 195 m and 165 m, respectively, are running in the same direction on parallel lines. If the speed of A and B be 77 km/h and 85 km/h, respectively, what will be the time (in seconds) taken by them to cross each other? **2.** 164 4.166

3.160

4.120

1. 162

1. 140

- **102.** If $a \frac{1}{a-5} = 10$, then the value of $(a-5)^3 \frac{1}{(a-5)^3}$ is:
 - 2.70 3.100
- 103. A field is in the shape of a rectangle of length 90 m and breadth 75 m. In one corner of the field, a pit, which is 18 m long 15 m broad and 6 m deep, has been dug out. The earth taken out of it is evenly spread over the remaining part of the field. Find the rise in the level of the field?

1. 27 cm 3. 28 cm 2. 25 cm 4.24 cm

104. A seller uses faulty weight in place of a 2 kg weight and earns a 25% profit. He claims that he is selling on the cost price in front of the customers but uses a faulty weight. How much error is there in the 2 kg weight to gain 25%? **1.** 250 g **2.** 400 g **3.** 500 g 4.300 g

105. In the given figure, the length of arc AB is equal to twice the length of radius r of the circle. Find the area of sector OAB in terms of the radius *r*.



106. The angles of a triangle are in the ratio 1 : 1 : 2. What percentage of the total internal angle is the greatest angle? **1.** 50% 2.65% 3. 45% 4.40%

4. *r*²

107. The average salary of all the employees in a company is Rs.14,000. The average salary of 5 technicians is Rs.18,000 and the average salary of the rest is Rs.13,200. The total number of employees in the company is:

108. Solve the following.

$$\frac{24 \div \frac{3}{8} \text{ of } (8 + 2 \times \overline{7 - 3}) + \left[\frac{2}{11} \div \frac{4}{55} - \left\{\frac{5}{8} \div \frac{6}{16}\right\}\right]}{32 \div \overline{15 - 7} + 75 \div (6 + 15 \div 3 + 4)}$$

1. $\frac{23}{27}$ **2.** $\frac{9}{2}$ **3.** $\frac{11}{18}$ **4.** $\frac{15}{19}$

109. A faulty weighing machine reads 1 kg when 900 gm is actually weighted on it. The shopkeeper marked the price of his goods by 10%, but unfortunately he was caught by the metrology department and then they ordered him to repair his weighing machine and gave punishment to sell the goods at 10% discount on cost price for a month. If each customer is now paying ₹20 for 1 kg, then before the amount they have paid for the same quantity. raid (Rounded off to two places of decimal)

110. In a school, the ratio of the number of boys to that of the girls is 3:4. If the number of boys increases by 10% and number of girls increases by 15% then what will be the new ratio of Boys : Girls? - -----

111. $\triangle ABC$ and $\triangle DEF$ are two triangles such that $\triangle ABC \cong$ Δ FDE. If AB = 5 cm, \angle B = 40° and \angle A = 80°, then which of the following options is true?

1. DF = 5 cm,
$$\angle E = 60^{\circ}$$

2. DE = 5 cm, $\angle F = 60^{\circ}$
3. DE = 5 cm, $\angle D = 60^{\circ}$
4. DE = 5 cm, $\angle E = 60^{\circ}$

112. There are three paper in an examination. Marks obtained by four students have been tabulated below: Who are the students who got the highest marks in P1, P2 and P3 respectively?

Student	P1	P2	P3
Mohit 🛛	79	78	77
Shivam 📎	73	87	80
Vishal	82	74	83
Viraj	77	89	86

1. Viraj, Vishal, Mohit 3. Shivam, Viraj, Vishal

2. Vishal, Viraj, Viraj 4. Mohit, Viraj, Vishal

113. To do a certain task X would take 3 times as long as Y and Z together; and Z would takes 4 times as long as Y and X together. Three of them together can complete the task in 10 days. How much time is taken by X and Z to complete the task?

1.
$$18\frac{2}{9}$$
 days **2.** $20\frac{1}{9}$ days **3.** $21\frac{1}{9}$ days **4.** $22\frac{2}{9}$ days

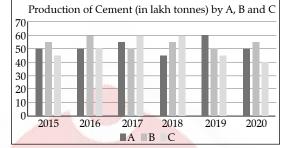
114. On a certain sum, the difference between compound interest and simple interest at 10% per annum for $\overline{2}$ years is ₹250. The sum is ____

115. If A is greater than B by 7, B is greater than C by 16, and A + B + C is 255, then the value of 3A + C - 4B is:

116. Which of the following is a prime number? 2.39 3. 68 **1.** 54

117. In an election between 2 parties A and B, A gets 37% of total votes cast and thus lost by 338 votes. The total number of casted votes is (assume none of the votes was declared invalid): 1. 13

118. Study the given graph and answer the question that follows.



- What is the difference between the production of Company C in 2015 and production of Company B in 2018?
 - 1. 15,00,000 tonnes 2. 1,00,000 tonnes
 - 4. 10,00,000 tonnes 3. 10,000 tonnes
- **119.** The least common multiple of *a* and *b* is 42. The LCM of 5a and 11b is :

1. 2310 2. 4620 **3.** 210 4.462

- **120.** A thief is spotted by a policeman from a distance of 250m. When the policeman starts the chase, the thief also starts running. Assuming that the speed of the thief is 10 km/h and that of the policeman is 12 km/h, how far would the thief have run before he is caught?
 - **2.** 1.25 km **3.** 3 km 1.4 km 4.2 km
- **121.** If 25 persons can complete a work in 140 days, then how many persons will be required to complete the same work in 70 days?
- 1. 70 **2.** 50 **3.** 40 4.80 **122.** If p : q = 4 : 5, q : r = 3 : 4 and r : s = 2 : 5, then p : s is:
- **1.** 2 : 5 **2.** 6 : 25 **3.** 5 : 2 4.25:6 **123.** Four numbers are in the ratio 1 : 2 : 3 : 5. Two times their sum is 44. Find the ratio in the numbers obtained by
 - subtracting 3 from the cube of each number. **1.** 2 : 31 : 204 : 999 2. 3:13:208:992

124. On a straight road, a bus is 30 km ahead of a car travelling in the same direction. After 3 hours, the car is 60 km ahead of the bus. If the speed of the bus is 42 km/h, then find the speed of the car.

125. What is the least value of x so that the number 8x5215 becomes divisible by 9?

126. Find the perimeter of major sector of a circle of radius 12 metres, whose minor sector subtends an angle of 75° at the centre. **a b 1 1 1 1 1** 24 . 5

1.
$$24 + 5\pi$$
 metres2. $24 + 19\pi$ metres3. $24 - 5\pi$ metres4. $24 - 19\pi$ metres

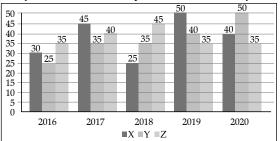
127. If $x^4 + \frac{1}{x^4} = 1154$, where x > 0, then what is the value of

4.198

$$x^{3} + \frac{1}{x^{3}}$$
?
1. 205 **2.** 214 **3.** 185

1. 3r

128. The bar graph here shows the data of the production of cars by three difference companies X, Y, Z over the years.



The average production for 5 years was maximum for which company/companies?

1. Y and Z	2. Y
3. X and Y	4. X and Z

129. The percentage marks obtained by 6 students in different subjects are given below. The maximum marks for each subject have been indicated in the table.

Subject Students	Physics	Mathematics	Hindi	Geography	English	History
Maximum marks	80	150	100	75	120	50
Р	70	44	88	88	70	38
Q	90	40	54	92	65	40
R	85	32	70	64	55	30
S	75	70	58	80	60	35
Т	65	60	45	88	50	42
U	60	50	60	72	25	48

What are the average marks obtained by all students in Geography? 1. 66.5 3. 60.5 2. 63.8

130. The following table shows the percentage of marks obtained by five students- V, W, X, Y and Z - in five subjects.

Subjects	Maths	Physics	Chemistry	Botany	Hindi
Maximum Marks Students	300	300	200	100	100
V	60	80	90	100	95
W	90	70	80	70	40
X	70	90	95	80	75
Y	80	60	70	95	80
Z	90	50	80	85	85

What are the average marks, in percentage, obtained by X? 1. 76.5% 2. 80.5% 3. 82.5%

131. The value of
$$\frac{\sqrt[3]{-2744} \times \sqrt[3]{-216}}{\sqrt[3]{\frac{64}{729}}}$$
 is:

 $\frac{2\sin\theta}{(1+\cos\theta+\sin\theta)}$ **132.** If *x* = then the value of

$$\frac{1 - \cos\theta + \sin\theta}{(1 + \sin\theta)} = \text{is:}$$

1.
$$\frac{x}{(1+x)}$$
 2. x **3.** $\frac{1}{x}$ **4.** $\frac{(1+x)}{x}$

133. The value of $(1018)2 - 1019 \times 1017 + 1015 \times 1012 - 1016$ \times 1011 is:

134. A number, when divided by 15 and 18 every time, leaves 3 as a remainder, the least possible number is: 1.83 **2.** 103 3.39 4.93

135. Marks scored by a students in different subjects are

given in the table below:

Subjects	Marks obtained out of 100
English	55
Hindi	90
Mathematics	75
Science	80
Foreign	90

4. 85.5%

4. 58.2

Five marks are to be deducted from each subject due to shortage of attendance. The net average of the mean, median and mode of the marks obtained is 1.

136. A mixer marked at Rs.2,300 is sold for Rs.2,024. What is the percentage of discount?

137. Simplify the following.

$$81^{\frac{5}{4}}$$
 + [(20 ÷ 5 of 3 × 6) + {(8 ÷ 24)

÷ 24 of 3) ×4} - 10 ÷ 5] - $\left(\frac{1}{32}\right)^{-\frac{2}{5}}$ 2. $21\frac{1}{9}$ 3. $27\frac{4}{5}$ 4. $29\frac{4}{9}$ 1. $24\frac{1}{4}$

138. The following table shows the number of students of seven colleges participating in extra co-curricular activities. Read the table and answer the question given.

College	٨	D	C	n	Б	Б	C
Extra Co-Curricular Activities	A	D	C	D	Ľ	r	G
I	150	250	450	50	350	250	150

College	•	р	C	D	Б	Б	C
Extra Co-Curricular Activities	A	D	C	D	E	Г	G
II	50	150	150	50	50	50	50
III	100	50	400	125	100	500	150
IV	250	125	350	275	250	150	150

Percentage of the number of students in activity II to that of IV is: (consider up to two decimals) 1. 45.48 percent 2. 35.48 percent

139. Determine the total surface area of a hemisphere closed

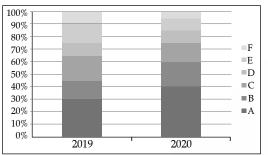
at bottom. Radius of the hemisphere is $\sqrt{\frac{25}{\pi}}$ unit.

1. 75 unit² **2.** 70 unit² **3.** 60 unit² 4. 50 unit²

140. The ratio between the height and radius of the base of a cylinder is 7 : 5. If its volume is 14836.5 cm³, then find its total surface area (take $\pi = 3.14$).

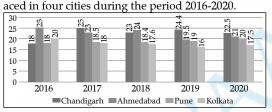
1. 3391.2 cm^2 **2.** 5391.2 cm^2 **3.** 4391.2 cm^2 **4.** 5591.2 cm^2

141. The following bar graph shows the production of various models of mobiles in the year 2019 and 2020. The total production is 40 lakhs during 2019 and 65 lakhs in 2020.



What is the total production of model A mobiles in 2020 and model E mobiles in 2019?

2. 32,00,000 **3.** 36,00,000 **4.** 21,00,000 1. 39.00.000 142. The given graph shows the number (in hundreds) of tree



Find the year in which the least number of trees are axed. 2017

143. A tradesman marks his goods at 26% above the cost price. He allows his customer a discount of 12% on the marked price. His profit per cent is: 1.

144. If
$$x^4 + x^{-4} = 47$$
, $x > 0$, then what is the value of $x + \frac{1}{x} - 2$?

1

145. If $\left\{ \left(\frac{\sec \theta - 1}{\sec \theta + 1} \right) \right\}$ $= \csc \theta - \cot \theta$, then n = ?

