

**STAFF SELECTION COMMISSION
SUB-INSPECTOR IN DELHI POLICE AND
CENTRAL ARMED POLICE FORCES EXAMINATION (PAPER-I)**



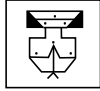
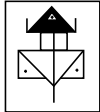

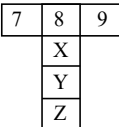
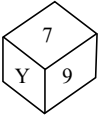
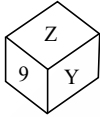
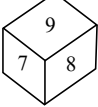
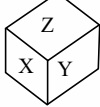
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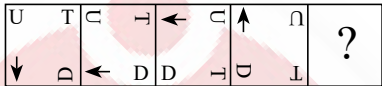
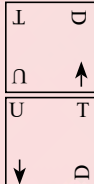
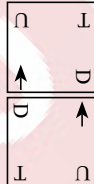


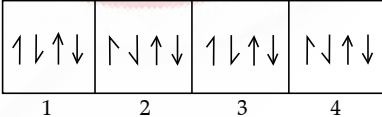




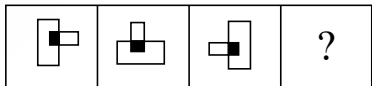
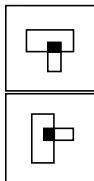
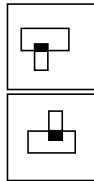


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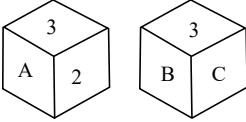
Time Allotted- 2 hours

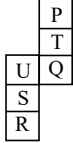
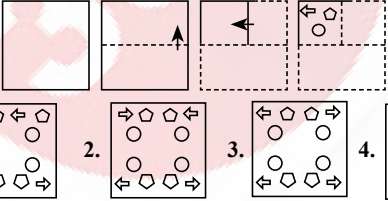
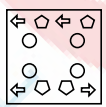
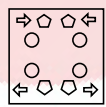
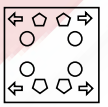
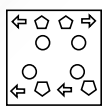

Max marks- 200

General Intelligence & Reasoning

- Select the option figure in which the given figure is embedded as its part (rotation is NOT allowed).
 
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- If the given series sheet is folded to form a cube, which of the following figures is possible?
 
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 - 
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- Which letter-cluster will replace the question mark (?) to complete the given series?
AXFN, GCJQ, MHNT, ?, YRVZ
 - SWMR
 - QRLV
 - RLQV
 - SMRW
- 'F \$ G' means 'F is the mother of G'.
'F # G' means 'F is the father of G'.
'F @ G' means 'F is the husband of G'.
'F % G' means 'F is the daughter of G'.
If J @ C \$ B # R, then how is J related to R?
 - Mother's brother
 - Father
 - Father's sister
 - Father's father
- In a certain code language, 'SUGAR' is coded as 81 and 'FILL' is coded as 51. How will 'CREAM' be coded in that language?
 - 52
 - 60
 - 57
 - 55
- 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.)
(7, 2, 70)
(6, 4, 120)
 - (3, 8, 120)
 - (13, 4, 208)
 - (5, 9, 270)
 - (11, 6, 143)

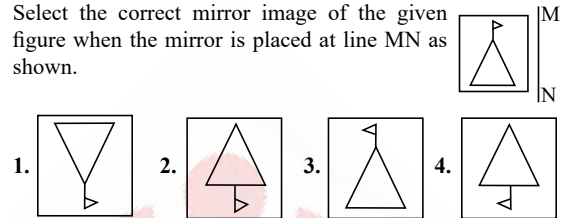
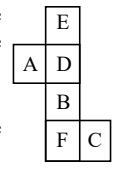
- Select the option that is related to the third term in the same way as the second term is related to the first term and the sixth term is related to the fifth term.
16 : 106 :: 11 : ? :: 10 : 22
 - 36
 - 42
 - 40
 - 31
- Which figure from the given options would replace the question mark (?) if the following figure series were to be continued?
 
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 - 
 - 
 - 
- Which letter-cluster will replace the question mark (?) to complete the given series?
PJVG, VBZB, BTDW, HLHR, ?
 - NDLN
 - MDLN
 - MDLM
 - NDLM
- Which of the given figures when placed in the 5th position would continue the series that is established by the first four figures?
 
 - 
 - 
 - 
 - 
- Select the figure that will come next in the following figure series.
 
 - 
 - 
 - 
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- Select the correct option that indicates the arrangement of the given words in the order in which they appear in an English dictionary.
 - Doctor
 - Doctorate
 - Docile
 - Documentary
 - Dock
 - Doctrine

1. 3, 5, 1, 2, 6, 4 2. 3, 5, 1, 6, 2, 4
 3. 3, 5, 2, 1, 6, 4 4. 3, 4, 5, 1, 2, 6
13. Six characters A, B, C, 1, 2 and 3 are written on different faces of a dice. Two positions of this dice are shown in the figure. Find the character on the face opposite to A.
- 
1. C 2. 2 3. B 4. 1
14. Which of the following numbers will replace the question mark (?) in the given series?
- $\frac{1}{121}, \frac{1}{11}, 1, ?, 121$
1. 11 2. 12 3. 21 4. 1
15. 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 movies are dramas.
 Some dramas are fiction.
- Conclusions:**
 I. Some movies are fiction.
 II. All fiction are movies.
1. Only conclusion I follows
 2. Only conclusion II follows
 3. Neither conclusion I nor II follows
 4. Both conclusions I and II follow
16. If A denotes '+', B denotes '×', C denotes '-', and D denotes '÷', then what will be the value of the following equation?
 22 B 7 C 288 D 12 A 27 = ?
1. 160 2. 103 3. 130 4. 157
17. Select the option that is related to the fourth term in the same way as the first term is related to the second term and the fifth term is related to the sixth term.
 12 : 64 :: ? : 116 :: 32 : 144
1. 25 2. 46 3. 35 4. 14
18. If A denotes '+', B denotes '×', C denotes '-', and D denotes '÷', then what will be the value of the following equation?
 21 B 14 C 154 D 14 A 42 = ?
1. 357 2. 325 3. 342 4. 352
19. If A denotes '+', B denotes '×', C denotes '-', and D denotes '÷', then what will come in place of '?' in the following equation?
 56 D 8 B 7 = ? B 7
1. 9 2. 7 3. 8 4. 12
20. Aunt Gloria walked out of her house and walked 65 m towards the east. She took a left turn and walked 28 m. Again, she took a left turn and walked 110 m to reach a public library. How far (shortest distance) and in which direction is the library from Aunt Gloria's house?
1. 48 m, North-East 2. 48 m, North-West
 3. 53 m, North-East 4. 53 m, North-West
21. 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)
 (9, 1, 19)
 (5, 2, 14)
1. (3,5,56) 2. (3,2,10) 3. (2,5,12) 4. (4,7,37)

22. A cube is made by folding the given sheet. In the cube so formed, which pair of letters will be on the opposite faces?
- 
1. T and S 2. R and P
 3. P and U 4. U and T
23. A @ B means 'A is the husband of B'
 A & B means 'A is the mother of B'
 A # B means 'A is the daughter of B'
 If Z # L @ P & K @ J # X, then how is K related to Z?
1. Brother 2. Sister
 3. Mother 4. Brother's wife
24. In a certain code language, 'ALIVE' is coded as 64 and 'HALL' is coded as 45. How will 'MOVIE' be coded in that language?
1. 71 2. 80 3. 79 4. 58
25. Six students Prateek, Sameer, Kabir, Ziya, Joseph, Kiran are sitting around a circular table facing the centre (not necessarily in the same order). Prateek is an immediate neighbour of both Sameer and Kabir. Ziya is sitting second to the right of Sameer. Kiran is sitting third to the left of Kabir. Joseph is an immediate neighbour of both Ziya and Kabir. Who is an immediate neighbour of Ziya?
1. Prateek 2. Kabir 3. Sameer 4. Kiran
26. If A denotes '+', B denotes '×', C denotes '-', and D denotes '÷', then what will be the value of the following equation?
 88 A 94 C 35 D 8 B 8 = ?
1. 148 2. 189 3. 169 4. 135
27. The sequence of folding a piece of paper and the manner in which the folded paper is cut is shown in the following figures. How would this paper look when unfolded?
- 
1.  2.  3.  4. 
28. Select the option that represents the letters which, when sequentially placed from left to right in the blanks below, will complete the letter series.
 F _ _ Y _ _ K B _ O F _ B Y _
1. O F K B O Y K 2. B Y O K F O K
 3. K B O F Y K O 4. Y O K B F O K
29. Select the option that is related to the fifth letter-cluster in the same way as the second letter-cluster is related to the first letter-cluster and the fourth letter-cluster is related to the third letter-cluster.
 INDIA : FKAFX :: ESTONIA : BPQLKFX :: MALAYSIA : ?
1. JPFXXIXV 2. JXVPFXXI
 3. JXIXFXVP 4. JXIXVPFX
30. In a certain code language, 'PAINT' is written as 'ODYTN' and 'BRUSH' is written as 'CMMOZ'. How will 'HOUSE' be written in that language?
1. WDNOS 2. WPMOC 3. PHYWS 4. PBOMS
31. Select the option that represents the correct order of the given words as they would appear in an English dictionary?
1. Wrist 2. Wrangle 3. Workable
 4. Wrongful 5. Woodland
1. 3, 5, 2, 1, 4 2. 3, 2, 5, 1, 4 3. 5, 2, 3, 1, 4 4. 5, 3, 2, 1, 4
32. Select the correct mirror image of the given figure when the mirror is placed at MN as shown below.
- 

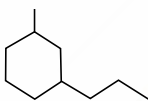
1. 8 & K J T R K & 8 2. 8 @ K J T R K & 8
 3. 8 @ T Y T R K & 8 4. 8 & L L Y E E 8
33. Two statements are given, followed by two conclusions numbered I and II. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements.
Statements:
 Some apples are oranges.
 All oranges are fruits.
Conclusions:
 I. All apples are fruits.
 II. Some fruits are oranges.
 1. Neither Conclusion I nor II follows.
 2. Only Conclusion II follows.
 3. Both Conclusions I and II follow.
 4. Only Conclusion I follows
34. Manohar cycles X km towards west and then turns right and cycles Y km to reach his office. Now, the shortest distance between the starting point and his office is 13 km. What can be the value of X and Y, respectively, (in km)?
 1. 12 and 5 2. 8 and 5 3. 11 and 6 4. 6 and 7
35. In a certain code language, 'EARS' is coded as '4268' and 'NICE' is coded as '9723'. What is the code for 'E' in the given code language?
 1. 3 2. 2 3. 9 4. 4
36. Six people are sitting around a circular table facing the centre. P sits second to the left of Q. S is an immediate neighbour of both Q and U. T sits second to the left of R. Who is the immediate neighbour of both P and U?
 1. T 2. S 3. Q 4. R
37. 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. SWYX 2. PTVU 3. RVXW 4. LOQP
38. Four letter-clusters have been given, out of which three are alike in some manner and one is different. Select the odd letter-cluster.
 1. GCKD 2. UQYR 3. XOTP 4. NJRK
39. 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 rivers are oceans.
 All oceans are beaches.
Conclusions:
 I. Some rivers are beaches.
 II. All oceans are rivers.
 1. Only conclusion II follows
 2. Both conclusions I and II follow
 3. Neither conclusion I nor II follows
 4. Only conclusion I follows
40. If '+' means '×', '-' means '÷', '×' means '+', and '÷' means '-', then what will be the value of the following expression?
 $42 \times 168 - 8 \div 4 + 3 = ?$
 1. 62 2. 45 3. 56 4. 51
41. Select the option that is related to the third word in the same way as the second word is related to the first word.
 (The words must be considered as meaningful words and must not be related to each other based on the number of letters/ number of consonants/vowels in the word.)

Artist : Painting :: Cobbler : ?

1. Stitching clothes 2. Fixing shoes
 3. Wooden repair work 4. Fixes electricity
42. Which two mathematical signs should be interchanged to make the given equation correct?
 $15 \times 3 \div 15 - (45 \times 3) - 10 + (13 \div 2) = 76$
 1. ÷ and × 2. × and + 3. × and - 4. ÷ and +
43. If '+' means '-', '-' means '×', '×' means '÷', '÷' means '+', then what will come in place of the question mark (?) in the following equation?
 $23 - 5 \div 240 \times 8 + 14 = ?$
 1. 145 2. 119 3. 131 4. 124
44. Select the correct mirror image of the given figure when the mirror is placed at line MN as shown.
- 
45. 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:
 All teas are juices.
 All juices are cocktails.
Conclusions:
 I. All teas are cocktails.
 II. All cocktails are definitely juices.
 1. Both conclusions I and II follow
 2. Only conclusion II follows
 3. Only conclusion I follows
 4. Neither conclusion I nor II follows
46. In a certain code language, 'ACTOR' is coded as ROYCA and 'NURSE' is coded as ESWUN. How will 'JUDGE' be coded in the same language?
 1. EGJUI 2. GEIUIJ 3. EGUIJ 4. EGIUIJ
47. Which of the following numbers will replace the question mark (?) in the given series?
 76, 99, 135, 185, 250, ?
 1. 330 2. 331 3. 328 4. 315
48. A cube is made by folding the given sheet. In the cube so formed, which letter will be on the face opposite to the face having 'F'?
- 
1. D 2. E 3. B 4. A
49. Which of the following numbers will replace the question mark (?) in the given series?
 4, 11, 19, 31, 52, 89, ?
 1. 151 2. 105 3. 150 4. 115
50. Which of the following numbers will replace the question mark (?) in the given series?
 134, 129, 122, ?, 102, 89
 1. 117 2. 113 3. 111 4. 115

General Knowledge and General Awareness

51. Which of the following Articles of the Indian Constitution empowers the Parliament to restrict or abrogate the fundamental rights of the members of the armed forces, paramilitary forces, police forces, intelligence agencies and analogous forces?