- **146.** In \triangle ABC, DE || BC in such a way that A-D-B and A-E-C. If $m \mid ACB = 40^\circ$, then $m \mid DAE + m \mid ADE =$ **4.** 230° 1. 240° 2. 120° **3.** 140°
- 147. What is the volume of a cube whose surface area is 54 cm²? **1.** 28 cm³ **2.** 3 cm³ **3.** 27 cm³ 4.9 cm³

148.
$$16\sec^2 A - 16\tan^2 A =$$
_____.
1. 9 **2.** 0 **3.** 16 **4.** 1

3. 34.25 percent

4. 39.18 percent

1

149. The cost of two varieties of tea is ₹300 and ₹375 respectively. If both the varieties of tea are mixed together in the ratio 3 : 2, then what should be the price of mixed variety of tea per kg? **1.** ₹340

150. The value of
$$(2\cos^2\theta - 1)\left[\frac{1+\tan\theta}{1-\tan\theta} + \frac{1-\tan\theta}{1+\tan\theta}\right]$$
 is:

1. 2 **2.** 0 **3.**
$$\frac{\sqrt{3}}{2}$$
 4.

English Comprehension

- 151. Select the INCORRECTLY spelt word.
- 1. Vocifirous 2. Affliction 3. Episcopal 4. Innocuous 152. Select the INCORRECTLY spelt word.
 - 1. Manipulate 2. Postulate 3. Stippulate 4. Calculate
- 153. Select the most appropriate synonym to replace the italicised word. The smoke was bothering me, and I didn't want to ruin the party for all of you, so I simply walked home.
- 1. despoil 2. fix 3. revamp 4. recover 154. Select the option that can be used as a one-word substitute for the given group of words/phrase. Showing astute powers of judgement; clever and judicious
 - 1. Shriek 3. Shrewd 2. Shrift 4. Shrike
- 155. Select the most appropriate ANTONYM of the given word.

Emulate

1. Respect 2. Neglect 3. Spoilt 4. Bash

- 156. Select the option that can be used as a one-word substitute for the given group of words.
 - One who does a thing for pleasure and not as a profession 1. Performer 2. Amateur
 - 3. Professional 4. Ascetic
- 157. Select the most appropriate ANTONYM of the underlined word in the given sentence. China expects to welcome back Indian students to resume their studies in the country.

3. Presume **4.** Announce 1. Cease 2. Usher

- 158. The following sentence has been divided into parts. One of them may contain an error. Select the part that contains the error from the given options. If you don't find any error, mark 'No error' as your answer.
- The investors were / put off by the dirty / visage of the workshop.
 - **1.** Visage of the workshop **2.** Put off by the dirty
- No error 4. The investors were 159. Select the INCORRECTLY spelt word.
 - 1. Abcission 2. Abstruse 3. Incision Abyssal
- 160. Select the most appropriate ANTONYM of the given word. Dull

1. Coloured **2.** Bright 3. Clever 4. Youthful

161. Select the most appropriate idiom from the following options that can substitute the underlined part of the given sentence.

He is the most successful businessman. One of his traits is to take risk.1. Throw caution to the wind 2. Talk through his hat

- **3.** Fill somebody's shoes **4.**Tighten his belt
- **162.** Select the most appropriate phrase for the underlined segment in the given sentence.
 - They are rivals and cannot work together in harmony
 - **1.** Potter about**2.** Make up
 - **3.** Put down**4.** Pull together
- **163.** Select the most appropriate meaning of the given idiom. Cutting corners
 - 1. Investing in MNCs to get better returns and exchange
 - 2. Doing something poorly in order to save time or money
 - 3. Stitching clothes with a unique design
 - 4. Cutting the edges to make it small and round
- **164.** Select the most appropriate ANTONYM of the underlined word.

<u>Spurious</u> medicine can be fatal to the patient.

- **1.** Genuine **2.** Inferior
- 3. Contemptuous 4. Virtuous
- **165.** Select the most appropriate ANTONYM of the underlined word.
 - The entire environment was very hostile towards us.
 - 1. Antagonistic 2. Favourable
 - **3.** Accurate **4.** Handy
- **166.** Select the option that can be used as a one-word substitute for the given group of words.
 - A place for storage of arms and ammunition
 - 1. Wardrobe 2. Warehouse
 - **3.** Granary **4.** Arsenal
- **167.** Select the most appropriate meaning of the given idiom. Call it a day
 - **1.** Call it as a bad day
 - **2.** Stop thinking in daytime
 - 3. Call it as a good and productive day
 - **4.** Stop working on something
- **168.** Select the correct meaning of the idiom in bold and italics.
 - I had a **close shave** this morning my car was hit badly by a bull.
 - 1. In a position where one might receive severe criticism
 - **2.** To be carrying a wild look
 - To request someone to stay calm and not get annoyed
 A narrow escape
- **169.** Choose the correct meaning of the underlined idiom in the given sentence.

<u>Blue blood</u> is not necessarily a guarantee of one's public decorum.

- 1. A person belonging to a middle-class family
- 2. A person belonging to an honest family
- **3.** A person belonging to a poor family
- 4. A person belonging to a high family
- **170.** Select the most appropriate meaning of the given idiom. To make matters worse
 - **1.** No matter can become worse
 - 2. Sometimes situation can become worse
 - 3. Make the situation worse
 - 4. Matters can be worse
- **171.** Identify the INCORRECTLY spelt word in the given sentence. The pyramids that you see in Egypt were built by the Pharoh dynasties who ruled the ancient kingdom of Egypt for thousands of years.
 - 1. Ensure 2. Pharoh 3. Strategy 4. Fulfillment

- 172. Select the most appropriate option that can substitute the underlined segment in the given sentence.Antonio Stradivari was an Italian <u>who is being made</u> <u>wonderful</u> violins.
 - **1.** who made wonderful
 - **2.** who have made wonderful
 - 3. who is made wonderful
 - 4. who makes wonderful
- 173. Select the most appropriate option that can substitute the underlined segment in the given sentence.I enjoy to be laugh at my little brother.
 - I enjoy to be laugh at my little bro
 - 1. am enjoy to laughing at
 - 2. enjoy laughed at
 - 3. enjoy laughing at
 - **4.** have enjoy laughing at
- **174.** The following sentence has been divided into parts. One of them may contain an error. Select the part that contains the error from the given options. If you don't find any error, mark 'No error' as your answer. Psychology has been / defined the scientific study of /

Psychology has been / defined the scientific study of / human psyche and behaviour.

- **1.** defined the scientific study of
- 2. Psychology has been
- 3. human psyche and behaviour
- 4. No error
- **175.** Identify the INCORRECTLY spelt word in the given sentence.

The graduate students have discovered that they can address issues more effectually through letter writing campaignes and not through public demonstrations.

- 1. Address2. Discovered
- 3. Campaignes 4. Demonstrations
- **176.** Select the most appropriate ANTONYM of the given word. Scanty
 - 1. Expedient 2. Paltry 3. Nasty 4. Abundant
- **177.** Select the option that can be used as a one-word substitute for the given group of words.

Evoking a keen sense of sadness or regret

 Pungent
 Poignant
 Impactful
 Unaffecting
 Select the most appropriate ANTONYM of the given word.

Asperity

- 1. Virility 2. Civility 3. Acridity 4. Curiosity
- 179. Identify the correct antonym for the following word. With her <u>spry</u> and athletic build, she won the race easily.
 1. Agile
 2. Lethargic
 3. Sleuth
 4. Workaholic
- **180.** Read the given sentence and select the most appropriate ANTONYM of the word 'Deplete' from the following options.

Depletion of old things has become a fancy business as it brings back old memories but at a high cost.

- 1. Restore 2. Old 3. High 4. Fancy
- **181.** Select the most appropriate meaning of the given idiom. Heart and soul
 - 1. With complete honesty
 - 2. Front to front
 - 3. With all the effort you can put
 - **4.** Feeling sympathy for someone
- 182. The following sentence has been split into four segments. Identify the segment that contains a grammatical error. It is nothing else than / sheer foolishness that / you have decided / to resign.
 - **1.** It is nothing else than **2.** sheer foolishness that
 - 3. to resign
- 4. you have decided

183. Select the option that can be used as a one-word substitute for the given group of words. Profitable, vielding financial gain

i romazio, jieranio maneia	- 0
1. Ludicrous	Lucrative

3. Luddite 4.	Lugger
-----------------------------	--------

- 184. Select the most appropriate option to fill in the blank. Some people are in the habit of sharing _____ and bull story on unsuitable occasions. 2. Wolf
- **1.** Fox 3. Cock 4. Rooster 185. Select the most appropriate synonym to replace the italicised word.

Colossal granite obelisks were erected by only a few kings.

1. Gigantic	Lilliputian
3. Minute	4. Minuscule

186. Choose the correct meaning of the underlined idiom in the given sentence.

With two toddlers to handle and no house help at her disposal, Shilpa can never put her house in apple-pie order.

- **1.** Completely messy 2. Smell-proof
- 4. Ready for guests 3. Completely arranged 187. Select the most appropriate option that can substitute the underlined segment in the given sentence.

When the weather is hot, I will like to eat ice cream.

1. I shall like to eat 2. I liked to eat

I like to eat 4. I should like to eat

188. Select the option that can be used as a one-word substitute for the given group of words. One who takes a dark view of things

1. Pedant 2. Periscope 3. Polyglot 4. Pessimist 189. Select the most appropriate ANTONYM of the underlined word.

His explanation is always concise.

1. Frank 2. Precise 3. Lengthy 4. Intelligent

- 190. Select the most appropriate option that can substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No substitution required'. As Simon had already been to the park, he lead the way for the other children.
 - **1.** leading the way
 - 2. lead away 3. led the way

4. No substitution required

Comprehension:

Read the passage carefully and answer the following question. Reservation is a part of (1 _____ 4) action, which seeks to bring equality.

The Constitution (One Hundred and Twenty Fourth Amendment) Bill, 2019, seeks to provide for the advancement of 'economically weaker sections' of citizens. Article 15 of the discrimination against any citizen on the Constitution 2 grounds of race, religion, caste, sex or place of birth. However, the government may make special provisions for the 3_ of socially and educationally backward classes or for Scheduled Castes or Scheduled Tribes. The Bill seeks to amend Article 15 to additionally permit the government to provide for the advancement of 'economically weaker sections'. Further, up to 10% of the seats may be 4 for such sections for admission in educational institutions. Such reservation will not apply to minority educational institutions.

191. Identify a suitable title for the passage above.

- 1. Prohibition of discrimination
- 2. Article 15
- 3. Constitution (124th Amendment) Bill 2019
- 4. Reservation for Equality
- 192. Select the most appropriate option to fill in blank no. 1. 2. ineffective 3. directive 4. corrective **1.** effective
- 193. Select the most appropriate option to fill in blank no. 2. 2. prohibits 3. establishes 4. inhibits 1. exhibits
- 194. Select the most appropriate option to fill in blank no. 3.
 - 2. postponement **1.** containment
 - 3. advancement 4. enhancement
- 195. Select the most appropriate option to fill in blank no. 4. 1. preserved 2. reserved 3. deserved 4. conserved

Comprehension:

In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.

A broad definition of wetlands (1)____ ecosystems such as lakes and rivers, underground aquifers, swamps, coral reefs, and many others; but also, human-made artificial sites (2) fishponds or reservoirs. Though they cover only around 6 per cent of the Earth's land surface, 40 per cent of all plant and animal species live or breed in them.

Wetlands are also vital for human wellbeing and security. More than a billion people across the world depend on them for their livelihoods, about one in eight people on Earth. According to the UN Environment Programme (UNEP), these ecosystems are also the unsung heroes of the climate crisis. In fact, they (3) more carbon than any other ecosystem, ____all the world's with peatlands alone storing twice (4)____ forests. And inland wetland ecosystems absorb excess water and help prevent floods and drought, something critical to help communities adapt to a changing climate.

In the words of Leticia Carvalho, Principal Coordinator for Marine and Freshwater at UNEP, healthy wetlands punch above their weight in terms of benefits'. The theme for the very first World Day is "Wetlands Action for People and Nature". It serves as an urgent call to act and to invest financial, human, and political capital, to save the world's wetlands from disappearing altogether - and to restore those areas already lost. Wetlands are disappearing three times forests and are Earth's most threatened ecosystem. (5) In just 50 years - since 1970 - 35 per cent of the world's wetlands have evaporated.

- **196.** Select the most appropriate option to fill blank 1.
- **1.** leave out **2.** omit 3. excludes 4. includes 197. Select the most appropriate option to fill blank 2.
 - 1. more as 2. as much as
 - 3. such as 4. much as
- 198. Select the most appropriate option to fill blank 3. 4. stored **2.** has 3. store 1. have
- 199. Select the most appropriate option to fill blank 4.
 - 1. as long as 2. as much as
 - 3. as such as 4. as more as
- 200. Select the most appropriate option to fill blank 5. **1.** faster than 2. fastest than

 - 3. much than 4. more than

Answer Key

1.	(1)	2.	(3)	3.	(3)	4.	(1)	5.	(2)	6.	(2)	7.	(1)	8.	(2)	9.	(1)	10.	(2)
11.	(4)	12.	(1)	13.	(3)	14.	(1)	15.	(4)	16.	(3)	17.	(1)	18.	(1)	19.	(1)	20.	(1)
21.	(1)	22.	(4)	23.	(4)	24.	(4)	25.	(1)	26.	(3)	27.	(1)	28.	(1)	29.	(1)	30.	(1)
31.	(3)	32.	(2)	33.	(1)	34.	(2)	35.	(3)	36.	(3)	37.	(4)	38.	(2)	39.	(1)	40.	(2)
41.	(4)	42.	(2)	43.	(1)	44.	(3)	45.	(4)	46.	(4)	47.	(1)	48.	(3)	49.	(3)	50.	(3)

51.	(1)	52.	(2)	53.	(3)	54.	(4)	55.	(4)	56.	(2)	57.	(2)	58.	(4)	59.	(1)	60.	(4)
61.	(1)	62.	(2)	63.	(1)	64.	(2)	65.	(2)	66.	(1)	67.	(1)	68.	(4)	69.	(3)	70.	(1)
71.	(2)	72.	(2)	73.	(4)	74.	(3)	75.	(4)	76.	(2)	77.	(1)	78.	(2)	79.	(2)	80.	(3)
81.	(2)	82.	(3)	83.	(3)	84.	(1)	85.	(3)	86.	(3)	87.	(3)	88.	(1)	89.	(1)	90.	(4)
91.	(2)	92.	(4)	93.	(1)	94.	(4)	95.	(1)	96.	(2)	97.	(2)	98.	(4)	99.	(4)	100.	(3)
101.	(1)	102.	(1)	103.	(2)	104.	(2)	105.	(4)	106.	(1)	107.	(2)	108.	(3)	109.	(1)	110.	(3)
111.	(1)	112.	(2)	113.	(4)	114.	(3)	115.	(1)	116.	(4)	117.	(1)	118.	(4)	119.	(1)	120.	(2)
121.	(2)	122.	(2)	123.	(4)	124.	(2)	125.	(4)	126.	(2)	127.	(4)	128.	(4)	129.	(3)	130.	(3)
131.	(3)	132.	(2)	133.	(4)	134.	(4)	135.	(2)	136.	(3)	137.	(4)	138.	(2)	139.	(1)	140.	(1)
141.	(2)	142.	(3)	143.	(1)	144.	(1)	145.	(2)	146.	(3)	147.	(3)	148.	(3)	149.	(2)	150.	(1)
151.	(1)	152.	(3)	153.	(1)	154.	(3)	155.	(2)	156.	(2)	157.	(1)	158.	(3)	159.	(1)	160.	(2)
161.	(1)	162.	(4)	163.	(2)	164.	(1)	165.	(2)	166.	(4)	167.	(4)	168.	(4)	169.	(4)	170.	(3)
171.	(2)	172.	(1)	173.	(3)	174.	(1)	175.	(3)	176.	(4)	177.	(2)	178.	(2)	179.	(2)	180.	(1)
181.	(3)	182.	(1)	183.	(2)	184.	(3)	185.	(1)	186.	(3)	187.	(3)	188.	(4)	189.	(3)	190.	(3)
191.	(4)	192.	(4)	193.	(2)	194.	(3)	195.	(2)	196.	(4)	197.	(3)	198.	(3)	199.	(2)	200.	(1)

Answers with Explanations

1. Option (1) is correct. Given expression:

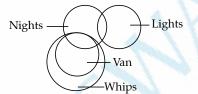
 $32 \times 6 + 10 - 4 \div 8 = ?$ After putting up the signs, we get $32 + 6 - 10 \div 4 \times 8 = ? \Rightarrow 32 + 6 - 20 = ?$ $38 - 20 = ? \Rightarrow 18 = ?$

- 2. Option (3) is correct.
 Given expression:
 50 A 86 C 40 D 10 B 5 = ?
 After putting up the signs, we get
 50 + 86 40 ÷ 10 × 5 = ? ⇒ 50 + 86 20 = ?
 136 20 = ? ⇒ 116 = ?
- **3. Option (3) is correct.** The pattern of the series is as follows:

Therefore, the next term would be 64.

4. Option (1) is correct.

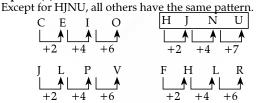
The Venn diagram is as follows:



From conclusion I: Some nights are not vans is true. From conclusion II: No van is a light is true. From conclusion III: Some whips are not lights is also true.

From conclusion IV: Some nights are whips is false. Therefore, only conclusion IV does not follow.

5. Option (2) is correct.



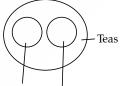
Therefore, HJNU is different from others.

6. Option (2) is correct. Only option figure (2) is the figure in which the given

Only option figure (2) is the figure in which the given figure is embedded.



- 7. Option (1) is correct. Given expression: 25 C 21 D 7 B 3 A 4After putting up the signs, we get $25 - 21 \div 7 \times 3 + 4 = 25 - 9 + 4 = 29 - 9 = 20$
- 8. Option (2) is correct.
 The pattern of the series is as follows:
 J M P X J M P X J M P X J M P X
 - Therefore, JPMJXMP will complete the series.
- 9. Option (1) is correct.
 - The Venn diagram is as follows:

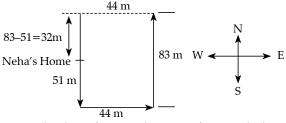


Coffees Milkshakes

From conclusion I: Some coffees are milkshakes is false. From conclusion II: Some teas are coffees is true. From conclusion III: Some milkshakes are teas is true. Therefore, only conclusions II and III follow.

10. Option (2) is correct.

The direction diagram of Neha is as follows:



From the above diagram, she is 44 m from a pole that is exactly 32 m north from her home.

11. Option (4) is correct.

31 December 2003 is Wednesday. 2004 = 2 odd days (Leap year) Total number of days from 1st January 2005 to 7th March 2005 = 31 + 28 + 7 = 66 days Now, 2 odd days + 66 days = 68 days. On dividing, 68 days by 7, we are left with 5 extra days. Therefore, Wednesday + 5 days = Monday.

12. Option (1) is correct.

The pattern of the following series is as follows:

172 - 164 = 8 = 2	2 ³
172 - 145 = 27 =	33
209 - 145 = 64 =	4 ³
209 - 84 = 125 =	5 ³

Therefore, the missing term will be 209.

13. Option (3) is correct.

As we know that both the given words are opposite. Borrow means to take money from someone and lend means to give money to someone else. Similarly, the opposite of exciting will be boring.

14. Option (1) is correct.

In both position of dice 2 and 5 is common therefore, 3 will be opposite to 6.

15. Option (4) is correct.

The pattern is as follows:

 $\begin{array}{ll} 6:32 & 6^2-4=36-4=32:32\\ 11:117 & 11^2-4=121-4=117:117\\ \text{Similarly, }10:?\\ 10^2-4=100-4=96:96 \end{array}$

Hence, option (4) is the correct answer.

16. Option (3) is correct.

Given expression: 27 B 5 C 38 A 16 D 4 A 42 C 8 B 4 = ? After putting up the signs, we get: $27 \times 5 - 38 + 16 \div 4 + 42 - 8 \times 4 = ?$ $135 - 38 + 4 + 42 - 31 = ? \Rightarrow 135 - 38 + 46 - 32 = ?$

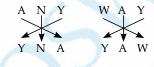
 $181 - 70 = ? \Rightarrow 111 = ?$

17. Option (1) is correct. The mirror image is as follows: M

Ν

18. Option (1) is correct.

Given that ANYWAY is written as YNAYAW

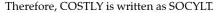


And



Similarly,

COSTLY is written in the same way C O S T L YS O C Y L T



19. Option (1) is correct.

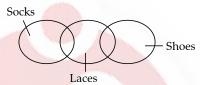
Given expression: 324 P 35 M 184 M 17 O 3 P 39 = ?After putting sign, we get: $324 + 35 - 184 - 17 \times 3 + 39 = ?$ $359 - 235 + 39 = ? \Rightarrow 124 + 39 = ? \Rightarrow 163 = ?$

- **20. Option (1) is correct.** In both position of dice 2 and 3 is common therefore, 4 will be opposite to 1.
- 21. Option (1) is correct.

The pattern is as follows: 2:9 $2^3 + 1 = 8 + 1 = 9:9$ And 6:217 $6^3 + 1 = 216 + 1 = 217:217$ Similarly, 9:?

 $9^3 + 1 = 729 + 1 = 730$: ? 22. Option (4) is correct.

The Venn diagram is as follows:



From conclusion I: All socks are shoes is false. From conclusion II: Some socks are laces is true. Therefore, only conclusion II follows.

23. Option (4) is correct.

Chickenpox is caused by virus similarly, Anthrax is caused by bacteria.

24. Option (4) is correct.

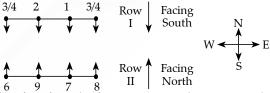
Given expression: 234 * 345 * 456 * 567 * 678 * 12 From option (4), we get:

$$234 + 345 - 456 + 567 - 678 = 12 \Rightarrow 579 - 1134 + 567 = 12$$

 $1146 - 1134 = 12 \Rightarrow 12 = 12$

25. Option (1) is correct.

From the given question, the sitting arrangement of eight people in two rows is as follows:



Therefore, from the diagram, 8 sits at the extreme right corner of Row II facing north.

26. Option (3) is correct. In both position of dice 2 and 4 is common therefore, 6 will be opposite to 1.

27. Option (1) is correct. Given that SPACE is coded as 5-91.

5 is used because S, P, A, C, and E are 5 alphabetical letters and 91 is the sum of their reverse alphabetical position like Z = 1, Y = 2, X = 3... so on. According to that,

S = 8, P = 11, A = 26, C = 24, E = 22

$$8 + 11 + 26 + 24 + 22 = 91$$

And, ROTTEN is coded as 6-70.

6 is used because R, O, T, T, E, and N are 6 letters and 70 is the sum of their reverse alphabetical position, so

$$R = 9, O = 12, T = 7, T = 7, E = 22, N = 13$$

$$9 + 12 + 7 + 7 + 22 + 13 = 70.$$

Similarly, for MEAN 4 is used because M, E, A, and N are 4 letters. Now, there reverse alphabetical positions are, M = 14, E = 22, A = 26, N = 13

12 + 22 + 26 + 13 = 75.

The correct order of the given words as they would appear in the English dictionary is as follows:

 $\begin{array}{ccc} Melody & 5 \\ \downarrow \\ Methanol & 2 \\ \downarrow \\ Method & 1 \\ \downarrow \\ Metrics & 3 \\ \downarrow \\ Metro & 4 \end{array}$

29. Option (1) is correct.

The pattern of the given set is as follows: (23, 308, 15) (23 - 1, 308, 15 - 1) (22, 308, 14) and (22 × 14 = 308) (the middle term) And (18, 187, 12) (18 - 1, 187, 12 - 1) (17, 187, 11) and (17 × 11 = 187) Similarly, from option (1): (14, 104, 9) (14 - 1, 104, 9 - 1) (13, 104, 8) and (13 × 8 = 104) So, from option (1), we get the answer.

30. Option (1) is correct.

The pattern of the series is as follows: $23 + 27 = 50 \implies 50 + 23 = 73$ $73 + 27 = 100 \implies 100 + 23 = 123$ Therefore, the next term would be 123.

31.Option (3) is correct.

The pattern of the given set is as follows: (17, 12, 612) (17 × 12 × 3 = 612) And (6, 14, 252) (6 × 14 × 3 = 252) Similarly, (13, 7, 273)

The next figure would be

This can be done by elimination method.

33. Option (1) is correct. Given expression: $182 - 13 \times 5 + 16 \div 44 = ?$ After putting sign, we get:

 $182 \div 13 + 5 \times 16 - 44 = ? \Rightarrow 14 + 5 \times 16 - 44 = ?$ $14 + 80 - 44 = ? \Rightarrow 94 - 44 = ? \Rightarrow 50 = ?$

34. Option (2) is correct.

The pattern of the series is as follows:

Therefore, RSRRS will complete the series.