1. Article 35 2. Article 31
3. Article 33 4. Article 37
52. Mohenjodaro site of Harappan civilisation is situated on the bank of which river?
1. Jhelum river 2. Indus river
3. Gharghara river 4. Beas river
53. The Wadali Brothers are _____ singers.
1. Pandavani 2. Lavani 3. Sufi 4. Bhatiali
54. Rongker festival is celebrated by which of the following tribes?
1. Karbi 2. Gond 3. Bhil 4. Ao
55. Who among the following Mauryan kings turned to Buddhism and its tenet of nonviolence after the Kalinga war?
1. Chandragupta Maurya 2. Bindusara
3. Ashoka 4. Dasharatha
56. What is the name of the large supercontinent that existed 200 million years ago when all the continents were together?
1. Asia 2. India 3. Pangea 4. America
57. Who explained the structure of protein?
1. RF Rose 2. Emil Fischer
3. Johnson and Cristae 4. Pauling and Corey
58. According to Census of India 2011, identify the third largest spoken language in India.
1. Tamil 2. Marathi 3. Bengali 4. Hindi
59. Which of the following taxes is proportional in nature?
1. Capital Gains Tax 2. Income Tax
3. Corporation Tax 4. Goods and Services Tax
60. Gopika Varma has won the Sangeet Natak Akademi Award in 2019 in which of the following dance forms?
1. Kathak 2. Bharatanatyam
3. Mohiniyattam 4. Kuchipudi
61. What is the IUPAC name of the organic compound depicted in the figure?
1. 1-Methyl-1-Propylcyclohexane
2. 1-Methyl-2-Propylcyclohexane
3. 1-Methyl-4-Propylcyclohexane
4. 1-Methyl-3-Propylcyclohexane
- 
62. Identify whether the given statements about ionisation energy are correct or incorrect.
Statement A: The ionisation energy of an atom is the amount of energy that is required to remove an electron from a mole of atoms in the gas phase.
Statement B: The ionisation energy increases from top to bottom in groups and decreases from left to right across a period.
1. Both Statements A and B are correct
2. Only Statement A is correct
3. Both Statements A and B are incorrect
4. Only Statement B is correct
63. Which of the following sports does NOT have its apex national governing body headquartered in New Delhi?
1. Athletes Federation of India
2. Badminton Association of India
3. Volleyball Federation of India
4. Hockey India
64. Which of the following is an autobiography of a Bengali illiterate woman who secretly acquired literacy skills to read sacred texts in an age when girls and women were denied education and deemed fit only for household chores?
1. Ente Katha by Kamala Das
2. Amar Jiban by Rassundari Devi
3. Jina Amucha by Baby Kamble
4. Smritichitre by Lakshmi Bai Tilak
65. The Lucknow Pact was signed in _____ by Congress and the Muslim League to work in alliance for representative government.
1. 1920 2. 1914 3. 1916 4. 1918
66. What is most important health benefits of Vitamin D?
1. Strengthening of bones and muscles
2. Reducing the blood pressure
3. Rapid growth after teenage years
4. Elevation of heartbeat
67. What is the name of the geostationary satellite launched by ISRO in 1983 that provides high power TV broadcasting and telecommunications national coverage transponders?
1. Bhaskara-I 2. Insat-1B 3. GSAT-7 4. RISAT-1
68. Which Article of the Indian Constitution provides for equal opportunity for all citizens in the matter of employment under the state?
1. Article 17 2. Article 16
3. Article 18 4. Article 15
69. Which Rajput princess belonged to the Bhakti tradition of Medieval India, whose songs were devoted to Lord Krishna?
1. Mirabai 2. Muddupalani
3. Lal Ded 4. Akka Mahadevi
70. When was the National Interim Government of India formed, under Jawaharlal Nehru?
1. 2 September 1946 2. 2 September 1947
3. 20 September 1946 4. 2 September 1945
71. Which among the following is INCORRECT about the salient features of the 73rd Amendment Act?
1. The Act gives a Constitutional status to the Panchayati Raj Institutions.
2. It contains 29 functional items of the Panchayats and deals with Article 243 to 243(O).
3. The Act has added the Eleventh Schedule to the Constitution of India.
4. The Act corresponds to Part III of the Constitution of India.
72. Which element of the boron family has a high boiling point, making it ideal for recording temperatures that would vaporise a thermometer?
1. Thallium 2. Aluminium 3. Gallium 4. Indium
73. How many medal(s) did India win in the World Athletics Championship 2022?
1. 4 2. 2 3. 3 4. 1
74. Who became the first Indian to win the prestigious Zurich Diamond League Final 2022 in Switzerland?
1. Rameshbabu Pragganandhaa
2. Mary Kom
3. Neeraj Chopra
4. PV Sindhu
75. Which of the following government departments is associated with infrastructure development in India?
1. Division of Economic Agenda
2. Division of Electricity Agenda
3. Department of Energy Affairs
4. Department of Economic Affairs
76. Identify an anomaly element that belongs to both group 1 and group 17.
1. Oxygen 2. Hydrogen 3. Chlorine 4. Nitrogen
77. The Vijayanagar kingdom was established by _____ in 1336.
1. Venkata II 2. Devaraya II
3. Krishnadevaraya 4. Harihara and Bukka
78. Which of the following is the new alluvium deposited by floods in the Ganga Plain?
1. Regur 2. Khadar 3. Kachhar 4. Bhangar

79. Which of the following Articles of the Constitution of India provides that the Governor appoints the Chief Minister and later, the Chief Minister recommends the appointment of ministers to the Governor?
1. Article 167
 2. Article 165
 3. Article 164
 4. Article 163
80. What was the rural literacy rate in India, according to the 2011 Census?
1. 67.00%
 2. 66.77%
 3. 67.77%
 4. 69.00%
81. FIFA Women's World Cup 2023 will be hosted by _____.
1. Australia and New Zealand
 2. USA and Canada
 3. France and Germany
 4. Brazil and Argentina
82. The President of India decides on the question as to the disqualification of Members of Parliament in consultation with the _____.
1. Supreme Court of India
 2. Parliament
 3. Vice President
 4. Election Commission of India
83. Mohiniyattam, a classical dance of India belongs to which of the following states?
1. Uttar Pradesh
 2. Kerala
 3. Andhra Pradesh
 4. Manipur
84. Which of the following is NOT an example of manufacturing activity?
1. Yarn made from cotton
 2. Sugar made from sugarcane
 3. Paper made from wood
 4. Mutual fund product made by combing debt and equity funds
85. Which of the following is INCORRECT match?
1. Pressure – Pascal
 2. Volume – Meter
 3. Force – Newton
 4. Work done – Joule
86. Which part of the Indian Constitution deals with directive principles of state policy?
1. Part VII
 2. Part VI
 3. Part V
 4. Part IV
87. Mango showers are:
1. cyclones
 2. jet streams
 3. storms
 4. pre-monsoon showers
88. What type of climate is found in North Western Europe, West Coast of North America, North of California, Southern Chile, South-eastern Australia and New Zealand?
1. Marine west coast climate
 2. Cold snow forest climate
 3. Subtropical steppe climate
 4. Tropical wet and dry climate
89. Which of the following places of India can have maximum temperature difference between the day and night?
1. Thiruvananthapuram
 2. Jaisalmer
 3. Port Blair
 4. Kanyakumari
90. Sattriya belongs to which of the following states?
1. Jharkhand
 2. Chhattisgarh
 3. Karnataka
 4. Assam
91. Haripriya Nambodiri is an exponent of which Indian classical dance form?
1. Kathakali
 2. Kuchipudi
 3. Odissi
 4. Bharatanatyam
92. During one of the Five-Year Plans which of the following politicians gave the slogan 'Garibi Hatao'?
1. Charan Singh
 2. Gaiji Zail Singh
 3. Morarji Desai
 4. Indira Gandhi
93. During which phase of the cell cycle does metabolic changes assemble the cytoplasmic material required for mitosis and cytokinesis?
1. G2 phase
 2. G1 phase
 3. S phase
 4. M phase
94. Expenditure of the government on health facilities, education and fixed-asset acquisition is termed as _____.
1. revenue expenditure
 2. plan expenditure
 3. non-plan revenue expenditure
 4. capital expenditure
95. Which of the following is the autobiography of the first Indian President Dr. Rajendra Prasad?
1. Atmavrittanta
 2. Atmakatha
 3. A Shot at History
 4. My Country My Life
96. Which of the following policy measures is a step towards liberalisation?
1. Enhancing tariffs
 2. Eliminating licenses for importing a majority of goods
 3. Imposing limits on capital accumulation
 4. Increasing requirements for bank reserves and restrictions on interest rates
97. Which of the following cultural festivals of South India is associated with the folklore of King Mahabali?
1. Gudi Padwa
 2. Ugadi
 3. Pongal
 4. Onam
98. Europeans entered India with a mindset of trading only. This streak was initiated by which of the following European nations?
1. French
 2. Portuguese
 3. British
 4. Dutch
99. How big are red blood cells in diameter?
1. 7.5 μm
 2. 2.0 μm
 3. 4.0 μm
 4. 40.0 μm
100. In which year Timur's invasion of Delhi took place?
1. 1492
 2. 1221
 3. 1526
 4. 1398

Quantitative Aptitude

101. Find the value of $\frac{1 - \tan A}{1 + \tan A}$.
1. $\sqrt{\frac{1 + \sin 2A}{\cos 2A}}$
 2. $\sqrt{\frac{1 - \sin 2A}{\cos 2A}}$
 3. $\sqrt{\frac{1 + \sin A}{\cos A}}$
 4. $\sqrt{\frac{1 - \sin A}{\cos A}}$
102. If the diameter of a sphere is reduced to its half, then the volume would be:
1. increased by $\frac{1}{4}$ of the former volume
 2. reduced by $\frac{1}{4}$ of the former volume
 3. increased by $\frac{1}{8}$ of the former volume
 4. reduced by $\frac{1}{8}$ of the former volume
103. The HCF of 3888 and 3969 is:
1. 81
 2. 73
 3. 83
 4. 71
104. Which is the smallest natural number that is exactly divisible by each of 96, 108 and 144?
1. 864
 2. 2592
 3. 1296
 4. 1728
105. Find the HCF of 240, 280 and 560.
1. 30
 2. 10
 3. 20
 4. 40
106. The following table shows the number of mobile phones sold by four different stores in four different years.

Stores	2012	2013	2014	2015
P	178	183	205	225
Q	133	198	220	235
R	284	250	220	198
S	225	243	199	205

Find the difference between the number of mobile phones sold by store Q in 2013 and store S in 2015.

1. 12 2. 7 3. 10 4. 8

107. The table below shows the production of jute fabric (in lakh metre) by two Companies P and Q during 2001 to 2005.

Year	Company P	Company Q
2001	100	96
2002	120	130
2003	108	100
2004	190	180
2005	240	275

In which year/years, did Company Q produce more fabric than Company P?

1. 2002 2. 2005 3. 2003, 2005 4. 2002, 2005

108. A car, during its entire journey of 5 hours, travels the first 45 minutes at a certain speed, the next 75 minutes at a speed of 85 km/h, and the last 3 hours at a speed of 70 km/h. During its entire journey, the average speed of the car is found to be 73 km/h. What is the speed (in km/h) of the car during the first 45 minutes?

1. 65 2. 68 3. 62 4. 72

109. Peter invested a certain sum of money in a scheme paying 10% simple interest per annum, while Rachel invested half of the sum that Peter invested in a scheme paying 10% interest per annum compounded annually. Also, while Peter invested for 2 years, Rachel invested for 3 years. If the difference in the interest earned by Peter and Rachel was ₹897, what was the sum that Rachel had invested?

1. ₹13,000 2. ₹12,900 3. ₹13,100 4. ₹12,960

110. The price of almonds is increased by 10%. By what percentage should the consumption be decreased so that the expenditure remains the same?

1. $9\frac{1}{11}\%$ 2. $5\frac{3}{11}\%$ 3. $8\frac{1}{11}\%$ 4. $10\frac{3}{11}\%$

111. A vendor marked the selling price of a table at ₹5,670 after adding 35% profit to its cost price. Since the sale was very low at this price level, he decided to sell the table with 12% profit. Find the new selling price (in ₹).

1. 4,810 2. 4,750 3. 4,704 4. 4,608

112. The time taken to travel the same distance by three cars is in the ratio of 12:15:10. What is the ratio of the speeds of the three cars?

1. 4 : 5 : 6 2. 4 : 6 : 5 3. 5 : 4 : 6 4. 5 : 6 : 4

113. Find the area of a triangle whose length of two sides are 4 cm and 5 cm and the angle between them is 45°.

1. $4\sqrt{2}$ cm² 2. $7\sqrt{2}$ cm² 3. $5\sqrt{2}$ cm² 4. $6\sqrt{2}$ cm²

114. If a shopkeeper allows a discount of 10% to his customers and still gains 30%, then the marked price of an article which costs ₹450 is:

1. ₹700 2. ₹650 3. ₹500 4. ₹750

115. The fourth proportional to 0.3, 0.8 and 0.108 is:

1. 0.144 2. 0.124 3. 0.288 4. 0.482

116. Simplify the given expression.

$$\frac{(3.254 \times 3.254 \times 3.254) - (0.746 \times 0.746 \times 0.746)}{(3.254 \times 3.254) + (0.746 \times 0.746) + (3.254 \times 0.747)}$$

1. 3.156 2. 4.508 3. 2.146 4. 2.508

117. The price of a land passing through three hands rises on the whole by 65%. The first and second sellers earned 20% and 25% profit, respectively. Find the profit percentage earned by the third seller.

1. 10% 2. 20% 3. 25% 4. 15%

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

The table shows the number of people who responded to a survey about their favourite style of music.

Age	18-20	21-30	31+
Classical	8	5	15
Pop	5	11	10
Hip-Hop	6	9	8
Rock	9	7	13
Total	28	32	46

What percentage of the total sample indicated that Rock is their favourite style of music (rounded off to 2 decimal places)?

1. 27.36% 2. 18.25% 3. 29.65% 4. 22.35%

119. The following table shows the percentage population of four towns below poverty line and the proportion of males and females:

Town	Percentage of population below poverty line	Below poverty line	Above poverty line
		Male : Female	Male : Female
A	10	1 : 3	3 : 2
B	15	3 : 4	1 : 2
C	20	2 : 3	5 : 3
D	25	4 : 5	5 : 4

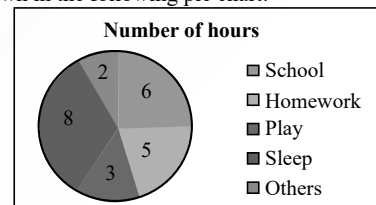
If the total population of town C is 8000 then what is the number of females above the poverty line in state C?

1. 2000 2. 2200 3. 2400 4. 2600

120. The value of $\frac{(157 \times 157) + (157 \times 133) + (133 \times 133)}{(157 \times 157 \times 157) - (133 \times 133 \times 133)}$ is:

1. $\frac{1}{24}$ 2. 24 3. 290 4. $\frac{1}{290}$

121. The number of hours spent by a student on different activities as shown in the following pie chart:



The central angle corresponding to the sleeping time is what percentage of the whole central angle?

1. 66.66% 2. 33.33% 3. 55% 4. 50%

122. The area of a rectangular field is 480 m². If the length is 20% more than the breadth, then the length of the rectangular field is:

1. 30 m 2. 20 m 3. 24 m 4. 27 m

123. In a circle centred at O, PQ is a tangent at P. Furthermore, AB is the chord of the circle and is extended to Q. If PQ = 12 cm and QB = 8 cm, then the length of AB is equal to:

1. 20 cm 2. 4 cm 3. 10 cm 4. 8 cm

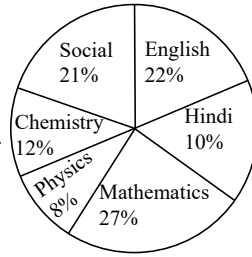
124. The upstream speed of a boat is 8 km/h and the downstream is 15 km/h. What is the speed of the boat in still water and the speed of the stream (in km/h), respectively?