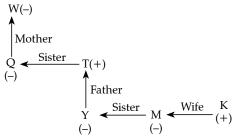
35. Option (3) is correct.

After observing the figure series, the triangle is moving in a clockwise direction, and the centre element is moving in an anticlockwise direction. Therefore, the next figure would be



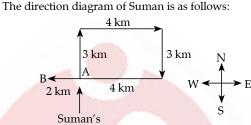
36. Option (3) is correct.

The tree diagram of the given condition is as follows:



So, from the above diagram, we can say that K is the daughter's husband. K is the son-in-law of T.

37. Option (4) is correct.



starting point

From the above diagram, Suman is 2 km east of point A. **38. Option (2) is correct.**

When we look at the diagram, we can see that the letters, like the other elements, are moving clockwise. So, the next figure would be

39. Option (1) is correct.

The pattern of the series is as follows:

FUTURE FUTURE FUTURE

Therefore, TRFURUUFUR will complete the series.

40. Option (2) is correct.

The sitting arrangement of seven people facing the north direction is as follows:

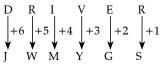
So, from the above diagram, S sits immediately to the right of U.

41. Option (4) is correct.

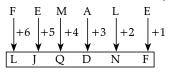
Given that CASTLE is written as IFWWNF

 $\begin{array}{c}
C & A & S & T & L & E \\
\downarrow +6 & \downarrow +5 & \downarrow +4 & \downarrow +3 & \downarrow +2 & \downarrow +1 \\
I & F & W & W & N & F
\end{array}$

And, DRIVER is written as JWMYGS



Similarly, FEMALE is written in the same way.



 \star

42. Option (2) is correct.

The figure option (2) is embedded in the given figure.



43. Option (1) is correct.

From the given dice, 1 and 5 common in both the dice. So, 4 will be on the face opposite to the one showing 3.

44. Option (3) is correct.

The mirror image is as follows:

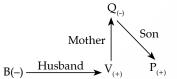


45. Option (4) is correct.

The pattern of the series is as follows: 822, 817, 807, 787, ? $822 - 817 = 5 \Longrightarrow 817 - 807 = 10$ $807 - 787 = 15 \Longrightarrow 787 - ? = 25 \Longrightarrow ? = 752$ So, the next term would be 752.

46. Option (4) is correct.

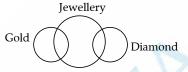
The tree diagram is as follows:



So, from the above diagram, we can say that P is the husband's brother. P is the brother-in-law of B.

47. Option (1) is correct.

From the given condition, the best suited Venn diagram for Gold, Diamond and Jewellery is



As we know that some gold and diamonds are known to be used in jewellery.

48. Option (3) is correct.

The pattern of the series is as follows:

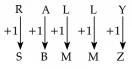
JHKOPQ JHKOPQ JHKOPQ JHKOPQ

Therefore, JOJKPHOQKP will complete the series.

49. Option (3) is correct.

Given that WINNER is written as XJOOFS

And, RALLY is written as



Similarly, CARTOON is written in the same way

$$\begin{array}{c|c} C & A & R & T & O & O & N \\ +1 & +1 & +1 & +1 & +1 & +1 & +1 \\ D & B & S & U & P & P & O \end{array}$$

50. Option (3) is correct.

Except for PTY, all others have the same pattern.

$$\begin{array}{c} E & I & O Y & C & I \\ \downarrow 4 & \downarrow 4 & \downarrow 6 & \downarrow 4 & \downarrow 6 & \hline P & T & Y \\ \downarrow 4 & \downarrow 6 & \downarrow 4 & \downarrow 6 & \hline P & T & Y \\ \downarrow 4 & \downarrow 5 & \downarrow 4 & \downarrow 6 & \hline H & N \\ \downarrow 4 & \downarrow 5 & \downarrow 4 & \downarrow 6 & \hline \end{array}$$

51. Option (1) is correct.

The 2018 Athletics World Cup was held in London, United Kingdom, on July 14 and 15, 2018. This tournament had one edition only. Every event had one representative from each team. Teams were awarded points based on how well they performed in each event. There were no races longer than 1500 meters, and no road events or multi-events were scheduled. The main tournament prizes were the Platinum Trophy, Platinum team medals, overall team reward, and team prize money. Individual gold, silver, and bronze medals were awarded for each event. The United States won the first edition, defeating Poland.

52. Option (2) is correct.

Thumri is an Indian musical style that includes vocals. The root of the word "thumri" is the Hindi verb thumuknaa, which means "to walk with a dancing gait." Dance, dramatic movements, light erotica, evocative love poems, and folk music are all associated with the art form. It is particularly well-known in Uttar Pradesh. It's romantic or spiritual in tone. The lyrics are typically written in Awadhi and Brij Bhasha, two Hindi dialects from Uttar Pradesh. Thumri singing is divided into two styles: Poorab or Banaras, which is relatively slow and staid, and Punjab, which is more mercurial.

53. Option (3) is correct.

Mauzo Damodar is a poet from Goa. In 1983, he received the Sahitya Akademi Award for his novel Karmelin. In 2011, he was awarded the Vimala V. Pai Vishwa Konkani Sahitya Puraskar for his novel Tsunami Simon. He is one of the organizers of the Goa Arts and Literature Festival. The Jnanpith Award instituted in 1961, is bestowed only on Indian writers who write in Indian languages listed in the Eighth Schedule to the Indian Constitution and English. It awards a cash prize of 11 lakh rupees and a bronze replica of Saraswati, the Hindu goddess of knowledge and wisdom. It was first given in 1965. The award was first given to Malayalam writer G. Sankara Kurup in 1965 for his collection of poems Odakkuzhal (The Bamboo Flute), which was published in 1950.

54. Option (4) is correct.

Shijith Nambiar, a former Kalakshetra faculty member, is a master of Bharatanatyam. Shijith Nambiar is also an accomplished percussionist. Bharat Kalachar bestowed the "Yuvakalabharathi Title" on him in 2007 for his versatility in Bharatanatyam, Nattuvangam, and choreography.

55. Option (4) is correct.

The sum assessed under the Mughal Empire's Land Revenue System was referred as Jama. Land Revenue collection procedures were divided into two phases: assessment and actual collection. The Hasil was the amount received or collected, whereas the Jama was the amount assessed.

56. Option (2) is correct.

GNP = GDP + Factor income earned by the domestic factors of production employed in the rest of the world - Factor income earned by the factors of production of the rest of the world employed in the domestic economy. The gross national product (GNP) is an estimate of the total value of all finished goods and services produced over a given period of time using resources owned by a country's citizens. The gross national product is commonly calculated by adding all domestic private investment, domestic government spending, net exports, and any resident income from overseas investments, then subtracting factor income to rest of the world.

57. Option (2) is correct.

Matters of Discretion is An Autobiography written by Inder Kumar Gujral. It provides an overview of Gujral's public life and discusses his life from partition to his move to India. He was a diplomat, politician, and freedom activist from India. He served as India's 12th Prime Minister from April 1997 to March 1998. He joined the Indian National Congress and was elected to the Rajya Sabha in 1964.

58. Option (4) is correct.

Ecology is the study of the interactions of living organisms with their physical environment and with one another. Ernst Haeckel, a German zoologist, coined the term "ecology" in 1866 to describe the "economies" of living forms. Ecology can be approached from two perspectives: the environment and the demands it places on the organisms that live in it, and organisms and how they adapt to their environmental conditions. An ecosystem is a collection of mutually interacting organisms and their environment in which materials are exchanged mostly cyclically.

59. Option (1) is correct.

Boltzmann's constant is a physical constant that allows us to calculate how much energy is involved in the random thermal movements of a substance's constituent particles. According to Austrian physicist Ludwig Boltzmann, the average kinetic energy of molecules is high when the temperature of the gas molecules is high. Kinetic Energy (R) Temperature (K.E.) The formula would be: PV equals N x K_b x T. P is the pressure in Pascals, V is the volume in meter cubes, N is the number of gas molecules, T is the temperature, and Kb is Boltzmann's constant. K_b is a SI unit that stands for Joule per Kelvin. 1.38065421016 erg / Kelvin is the value of Boltzmann's constant K_b in CGS. Boltzmann's constant dimensional formula: ML²T²K⁻¹. Boltzmann's constant is equal to 0.000086173324 eV/kelvin.

60. Option (4) is correct.

Shovana Narayan is a well-known Kathak dancer from India. She is a career officer with the Indian Audit and Accounts Service. She performs both at home and abroad. She was awarded the Padma Shri honor in 1992. Birju Maharaj was her mentor.

61. Option (1) is correct.

Sonu Sood, dubbed the "Messiah of the Migrant" for his selfless service to people and society, is preparing to write his autobiography. 'I am no Messiah,' the actor's autobiography will be titled. Meena Iyer will collaborate on the book's writing. Penguin Random House India is the publisher of the book.

62. Option (2) is correct.

Baking soda Carbon dioxide gas is produced when baking powder is heated or mixed with water. When you add water to baking powder, the dry acid and base dissolve and begin to react, producing carbon dioxide bubbles. When wet, single-acting baking powder produces all of its bubbles. When hot, double-acting baking powder produces bubbles once more. Baking Powder Baking soda, also known as sodium bicarbonate in the chemical world, is a baking ingredient that is activated by a liquid and an acid to aid in leavening or rising. Baking soda is used in recipes with an acidic ingredient, such as cream of tartar, buttermilk, or citrus juice. When baking soda is combined with vinegar, the following chemical reaction occurs NaHCO₃ + CH₃COOH \rightarrow H₂O + CO₂ +CH₃COONa.

63. Option (1) is correct.

In India, the Narmada is not a tributary of the Indus. The Narmada River originates in a small tank known as Narmada Kund on the Amarkantak hill in the Anuppur District of eastern Madhya Pradesh. It is known as the "Life Line of Gujarat and Madhya Pradesh" because of its significant contribution to the states of Gujarat and Madhya Pradesh. It forms the traditional border between North and South India and flows westward for 1,312 kilometers (815.2 mi). After the Ganga and Godavari rivers, the Narmada or Rewa River is India's third largest river. The Indus River is one of Asia's longest rivers. The river's drainage area exceeds 1,165,000 km2 (450,000 sq mi).

64. Option (2) is correct.

A Turkish general named Alauddin Bahman Shah established the Bahmani Sultanate, or Bahmani Empire, in 1347. He had revolted against the Delhi Sultanate's Mohammed bin Tughlaq. In Karnataka, Bahman Shah established Kalaburgi (or Gulbarga) as his capital. He established an Empire that ruled the Deccan for nearly 200 years. The Kingdom was later divided into five successor states known as the Deccan Sultanates.

65. Option (2) is correct.

Khushwant Singh's book is Train to Pakistan. It is a 1956 historical novel about the partition of India in August 1947. Khushwant Singh (February 2, 1915 – March 20, 2014) was an Indian author, lawyer, diplomat, journalist, and politician. His experiences during India's 1947 partition inspired him to write Train to Pakistan in 1956 (which was adapted into a film in 1998), which became his most well-known novel.

66. Option (1) is correct.

Monsoons are seasonal winds that reverse direction with the change of season. They are cyclical winds. In the summer, they travel from the sea to the land, and in the winter, they travel from the sea to the land. In the summer, southwest monsoon winds blow, and in the winter, northeast monsoon winds blow. The Southwest monsoon forms as a result of an intense low-pressure system forming over the Tibetan Plateau. The Northeast monsoon develops as a result of high-pressure cells that form over the Siberian and Tibetan plateaus. The following factors contribute to monsoon winds in India: Subtropical Jet Stream (STJ), Tropical Easterly Jet (African Easterly Jet), Inter-Tropical Convergence Zone, Strengths of low pressure over Tibet and high pressure over the southern Indian Ocean, Somali Jet, Somali Current, Indian Ocean branch of Walker Cell, Indian Ocean Dipole.

67. Option (1) is correct.

National Remote Sensing Center (NRSC): Hyderabad is home to the National Remote Sensing Centre (NRSC). It is in charge of collecting and processing data from remotesensing satellites. It is also in charge of data dissemination, aerial remote sensing, and disaster management decision support. Since September 1, 2008, the National Remote Sensing Centre (NRSC) in Hyderabad has been transformed into an ISRO full-fledged centre. Previously, the National Remote Sensing Agency (NRSA) was an autonomous body within the Department of Space (DOS). NRSC operates a data reception station in Shadnagar, near Hyderabad, to collect data from Indian remote sensing satellites and others.

68. Option (4) is correct.

Algae are a diverse group of aquatic organisms that can perform photosynthesis. Algae are abundant in bodies of water, common in terrestrial environments, and can be found in unusual places like snow and ice. In wet, dark conditions, algae grow on wood. Phycology is the scientific study of algae. The majority of soil algae, particularly blue-green algae, act as cementing agents, binding soil particles and preventing soil erosion. Soil algae in uncropped soil regulate nitrate loss through leaching and drainage. The pigments found in algae allow them to be classified. Chlorophyceae is a family of green algae. Brown algae are classified as Phaeophyceae. Rhodophyceae is a family of red algae.

69. Option (3) is correct.

The FIFA World Cup began in 1930 and is held every four years, except in 1942 and 1946, when it was canceled due to World War II. The 2022 FIFA World Cup will be the 22nd FIFA World Cup, and it will be held in Qatar. The host of the following year is announced after the conclusion of each FIFA World Cup. This tournament will feature 32 teams. These 32 teams are divided into eight groups of four teams each. Following qualification in this stage, 16 teams will advance to the knockout stage. It was held in Russia in 2018.

70. Option (1) is correct.

Sir William Jones was an Anglo-Welsh philologist, Supreme Court of Judicature judge in Fort William, Bengal, and ancient India scholar. Sir. William Jones founded the Asiatic Society in 1784, and it is a unique institution that has served as a fountainhead of all literary and scientific activities. The name was changed to "The Asiatic Society of Bengal" in 1832, and then to "The Royal Asiatic Society of Bengal" in 1936.

It was envisioned as a center for Asian studies, encompassing everything related to man and nature within the continent's geographical boundaries. Its headquarters are in Kolkata. The Asiatic Society's library houses a massive collection of approximately 1,17,000 books and 79,000 journals in all of the world's major languages. N. Wallich established the Asiatic Society's museum in 1814.

71. Option (2) is correct.

Lord William Bentinck was named Governor of Madras in 1803. On December 4, 1829, he issued the Bengal Sati Regulation, which prohibited the practice of Sati in all jurisdictions of British India. In 1828, he was appointed as Governor-General. Bentinck, as Governor-General, had ushered in an era of progress and reform. He became India's first governor-general (due to the provision in the Charter Act of 1833). William Bentinck pursued a non-intervention and non-aggression policy with Indian states. In terms of financial reforms, he reduced all officers' salaries and allowances, and he eliminated additional staff. In the judicial department, he abolished Cornwallis's provincial courts of appeal. The first Governor-General to see a Russian threat to India was Lord William Bentinck.

72. Option (2) is correct.

Section 21A Article 21A states that the state must provide free and compulsory education to all children between the ages of six and fourteen. Only elementary education is recognized as a Fundamental Right under this provision. The 86th Constitutional Amendment Act of 2002 added it. As the country strives for 'Education for All,' this is regarded as a significant achievement. Based on the foregoing, we can conclude that Article 21A of the Indian Constitution guarantees the right to education. The Swaran Singh Committee recommended that fundamental duties be added to the Indian constitution. Article 51A of the Indian Constitution mentions fundamental duties. Fundamental duties are not legally enforceable. The concept of fundamental duties was inspired by the Russian constitution. The 42nd constitutional amendment act of 1976 added fundamental duties to the Indian constitution. The Indian constitution lists 11 fundamental duties.

73. Option (4) is correct.

The President of India appoints the Chief Election Commissioner of the Election Commission. The Election Commission consists of three members: a Chief Election Commissioner and two election commissioners. They are appointed for a period of six years or until the age of 65, whichever comes first. The Election Commission of India is defined in Article 324 of the Indian constitution. The Indian Election Commission holds elections for the Lok Sabha, Rajya Sabha, state legislative assemblies, President, and Vice President. The Indian Election Commission was established on January 25, 1950. This day is also celebrated as "National voters day". The removal of the chief election commissioner is analogous to the removal of a Supreme Court judge. The symbol is assigned to political parties by the Indian Election Commission. National parties, state parties, and regional parties are all recognized by the election commission. Sukumar Sen is India's first Chief Election Commissioner.

74. Option (3) is correct.

The sun is a massive star that generates energy through hydrogen nuclear fusion. The nuclear fusion of hydrogen into helium generates energy. The Sun is made up of seven layers. The core is the innermost layer, while the Corona is the outermost layer. The Sun is the hottest glowing sphere of Plasma in the solar system. It is composed primarily of hydrogen (about 70%) and helium (28%). While carbon, nitrogen, and oxygen account for 1.5% of the total, the remaining 0.5% is made up of other elements such as neon, iron, silicon, magnesium, and sulfur. It is one of the most important energy sources for life on Earth.

75. Option (4) is correct.

The Chandela dynasty ruler built the Khajuraho temples between 950 and 1050 AD. They erected a magnificent temple to Lord Chitragupta in Khajuraho. Jayapura-Durga (modern Ajaigarh), Kalanjara (modern Kalinjar), and Mahotsava-Nagara were three other important Chandela strongholds (modern Mahoba). The Khajuraho Group of Monuments is a collection of Hindu and Jain temples in the Madhya Pradesh district of Chhatarpur. The temples are well-known for their Nagara-style architectural symbolism and erotic sculptures. They are designated as a UNESCO World Heritage Site. The Chandela dynasty ruler built the Khajuraho temples between 950 and 1050 AD. They erected a magnificent temple to Lord Chitragupta in Khajuraho.

76. Option (2) is correct.

The Indian Foreign Service is an administrative diplomatic civil service that falls under Groups A and B. It is not an all-India service. The IFS is one of the Central Civil Services of the Government of India's Executive Branch. The IFS is in charge of developing the government's foreign policies and managing Indian missions abroad. The All India Services include India's three prestigious civil services: the Indian Administrative Service. The candidates selected for these civil services are recruited by the Center or the Union Government, which is a unique feature of All India Services. The All India Services and Services. The All India Services the Indian Police Service.

responsibilities of the All India Services ACT,1951.

77. Option (1) is correct.

Rassundari Devi's autobiography, 'Amar Jibon,' was written. Amar Jibon was first published in 1876. It is Rassundri Devi's autobiography. It is also the first autobiography written by a woman of Indian origin. This book examines the position of women in Indian society. It was released in Bengali. Enakshi Chatterjee translated Amar Jibon.

78. Option (2) is correct.

GATT was established in 1948 as the global trade organization with 23 countries to administer all multilateral trade agreements by providing equal trading opportunities to all countries in the international market. The General Agreement on Tariffs and Trade (GATT) is a 1947 global trade agreement. GATT entered into force on January 1, 1948. The goal of GATT was to liberalize trade among member countries by lowering tariffs and quotas. All trade discrimination had to be eliminated by the member countries. From 1947 to 1993, seven rounds of negotiations reduced average tariffs on industrial goods from 40% to 5%. GATT's actions resulted in economic globalization. The GATT office was established in Geneva in 1948.

79. Option (2) is correct.

Article 20 (Protection against conviction for offenses) and Article 21 (Protection of life and personal liberty) cannot be suspended during a national emergency. Article 359 of the Constitution expressly prohibits the protection of Articles 20 and 21 during a state of emergency. Except for Articles 20 and 21, Article 359 of the Constitution authorizes the President of India to suspend the right to petition any court for the enforcement of Fundamental Rights during a National Emergency. The scope of Article 359 was limited in two ways by the 44th Amendment Act of 1978: first, the President could not suspend the right to petition the Court for the enforcement of fundamental rights guaranteed by Articles 20 to 21.

80. Option (3) is correct.

Carbon dating is one of the most widely used methods in archaeology for dating organic objects up to 50,000 years old. This method is based on the idea of carbon-14 isotopes radiatively decaying over thousands of years. Scientists have discovered that radioactive molecules decay at a specific rate that is determined by the atomic number and mass of the decaying atoms. The ratio of radioactive isotopes to the estimated initial concentration of these isotopes at the time of the organism's death can be used to calculate the approximate age of the decaying material. Scientists have concluded that the ratio of Carbon-12 to Carbon-14 isotopes in the atmosphere has changed very little, implying that the relationship between these two should be very similar to how it is today.

81. Option (2) is correct.

The Commission for the Protection of Child Rights Act of 2005 established the National Commission for the Protection of Child Rights (NCPCR) in March 2007. It is administratively controlled by the Ministry of Women and Child Development. A child is defined as someone aged 0 to 18 years old. The mandate of the Commission is to ensure that all laws, policies, programs, and administrative mechanisms are consistent with the Child Rights perspective as enshrined in the Indian Constitution and the UN Convention on the Rights of the Child.

82. Option (3) is correct.

The National Waterway-96 connects Jharkhand, West Bengal, and Odisha. It is situated on the banks of the Subaranekha River. The waterway is 314 kilometers long.

83. Option (3) is correct.

Sudha Chandran (born September 27, 1965) is a

Bharatanatyam dancer and actress from India who has appeared on Indian television and in films. In 1981, she was returning from Madras with her parents when she was involved in a car accident near Tiruchirapalli, Tamil Nadu. Her leg became gangrenous, and her parents decided to amputate it. She did, however, go on to become a well-known Bharatnatyam dancer.

84. Option (1) is correct.

Bhikaiji Rustom Cama played a crucial role in the Indian freedom struggle abroad and was known as the Mother of the Indian Revolution. Madam Bhikaji Cama became the first person to hoist the Indian flag on foreign soil on August 22, 1907, in Stuttgart, Germany.

85. Option (3) is correct.

Mohiniyattam is a famous Indian classical dance that originated and is still popular in the state of Kerala. Kathakali is Kerala's other classical dance form. Mohiniyattam dance gets its name from Mohini, the historical enchanting manifestation of the Hindu god Vishnu who helps good triumph over evil by nurturing its feminine energies. Mohiniyattam is a classical Indian dance whose repertoire can be traced back to the basic text of Natya Shastra. The Natya Shastra text is attributed to the ancient scholar Bharata Muni. Important Considerations Dance Forms in the United States Maharashtra Koli Dance, Dhangari Gaja, and Lavani Dance The state of Tamil Nadu Parai Attam, Bharatanatyam Rajasthan Kalbelia, Ghoomar, Kathputli.

86. Option (3) is correct.

The Fourth Five-Year Plan had two main goals: growth with stability and gradual attainment of self-sufficiency. It lasted from 1969 to 1974, and it was led by Indira Gandhi. Important Considerations The Indira Gandhi government nationalized 14 major Indian banks during the fourth five-year plan, and the Green Revolution in India advanced agriculture. On May 18, 1974, India conducted the Smiling Buddha underground nuclear test (Pokhran-1). The intended growth rate was 5.6%, but the actual rate was 3.3%.

87. Option (3) is correct.

A grass called Hubbardia heptaneuron is on the verge of extinction due to its environmental insensitivity. At least 10% of India's recorded wild flora and 20% of its mammals are listed as threatened. Many of the threatened flora and fauna, such as the cheetah, pinkheaded duck, mountain quail, forest spotted owlet, and plants such as madhuca insignis (a wild variety of mahua) and hubbardia heptaneuron, are now classified as 'critical' (a species of grass). The spin spin spin Helianthus annuus (common sunflower) is a large annual forb of the genus Helianthus grown for its edible oily seeds. Saccharum officinarum is a large, vigorously growing grass in the genus Saccharum. The daisy, Bellis perennis, is a European species of the Asteraceae family that is often regarded as the archetypal species of the name daisy.

88. Option (1) is correct.

Seats in Panchayats are reserved for Scheduled Tribes under Article 243D. Article 330 reserves seats in the House of the People for Scheduled Tribes. Article 332 provides for the reservation of seats in state legislatures for Scheduled Tribes. Article 334 states that reservations for Scheduled Castes and Scheduled Tribes in the Lok Sabha and State Vidhan Sabhas (as well as nominations for the Anglo-Indian Community in the Lok Sabha and State Vidhan Sabhas) will continue until January 2020. The 104th Amendment Act of 2020 increased the time limit for the cessation of seats for SCs and STs in the Lok Sabha and state assemblies from seventy to eighty years. Other specific safeguards are provided in Article 244 when read in conjunction with the provisions of the Fifth and Sixth Schedules to the Constitution.