1. 11 and 3 2. 3 and 11 3. 11.5 and 3.5 4. 3.5 and 11.5

125. A number is first decreased by 28% and then increased by 28%. The number so obtained is 784 less than the original number. Find the value of the original number.

1. 1000 2. 15000 3. 10000 4. 1500

126. The following pie chart shows the number of students who failed in different subjects in an examination. Examine the chart and answer the following question. The total number of students who have failed is 350. The number of students failed in mathematics is less than the number of students failed in all other subjects by:



1. 190 2. 256 3. 95 4. 161

127. Simplify the following.

$$19 \div 5 \text{ of } (27 - 15 - 21) + 37$$

1. $\frac{6125}{165}$ 2. $\frac{19}{165}$ 3. $\frac{6142}{165}$ 4. $\frac{37}{165}$

128. The price of a stock increased by 30% in the first year and decreased by 20% in the second year. If an investor bought 100 shares of the stock for ₹1,000, then what is the final value of the investment after 2 years?

1. ₹960 2. ₹1,040 3. ₹1,400 4. ₹1,020

129. The LCM of two numbers is 660 and their HCF is 5. If one of the numbers is 55, find the other.

1. 275 2. 12 3. 110 4. 60

130. Some medicine in liquid form is prepared in a hemispherical container of diameter 36 cm. When the container is full of medicine, the medicine is transferred to small cylindrical bottles of diameter 6 cm and height 6 cm. How many bottles are required to empty the container?

1. 76 2. 72 3. 70 4. 75

131. Tom can do a piece of work in 7 days, whereas Jay can do the same work in 14 days. How long will they take to finish the work if both work together?

1. $5\frac{2}{3}$ days 2. $4\frac{2}{3}$ days 3. $7\frac{2}{3}$ days 4. $2\frac{2}{3}$ days

132. Two trains of lengths 200 m and 250 m are running on parallel rail tracks at speeds of 68 km/h and 50 km/h, respectively. In how much time (in seconds) will they cross each other if they are running in the same direction?

1. 90 2. 85 3. 80 4. 75

133. Travelling a distance of 1000 km, a train slowed down due to repairs of the tracks. Its average speed for the trip reduced by 75 km/h and the time of travel increased by 3 hours. The original duration of the travel is:

1. 6 hours 2. 5 hours 3. 5.5 hours 4. 6.5 hours

134. $7 \sin^2 A + 3 \cos^2 A = 4$, then find $\cot A$:

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

135. If $\sec A - \tan A = p$, then find the value of $\sec A$.

1. $\frac{p^2 - 1}{p^2 + 1}$ 2. $\frac{p^2 + 1}{p^2 - 1}$ 3. $\frac{p^2 + 1}{p}$ 4. $\frac{p^2 + 1}{2p}$

136. $2(\sin 1^\circ \times \sec 89^\circ) + 3(\cos 11^\circ \times \operatorname{cosec} 79^\circ) + 5(\tan 21^\circ \times \tan 69^\circ) = ?$

1. 11 2. 12 3. 20 4. 10

137. A person has three iron bars whose lengths are 20, 30 and 40 metres, respectively. He wants to cut pieces of the same length from each of the three bars. What is the least number of total pieces if he cuts without any wastage?

1. 8 2. 10 3. 9 4. 11

138. In a ΔPQR , $\angle P : \angle Q : \angle R = 3 : 4 : 8$. The shortest side and the longest side of the triangle, respectively, are:

1. PQ and PR 2. QR and PR 3. PQ and QR 4. QR and PQ

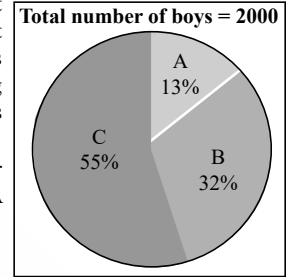
139. In a triangle ABC, if $\angle B = 90^\circ$, $\angle C = 90^\circ$ and $AC = 4$ cm, then the value of BC

1. $\sqrt{2}$ cm 2. 4 cm 3. $2\sqrt{2}$ cm 4. $4\sqrt{2}$ cm

140. Study the given pie-chart and answer the question that follows. The pie-chart shows the number of boys studying in play groups of various schools (A, B, C).

What is the average number of boys studying in schools A and C?

1. 740 2. 920
3. 560 4. 680



141. In an office, 75 employees can finish a project in 60 days. After few days, 15 employees left the job and the project was completed in 65 days. After how many days did the 15 employees leave?

1. 50 2. 45 3. 30 4. 40

142. Ramesh borrowed ₹15,000 at a certain rate of simple interest from a bank. He repaid (the principal but not interest) ₹6,000 after 5 years, and after 5 more years he paid ₹18,600 and settled his account. Find the rate of simple interest per annum.

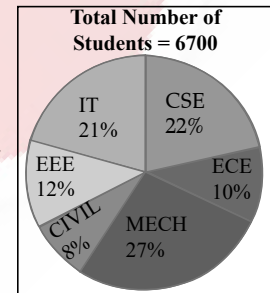
1. 12% 2. 10% 3. 8% 4. 6%

143. Let ABC, PQR be two congruent triangles such that $\angle A = \angle P = 90^\circ$. If $BC = 17$ cm, $PR = 8$ cm, find AB (in cm).

1. 12 2. 15 3. 14 4. 9

144. Study the pie-chart given below, and answer the question that follows. Percentage-wise break up of students in terms of specialisation in BTech. What is the total number of students having specialisation in CSE, ECE and CIVIL?

1. 2680 2. 2840
3. 2860 4. 2480



145. The LCM and HCF of two numbers are 1105 and 5. If the LCM is 17 times the first number, then find the two numbers.

1. 65 and 85 2. 55 and 85 3. 65 and 75 4. 60 and 80

146. Akshita and Raina are typing a book, but have only one laptop to work upon. They decided that they will work on alternate basis such that Akshita works for the first day, Raina works for the second day, Akshita for the third day and so on. Akshita alone can finish the typing work in 16 days, while Raina will take 24 days if she works alone on the entire book. How many days will they take to finish the typing work if they work on alternate basis?

1. 15 2. 18 3. 19 4. 17

147. A train covers a distance of 540 km between two stations in 240 minutes. It travels at a speed of 90 km/h to another station in 5 hours. What is the average speed of the train (in km/h)?

1. 112 2. 110 3. 100 4. 120

148. The heights of two cones are in the ratio 7:5 and their diameters are in the ratio 10:21. What is the ratio of their volumes? (where $\pi = \frac{22}{7}$)

1. 26:47 2. 14:19 3. 20:63 4. 17:21

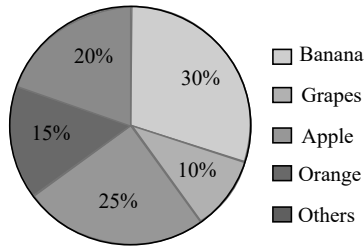
149. What is the difference between a single discount of 35% on ₹700 and two successive discounts of 18% and 12% on the same amount (correct to two places of decimals)?

1. ₹51.20 2. ₹50.12 3. ₹52.10 4. ₹49.80

150. Study the given pie-chart and answer the question that follows. The pie-chart shows the sale of different fruits in a shop in a day.

If a total of 1200 kg of fruits were sold in a day, calculate the amount of bananas sold (in kg).

1. 360 2. 290 3. 330 4. 260



English Comprehension

151. Select the most appropriate ANTONYM of the given word.
Transparent

1. Crossover 2. Linger 3. Opaque 4. Oppress

152. Select the most appropriate meaning of the underlined idiom.

The office management was in dire straits after the financial crash.

1. To be extremely happy
2. In a very bad situation
3. Being direct or fair
4. To walk on already trodden paths

153. Select the INCORRECTLY spelt word.

1. Puzzled 2. Nasal
3. Councel 4. Embezzlement

154. Select the option that can be used as a one-word substitute for the given group of words.

Lasting for a very short time

1. Eternal 2. Ephemeral
3. Blasphemy 4. Chronology

155. Select the most appropriate idiom that can substitute the underlined segment in the given sentence.

Do you believe that you have a possibility of getting that job?

1. spill the beans 2. snow job
3. stand a chance 4. shoot the breeze

156. Select the most appropriate synonym of the given word.

Aggravate

1. Annoy 2. Mitigate 3. Enhance 4. Satisfy

157. Choose the idiom that can best substitute the underlined part of the given sentence.

Shelley ignored her father's wish of studying arts and instead took admission in commerce.

1. Blew over 2. Big fish
3. Bid defiance to 4. Beyond the pale

158. Select the most appropriate meaning of the given idiom.

Get your act together

1. To ruin one's plans
2. To organise yourself so that you can do something properly
3. To get the conversation going
4. To understand something complicated

159. Identify from the given options the word most similar in meaning to the underlined word according to its meaning in the following sentence.

He is a person who holds old fashioned opinions.

1. obsolete 2. ancient
3. antique 4. senior citizen

160. Select the most appropriate option that can substitute the underlined words in the given sentence.

Kiran's teacher was doubtful on her success.

1. doubtful beyond 2. doubtful in
3. doubtful off 4. doubtful of

161. Select the correct spelling for the INCORRECTLY spelt word in the given sentence.

The Eustachian tube and vestibular complex in the middle and inner ear, respectively, have an important role to play.

1. vestibular 2. midle
3. respictevely 4. importent

162. Select the most appropriate idiom to fill in the blank.

There are others waiting to grab an opportunity; if you don't act fast, you are going to _____.

1. be in the same boat 2. a full boat
3. push the boat out 4. miss the boat

163. The following sentence has been split into four segments. Identify the segment that contains a grammatical error.

Mr. Khanna and family / have visit / Manali during / the summer vacation.

1. have visit 2. Mr. Khanna and family
3. the summer vacation. 4. Manali during

164. Select the most appropriate idiom for the given situation.

He started with an online company and became a millionaire. Then, he sold it and invested in the share market and earned more money. Now, he has invested in the transportation industry and is generating huge wealth. What does he have?

1. As genuine as a three-dollar bill
2. Midas touch
3. Rule of thumb
4. Sticky fingers

165. 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.

There was no other book / in the English language / which is as interesting as this one.

1. There was no other book
2. in the English language
3. No error
4. which is as interesting as this one

166. Select the option that can be used as a one-word substitute for the given group of words.

Very attractive and easy to feel love for

1. Flamboyant 2. Adorable 3. Mysterious 4. Laudable

167. Select the most appropriate meaning of the underlined word.

He uses one of the finest ingredients in his cooking.

1. Components 2. Mixtures
3. Culinary 4. Preparations

168. Select the most appropriate ANTONYM of the given word.

Abhor

1. Occupy 2. Despise 3. Danger 4. Love

169. Select the option that can be used as a one-word substitute for the underlined words.

He was not willing to attend the technical session of the conference.

1. dejecting 2. reluctant
3. curious 4. comprehensive

170. Select the option that can be used as a one-word substitute for the given group of words.

A disease prevalent in a community or a specific region at a specific time, affecting a large area.

1. Pandemic 2. Eradicate 3. Epidemic 4. Endemic

171. Select the most appropriate ANTONYM of the given word.
Apex
1. Pinnacle 2. Bottom 3. Farthest 4. Watchful
172. Select the most appropriate meaning of the underlined word.
Ram was abandoned by his parents at a very early age.
1. Loved 2. Left 3. Hated 4. Disgraced
173. Select the most appropriate meaning of the given idiom.
Part and parcel
1. Passing blame to someone else
2. Agreement with someone
3. A payment system for parcels
4. Basic or essential element
174. Choose the most appropriate meaning of the underlined phrase.
What we need is skilled and energetic planning and elbow grease.
1. The grease that is earned through labour
2. Hard work that one puts into cleaning one's elbow
3. Hard work that one puts into removing grease
4. Hard work that one puts into doing something
175. Select the most appropriate synonym of the given word.
Robe
1. Robbery 2. Mishap 3. Success 4. Cloak
176. Select the most appropriate meaning of the given idiom.
A snowball effect
1. An accelerating growth of magnitude
2. Trick someone completely
3. Cold and uncomfortable
4. Slow movement
177. Some words in the following sentence have been underlined and given as options. Select the option that contains a spelling error.
Roshni does a fabulouous job at her company and has been offered a promotion.
1. fabulouous 2. company 3. promotion 4. offered
178. The following sentence has been split into four segments. Identify the segment that contains a grammatical error.
I have never / come to / such a kind person / like my friend.
1. such a kind person 2. like my friend
3. come to 4. I have never
179. Select the most appropriate option that can substitute the underlined word in the given sentence.
The Board of Film Analysts vituperated the novice Indonesian film-maker and cancelled its nomination for the 'Golden Globe Award'.
1. lamented the untimely death of
2. censured with harsh and abusive language
3. dealt in a delicate and polite manner
4. recognised and praised the talent of
180. Select the most appropriate idiom to substitute the underlined segment in the given sentence.
My final round of Spell Bee Competition is coming up and to win this event, I need to study hard from today.
1. burn the books 2. hit the books
3. cut to the chase 4. pour my heart out
181. Select the option that can be used as a one-word substitute for the given group of words.
To have a strong emotional effect on.
1. To forfeit 2. To overwhelm
3. To smother 4. To yield
182. Select the INCORRECTLY spelt word.
1. Ocassion 2. Agreeable 3. Formulae 4. Waitress
183. 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'.
Harry is the one sitting on the corner.
1. No substitution required 2. upon
3. onto 4. in
184. Select the INCORRECTLY spelt word from the underlined words in the following sentence.
Communities must build their resileince, including adopting appropriate technologies while making the most of traditional knowledge, and diversifying their livelihoods to cope with current and future climate stress.
1. livelihoods 2. diversifying
3. appropriate 4. resileince
185. The following sentence has been split into four segments. Identify the segment that contains a grammatical error.
The university has putting off / the semester examination / for the second time now / due to technical issues.
1. the semester examination
2. due to technical issues
3. for the second time now
4. The university has putting off
186. Select the correct option to substitute the underlined segment in the given sentence. If no substitution is required, select 'No substitution'.
Her smile is similar to her mother.
1. No substitution 2. her mother's
3. mother 4. the mother
187. Select the most appropriate ANTONYM of the given word.
Inquisitive
1. Careful 2. Dull
3. Uninterested 4. Indolent
188. Parts of the following sentence have been given as options. 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.
Anant was telling a story about his most recent exploits when a tree branch break the living room window.
1. about his most recent exploits
2. when a tree branch break the living room window
3. Anant was telling a story
4. No error
189. Select the option that can be used as a one-word substitute for the given group of words.
An animal or a person that eats all types of food, especially plants and meat
1. Vegetarian 2. Herbivore 3. Omnivore 4. Carnivore
190. Select the most appropriate ANTONYM of the given word.
Bombastic
1. Essential 2. Sarcastic 3. Plain 4. Rhythmic
- In the following passage some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.**
- Among the largest species of cats in the world, tigers are powerful hunters with (1) _____ teeth, strong jaws and agile bodies. They range across Asia from Russia all the way to Sumatra and mainland Southeast Asia. Researchers still have much to learn (2) _____ these beautiful, endangered (3) _____. There is currently one recognised species of tiger, Panthera tigris. Scientists have further (4) _____ the tiger into nine subspecies: the extinct Bali, Caspian and Javan subspecies, and the living Malayan, Sumatran, South China, Indochinese, Bengal and Amur (or Siberian) subspecies. Of

these six subspecies, AZA-accredited zoos currently manage three: Amur, Malayan, and Sumatran. The Smithsonian's National Zoo and Conservation Biology Institute is home to Sumatran and Amur tigers; Sumatran tigers are (5) _____ as Critically Endangered on the International Union for Conservation of Nature's Red List, and Amur tigers have been classified as Endangered.

191. Select the most appropriate option to fill blank number 1.
 1. Long 2. Small 3. Blunt 4. Sharp
192. Select the most appropriate option to fill blank number 2.
 1. With 2. Into 3. About 4. Along
193. Select the most appropriate option to fill blank number 3.
 1. Rabbits 2. Cats 3. Elephants 4. Dogs
194. Select the most appropriate option to fill blank number 4.
 1. Declared 2. Restricted
 3. Generalised 4. Classified
195. Select the most appropriate option to fill blank number 5.
 1. Numerated 2. Detailed 3. Recorded 4. Listed

Read the given passage and answer the questions that follow.

What if globally designed products could radically change how we work, produce and consume? Several examples across continents show the way we are producing and consuming goods could be improved by relying on globally shared digital resources, such as design, knowledge and software. Imagine a prosthetic hand designed by geographically dispersed communities of scientists, designers and enthusiasts in a collaborative manner via the web. All knowledge and software

related to the hand is shared globally as a digital commons. People from all over the world who are connected online and have access to local manufacturing machines (from 3D printing and CNC machines to low-tech crafts and tools) can, ideally with the help of an expert, manufacture a customised hand. This is the case of the Open Bionics project, which produces designs for robotic and bionic devices. There are no patent costs to pay for. Less transportation of materials is needed, since a considerable part of the manufacturing takes place locally; maintenance is easier, products are designed to last as long as possible, and costs are thus much lower.

196. Identify the most suitable title for the given passage.
 1. Knowledge Explosion 2. Customised Hand
 3. Shared Information 4. Digital Globalisation
197. What is the term used in the passage for globally shared digital things?
 1. Digital commons 2. Digital information
 3. Digital resources 4. Digital world
198. What is the tone of the author?
 1. Speculative 2. Caustic 3. Acerbic 4. Belligerent
199. Which of the following is NOT a globally shared digital resource?
 1. Knowledge 2. Design
 3. Automobile 4. Software
200. Select the most suitable word from the passage which means 'scattered'.
 1. Collaborative 2. Shared
 3. Customised 4. Dispersed

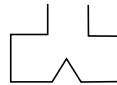
Answer Key

1. (2)	2. (2)	3. (4)	4. (4)	5. (4)	6. (1)	7. (4)	8. (4)	9. (4)	10. (1)
11. (1)	12. (1)	13. (1)	14. (1)	15. (3)	16. (4)	17. (1)	18. (2)	19. (2)	20. (4)
21. (2)	22. (1)	23. (1)	24. (3)	25. (4)	26. (1)	27. (3)	28. (3)	29. (4)	30. (2)
31. (4)	32. (3)	33. (2)	34. (1)	35. (2)	36. (1)	37. (4)	38. (3)	39. (4)	40. (4)
41. (2)	42. (1)	43. (3)	44. (3)	45. (3)	46. (4)	47. (2)	48. (1)	49. (1)	50. (2)
51. (3)	52. (2)	53. (3)	54. (1)	55. (3)	56. (3)	57. (4)	58. (2)	59. (4)	60. (3)
61. (4)	62. (2)	63. (3)	64. (2)	65. (3)	66. (1)	67. (2)	68. (2)	69. (1)	70. (1)
71. (4)	72. (3)	73. (4)	74. (3)	75. (4)	76. (2)	77. (4)	78. (2)	79. (3)	80. (2)
81. (1)	82. (4)	83. (2)	84. (4)	85. (2)	86. (4)	87. (4)	88. (1)	89. (2)	90. (4)
91. (1)	92. (4)	93. (1)	94. (4)	95. (2)	96. (2)	97. (4)	98. (2)	99. (1)	100. (4)
101. (2)	102. (4)	103. (1)	104. (1)	105. (4)	106. (2)	107. (4)	108. (1)	109. (1)	110. (1)
111. (3)	112. (3)	113. (3)	114. (2)	115. (3)	116. (4)	117. (1)	118. (1)	119. (3)	120. (1)
121. (2)	122. (3)	123. (3)	124. (3)	125. (3)	126. (4)	127. (1)	128. (2)	129. (4)	130. (2)
131. (2)	132. (1)	133. (2)	134. (1)	135. (4)	136. (4)	137. (3)	138. (4)	139. (3)	140. (4)
141. (4)	142. (3)	143. (2)	144. (1)	145. (1)	146. (3)	147. (2)	148. (3)	149. (2)	150. (1)
151. (3)	152. (2)	153. (3)	154. (2)	155. (3)	156. (1)	157. (3)	158. (2)	159. (1)	160. (4)
161. (1)	162. (4)	163. (1)	164. (2)	165. (1)	166. (2)	167. (1)	168. (4)	169. (2)	170. (3)
171. (2)	172. (2)	173. (4)	174. (4)	175. (4)	176. (1)	177. (1)	178. (3)	179. (2)	180. (2)
181. (2)	182. (1)	183. (4)	184. (4)	185. (4)	186. (2)	187. (3)	188. (2)	189. (3)	190. (3)
191. (4)	192. (3)	193. (2)	194. (4)	195. (4)	196. (4)	197. (1)	198. (1)	199. (3)	200. (4)

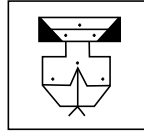
Answers with Explanations

1. **Option (2) is correct.**

Given image:

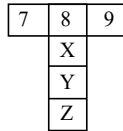


The above embedded figure can be seen in figure of option (2). Hence, the required answer figure is:



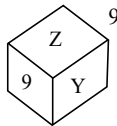
2. **Option (2) is correct.**

Given sheet:



After folding the sheet to form a cube, we get 9 is opposite to 7, 8 is opposite to Y and X is opposite to Z.

So, option (2) fulfills conditions. Hence, it is the correct option.



3. **Option (4) is correct.**

Given series:

AXFN, GCJQ, MHNT, ?, YRVZ
The pattern followed here is:
Hence, SMRW is the correct answer.

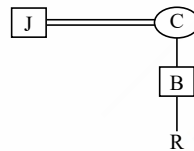
	P	J	V	G	
+6		-8		+4	-5
	V	B	Z	B	
+6		-8		+4	-5
	B	T	D	W	
+6		-8		+4	-5
	H	L	H	R	
+6		-8		+4	-5
	N	D	L	M	

4. **Option (4) is correct.**

Given expression:

J @ C \$ B # R

According to question, following family tree can be made:
Hence, J is father's father of R.



5. **Option (4) is correct.**

Given that:

SUGAR is coded as 81 and FILL is coded as 51.

The pattern followed here is:

Sum of positional values + (No. of letters × 3)

So,

CREAM will be coded as:

C	R	E	A	M
3	18	5	1	13

$(3 + 18 + 5 + 1 + 13) + (5 \times 3)$

$\Rightarrow 40 + 15 = 55$

Hence, 55 is the correct answer.

6. **Option (1) is correct.**

Given sets:

(7, 2, 70)

(6, 4, 120)

The pattern followed here is:

$1^{st} \text{ term} \times 2^{nd} \text{ term} \times 5 = 3^{rd} \text{ term}$

So,

$7 \times 2 \times 5 = 70$

And,

$6 \times 4 \times 5 = 120$

Similarly, upon checking option 1, we get,

$3 \times 8 \times 5 = 120$

Hence, (3, 8, 120) is the correct option.

7. **Option (4) is correct.**

Given pairs:

$16 : 106 :: 11 : ? :: 10 : 22$

The pattern followed here is:

Correct explanation:

For (16 : 106)

$(16 - 6)^2 + 6 = 106$

For (10 : 22)

$(10 - 6)^2 + 6 = 22$

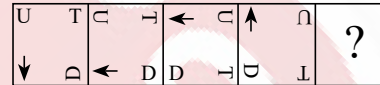
Similarly,

$(11 - 6)^2 + 6 = 31$

Hence, 31 is correct answer.

8. **Option (4) is correct.**

Given figure:



As per the pattern followed and the symmetry, the required answer figure is:



9. **Option (4) is correct.**

Given series:

PJVG, VBZB, BTDW, HLHR, ?

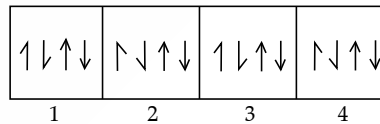
The pattern followed here is:

	A	X	F	N	
+6		+5		+4	+3
	G	C	J	Q	
+6		+5		+4	+3
	M	H	N	T	
+6		+5		+4	+3
	S	M	R	W	
+6		+5		+4	+3
	Y	R	V	Z	

So, NDLM is correct answer.

10. **Option (1) is correct.**

Given figure:

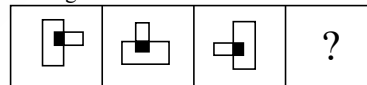


As per the pattern followed and symmetry, the required answer figure is:

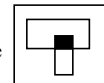


11. **Option (1) is correct.**

Given figure:



As per the pattern followed and the symmetry, the required answer figure is:



12. **Option (1) is correct.**

The correct order of the given words is as follows:

Hence, 3, 5, 1, 2, 6, 4 is the correct answer.

3. Docile
5. Dock
1. Doctor
2. Doctorates
6. Doctrine
4. Documentary

13. **Option (1) is correct.**

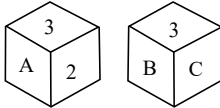
Given figure:

In both figures 3 is common. So, in clockwise direction from 3, opposite pairs will be as follows;

$$2 - C$$

$$A - B$$

and $3 - 1$



14. **Option (1) is correct.**

Given series:

$$\frac{1}{121}, \frac{1}{11}, 1, ?, 121$$

Here, each number is getting multiplied by 11.

$$\frac{1}{121} \times 11 = \frac{1}{11}$$

$$\frac{1}{11} \times 11 = 1$$

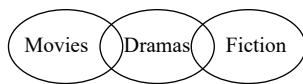
$$1 \times 11 = 11$$

$$11 \times 11 = 121$$

Hence, 11 is the missing number.

15. **Option (3) is correct.**

As per the statements, following Venn diagram can be made:



Conclusion I- Some movies are fiction.

This can be possible but not definite.

So, it doesn't follow.

Conclusion II- All fiction are movies.

This can also be possible, but not definite.

So, this doesn't follow.

Hence, neither conclusion I nor II follows.

16. **Option (4) is correct.**

Given expression:

$$22 B 7 C 288 D 12 A 27 = ?$$

After putting the signs, we get

$$22 \times 7 - 288 \div 12 + 27$$

$$\Rightarrow 22 \times 7 - 24 + 27$$

$$\Rightarrow 154 - 24 + 27$$

$$\Rightarrow 181 - 24 = 157$$

Hence, 157 is the correct answer.

17. **Option (1) is correct.**

Given pairs:

$$12 : 64 :: ? : 116 :: 32 : 144 \text{ - (WRONG)}$$

$$\text{Corrected pairs : } 12 : 56 :: ? : 116 :: 32 : 144$$

The pattern followed here is:

$$12 \times 5 - (2)^2 = 56$$

$$25 \times 5 - (3)^2 = 116$$

$$32 \times 5 - (4)^2 = 144$$

Hence, 25 is the correct answer.

18. **Option (2) is correct.**

Given expression:

$$21 B 14 C 154 D 14 A 42 = ?$$

After putting the signs as per question, we get

$$21 \times 14 - 154 \div 14 + 42 = ?$$

$$\Rightarrow 21 \times 14 - 11 + 42$$

$$\Rightarrow 294 - 11 + 42$$

$$\Rightarrow 336 - 11 = 325$$

Hence, 325 is the correct answer.

19. **Option (2) is correct.**

Given expression:

$$56 D 8 B 7 = ? B 7$$

After putting the signs as per question, we get

$$56 \div 8 \times 7 = ? \times 7$$

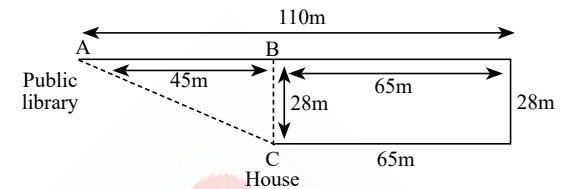
$$\Rightarrow 7 \times 7 = ? \times 7$$

$$\Rightarrow ? = \frac{49}{7} = 7$$

Hence, 7 is the correct answer.

20. **Option (4) is correct.**

As per the question, following direction chart can be made:



Now, to find the shortest distance, we have formed a triangle i.e ΔABC .

We know,

$$AB = 45 \text{ m}$$

$$BC = 28 \text{ m}$$

So,

$$\begin{aligned} AC &= \sqrt{[(AB)^2 + (BC)^2]} \\ &= \sqrt{[(45)^2 + (28)^2]} \\ &= \sqrt{[2025 + 784]} \\ &= \sqrt{2809} . \text{ Therefore, } AC = 53 \end{aligned}$$

Hence, the public library is 53 m towards North-West direction from the house.

21. **Option (2) is correct.**

Given sets:

$$(9, 1, 19)$$

$$(5, 2, 14)$$

The pattern followed here is:

$$(1^{\text{st}} \text{ term} \times 2) + (2^{\text{nd}} \text{ term})^2 = 3^{\text{rd}} \text{ term}$$

So, for (9, 1, 19)

$$(9 \times 2) + (1)^2$$

$$= 18 + 1 = 19$$

And, for (5, 2, 14)

$$(5 \times 2) + (2)^2$$

$$= 10 + 4 = 14$$

Similarly, upon checking option 2, we get

$$(3 \times 2) + (2)^2$$

$$= 6 + 4 = 10$$

Hence, (3, 2, 10) is the correct answer.

22. **Option (1) is correct.**

Given sheet:

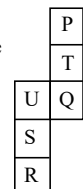
After constructing a cube out of the sheet, the following letters will be opposite to each other:

$$P - Q$$

$$T - S$$

$$U - R$$

Hence, T and S is the correct answer.