89. Option (1) is correct.

Poland hosted the first FIVB Volleyball Men's World Cup in 1965. The first edition of the competition featured eleven nations. Ten countries were from Europe, the dominant volleyball continent at the time. The "Tournament of the Continents" is another name for this event.

90. Option (4) is correct.

The GDP deflator (implicit price deflator) is a measure of the level of prices in an economy of all-new, domestically produced final goods and services. According to the formula, dividing nominal GDP by real GDP yields the GDP deflator, thereby "deflating" nominal GDP into a real measure.

91. Option (2) is correct.

Mithali Dorai Raj (born 3 December 1982) is a former Indian cricketer who led the India women's national team from 2004 to 2022. Mithali is the most prolific runscorer in women's international cricket and is widely regarded as one of the greatest female cricketers of all time. Mithali has received numerous national and international honors, including the Wisden Leading Woman Cricketer in the World award in 2017, the Arjuna Award in 2003, the Padma Shri in 2015, and the Major Dhyan Chand Khel Ratna in 2021.

92. Option (4) is correct.

Barium Peroxide: It is a greyish-white granular solid. It has the chemical formula BaO_2 . It is a non-flammable chemical. Despite the fact that it accelerates the rate of combustion of combustible materials. It is used as a bleaching agent, in the production of Hydrogen Peroxide, in the welding of aluminium, and in textile dyeing. Barium Oxide has the chemical formula BaO. Barium: The symbol is Ba. The atomic mass is 137.327 u and the atomic number is 56.

93. Option (1) is correct.

The Ganga River runs for 2,525 kilometers. The Ganga is a South Asian transboundary river. The Gangotri glacier, located in the western Himalayas of Uttarakhand, is the source of the river. The Godavari river system is the largest in Peninsular India. The Godavari river rises near Nasik in Maharashtra and flows for about 1465 kilometres before emptying into the Bay of Bengal. The Krishna River runs for 1400 kilometers and covers an area of 258,948 square kilometers. The Yamuna River flows from the Yamunotri Glacier in the Himalayan region of Uttarakhand. The River Yamuna is approximately 1376 kilometers long and joins the Ganga at Prayagraj (Allahabad) in Uttar Pradesh.

94. Option (4) is correct.

High Court Can hear appeals from lower courts. Can issue writs for restoring Fundamental. Rights. Can deal with cases within the jurisdiction of the State. The President can seek advice from the Supreme Court of India under Article 143 of the Indian Constitution. Therefore, the supreme court enjoys advisory power.

95. Option (1) is correct.

The Mettur Dam, located across the Cauvery River, is one of the largest dams in India and the largest in Tamil Nadu. Mettur is well-known for its massive dam, power generation, chemical manufacturing, and aluminium manufacturing. The Mettur Dam provides the majority of the water required for irrigation in Tamil Nadu. Stanley Reservoir is another name for the Mettur Dam. The dam was constructed in 1934. (After 9 years of foundation stone). The dam's maximum height and width are 214 and 171 feet, respectively.

96. Option (2) is correct.

The Battle of Buxar took place on October 22, 1764. This

battle was critical for the British because it gave them complete control of Bengal and Bihar. Hector Munro fought against the combined forces of Mir Qasim, Mughal Emperor Shah Alam, and Shuja-ud-daulah of Awadh. Mir Qasim's combined force was defeated in this battle. On August 12, 1765, Robert Clive and Shah Alam II signed the Treaty of Allahabad (Mughal emperor). Shah Alam II was forced to pay a five million rupee fine.

97. Option (2) is correct.

A burst is a sudden increase in normal rainfall that lasts for several days. India has a tropical monsoon climate. The arrival of the Monsoon causes an abrupt change in the weather. The bursting of the Monsoon brings rain for several days. A monsoon break means less or no rain for a few days. The arrival of monsoon is signaled by the arrival of monsoon.

98. Option (4) is correct.

Elements in the same period will have the same number of shells in the Modern Periodic Table. Elements are arranged in a series of rows in the Modern Periodic Table. The number of electron shells in elements of the same period is the same. Because all elements in a group have the same number of electrons in the outermost shell, valency is determined by the number of valence electrons in an atom. As a result, all members of a group have the same valency or valence electron.

99. Option (4) is correct.

Koeppen identified five major climatic groups, four of which are temperature-based and one precipitationbased. The capital letters A, C, D, and E denote humid climates, while B denotes dry climates. Based on the seasonality of precipitation and temperature characteristics, the climatic groups are subdivided into types, denoted by small letters. The seasons of dryness are indicated by the small letters: f, m, w, and s, where f corresponds to no dry season, m - monsoon climate, w- to winter dry season, and s - to summer dry season. The small letters a, b, c, and d indicate the severity of the temperature. Dw represents a cold climate with dry winters. The capital letters S for steppe or semi-arid and W for deserts are used to subdivide the B- Dry Climates.

100. Option (3) is correct.

Since the moon rotates on its axis for about 27.3 days per revolution around the earth and 27.322 days per rotation of the moon, As a result, the moon's rotation time on its axis overlaps with its revolution along with the orbital plane. As it completes one revolution around the Earth, the moon completes one rotation on its axis. As a result, we will notice that the Moon always has the same face as the earth. The moon travels in an elliptical orbit around the Earth.

101. Option (1) is correct.

We know that time =
$$\frac{\text{Distance}}{\text{Speed}}$$
.

Distance is the total length of the two trains which is = 195 + 165 = 360 m.

D · ·

Speed = 85 - 77 = 8 km/hr (to convert this into m/sec, we need to Multiply $\frac{5}{-}$).

Hence, Time taken to cross each other is
$$\frac{360}{8 \times \frac{5}{18}} = \frac{360 \times 18}{40}$$

= 162

Hence, 162 is the correct answer.

102. Option (1) is correct.

Given
$$a - \frac{1}{a-5} = 10 \Rightarrow (a-5) - \frac{1}{a-5} = 5$$

On cubing both sides we get,

$$= (a-5)^{3} - \frac{1}{(a-5)^{3}} - [3(a-5)(1/(a-5))(1/(a-5))] = 125$$

= $(a-5)^{3} - \frac{1}{(a-5)^{3}} = 125 + 15 = 140$
 $\therefore (a-b)^{3} = a^{3} - 3a^{2}b + 3ab^{2} - b$
Hence, 140 is the correct Answer.

103. Option (2) is correct.

Length of field = 90 m, Breadth of field = 75 m Area of rectangular field = 90 m × 75m = 6750 m² Length of pit = 18 m Breadth of pit = 15 m Height of pit = 6 m Volume of earth take = 18 m × 15 m × 6 m = 1620 m³ Area of the base of pit = 18 m × 15 m = 270 m² Area of remaining portion of rectangular field = Area of rectangular field – Area of the base. 6750 m² – 270 m² = 6480 m² Now rise in the level of remaining part of the field

 $= \frac{1620 \, m^3}{6480 \, m^2} = 0.25 \, \mathrm{m}$

So, rise in the remaining part of the field = $0.25 \times 100 = 25$ cm.

Hence, 25 cm is the correct Answer.

104. Option (2) is correct.

He was supposed to sell 2000 gm. 25% profit is when CP = 100. Then, SP = 125Therefore, the ratio of CP : SP = 4 : 5

$$\Rightarrow \frac{4}{5} \times 2000 = 1600 \text{ gm}$$

Thus, the error is 2000 - 1600 = 400 g. Hence, 400 is the correct Answer.

105. Option (4) is correct.

We know that area of the sector is $\frac{r \times r}{2}$

$$\Rightarrow r \times \frac{2r}{2} \Rightarrow r^2$$
 (Given

Hence, r^2 is the correct Answer.

106. Option (1) is correct.

Total angles = 1 + 1 + 2 = 4The greatest angle = 2 (Hint: We don't require actual total value, which is sum of angles = 180°).

Therefore, the percentage = $\frac{2}{4} \times 100 = 50\%$

Hence, 50% is the correct Answer.

107. Option (2) is correct.

Let total employees = x

Then sum of salary of all employees = $x \times 14000$ The total salary of 5 technicians = $5 \times 18000 = 90000$ The total salary of the remaining employees = $(x - 5) \times 13200$ Now $(x - 5) \times 13200 + 90000 = x \times 14000$ $\Rightarrow (x - 5) \times 132 + 900 = x \times 140$ $\Rightarrow 132 x - 5 \times 132 + 900 = 140x$ $\Rightarrow 140x - 132x = 900 - 660$ $\Rightarrow 8x = 240 \Rightarrow x = 30$ Hence, 30 is the correct Answer. 108. Option (3) is correct.

$$\frac{24 \div \frac{3}{8} \text{ of } \left(8 + 2 \times \overline{7 - 3}\right) + \left\lfloor \frac{2}{11} \div \frac{4}{55} - \left\{\frac{5}{8} + \frac{6}{16}\right\}\right\rfloor}{32 \div \overline{15 - 7} + 75 \div (6 + 15 \div 3 + 4)}$$

$$= \frac{24 \div \frac{3}{8} \text{ of } \left(8 + 8\right) + \left\lfloor \frac{2}{11} \times \frac{55}{4} - \frac{16}{16} \right\rfloor}{32 \div 8 + 75 \div (6 + 5 + 4)}$$

$$= \frac{24 \div 6 + \left\lfloor \frac{5}{2} - 1 \right\rfloor}{4 + 75 \div 15}$$

$$= \frac{4 + \frac{3}{2}}{4 + 5} = \frac{11}{2 \times 9} = \frac{11}{18}$$

Hence $\frac{11}{18}$ is the correct Answer.

109. Option (1) is correct.

We will find the net effect i.e. =
$$\frac{1000}{900} \times \frac{110}{100} = \frac{11}{9}$$
 now
CP = 9 and SP = 11

Profit
$$\% = \frac{2}{9} \times 100 = 22.22\%$$

After discount we have $20 \times \frac{100}{90} = \frac{200}{9}$

So before cheating he was selling at $\frac{200}{9} \times \frac{122.22}{100} = 27.16$

Hence, 27.16 is the correct answer. 110. Option (3) is correct.

The new ratio =
$$\frac{3 \times 110}{4 \times 115} = \frac{3 \times 22}{4 \times 22} = \frac{33}{45}$$

Hence, $\frac{35}{46}$ is the correct Answer.

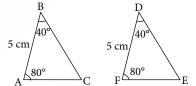
111. Option (1) is correct.

l = 2r)

Two triangles are congruent if their corresponding sides are equal in length and their corresponding angles are equal in size.

In the second, third and the fourth options, the length of DE = 5 cm, since it is not defined. So, all these options are wrong.

In the first option, DF = 5 cm and $\angle E = 60^{\circ}$ is satisfied.



Hence DF = 5 cm and $\angle E = 60^{\circ}$.

112. Option (2) is correct.

From the above table it is clearly shown that Vishal obtained 82 marks in P1, which is the highest among all and Viraj obtained 89 in P2, which is highest among all and in P3 Viraj got 86, which is highest among all. Hence, Vishal, Viraj and Viraj is the correct answer.

113. Option (4) is correct.

Given that the ratio of time X: Y + Z = 3: 1 and the ratio of time of Z: Y + X = 4: 1. Now multiply 1st ratio by 5 and 2nd by 4 we get, X: Y + Z = 15: 5 and Z: Y + X = 16: 4 Now we know total work = efficiency × Time. Now total work = $20 \times 10 = 200$. The efficiency of Z = 4 and X = 5. (Efficiency is inversely proportional to time). Now total efficiency of X + Z = 9. Therefore, time taken by $X + Z = \frac{200}{2} = 22\frac{2}{9}$. Hence, $22\frac{2}{9}$ is the correct Answer. **114. Option (3) is correct.** Simple interest = 20% and Compound interest 10 ± 10

$$= 10 + 10 + \frac{10^{\circ} + 10^{\circ}}{100} = 21\%$$

Difference is 21% - 20% = 1%ATQ, 1% = 250So, 100% = 25,000. Hence, 25000 is the correct answer.

115. Option (1) is correct.

Let C = x then B = x + 16 and A = x + 23Now x + x + 16 + x + 23 = 255 $\Rightarrow 3x = 255 - 39$ $\Rightarrow x = \frac{216}{3} \Rightarrow x = 72$ C = 72 and B = 72 + 16 = 88 and A = 72 + 23 = 95Now $3A + C - 4B = 3(95) + 72 - 4 \times 88$

$$= 285 + 72 - 352 = 5$$

Hence 5 is the correct Answer.