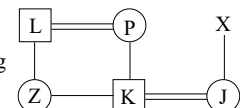
23. **Option (1) is correct.**

Given expression:

$$Z \# L @ P \& K @ J \# X$$

According to question, following family tree can be made:

Hence, K is the brother of Z.



24. Option (3) is correct.

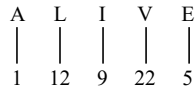
Given that:

ALIVE is coded as 64.

The pattern followed here is:

Sum of positional value of letters + (No. of letters × 3)

So,



$$(1 + 12 + 9 + 22 + 5) + (5 \times 3)$$

$$= 49 + 15$$

$$= 64$$

And, HALL is coded as 45

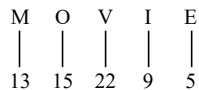


$$(8 + 1 + 12 + 12) + (4 \times 3)$$

$$= 33 + 12$$

$$= 45$$

Similarly, MOVIE will be coded as:



$$(13 + 15 + 22 + 9 + 5) + (5 \times 3)$$

$$= 64 + 15$$

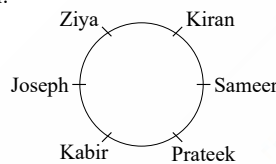
$$= 79$$

Hence, 79 is the correct answer.

25. Option (4) is correct.

Given that:

Six students are sitting around a circular table facing the centre.



According to the statements, following sitting arrangement can be made:

Hence, Kiran is the immediate neighbour of Ziya.

26. Option (1) is correct.

Given that:

$$89 A 94 C 35 D 8 B 8 = ?$$

After putting the signs, we get

$$89 + 94 - 35 \div 8 \times 8 = ?$$

According to BODMAS rule,

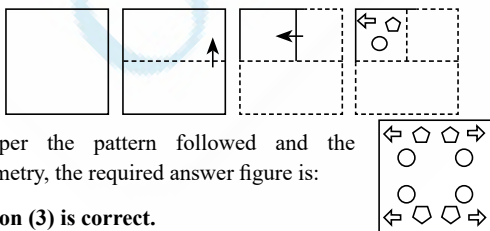
$$\Rightarrow 89 + 94 - 35$$

$$\Rightarrow 183 - 35 = 148$$

Hence, 148 is the correct answer.

27. Option (3) is correct.

Given figure:



As per the pattern followed and the symmetry, the required answer figure is:

28. Option (3) is correct.

Given that:

$$F _ _ Y _ _ K B _ O F _ B Y _$$

Upon checking option 3 and inserting the letters sequentially

in the above series, we get

$$F \underline{K} \underline{B} \underline{Y} \underline{O} \underline{F} \underline{K} \underline{B} \underline{Y} \underline{O} \underline{F} \underline{K} \underline{B} \underline{Y} \underline{O}$$

Here, we are getting a continuous cluster of KBYOF.

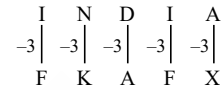
Hence, it forms a logical series.

29. Option (4) is correct.

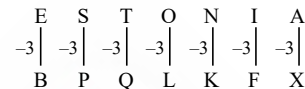
Given set:

$$INDIA : FKAFX :: ESTONIA : BPQLKFX :: MALAYSIA : ?$$

The pattern followed here is:



And,



Similarly,



Hence, JXIXVPFX is the correct answer.

30. Option (2) is correct.

Given that:

PAINT is written as ODYTN

and BRUSH is written as CMMOZ.

Here, the positional values of each alphabet is added to get a certain number.

So,

$$P (16) + A (1) + I (9) + N (14) + T (20)$$

$$O (15) + D (4) + Y (25) + T (20) + N (14)$$

$$\Rightarrow (16 + 1 + 9 + 14 + 20) + (15 + 4 + 25 + 20 + 14)$$

$$\Rightarrow 60 + 78 = 138$$

And,

$$B (2) + R (18) + U (21) + S (19) + H (8)$$

$$C (3) + M (13) + M (13) + O (15) + Z (26)$$

$$\Rightarrow (2 + 18 + 21 + 19 + 8) + (3 + 13 + 13 + 15 + 26)$$

$$\Rightarrow 68 + 70 = 138$$

Similarly, for HOUSE

Upon checking option (2), we get

$$H (8) + O (15) + U (21) + S (19) + E (5)$$

$$W (23) + P (16) + M (13) + O (15) + C (3)$$

$$\Rightarrow (8 + 15 + 21 + 19 + 5) + (23 + 16 + 13 + 15 + 3)$$

$$\Rightarrow 68 + 70 = 138$$

Hence, WPMOC is the correct answer.

31. Option (4) is correct.

The correct order of the given words is as follows:

5. Woodland
3. Workable
2. Wrangle
1. Wrist
4. Wrongful

Hence, 5, 3, 2, 1, 4 is the correct answer.

32. Option (3) is correct.

Given figure:

In the mirror image, left becomes right 8 B E Y T K @ 8 and right becomes left.

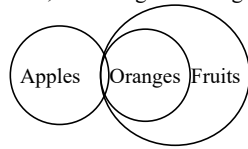
Hence, the required image is:

$$8 \textcircled{M} K T Y \textcircled{B} 8$$

M
|
8

33. **Option (2) is correct.**

As per the statements, following Venn diagram can be made:



Conclusion I- All apples are fruits.
It can be possible but, not definite.
So, this conclusion doesn't follow.

Conclusion II- Some fruits are oranges.
As given, all oranges are fruits.
So, some fruits are oranges is true.
Hence, only conclusion II follows.

34. **Option (1) is correct.**

According to the question, following direction chart can be made.

As we can see, the path forms a right angle triangle, So, according to the

Pythagoras theorem
(BC)² + (CA)² = (BA)²
= X² + Y² = (13)²

Now, upon checking option 1, we get

$$(12)^2 + (5)^2 = (13)^2$$

$$144 + 25 = 169$$

$$169 = 169$$

$$\text{LHS} = \text{RHS}$$

Hence, it is the correct option.

35. **Option (2) is correct.**

Given that:

EARS is coded as 4268 and NICE is coded as 9723

If we compare both the words, we will get the codes for A, R, S, N, I, C as 4, 6, 8, 9, 7, 3 (in no particular order).

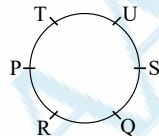
So, the only letter left is E and the code left for E is 2.

Hence, 2 is the correct answer.

36. **Option (1) is correct.**

According to the question, following sitting arrangement can be done:

Hence, T is the immediate neighbour of P and U.



37. **Option (4) is correct.**

The pattern followed here is:

Option-1 $S \xrightarrow{+4} W \xrightarrow{+2} Y \xrightarrow{-1} X$

Option-2 $P \xrightarrow{+4} T \xrightarrow{+2} V \xrightarrow{-1} U$

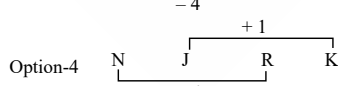
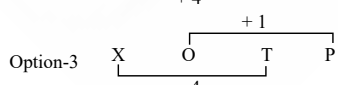
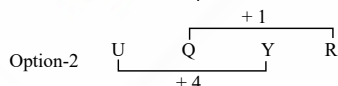
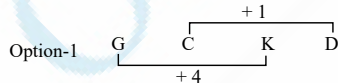
Option-3 $R \xrightarrow{+4} V \xrightarrow{+2} X \xrightarrow{-1} W$

Option-4 $L \xrightarrow{+3} O \xrightarrow{+2} Q \xrightarrow{-1} P$

Hence, LOQP is the odd one out.

38. **Option (3) is correct.**

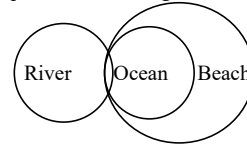
The pattern followed here is:



Hence, XOTP is the odd one out.

39. **Option (4) is correct.**

According to the question, following Venn diagram can be made:



Conclusion I- Some rivers are beaches.

As all ocean are beaches and some rivers are ocean, it implies some rivers are beaches.
So, this conclusion is true.

Conclusion II- All oceans are rivers.
It can be possible but not definite.
So, this conclusion is false.
Hence, only conclusion I follows.

40. **Option (4) is correct.**

Given equation:

$$42 \times 168 - 8 \div 4 + 3 = ?$$

After interchanging, the signs as per question, we get

$$42 + 168 \div 8 - 4 \times 3$$

$$\Rightarrow 42 + 21 - 4 \times 3$$

$$\Rightarrow 42 + 21 - 12$$

$$\Rightarrow 63 - 12 = 51$$

Hence, 51 is the correct answer.

41. **Option (2) is correct.**

Given pairs:

Artist : Painting :: Cobbler : ?

As we know, a painting is made by an Artist.

Similarly, shoes are repaired by a Cobbler.

Hence, Cobbler : fixing shoes is the correct answer.

42. **Option (1) is correct.**

Given equation:

$$15 \times 3 \div 15 - (45 \times 3) - 10 + (13 \div 2) = 76$$

Upon checking option 1 and interchanging \div and \times , we get

$$15 \div 3 \times 15 - (45 \div 3) - 10 + (13 \times 2) = 76$$

$$\Rightarrow 5 \times 15 - (15) - 10 + (13 \times 2) = 76$$

$$\Rightarrow 75 - 15 - 10 + 26 = 76$$

$$\Rightarrow 101 - 25 = 76$$

$$\Rightarrow 76 = 76$$

LHS = RHS

Hence, it is the correct option.

43. **Option (3) is correct.**

Given equation:

$$23 - 5 \div 240 \times 8 + 14 = ?$$

After interchanging the signs as per question, we get

$$23 \times 5 + 240 \div 8 - 14$$

$$\Rightarrow 23 \times 5 + 30 - 14$$

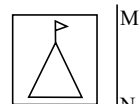
$$\Rightarrow 115 + 30 - 14$$

$$\Rightarrow 145 - 14 = 131$$

Hence, 131 is the correct answer.

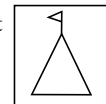
44. **Option (3) is correct.**

Given figure:



In the mirror image, left becomes right and right becomes left.

Hence, the required image is:



45. **Option (3) is correct.**

As per the statements, following Venn diagram can be made:

Conclusion I- All teas are cocktails.

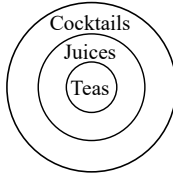
As given, all teas are juices & all juices are cocktails, it implies all teas are cocktails.

So, this conclusion follows.

Conclusion II- All cocktails are definitely juices.

This conclusion can be possible but not definite.

Hence, only conclusion I follows.

46. **Option (4) is correct.**

Given that:

ACTOR is coded as ROYCA

The pattern followed here is:

All the letters are reversed and the 3rd letter is increased by 5 positional values.

So, for ACTOR

Reversal — R O T C A
 +5
 Y

Code — R O Y C A

And, for NURSE

Reversal — E S R U N
 +5
 W

Code — E S W U N

Similarly, for JUDGE

Reversal — E G D U J
 +5
 I

Code — E G I U J

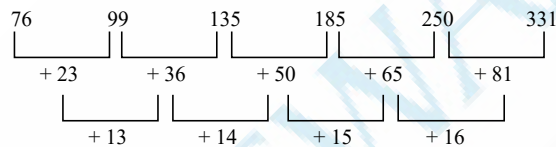
Hence, EGIUJ is the correct answer.

47. **Option (2) is correct.**

Given series:

76, 99, 135, 185, 250, ?

The pattern followed here is:



Hence, the missing number is 331.

48. **Option (1) is correct.**

Given sheet:

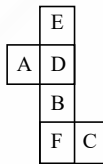
After constructing a cube out of the sheet, following letters will be opposite to each other.

F — D

B — E

A — C

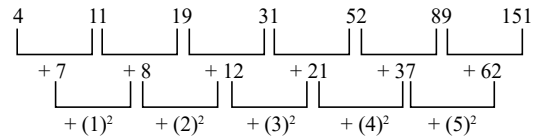
Hence, D will be opposite to F.

49. **Option (1) is correct.**

Given series:

4, 11, 19, 31, 52, 89, ?

The pattern followed here is:



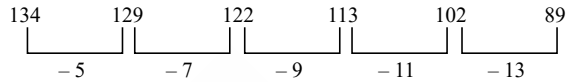
Hence, 151 is the correct answer.

50. **Option (2) is correct.**

Given series:

134, 129, 122, ?, 102, 89

The pattern followed here is:



Hence, 113 is the correct answer.

51. **Option (3) is correct.**

Article 33 of the Indian Constitution allows Parliament to limit or suspend the fundamental rights of members of armed forces and similar agencies to maintain discipline and operational efficiency.

52. **Option (2) is correct.**

Mohenjodaro, one of the major cities of the Harappan civilization, is situated on the bank of the Indus River. This ancient city, located in what is now Pakistan, is known for its well-planned urban layout and the advanced civilization that thrived there over 4,000 years ago. The Indus River Valley, with Mohenjodaro as one of its key archaeological sites, is an important historical and archaeological area, known for its contributions to the understanding of ancient Indian history.

53. **Option (3) is correct.**

The Wadali Brothers are well-known Sufi singers. They are renowned for their soulful and devotional Sufi music, which is a genre of music associated with mysticism and spiritual themes. The Wadali Brothers have contributed significantly to the Sufi music tradition in India and are celebrated for their melodious and devotional performances.

54. **Option (1) is correct.**

Rongker is an important festival celebrated by the Karbi tribe in the northeastern state of Assam, India. This festival is held to seek blessings from the gods for a good harvest, and it involves various traditional rituals and cultural activities that are significant to the Karbi community. It is a celebration of their cultural heritage and agricultural practices.

55. **Option (3) is correct.**

After the very violent Kalinga war, King Ashoka, who ruled the Mauryan empire, decided to follow Buddhism and its ideas of peace and not hurting others. He then worked to spread these Buddhist teachings and ruled his empire with a focus on non-violence.

56. **Option (3) is correct.**

Pangea was the large supercontinent that existed around 200 million years ago during the late Paleozoic and early Mesozoic eras. It was a time when all the current continents were joined together as a single landmass. Over millions of years, Pangea eventually broke apart into smaller landmasses, which drifted to their current positions, forming the continents we recognize today.

57. **Option (4) is correct.**

Linus Pauling and Robert Corey significantly contributed to explaining the structure of proteins. They proposed the concept of the alpha helix, which is a fundamental structural component of proteins. Their research in the middle of the 20th century was a big step in figuring out how proteins are shaped, and it earned Pauling a Nobel Prize in Chemistry.