116. Option (4) is correct.

Prime number is a number which cannot be divided by any number except 1 and number itself. Hence, 89 is not divisible by any number except 1 and 89.

117. Option (1) is correct.

A got 37% of total votes. Then, B got 100% – 37% = 63%. According to the question, 63% - 37% = 26% $\Rightarrow 26\% = 338$

$$\Rightarrow 100\% = \frac{338}{26} \times 100 = 1300$$

Hence, 1300 is the correct answer.

118. Option (4) is correct.

Production of company C in 2015 = 45 lakh ton, and Production of company B in 2018 = 55 lakh ton. Difference between the production of company C in 2015 and of company B in 2018 = 55 - 45 = 10Hence, 10 Lakh Ton is the correct Answer.

119. Option (1) is correct. The LCM of *a*, *b* is 42 Now LCM of 5*a* and $11b = 5 \times 42 \times 11 = 2310$. Hence, 2310 is the correct answer.

120. Option (2) is correct.

Distance between thief and policeman = 250 m. Speed of the thief = 10 km/h. Speed of the policeman = 12 km/h. Relative Speed = 12 km/h - 10 km/h = 2 km/h

$$2 \text{ km/hr} = 2 \times \frac{5}{18} = \frac{5}{9} \text{ m/s}$$

Time taken by police to overtake the thief =
$$\frac{5}{9}$$
 = 450 s

250

Now, Time = 450 s

Speed of thief =
$$10 \times \frac{5}{18} = \frac{25}{9}$$

Therefore distance = Time × speed = $\frac{25}{9} \times 450 = 25 \times 50 = 1250 = 1.25 \text{ km}$
Hence, 1.25 km is the correct answer.
121. Option (2) is correct.
Total work = $25 \times 140 = x \times 70$
 $\Rightarrow x = 25 \times \frac{140}{70} \Rightarrow x = 50$
Hence, 50 is the correct answer.
122. Option (2) is correct.
 $p:q = 4:5, q:r = 3:4$ and $r:s = 2:5$
 $p: q : r : s$
 $4: 5 : 5 : 5$
 $3: 3 : 4 : 4$
 $2: 2 : 2 : 2 : 5$
 $p = 4 \times 3 \times 2 = 24$, and $s = 5 \times 4 \times 5$
 $p:q = 24:100 = 6:25$
Hence, 6: 25 is the correct answer.
123. Option (4) is correct.
The sum is $1 + 2 + 3 + 5 = 11$
 2 times sum is $2 \times 11 = 22$
According to the question, $22 \rightarrow 44$
 $1 \text{ unit } \rightarrow 2$
Now the numbers are 2, 4, 6, 10. Now cube of the numbers are 8, 64, 216, 1000.
Now, after subtracting 3 from each unit number, we get, 5, 61, 213, 997.
Hence 5, 61, 213, 997 is the correct Answer.
124. Option (2) is correct.
Using option 72 km/hr.
Speed of the bus = 42 km/hr
Relative speed = 30 km/hr
Distance travelled by bus in 3 hours = $42 \times 3 = 126 \text{ km}$
Now, difference = $216 \text{ km} - 126 \text{ km} = 90 \text{ km}$
Therefore, when the bus is ahead of 30 km then after 3 hours difference would be 60 km.
Hence, 72 km/hr is the correct answer.
125. Option (4) is correct.
We know that when sum of the digits of a number is divisible by 9, then the number is also divisible by 9.
Therefore $8 + x + 5 + 2 + 1 + 5 = 21 + x$
 $\Rightarrow 21 + 6 = 27$

Hence, 6 is the least number which is to be added to the number so that it will be divisible by 9.

126. Option (2) is correct.

The perimeter of a major circle is Radius + Radius + Arc length.

$$= 12 + 12 + \frac{(360 - 75)}{360} \times 2\pi r$$

$$= 24 + \frac{265}{360} \times 2 \times 12 \times \pi = 24 + 19\pi$$

Hence, $24 + 19\pi$ is the correct answer. **127. Option (4) is correct.**

Given,
$$x^4 + \frac{1}{x^4} = 1154$$

Now, $\left(x^2 + \frac{1}{x^2}\right)^2 - 2 = 1154$

$$\Rightarrow \left(x^{2} + \frac{1}{x^{2}}\right)^{2} = 1154 + 2 \Rightarrow x^{2} + \frac{1}{x^{2}} = \sqrt{1156}$$
$$\Rightarrow x^{2} + \frac{1}{x^{2}} = 34 \Rightarrow x + \frac{1}{x} = 6$$
$$\Rightarrow \text{Cubing both sides we get, } \left(x + \frac{1}{x}\right)^{3} = 216$$
$$\Rightarrow x^{3} + \frac{1}{x^{3}} + 3 \times 6 = 216 \Rightarrow x^{3} + \frac{1}{x^{3}} = 216 - 18 = 198$$
Hence, 198 is the correct Answer.
Option (4) is correct.

The production of x = 30 + 45 + 25 + 50 + 40 = 190Average $= \frac{190}{5} = 38$

The production of y = 25 + 35 + 35 + 40 + 50 = 185Average = $\frac{185}{5} = 37$

The production of z = 35 + 40 + 45 + 35 + 35 = 190

Average =
$$\frac{190}{5}$$
 = 38

128.

Therefore, the maximum average of the x and z is same, which is 38.

Hence *X* and *Z* is the correct answer.

129. Option (3) is correct.

The total marks obtained by the students in Geography

$$=\frac{(88+92+64+80+88+72)}{100}\times75=363$$

Now, average =
$$\frac{363}{6} = 60.5$$

Hence, 60.5 is the correct answer.

130. Option (3) is correct.

Total marks obtained by
$$x = \frac{70}{100} \times 300 + \frac{90}{100} \times 300$$

75

$$+\frac{35}{100} \times 200 + \frac{30}{100} \times 100 + \frac{75}{100} \times 100$$
$$= 210 + 270 + 190 + 80 + 100$$

$$\Rightarrow \text{Required percentage marks} = \frac{825 \times 100}{1000} = 82.5\%$$

Hence, 82.5% is the correct answer.

131. Option (3) is correct.

Given
$$\frac{\sqrt[3]{-2744} \times \sqrt[3]{-216}}{\sqrt[3]{\frac{64}{720}}} = \frac{14 \times 6 \times 9}{4}$$

 $\sqrt{729}$ = 21×9 = 189

Hence, 189 is the correct Answer.

132. Option (2) is correct.

$$x = \frac{2\sin\theta}{1+\cos\theta+\sin\theta},$$

Multiplying numerator and denominator by $1 - \cos \theta + \sin \theta$, we get

$$x = \frac{2\sin(1-\cos\theta+\sin\theta)}{(1+\sin\theta)^2-\cos^2\theta}$$
$$= \frac{2\sin\theta(1-\cos\theta+\sin\theta)}{(1+\sin\theta)^2-(1-\sin^2\theta)}$$

Student in Activity II is 50 + 150 + 150 + 50 + 50 + 50 + 50 = 550Students in IV is 250 + 125 + 350 + 275 + 250 + 150 + 150 = 1550550

Therefore percentage =
$$\frac{550}{1550} \times 100 = 35.48\%$$

Hence, 35.48% is the correct Answer.

139. Option (1) is correct. Total surface area of a hemisphere = $3\pi r^2$.

$$3 \times \sqrt{\frac{25}{\pi}} \times \sqrt{\frac{25}{\pi}} \times \pi$$
$$= 3 \times 25 = 75$$

Hence, 75 unit² is the correct answer.

140. Option (1) is correct.

We have volume of cylinder =
$$\pi r^2 h$$

Given $\frac{h}{r} = \frac{7}{5}$
so, $h = \frac{7r}{5}$

According to the question, $\pi \times r^2 \times \frac{7r}{5} = 14836.5$

$$\Rightarrow r^3 = \frac{14836.5 \times 5}{22} = 3371.93$$
$$\Rightarrow r \approx 15 \text{ cm}$$

So,
$$h = \frac{7}{5} \times 15 = 21 \text{ cm}$$

Now, total surface area of cylinder = $2\pi r (h + r)$ = $2 \times 3.14 \times 15 (15 + 21)$

 $= 2 \times 3.14 \times 15 \times 36 = 3391.2 \text{ cm}^2$

141. Option (2) is correct.

The production of A in 2020 = 40% of 65 and the production of E in 2019 = 15% of 40. Therefore 40% of 65 + 15% of 40 = 26 + 6 = 32 Hence, 3200000 is the correct Answer.

142. Option (3) is correct.

Tree axed in 2016 = 18 + 18 + 25 + 20 = 81Tree axed in 2020 = 22.5 + 21 + 20 + 17.5 = 81Trees axed in 2019 = 24.4 + 19.5 + 19 + 16 = 78.9Tree axed in 2017 = 25 + 23 + 18.5 + 18 = 84.5From the above data it is clearly shown that 78.9 is smallest among all. Hence 78.9 is the correct Answer.

143. Option (1) is correct.

Cost Price = 100

Then Marked price = 126

Then Selling price = $126 \times \frac{88}{100} = 110.88$

Now, profit% = 110.88 - 100 = 10.88%Hence, 10.88% is the correct answer.

144. Option (1) is correct.

Given
$$x^4 + \frac{1}{x^4} = 47$$

 $\left(x^2 + \frac{1}{x^2}\right)^2 = 47 + 2$
 $\Rightarrow x^2 + \frac{1}{x^2} = 7$ $(a + b)^2 = a^2 + b^2 + 2ab$
 $\Rightarrow \left(x + \frac{1}{x}\right)^2 = 9$
 $\Rightarrow x + \frac{1}{x} = 3$
 $x + \frac{1}{x} - 2 = 3 - 2 = 1$

Hence, 1 is the correct Answer.

145. Option (2) is correct. Given, $\left\{\left(\frac{\sec\theta-1}{\sec\theta+1}\right)\right\}^n = \csc\theta - \cot\theta.$ We have, $\sqrt{\left(\frac{\sec\theta-1}{\sec\theta+1}\right)} = \csc\theta - \cot\theta.$ Therefore, the value of *n* will be equal to $\frac{1}{2}$. Hence, $n = \frac{1}{2} = 0.5$ is the correct Answer. 146. Option (3) is correct. Given $\angle ACB = 40^{\circ}$. We know that $\angle ACB = \angle AED$ (Corresponding Angles) Now $\angle AED + \angle ADE + \angle DAE = 180^{\circ}$ (Angle Sum of property) $\Rightarrow \angle ADE + \angle DAE = 180^\circ - 40^\circ = 140^\circ.$ Hence, 140° is the correct Answer. 147. Option (3) is correct. We know that volume of cube = a^3 and we also know that surface area of Cube = $6a^2$ $\Rightarrow 6a^2 = 54 \Rightarrow a^2 = 9 \Rightarrow a = 3$ Volume of cube $= a^3 = 3^3 = 27$ Hence, 27 is the correct Answer. 148. Option (3) is correct. Given 16 sec² A – 16 tan² A $= 16(\sec^2 A - \tan^2 A) = 16(1) = 16$ Hence, 16 is the correct Answer. 149. Option (2) is correct. The cost of Mixture will be = $\frac{300 \times 3 + 375 \times 2}{3 + 2}$ $= \frac{300 \times 3 + 375 \times 2}{5} = \frac{900 + 750}{5}$ $=\frac{1650}{5}=330$ Hence, 330 is the correct answer. 150. Option (1) is correct. We have, $2\cos^2\theta - 1 = \cos^2\theta$ $\frac{1+\tan\theta}{1-\tan\theta}$ $\frac{1}{1-\tan\theta} + \frac{1}{1+\tan\theta}$ $= \left[\frac{1^2 + \tan^2 \theta + 2 \tan \theta + 1^2 + \tan^2 \theta - 2 \tan \theta}{1^2 - \tan^2 \theta}\right]$ So, now given expression = $(\cos 2\theta) \times \frac{2(1 + \tan^2 \theta)}{1 - \tan^2 \theta}$ $\left(\sin^2 0 + \cos^2 0\right)$

$$= 2 \times \cos 2\theta \times \left(\frac{\sin^2 \theta + \cos^2 \theta}{\cos^2 \theta - \sin^2 \theta}\right)$$
$$= 2 \times \cos 2\theta \times \left(\frac{1}{\cos 2\theta}\right)$$
$$= 2$$

Hence, 2 is the correct Answer.