- 58. Option (2) is correct.**
Marathi is the third-largest spoken language in India according to the Census of India 2011.
- 59. Option (4) is correct.**
GST, or Goods and Services Tax, is an example of a proportional tax, sometimes called a flat tax. This means that the tax rate stays the same for everyone, no matter their income or financial circumstances. In the case of GST, the tax rate is applied uniformly to the price of goods and services, irrespective of a person's income level. This approach aims to make taxing consumption fairer because it treats all consumers equally based on what they buy.
- 60. Option (3) is correct.**
Gopika Varma received the Sangeet Natak Akademi Award in 2019 for her exceptional contributions to the field of Mohiniyattam, a traditional dance form from the Indian state of Kerala. Mohiniyattam is known for its graceful and lyrical movements, and Gopika Varma's mastery in this art form was recognized with this prestigious award.
- 61. Option (4) is correct.**
1-Methyl-3-Propylcyclohexane is a chemical compound. It is a cycloalkane, which means it has a ring-like structure composed of carbon atoms. In this compound:
1-Methyl indicates that there is a methyl group (CH₃) attached to the first carbon atom of the cyclohexane ring.
3-Propyl means that there is a propyl group (C₃H₇) attached to the third carbon atom of the cyclohexane ring.
- 62. Option (2) is correct.**
Statement A is correct. Ionization energy is the energy required to remove an electron from an atom in the gas phase. It is a measure of how strongly an electron is held by the nucleus.
- 63. Option (3) is correct.**
Athletes Federation of India - The apex body for athletes in India, headquartered in New Delhi.
Badminton Association of India - The apex body for badminton in India, headquartered in New Delhi.
Volleyball Federation of India - The apex body for volleyball in India, headquartered in Chennai, Tamil Nadu.
Hockey India - The apex body for field hockey in India, headquartered in New Delhi.
So, Volleyball Federation of India is the sport that does NOT have its apex national governing body headquartered in New Delhi.
- 64. Option (2) is correct.**
Amar Jiban is the autobiography of Rassundari Devi, a Bengali woman who, despite being illiterate and living in an era when girls and women were denied education, clandestinely learned to read sacred texts. Her life story is a compelling illustration of her unwavering determination and the challenges she overcame to acquire knowledge and empowerment in a society that limited women's education and confined them to domestic roles.
- 65. Option (3) is correct.**
The Lucknow Pact was signed in the year 1916. It was a significant agreement between the Indian National Congress and the All-India Muslim League to cooperate and present a common demand for representative government in India to the British authorities. The pact aimed to bridge the gap between the two major communities, Hindus, and Muslims, in their struggle for self-governance within the British colonial framework.
- 66. Option (1) is correct.**
Vitamin D is vital for the body's absorption of calcium, which is essential for building and keeping strong bones and muscles. It plays a key role in maintaining the right balance of calcium in the body, and a lack of vitamin D can result in issues such as osteoporosis and muscle weakness. Although vitamin D has multiple functions, one of its primary health benefits is its significant role in promoting bone and muscle health.
- 67. Option (2) is correct.**
Insat-1B was a geostationary satellite launched by ISRO in 1983. It was primarily designed to provide high-power TV broadcasting and national coverage telecommunications transponders. The Indian National Satellite System (INSAT) series, including Insat-1B, played a crucial role in revolutionizing communication and broadcasting services in India.
- 68. Option (2) is correct.**
Article 16 of the Indian Constitution ensures equal employment opportunities for all citizens under the state. It prohibits discrimination based on factors like religion, race, caste, sex, descent, place of birth, and residence in government employment, upholding the principles of equality and anti-discrimination in public service.
- 69. Option (1) is correct.**
Mirabai, a Rajput princess, played a significant role in the Bhakti tradition of Medieval India. Her profound devotion to Lord Krishna found expression in songs and poems she composed, reflecting her deep spiritual love. Mirabai's devotional works are revered for their deep connection to Lord Krishna and their contribution to the Bhakti movement.
- 70. Option (1) is correct.**
The National Interim Government of India was formed on 2 September 1946 with Jawaharlal Nehru as its head. This interim government was a transitional administration that played a crucial role in India's journey towards independence from British colonial rule. It operated until India's full independence on 15 August 1947, when the Dominion of India was established.
- 71. Option (4) is correct.**
The 73rd Amendment Act focuses on establishing the constitutional status and roles of Panchayati Raj Institutions (PRIs) in India. However, it's important to note that this Act is not linked to Part III of the Constitution, which deals with the Fundamental Rights of Indian citizens. Instead, the provisions related to PRIs are found in the Eleventh Schedule, which was added to the Constitution, primarily under Part IX, The Panchayats.
Therefore, the incorrect aspect in option 4 is the association of the 73rd Amendment Act with Part III of the Constitution.
- 72. Option (3) is correct.**
Gallium, an element of the boron family, has a relatively high boiling point, which makes it ideal for recording temperatures that could vaporize a traditional mercury thermometer. Gallium's boiling point is approximately 2,204 degrees Celsius (4,000 degrees Fahrenheit), allowing it to be used in high-temperature applications and experiments where other materials may not be suitable.
- 73. Option (4) is correct.**
In the World Athletics Championship 2022, India won a total of 1 medal.
- 74. Option (3) is correct.**
Neeraj Chopra achieved a historic milestone by becoming the first Indian athlete to secure victory in a Diamond League title. He accomplished this feat by winning the Men's Javelin event at the Zurich Diamond League Final 2022 with an exceptional throw of 88.44 meters.

75. Option (4) is correct.

The Department of Economic Affairs in India is associated with infrastructure development and plays a key role in formulating policies and strategies related to economic development, including infrastructure projects. It is responsible for overseeing various aspects of economic and financial matters, which encompass infrastructure development projects in the country.

76. Option (2) is correct.

Hydrogen is a unique element that acts a bit like two different groups of elements on the periodic table. It is not exactly in either group, but it can behave a little like both alkali metals and halogens depending on the situation. This special behavior makes hydrogen stand out as an element that is a bit different from the rest.

77. Option (4) is correct.

In 1336, the Vijayanagara Empire was founded by two brothers, Harihara and Bukka, making them the inaugural rulers of this influential and enduring South Indian realm. Renowned for its cultural accomplishments, the empire's capital city, Vijayanagara, emerged as a prominent hub for art, culture, and commerce in its prime.

78. Option (2) is correct.

Khadar refers to the fresh alluvial sediment deposited by river floods in the Ganga Plain. This dynamic process of periodic silt and sediment deposition, primarily by rivers like the Ganges and the Yamuna, imparts fertility to the soil, rendering it highly suitable for agricultural purposes. Khadar soil typically exhibits a darker hue and boasts a greater organic matter content, making it an ideal choice for farming.

Regur, commonly known as black cotton soil, is primarily found in various parts of India, especially in the Deccan Plateau, and is unrelated to the Ganga Plain.

Kachhar pertains to low-lying floodplains or alluvial tracts located in the Indus Valley and is not specific to the Ganga Plain.

Bhangar designates the older alluvial deposits in the Ganga Plain. Unlike Khadar, it is less fertile, featuring a lighter color and diminished organic content.

79. Option (3) is correct.

Article 164 of the Constitution of India deals with the appointment of the Chief Minister and other ministers. It specifies that the Chief Minister is appointed by the Governor, and the other ministers are appointed by the Governor on the advice of the Chief Minister. This article outlines the process of the formation of the Council of Ministers in a state. The Governor, as the constitutional head of the state, plays a crucial role in these appointments.

80. Option (2) is correct.

The rural literacy rate in India, according to the 2011 Census is 66.77%.

81. Option (1) is correct.

The 2023 FIFA Women's World Cup marked the ninth installment of the FIFA Women's World Cup, a global women's football championship held every four years, and governed by FIFA. Co-hosted by Australia and New Zealand, the competition spanned from July 20 to August 20, 2023.

82. Option (4) is correct.

The President of India decides on the question of the disqualification of Members of Parliament in consultation with the Election Commission of India. The Election Commission is responsible for conducting elections in India and ensuring that they are free and fair. It also plays a role in determining the disqualification of Members of Parliament based on certain criteria, such as violating election laws or holding offices of profit, among others.

83. Option (2) is correct.

Mohiniyattam, a classical Indian dance form, finds its origins in the cultural heritage of Kerala. This traditional dance style is distinguished by its elegant and expressive movements. It is also renowned for its exquisite attire, intricate hand gestures, and intricate facial expressions.

84. Option (4) is correct.

Mutual fund product made by combing debt and equity funds is NOT an example of manufacturing activity. Manufacturing activities involve the physical transformation of raw materials into finished products.

85. Option (2) is correct.

Volume – Meter

Pressure is correctly matched with Pascal. Pascal (Pa) is the SI unit for pressure.

Volume should be matched with the cubic meter (m^3), not just Meter. The volume of an object or substance is typically measured in cubic meters or other appropriate units like liters. Force is correctly matched with Newton. Newton (N) is the SI unit for force.

Work done is correctly matched with Joule. Joule (J) is the SI unit for energy and work done.

86. Option (4) is correct.

Part IV of the Indian Constitution contains the directive principles of state policy. These principles, while not legally enforceable by the courts, serve as guiding principles for the state in formulating policies and governing the country. They encompass a broad spectrum of social, economic, and political goals that the state should aim to achieve for the overall welfare of the people.

87. Option (4) is correct.

Mango showers, also known as mango rains or mango monsoon, refer to pre-monsoon showers that occur in certain parts of India just before the arrival of the southwest monsoon. These showers are particularly important for agriculture as they help prepare the soil for planting and provide much-needed moisture to crops, especially mango trees.

88. Option (1) is correct.

The climate in North Western Europe, West Coast of North America, North of California, Southern Chile, South-eastern Australia, and New Zealand is the Marine West Coast Climate, known for mild temperatures, high year-round precipitation, and maritime influence. This climate is characterized by mild temperatures, relatively high levels of precipitation throughout the year, and the influence of maritime conditions due to proximity to large bodies of water, such as oceans.

89. Option (2) is correct.

Jaisalmer, located in the Thar Desert in the northwestern part of India, is known for its significant temperature variations between day and night. The desert climate in this region results in scorching daytime temperatures and cooler nights, leading to a substantial temperature difference.

90. Option (4) is correct.

Sattriya, a classical Indian dance form, finds its origins in the cultural heritage of Assam. This traditional dance style is distinguished by its elegant and expressive movements. This dance is a genre of drama that tells mythical and religious stories through hand and face expressions.

91. Option (1) is correct.

HariPriya Nambodiri is associated with Kathakali, a traditional dance form that originates in the southern state of Kerala in India. Kathakali is known for its elaborate makeup, costumes, and dramatic storytelling through dance, expressions, and hand gestures.

92. Option (4) is correct.

The slogan Garibi Hatao was a central theme in Indira Gandhi's political campaign during India's 1971 general elections. She employed it as a powerful message to combat poverty and socioeconomic disparities within the nation. At the time, Indira Gandhi served as the Prime Minister of India and was closely associated with the formulation and execution of policies designed to alleviate poverty and foster development.

93. Option (1) is correct.

During the G2 (Gap 2) phase of the cell cycle, the cell continues to grow and prepares for mitosis (M phase). Metabolic activities during the G2 phase include synthesizing the necessary proteins and cytoplasmic components required for cell division, including the formation of the mitotic spindle and other structures necessary for mitosis and cytokinesis. This phase comes after the S (synthesis) phase, where DNA replication occurs, and precedes the M phase, where mitosis and cell division take place.

94. Option (4) is correct.

Expenditure of the government on health facilities, education, and fixed-asset acquisition falls under the category of capital expenditure. Capital expenditure is related to investments in physical and financial assets, such as infrastructure development, the acquisition of long-term assets, and investments in projects that are expected to have a lasting impact on the economy. In contrast, revenue expenditure refers to the government's day-to-day operational expenses, while plan expenditure and non-plan revenue expenditure are more specific categories used in the Indian budgetary context to classify expenditures related to planned development programs and operational expenses, respectively.

95. Option (2) is correct.

The autobiography of the first Indian President, Dr. Rajendra Prasad, is titled Atmakatha.

Atmavrittanta is an autobiography of Manilal Nabhubhai Dwivedi.

A Shot at History is the autobiography of Abhinav Bindra, India's first Olympic gold medalist in shooting.

My Country My Life is the autobiography of L.K. Advani, a prominent Indian politician.

96. Option (2) is correct.

A step towards liberalization typically involves reducing government restrictions and intervention in the economy to promote economic freedom and market-driven growth.

The correct policy measure that is a step towards liberalization is option 2: Eliminating licenses for importing a majority of goods.

97. Option (4) is correct.

Onam is a famous South Indian festival, particularly celebrated in the state of Kerala, which is associated with the legendary King Mahabali. According to the folklore, King Mahabali is believed to visit Kerala during the Onam festival, making it a significant cultural and harvest celebration in the region.

98. Option (2) is correct.

The Europeans who first entered India with a primary focus on trade were the Portuguese.

The French, British, and Dutch also established trading interests in India, but the Portuguese were among the earliest European powers to establish trading outposts and exert influence in the Indian subcontinent.

The Portuguese established their presence in India in the late 15th century, with Vasco da Gama's famous voyage in 1498. They initially focused on establishing trading posts

and were followed by other European nations like the British, Dutch, and French, who also sought to expand their trade and influence in India.

99. Option (1) is correct.

Red blood cells, also known as erythrocytes, have an average diameter of approximately 7.5 micrometers.

100. Option (4) is correct.

Timur's invasion of Delhi took place in the year 1398. Timur, also known as Tamerlane, invaded Delhi in 1398, leading to significant historical events in the Indian subcontinent.

101. Option (2) is correct.

$$\begin{aligned} \text{Value of } \sqrt{\frac{1-\tan A}{1+\tan A}} &= \sqrt{\frac{1-\frac{\sin A}{\cos A}}{1+\frac{\sin A}{\cos A}}} \\ &= \sqrt{\frac{\cos A - \sin A}{\cos A + \sin A}} \\ &= \sqrt{\frac{(\cos A - \sin A)(\cos A - \sin A)}{(\cos A + \sin A)(\cos A - \sin A)}} \\ &= \sqrt{\frac{\cos^2 A + \sin^2 A - 2\sin A \cdot \cos A}{\cos^2 A - \sin^2 A}} \\ &= \sqrt{\frac{1 - \sin 2A}{\cos 2A}} \end{aligned}$$

102. Option (4) is correct.

Given that the diameter of a sphere is reduced to its half.

$$\text{Using, Volume of sphere} = \frac{4}{3}\pi r^3$$

After reducing the diameter, new volume

$$= \frac{4}{3}\pi\left(\frac{r}{2}\right)^3 = \frac{1}{8}\left(\frac{4}{3}\pi r^3\right) = \frac{1}{8} \text{ (volume of sphere)}$$

103. Option (1) is correct.

$$3888 = 2^4 \times 3^4$$

$$3969 = 7^2 \times 3^4$$

$$\text{So, HCF} = 3^4 = 81$$

104. Option (1) is correct.

$$96 = 2^5 \times 3$$

$$108 = 2^2 \times 3^3$$

$$144 = 2^4 \times 3^2$$

$$\text{So, LCM} = 2^5 \times 3^3 = 864$$

105. Option (4) is correct.

$$240 = 2^4 \times 3 \times 5$$

$$280 = 2^3 \times 7 \times 5$$

$$560 = 2^4 \times 7 \times 5$$

$$\text{So, HCF} = 2^3 \times 5 = 40$$

106. Option (2) is correct.

According to the given table:

$$\text{Required difference} = 205 - 198 = 7$$

107. Option (4) is correct.

According to the given table,

There are two years 2002 and 2005 when company Q produces more fabric than company P.

108. Option (1) is correct.

We have, distance = speed \times time

$$\text{and the average speed} = \frac{\text{Total distance}}{\text{Total time}}$$

According to the question:

$$\Rightarrow 73 = \frac{\frac{45}{60} \times x + \frac{75}{60} \times 85 + 3 \times 70}{5}$$

$$\Rightarrow 365 = \frac{3}{4}x + \frac{5}{4} \times 85 + 210$$

$$\Rightarrow \frac{3x}{4} = 365 - 210 - \frac{425}{4}$$

$$\Rightarrow \frac{3x}{4} = \frac{195}{4}$$

$$\Rightarrow x = 65$$

So, the required speed = 65 km/h.

109. Option (1) is correct.

Let Peter invested Rs. x and Rachel invested Rs. $\frac{x}{2}$.

$$\text{We have, SI} = \frac{\text{PRT}}{100} \text{ and CI} = \left(P \left(\frac{1+r}{100} \right)^n - P \right)$$

According to the question,

$$897 = \left(\frac{x \times 10 \times 2}{100} \right) - \left(\frac{x}{2} \left(1 + \frac{10}{100} \right)^2 - \frac{x}{2} \right)$$

$$\Rightarrow 897 = \frac{x}{5} - \frac{1331x}{2000} + \frac{x}{2}$$

$$\Rightarrow 897 = \frac{7x}{10} - \frac{1331x}{2000}$$

$$\Rightarrow \frac{69x}{2000} = 897$$

$$\Rightarrow x = 26000$$

So, amount invested by Rachel = Rs. 13000

110. Option (1) is correct.

Percentage increase in price = 10%

So, the percentage decrease in consumption

$$= \frac{10}{(100+10)} \times 100 = \frac{100}{11} = 9\frac{1}{11}\%$$

111. Option (3) is correct.

Given that the selling price of table = Rs. 5670

$$\text{So, the cost price} = 5670 \times \frac{100}{135} = \text{Rs. 4200}$$

$$\text{New selling price when there is profit is 12\%} = 4200 \times \frac{112}{100} = \text{Rs. 4704}$$

112. Option (3) is correct.

Given that the ratio of time taken by cars = 12 : 15 : 10

LCM (12, 15, 10) = 60

$$\text{So, the ratio of speeds of cars} = \frac{60}{12} : \frac{60}{15} : \frac{60}{10} = 5 : 4 : 6$$

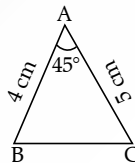
113. Option (3) is correct.

$$\text{Using, Area of triangle} = \frac{1}{2} \times AB \times AC \times \sin A$$

$$= \frac{1}{2} \times 4 \times 5 \times \sin 45^\circ$$

$$= 10 \times \frac{1}{\sqrt{2}} \times \frac{\sqrt{2}}{\sqrt{2}}$$

$$= 5\sqrt{2} \text{ cm}^2$$



114. Option (2) is correct.

Cost price of the article = Rs. 450

$$\text{So, the selling price} = 450 \times \frac{130}{100} = \text{Rs. 585}$$

$$\text{Now, the marked price} = 585 \times \frac{100}{90} = \text{Rs. 650}$$

115. Option (3) is correct.

Given numbers are 0.3, 0.8, and 0.108,

Let the fourth proportion is x .

$$\text{So, } \frac{0.3}{0.8} = \frac{0.108}{x}$$

$$\Rightarrow x = \frac{0.108 \times 0.8}{0.3}$$

$$\Rightarrow x = 0.288$$

116. Option (4) is correct.

$$\text{Value of } \frac{(3.254 \times 3.254 \times 3.254) - (0.746 \times 0.746 \times 0.746)}{(3.254 \times 3.254) + (0.746 \times 0.746) + (3.254 \times 0.746)}$$

$$= \frac{(3.254)^3 - (0.746)^3}{(3.254)^2 + (0.746)^2 + (3.254)(0.746)}$$

Using, $a^3 - b^3 = (a - b)(a^2 + b^2 + ab)$

$$= \frac{(3.254 - 0.746)((3.254)^2 + (0.746)^2 + (3.254)(0.746))}{(3.254)^2 + (0.746)^2 + (3.254)(0.746)}$$

$$= (3.254 - 0.746) = 2.508$$

117. Option (1) is correct.

Let the cost price of article = x

And profit percentage earned by the third seller = $p\%$

According to the question:

120% of x of 125% of $(100 + p)\%$ = 165% of x

$$\Rightarrow x \times \frac{120}{100} \times \frac{125}{100} \times \frac{100 + p}{100} = \frac{165}{100} \times x$$

$$\Rightarrow \frac{120}{100} \times \frac{125}{100} \times \frac{100 + p}{100} = \frac{165}{100}$$

$$\Rightarrow 100 + p = 110$$

$$\Rightarrow p = 10\%$$

118. Option (1) is correct.

According to the table:

$$\text{Required percentage} = \frac{9 + 7 + 13}{28 + 32 + 46} \times 100$$

$$= \frac{29}{106} \times 100 = 27.36\%$$

119. Option (3) is correct.

Given that total population of town C = 8000

According to the question:

The number of females above the poverty line in state C = $100 - 20 = 80\%$

$$= 8000 \times \frac{80}{100} \times \frac{3}{8} = 2400$$

120. Option (1) is correct.

$$\text{Value of } \frac{(157 \times 157) + (157 \times 133) + (133 \times 133)}{(157 \times 157 \times 157) - (133 \times 133 \times 133)}$$

$$= \frac{(157)^2 + (133)^2 + (157)(133)}{(157)^3 - (133)^3}$$

Using, $(a^3 - b^3) = (a - b)(a^2 + b^2 + ab)$

$$= \frac{(157)^2 + (133)^2 + (157)(133)}{(157 - 133)(157^2 + 133^2 + (157)(133))}$$

$$= \frac{1}{(157 - 133)} = \frac{1}{24}$$

121. Option (2) is correct.

According to the given pi chart:

$$\text{Required percentage} = \frac{8}{2 + 6 + 5 + 3 + 8} \times 100 = 33.33\%$$

122. Option (3) is correct.Let the breadth = x And breadth = $1.2x$ Using, area = $L \times B$

$$\Rightarrow 480 = x \times 1.2x$$

$$\Rightarrow x = 20$$

$$\text{So, the length} = 1.2x = 1.2 \times 20 = 24 \text{ m}$$

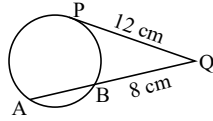
123. Option (3) is correct.Using, $PQ^2 = QB \times QA$

$$\Rightarrow 12^2 = 8 \times (8 + AB)$$

$$\Rightarrow 144 = 8(8 + AB)$$

$$\Rightarrow 18 = 8 + AB$$

$$\Rightarrow AB = 10 \text{ cm}$$

**124. Option (3) is correct.**

Given that:

Downstream speed = 15 km/h

Upstream speed = 8 km/h

Let the boat speed in still water = u km/hLet the stream speed = v km/h

According to the question:

$$u + v = 15$$

...(1)

$$u - v = 8$$

...(2)

By equation (1) and (2),

$$u = 11.5$$

$$v = 3.5$$

So, the boat speed in still water = 11.5 km/h

And the stream speed = 3.5 km/h

125. Option (3) is correct.Let the original number = x

According to the questions:

$$\Rightarrow x \times \frac{72}{100} \times \frac{128}{100} = x - 784$$

$$\Rightarrow 0.9216x = x - 784$$

$$\Rightarrow 0.0784x = 784$$

$$\Rightarrow x = 10000$$

126. Option (4) is correct.

Total number of students failed = 350

According to the given pi chart:

$$\text{Required number of students} = 350 \times \frac{73-27}{100} = 161$$

127. Option (1) is correct.

$$\text{Value of } 19 \div 5 \text{ of } (27 - 15 - 21) + 37$$

$$= 19 \div 5 \text{ of } (27 + 6) + 37$$

$$= 19 \div 165 + 37$$

$$= \frac{19}{165} + 37 = \frac{6124}{165}$$

128. Option (2) is correct.

Price of the stocks = Rs. 1000

According to the question:

$$\text{Final value of stock} = 1000 \times \frac{130}{100} \times \frac{80}{100} = \text{Rs. } 1040$$

129. Option (4) is correct.Using $\text{LCM} \times \text{HCF} = \text{Number 1} \times \text{Number 2}$

$$\Rightarrow 660 \times 5 = 55 \times \text{Number 2}$$

$$\Rightarrow \text{Number 2} = \frac{3300}{55} = 60$$

130. Option (2) is correct.

$$\text{We have, volume of hemisphere} = \frac{2}{3}\pi r^3$$

According to the equation,

$$\text{Volume of the given hemisphere} = \frac{2}{3} \times \frac{22}{7} \times (18)^3$$

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

$$= \frac{22}{7} \times (3)^2 \times 6$$

$$\text{So, the required number of container} = \frac{\frac{2}{3} \times \frac{22}{7} \times (18)^3}{\frac{22}{7} \times 3^2 \times 6} = 72$$

131. Option (2) is correct.

Let the total work = LCM (7, 14) = 14

$$\text{So, Tom's per day work} = \frac{14}{7} = 2 \text{ unit per day}$$

$$\text{Jay's per day work} = \frac{14}{14} = 1 \text{ unit per day}$$

$$\text{Hence, the required time} = \frac{14}{2+1} = 4\frac{2}{3} \text{ day}$$

132. Option (1) is correct.

Given that:

Train 1 length = 200m

And Train 2 length = 250m

$$\text{Relative speed of both trains} = (68 - 50) = 18 \text{ km/h} = 18 \times \frac{5}{18} = 5 \text{ m/s}$$

$$\text{So, required time} = \frac{200 + 250}{5} = 90 \text{ s}$$

133. Option (2) is correct.

Given distance = 100 km

We have, time =

Let the actual speed = x KMPH

According to the question,

$$\frac{1000}{(x-75)} - \frac{1000}{x} = 3$$

$$\Rightarrow 75000 = 3x(x-75)$$

$$\Rightarrow x(x-75) = 25000$$

$$\text{So, } x = 200 \text{ km/h}$$

$$\text{Hence, the original duration} = \frac{1000}{200} = 5 \text{ h.}$$

134. Option (1) is correct.

$$\text{Value of } 7 \sin^2 A + 3 \cos^2 A = 4$$

$$\Rightarrow 3 \sin^2 A + 3 \cos^2 A + 4 \sin^2 A = 4$$

$$\Rightarrow 3 + 4 \sin^2 A = 4$$

$$\Rightarrow 4 \sin^2 A = 1$$

$$\Rightarrow 4 = \text{cosec}^2 A$$

$$\Rightarrow 4 = 1 + \cot^2 A$$

$$\Rightarrow \cot^2 A = 3$$

$$\Rightarrow \cot A = \sqrt{3}$$

135. Option (4) is correct.

From given option,

$$\text{Upon checking option (4), } \frac{P^2 + 1}{2P}$$

Put the value of P ,

$$\frac{(\sec A - \tan A)^2 + 1}{2P}$$

$$= \frac{\sec^2 A + \tan^2 A - 2 \sec A \cdot \tan A + 1}{2(\sec A - \tan A)}$$

$$= \frac{\sec^2 A + \sec^2 A - 1 - 2 \sec A \tan A + 1}{2(\sec A - \tan A)}$$

$$= \frac{2 \sec A (\sec A - \tan A)}{2(\sec A - \tan A)} = \sec A$$

Hence, option (4) is correct.

136. Option (4) is correct.

$$\begin{aligned} & 2(\sin 1^\circ \times \sec 89^\circ) + 3(\cos 11^\circ \times \operatorname{cosec} 79^\circ) + 5(\tan 21^\circ \times \tan 69^\circ) \\ &= 2(\sin(90 - 89) \cdot \sec 89^\circ) + 3(\cos(90 - 79^\circ) \cdot \operatorname{cosec} 79^\circ) + 5(\tan(90 - 69^\circ) \times \tan 69^\circ) \\ &= 2(\cos 89^\circ \cdot \sec 89^\circ) + 3(\sin 79^\circ \cdot \operatorname{cosec} 79^\circ) + 5(\cos 69^\circ \cdot \tan 69^\circ) \\ &= 2 + 3 + 5 = 10 \end{aligned}$$

137. Option (3) is correct.

Length of 1st iron bar = 20 m

Length of 2nd iron bar = 30 m

Length of 3rd iron bar = 40 m

According to the question:

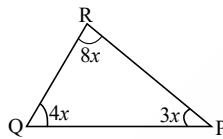
Length of each piece = HCF(20, 30, 40) = 10 m

$$\text{So, the total number of pieces} = \frac{20}{10} + \frac{30}{10} + \frac{40}{10} = 9$$

138. Option (4) is correct.

As shown in diagram, longest side will be opposite to the largest angle.

So, longest side = PQ
and shortest side = QR



139. Option (3) is correct.

In $\triangle ABC$, $\angle A = 180^\circ - (90^\circ + 45^\circ)$
 $\angle A = 45^\circ$

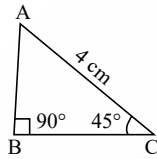
Let $AB = BC = x$ cm

Using Pythagoras in $\triangle ABC$,

$$AC^2 = AB^2 + BC^2$$

$$\Rightarrow 4^2 = x^2 + x^2$$

$$\Rightarrow x = 2\sqrt{2} \text{ So, } BC = 2\sqrt{2} \text{ cm}$$



140. Option (4) is correct.

According to the given pi chart:

Average number of boys studying in school A and C

$$= \frac{2000 \times \frac{13}{100} + 2000 \times \frac{55}{100}}{2} = \frac{260 + 1100}{2} = 680$$

141. Option (4) is correct.

Given that,

75 men can finish the project in 60 days

Let after x days, 15 Employees left the job

Now,

$$75 \times 60 = 75x + 60(65 - x)$$

$$\Rightarrow 4500 = 75x + 3900 - 60x$$

$$\Rightarrow 15x = 600$$

$$\Rightarrow x = 40$$

So, after 40 days, 15 employees leave.