151. Option (1) is correct.

This question tests a student's vocabulary. The incorrectly spelled word is "vocifirous." It should be "vociferous." Affliction means a cause of pain or harm. Example: "A crippling affliction of the nervous system." Innocuous means not harmful or offensive. Example: "It was an innocuous question." Episcopal means a bishop or bishops.

152. Option (3) is correct.

This question tests a student's vocabulary. The incorrectly spelled word is "stippulate." It should be "stipulate."

153. Option (1) is correct.

This question tests a student's vocabulary. Ruin means to reduce (a building or place) to a state of decay, collapse, or disintegration. Despoil is the synonym of ruin. Fix means to repair something. Revamp means give new and improved form, structure, or appearance to.

154. Option (3) is correct.

This question tests a student's vocabulary. Showing astute powers of judgement; clever and judicious is called shrewd. Shriek means to utter a high-pitched, piercing sound or words, especially as an expression of terror, pain, or excitement. Shrift means confession, especially to a priest. Shrike means a songbird with a strong, sharply hooked bill.

155. Option (2) is correct.

This question tests a student's vocabulary. Emulate means to match or surpass (a person or achievement), typically by imitation. Example: "Most rulers wished to emulate Alexander the Great." The antonym of emulate is neglect. Bash is to strike violently. Spoilt means to diminish or destroy the value or quality of something.

156. Option (2) is correct.

This question tests a student's vocabulary. One who does a thing for pleasure not as a profession is known as amateur. Example: "It takes five years for a top amateur to become a real Tour de France rider." Ascetic means characterised by severe self-discipline and abstention from all forms of indulgence, typically for religious reasons.

157. Option (1) is correct.

This question tests a student's vocabulary. Resume means to begin again or continue after a pause or interruption. Example: "A day later, normal service was resumed." Cease means come to an end. The antonym of resume is to cease. Usher means to show or guide (someone) somewhere, or mark the start of something new. Example: "A waiter ushered me to a table." Presume means to suppose that something is the case on the basis of probability. Example: I presumed that the man had been escorted from the building."

158. Option (3) is correct.

The given sentence is grammatically correct.

159. Option (1) is correct.

The incorrectly spelled word is "Abcission." It should be abscission. Abscission means the natural detachment of parts of a plant, typically dead leaves and ripe fruit. Abstruse means difficult to understand; obscure. Example: "An abstruse philosophical inquiry." An "incision" is a surgical cut made in skin or flesh. Example: "A block of marble delicately decorated with incisions." Abyssal means unfathomable sense.

160. Option (2) is correct.

This question tests a student's vocabulary. Dull means lacking brightness, vividness, or sheen. The antonym of dull is bright.

161. Option (1) is correct.

This question tests a student's understanding of phrases and idioms. Take a risk means to try to do something for which there is a high probability of a negative or unfortunate outcome.

162. Option (4) is correct.

This question tests a student's understanding of phrases and idioms. "Make up means to invent a story or plan. Potter about means to move around without hurrying, and in a relaxed and pleasant way. Example: "She enjoyed making up tall tales." Put down means record something in writing. Example: "He's putting a few thoughts down on paper." Pull together means to cooperate in a task or undertaking. Example: "Employees and managers began to pull together as a team."

163. Option (2) is correct.

This question tests a student's understanding of phrases and idioms. Cutting corners means economise on time, money, materials or effort, perhaps unwisely to do something in a cheap and easy way. Example: It is certainly not a sensible move to cut corners with national security.

164. Option (1) is correct.

This question tests a student's vocabulary. Virtuous means having or showing high moral standards. Example: "She considered herself very virtuous because she neither drank nor smoked." Inferior means lower, or of lower rank, or of little or less importance, value, or merit. Example: She is nice to her inferiors as well as to her superiors. Contemptuous means showing contempt; scornful. Example: "She was intolerant and contemptuous of the majority of the human race." Spurious means not being what it purports to be; false or fake. Example: "This spurious reasoning results in nonsense." The antonym of spurious is genuine.

165. Option (2) is correct.

This question tests a student's vocabulary. Hostile means showing or feeling opposition or dislike; unfriendly. Example: "He wrote a ferociously hostile attack." The antonym of hostile is favourable. Antagonistic means showing or feeling active opposition or hostility towards someone or something. Example: "He was antagonistic to the government's reforms." Handy means convenient to handle or use; useful. Example: "The brush is handy for vacuuming stubborn dust and dirt."

166. Option (4) is correct.

A place for the storage of arms and ammunition is known as an "arsenal." A granary is a storehouse for threshed grain. A wardrobe is a large, tall cupboard or recess in which clothes may be hung or stored.

167. Option (4) is correct.

This question tests a student's understanding of idioms and phrases. To call it a day means to decide or agree to stop doing something. Example: "After three marriages, many men would have been more than ready to call it a day."

168. Option (4) is correct.

This question tests a student's understanding of idioms and phrases. To have a close shave means a narrow escape from danger or disaster. Example: That was a close shave; I almost missed my flight.

169. Option (4) is correct.

This question tests a student's understanding of idioms and phrases. Blue blood means noble birth. Example: "Blue blood is no guarantee of any particular merit, competence, or expertise."

170. Option (3) is correct.

This question tests a student's understanding of idioms and phrases. To make matters worse is a common idiom that means to make an already bad, unpleasant, or difficult situation even more so. Example: To make matters worse, it started to rain.

171. Option (2) is correct.

The incorrectly spelled word is Pharoh. It should be Pharaoh. Pharaoh is the vernacular term often used for the monarchs of ancient Egypt, who ruled from the First Dynasty (c.3150 BC) until the annexation of Egypt by the Roman Empire in 30 BC. Strategy means a plan of action designed to achieve a long-term or overall aim. Fulfilment means the achievement of something desired, promised, or predicted. Ensure means to make something certain to happen.

172. Option (1) is correct.

The underlined part intends to refer to Antonio Stradivari and assert that he made wonderful violins.

173. Option (3) is correct.

When enjoy, admit, and mind are followed by another verb, it must be followed by the -ing form of the verb. Example: I enjoy dancing in the rain. Thus, the correct rephrasement of the given statement should be: I enjoy laughing at my little brother.

174. Option (1) is correct.

There is an error in Part 1. "Defined as" is a phrase that is used to introduce a definition of something. It means that the following words or phrases are going to provide an explanation of what the term or concept being defined means. For example, "a computer virus is defined as a type of malicious software that can replicate itself and spread from one computer to another." The correct sentence is: "Psychology has been defined as the scientific study of human psyche and behaviour."

175. Option (3) is correct.

The incorrectly spelled word is campaignes. It should be campaigning. Campaigns are an organised course of action to achieve a goal.

176. Option (4) is correct.

This question tests a student's vocabulary. Scanty means small or insufficient in quantity or amount. The synonym of scanty is abundant. Example: "They paid whatever they could out of their scanty wages to their families." Expedient means convenient and practical, although possibly improper or immoral. Example: Either side could break the agreement if it were expedient to do so." Paltry means (of an amount) very small or meagre; petty. Example: "She would earn a paltry £33 more a month." Nasty means very bad or unpleasant. Example: "Plastic bags burn with a nasty, acrid smell."

177. Option (2) is correct.

This question tests a student's vocabulary. Evoking a keen sense of sadness or regret is called "poignant." Pungent means having a sharply strong taste or smell. Example: "The pungent smell of frying onions." Unaffecting means feeling or showing no effects or changes. Example: "The walks are suitable only for people who are unaffected by vertigo."

178. Option (2) is correct.

This question tests a student's vocabulary. Asperity means harshness of tone or manner, conditions. Example: "The asperities of a harsh and divided society." Civility means formal politeness and courtesy in behaviour or speech. Example: "I hope we can treat each other with civility and respect." The antonym of asperity is civility. Virility means the quality of having strength, energy, and manliness. Acridity means the quality of being unpleasantly bitter or pungent. Curiosity means a strong desire to know or learn something.

179. Option (2) is correct.

This question tests a student's vocabulary. Spry means active or lively. Example: "He continued to look spry and active well into his eighties." Agile means being able to move quickly and easily. Example: "Ruth was as agile as a monkey." Lethargic means affected by lethargy, sluggish, and apathetic. Example: "I felt tired and a little lethargic." Lethargic is the antonym of spry. A sleuth is a person who investigates crimes; he is a detective. A workaholic is a person who compulsively works excessively hard and long hours.

180. Option (1) is correct.

This question tests a student's vocabulary. Deplete means use up the supply or resources of; diminish. Example: "Reservoirs have been depleted by years of drought." The antonym of deplete is restore.

181. Option (3) is correct.

This question tests a student's understanding of idioms and phrases. Heart and soul mean the most important, basic, or fundamental essence or elements of an issue, problem, or matter at hand; the utmost of one's energy, enthusiasm, and determination.

182. Option (1) is correct.

The word "than" is used to draw comparison. The given sentence does not draw comparison, so the word "than" should be replaced by "but."

183. Option (2) is correct.

This question tests a student's vocabulary. Profitable, yielding financial gain, means lucrative. Ludicrous means so foolish, unreasonable, or out of place as to be amusing. A "luddite" is a person opposed to new technology or ways of working. a small sailing ship with two or three masts and a lugsail on each.

184. Option (3) is correct.

This question tests a student's understanding of idioms and phrases. The blank should be filled in with the word "cock". Cock and bull story" means an unbelievable story.

185. Option (1) is correct.

This question tests a student's vocabulary. Colossal means huge, gigantic. Lilliputian, minute, and miniscule all mean small.

186. Option (3) is correct.

This question tests a student's vocabulary. Apple-pie order means very neat and organised.

187. Option (3) is correct.

The sentence talks about a habitual action. Thus, it should be in the simple tense. The correct sentence should be: When the weather is hot, I like to eat ice cream.

188. Option (4) is correct.

This question tests a student's vocabulary. One who takes a dark view of things is called a pessimist. A "pedant" is a person who is excessively concerned with minor details and rules or with displaying academic learning. Example: "The royal palace (some pedants would say the ex-royal palace)." Periscope means an apparatus consisting of a tube attached to a set of mirrors or prisms by which an observer (typically in a submerged submarine or behind a high obstacle) can see things that are otherwise out of sight. Polyglot means a person who knows and is able to use several languages. Example: "Slovenians, being surrounded by many countries, are mostly polyglots."

189. Option (3) is correct.

This question tests a student's vocabulary. Concise means giving a lot of information clearly and in a few words; it is brief but comprehensive. Example: "A concise account of the country's history." The antonym of concise is lengthy.

190. Option (3) is correct.

The sentence is in past tense; thus, the later part of the sentence should be in the past tense. So, the verb "lead" should be changed to the past verb "led."

191. Option (4) is correct.

The sentence talks about reservation and equality; thus, the blank must be filled with reservation policy.

192. Option (4) is correct.

The sentence mentions an action that seeks to bring equality. The blank requires an adjective that qualifies the action. The most suitable word out of the given options is "corrective," because the action aims to bring about reform.

193. Option (2) is correct.

The paragraph mentions bringing amendments for equality. The sentence talks about Article 15 of the Constitution; the article must be related to the key idea of bringing equality. Thus, 'prohibits discrimination' makes sense in the given context.

194. Option (3) is correct.

The sentence speaks about a socially and economically backward class. And the paragraph mentions bringing amendments for equality. So, the sentence will talk about growth and support for the socially and economically backward class. In the given context, the best word to fill in the blank is "advancement."

195. Option (2) is correct.

The paragraph mentions bringing amendments for equality. The sentence states that further, up to 10% of

196. Option (4) is correct.

The sentence talks about the definition of wetlands and goes on to describe them in detail. The blank is a word that says that the wetland has lakes, rivers, etc. in it. In the given context, the best word to fill in the blank is "includes".

197. Option (3) is correct.

The sentence talks about the definition of wetlands and goes on to describe them in detail. The line is a continuation of the list of what the wet land is made up of. "Fishponds" and "reservoirs" are examples of manmade artificial sites; the word to state an example is "such as."

198. Option (3) is correct.

The sentence describes the wetland as the unsung hero of the climate crisis. After the blank, the sentence mentions that the wetland holds more carbon than forests. Thus, the correct word to fill in the blank is "store."

199. Option (2) is correct.

The blank requires a word that shows comparison. The apt word in this context is "as much as".

200. Option (1) is correct.

The sentence mentions that wetlands are the most threatened ecosystem. The sentence compares the disappearance of wetlands and forests. The suitable word in the given context is "faster than."

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