142. Option (3) is correct.

Given that principle amount = Rs 15000

$$\text{Using, SI} = \frac{PRT}{100}$$

According to the question,

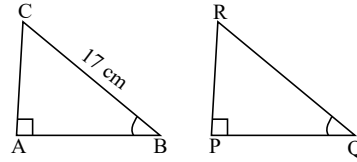
$$\frac{15000 \times r \times 5}{100} + \frac{9000 \times r \times 5}{100} = (18600 - 9000)$$

$$\Rightarrow 750r + 450r = 9600$$

$$\Rightarrow 1200r = 9600$$

$$\Rightarrow r = 8\%$$

143. Option (2) is correct.



As both triangle are congruent.

So, $AC = PR = 8$ cm

In $\triangle ABC$, using Pythagoras,

$$\Rightarrow AB^2 = BC^2 - AC^2$$

$$AB^2 = 17^2 - 8^2$$

$$AB^2 = 289 - 64$$

$$AB = \sqrt{225} = 15 \text{ cm}$$

144. Option (1) is correct.

According to the given pi chart:

The total number of students having specialisation in CSE,

$$\text{ECE and CIVIL} = 6700 \times \frac{22 + 10 + 8}{100} = 2680$$

145. Option (1) is correct.

Given that the LCM and HCF of two numbers are 1105 and 5.

Let the 1st number = x

According to the question:

$$17x = 1105$$

$$\Rightarrow x = 65$$

Using, $\text{LCM} \times \text{HCF} = 1^{\text{st}} \text{ number} \times 2^{\text{nd}} \text{ number}$

$$\Rightarrow 1105 \times 5 = 65 \times 2^{\text{nd}} \text{ number}$$

$$\Rightarrow 2^{\text{nd}} \text{ number} = \frac{1105 \times 5}{65} = 85$$

146. Option (3) is correct.

Let the total number of pages in book = LCM(16, 24) = 48

$$\text{Number of pages Akshita can type in one day} = \frac{48}{16} = 3 \text{ pages}$$

$$\text{Number of pages Raina can type in one day} = \frac{48}{24} = 2 \text{ pages}$$

According to the question:

$$\text{Required time} = \left(\frac{48}{3+2} \right)_{\text{quotient}} \times 2 = 18 \text{ days}$$

$$\text{After 30 days, the remaining work} = \left(\frac{48}{3+2} \right)_{\text{remainder}} \times 3 \text{ pages}$$

So, 1 more day is required by Akshita to finish this the remaining work.

Hence, the total number of days = 18 + 1 = 19 days

147. Option (2) is correct.

$$\text{We have, average speed} = \frac{\text{Total distance}}{\text{Total time}}$$

According to the given question:

$$\text{Average speed} = \frac{540 + (90 \times 5)}{4 + 5} = 110 \text{ km/h}$$

148. Option (3) is correct.

Let the height of cones are $7x$ and $5x$ respectively.

And their radii are $\frac{10}{2}y$ or $5y$ and $\left(\frac{21}{2}\right)y$ or $10.5y$ respectively.

$$\text{Using, volume of cone} = \frac{1}{3} \pi r^2 h$$

$$\text{Required ratio} = \frac{\frac{1}{3}\pi r_1^2 h}{\frac{1}{3}\pi r_2^2 h} = \frac{5y \times 5y \times 7x}{10.5y \times 10.5y \times 5x} = \frac{20}{63}$$

149. Option (2) is correct.

According to the question:

$$\text{Single discount amount} = 700 \times \frac{35}{100} = 245$$

$$\text{And two successive discounts of 18\% and 12\% respectively} \\ = 18 + 12 - \frac{(18 \times 12)}{100} = 27.84\%$$

$$\text{So, discount amount} = 700 \times \frac{27.84}{100} = 194.88$$

Hence, the required difference = 245 – 194.88 = Rs. 50.12

150. Option (1) is correct.

According to the given pie chart:

$$\text{Amount of the bananas sold} = 1200 \times \frac{30}{100} = 360 \text{ kg}$$

151. Option (3) is correct.

'Transparent' means being so clear that objects can be seen distinctly. Therefore, the antonym is 'opaque', implying 'not able to be seen through; not transparent.' 'Crossover' implies 'a point or place of crossing from one side to the other.' 'Oppress' means 'dominate'.

152. Option (2) is correct.

In the sentence, 'The office management was in dire straits after the financial crash', the idiom 'in dire straits' connotes 'in a very bad situation that is difficult to fix'. Example: After Covid rampage, the economy was in dire straits, and it would take years to revive. In the given example, the office management was in a very bad situation after the financial crash.

153. Option (3) is correct.

The incorrectly spelt word is 'council'; it must be 'council', which is a group of people who come together to consult, deliberate, or make decisions.

154. Option (2) is correct.

Eternal implies 'lasting or existing forever; without end.' 'Ephemeral' means 'lasting for a very short time.' 'Blasphemy' connotes 'offence of speaking sacrilegiously about God or sacred things'. 'Chronology' is 'the arrangement of events or dates in the order of their occurrence.'

155. Option (3) is correct.

The idiom 'spill the beans' means 'reveal secret information unintentionally or indiscreetly.' 'snow job' is an intensive effort at persuasion or deception. 'Stand a chance' means 'have a prospect of success or survival.' While, 'shoot the breeze' means 'have a casual conversation.'

156. Option (1) is correct.

'Aggravate' means 'annoy or exasperate.' The synonym is 'annoy'. The antonyms are 'mitigate' and 'satisfy'.

157. Option (3) is correct.

The correct answer is : Shelley ignored her father's wish of studying arts and instead took admission in commerce. The idiom 'bid defiance to' implies 'to offer resistance; defy.' 'Big fish' means 'an important or influential person.' 'Beyond the pale' implies 'offensive or unacceptable'.

158. Option (2) is correct.

'Get your act together' is an idiom means 'to start to organise yourself so that you do things in an effective way'. Example: We have already wasted two years on grooming Rian, now

he needs to get his act together and succeed his own battles. The correct answer is: to organise yourself so that you can do something properly.

159. Option (1) is correct.

The word 'obsolete' implies 'outmoded/old-fashioned'.

160. Option (4) is correct.

The correct answer is : Kiran's teacher was doubtful of her success. Here, 'doubtful on' will be replaced by 'doubtful of'. 'Doubtful of' is the correct phrase implying not sure; uncertain and feeling doubt.

161. Option (1) is correct.

The Eustachian tube and vestibular complex in the middle and inner ear, respectively, have an important role to play. The word 'vestibular' is incorrectly spelt, it will be written as 'vestibular' (relating to empty spaces in the body that are entrances to passages or other spaces).

162. Option (4) is correct.

The correct answer is : There are others waiting to grab an opportunity; if you don't act fast, you are going to miss the boat. The idiom 'miss the boat' means 'be too slow to take advantage of an opportunity.'

163. Option (1) is correct.

The correct answer is : Mr. Khanna and family have visited Manali during the summer vacation. The part 'have visit' will be replaced by 'have visited' because with present perfect tense, the verb is in past participle.

164. Option (2) is correct.

The idiom 'as genuine as a three-dollar bill' implies 'fake; dishonest; completely bogus.' 'Midas touch' is the ability to make everything that one is involved with very successful. 'Rule of thumb' is a method of procedure based on experience and common sense. 'Sticky fingers' is a tendency to steal things.

165. Option (1) is correct.

The correct answer is : There is no other book in the English language which is as interesting as this one. 'There was no other book' is incorrect, and thus, it will be substituted by 'There is no other book'. The present tense is appropriate because the second clause is in present tense, and it is a fact.

166. Option (2) is correct.

'Adorable' means 'very attractive and easy to feel love for'. Flamboyant implies 'very confident in your behaviour, and liking to be noticed by other people'. Laudable means "deserving praise" or "praiseworthy". Mysterious is strange, not known.

167. Option (1) is correct.

Ingredient is one part of a mixture. In other words, 'components' is correct.

168. Option (4) is correct.

'Abhor' means 'regard with disgust and hatred'. 'Despise' also means hatred. So, the antonym is 'love'.

169. Option (2) is correct.

The correct answer is : He was not willing to attend the technical session of the conference. The phrase 'not willing' will be replaced by 'reluctant'. Dejecting means 'unhappy, disappointed, or without hope.' 'Comprehensive' means 'complete and including everything that is necessary'.

170. Option (3) is correct.

A pandemic is a disease outbreak that spreads across countries or continents. Eradicate means to remove completely. Epidemic is a temporary prevalence of a disease. Endemic is natural to or characteristic of a specific people or place.

- 171. Option (2) is correct.**
Apex is the highest point or top of a shape or object. 'Pinnacle' is a synonym. While the antonym is 'bottom'.
- 172. Option (2) is correct.**
In the sentence, 'Ram was abandoned by his parents at a very early age', 'abandoned' means 'left', that is Ram was left by his parents at a very early age.
- 173. Option (4) is correct.**
'Part and parcel' means an essential feature or element of. Example: We need to accept life as it is, the joy and struggles, all are part and parcel of it.
- 174. Option (4) is correct.**
The idiom 'elbow grease' means 'a lot of physical effort'. Thus, the correct answer is: 'Hard work that one puts into doing something'.
- 175. Option (4) is correct.**
Robe is a long, loose outer garment reaching to the ankles. Thus, 'cloak' is correct.
- 176. Option (1) is correct.**
A snowball effect is a situation in which one action or event causes many other similar actions or events. Example: She started with writing letters against the Principal, which was later joined by a few other teachers. It had a snowball effect when the higher authorities got involved and sacked the Principal.
- 177. Option (1) is correct.**
In the statement, 'Roshni does a fabulous job at her company and has been offered a promotion', 'fabulous' is incorrectly spelt. It will be fabulous (excellent).
- 178. Option (3) is correct.**
The correct answer is: I have never come across such a kind person like my friend. Here, 'come to' will be replaced by 'come across'. The phrasal verb 'come to' implies 'cause to experience suddenly.' While 'come across' means 'meet or find someone or something by chance.'
- 179. Option (2) is correct.**
The correct answer is: The Board of Film Analysts censured with harsh and abusive language the novice Indonesian film-maker and cancelled its nomination for the 'Golden Globe Award'. The word 'vituperated' means 'to reproach angrily and abusively.' In the sentence, the Board of Film Analysts railed and abused the learners (Indonesian film-maker) and thereby cancelled its nomination for the 'Golden Globe Award'. Thus, the appropriate meaning is 'censured with harsh and abusive language'.
- 180. Option (2) is correct.**
The correct answer is: My final round of Spell Bee Competition is coming up and to win this event, I need to hit the books from today. Here, the part 'study hard' will be substituted by 'hit the books', which means the same. The idiom 'cut to the chase' means 'come to the point.' While, 'burn the books' is the deliberate destruction by fire of books or other written materials. 'The idiom 'pour my heart out' implies 'to speak very freely to someone about one's private and most deeply felt emotions.'
- 181. Option (2) is correct.**
'To forfeit' means to lose the right to have or do something because you have not obeyed a rule or law. 'To overwhelm' means 'have a strong emotional effect on'. 'To smother' is to kill someone by covering the person's face. 'To yield' is 'to give up'.
- 182. Option (1) is correct.**
'Ocassion' is the incorrectly spelt word. The correct spelling is 'occasion'.
- 183. Option (4) is correct.**
The correct answer is : Harry is the one sitting in the corner. Here, 'on' will be substituted by 'in', the latter suggests the placement of the person.
- 184. Option (4) is correct.**
The correct answer is : Communities must build their resilience, including adopting appropriate technologies while making the most of traditional knowledge, and diversifying their livelihoods to cope with current and future climate stress. Here, 'resileince' is incorrectly spelt, it will be 'resilience', implying 'the ability to be happy, successful, etc. again after something difficult'.
- 185. Option (4) is correct.**
The correct answer is : The university has been putting off the semester examination for the second time now due to technical issues. Here, 'the university has putting off' will be replaced by 'the university has been putting off', because the present perfect continuous tense takes the structure: has/have + been + verb + ing.
- 186. Option (2) is correct.**
The correct answer is : Her smile is similar to her mother's. Here, 'her mother' will be replaced by 'her mother's' to indicate the possessive form – to say, the smile of the girl is being compared to that of the smile of the mother.
- 187. Option (3) is correct.**
'Inquisitive' means 'curious'. Therefore, the antonym is 'uninterested'.
- 188. Option (2) is correct.**
The correct answer is : Anant was telling a story about his most recent exploits when a tree branch broke the living room window. The part 'when a tree branch break the living room window' has the error. The verb 'break' will be replaced by 'broke', because the sentence is in past tense, as evident in the use of 'was telling'.
- 189. Option (3) is correct.**
Vegetarian is a person who does not eat meat. Herbivore is an animal that eats only plants. Omnivore is an animal or person that eats a variety of food of both plant and animal origin. Carnivore is an animal that feeds on other animals.
- 190. Option (3) is correct.**
Bombastic means 'high-sounding but with little meaning'. So 'plain' is the correct antonym.
- 191. Option (4) is correct.**
The correct answer is : Among the largest species of cats in the world, tigers are powerful hunters with sharp teeth, strong jaws and agile bodies. Since the species of cats has been referred as powerful hunters, the use of sharp teeth, strong jaws and agile bodies are obvious.
- 192. Option (3) is correct.**
The correct answer is : Researchers still have much to learn about these beautiful cats. The phrase 'learn about' is correct as it means 'to hear facts or information that you did not know'.
- 193. Option (2) is correct.**
The correct answer is : Researchers still have much to learn about these beautiful, endangered cats. Since the passage is about the species of cats, 'cats' is the evident answer.

194. Option (4) is correct.

The correct answer is : There is currently one recognised species of tiger, *Panthera tigris*. Scientists have further classified the tiger into nine subspecies. 'Classified' means arranged in classes or categories, thus, this arrangement of tiger into nine subspecies is 'classification'.

195. Option (4) is correct.

The correct answer is : Sumatran tigers are listed as Critically Endangered on the International Union for Conservation of Nature's Red List. 'Listed' means recorded, so the word is the best fit for the blank.

196. Option (4) is correct.

The passage talks about continents 'the way we are producing and consuming goods could be improved by relying on globally shared digital resources, such as design, knowledge and software', as evident in the case of the case of the Open Bionics project. Thus, the most suitable title to the passage is 'Digital globalisation'.

197. Option (1) is correct.

As per the passage, 'All knowledge and software related to the

hand is shared globally as a digital commons'. So, the term used in the passage for globally shared digital things is digital commons.

198. Option (1) is correct.

The very first statement is a testimony to the speculation/conjecture: 'What if globally designed products could radically change how we work, produce and consume? Even a word like 'imagine', manifests the dependency on guess than information. Speculative is a tone which is based on a guess and not on information. The other three options are negative in approach, implying the bitterness, which is not evident in the passage.

199. Option (3) is correct.

The examples of globally shared digital resources, are mentioned as design, knowledge and software. So, 'automobiles' is incorrect.

200. Option (4) is correct.

In the sentence, 'Imagine a prosthetic hand designed by geographically dispersed communities of scientists, designers and enthusiasts', 'dispersed' means distributed/scattered.

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