

STAFF SELECTION COMMISSION

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

SOLVED PAPER

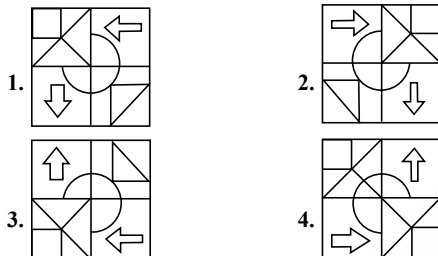
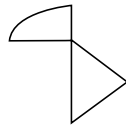
(3rd October 2023: Shift-1)

Time Allotted- 2 hours

Max marks- 200

General Intelligence & Reasoning

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



2. Which letter cluster will replace the question mark (?) to complete the given series?
ELSV, FJVR, GHYN, ?, IDEF
3. Three of the following four letter-clusters are alike in a certain way and one is different. Pick the odd one out.

1. WVTD 2. JIGQ 3. SRPH 4. KLNP
4. Seven people, A, B, C, D, E, F and G, are sitting in a straight row, facing north (not necessarily in the same order). Only 1 person sits to the left of D. A is an immediate neighbour of D. Only 2 people sit between F and D. Only 3 people sit between C and G. B is not an immediate neighbour of G. Only 2 people sit between E and A.

Who sits at the extreme right end of the row?

1. A 2. G 3. C 4. B
5. In a certain code language, 'GAME' is coded as '8426' and 'MUST' is coded as '7853'.

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

1. 8 2. 2 3. 3 4. 7
6. 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 flowers are trees.

All leaves are flowers.

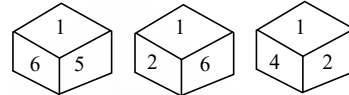
Conclusion:

I. All trees are flowers.

II. All leaves are trees.

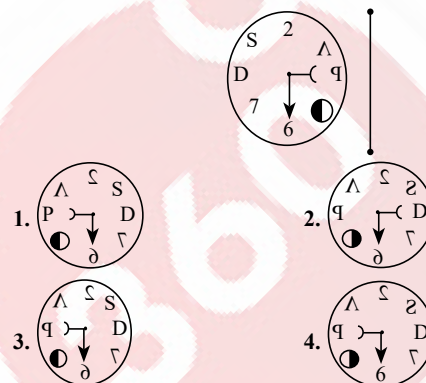
1. Only Conclusion I follows
2. Neither Conclusion I nor II follows.
3. Only Conclusion II follows.
4. Both Conclusions I and II follow.

7. Three different positions of the same dice are shown. Find the number on the face opposite the face showing '1'.



1. 3 2. 2 3. 6 4. 4

8. Select the correct mirror image of the given figure, when the mirror is placed at line MN as shown.



9. If '+' means '-', '-' means 'x', 'x' means '+', '+' means '+', then what will come in place of the question mark (?) in the following equation?

$$137 \div 56 \times 7 - 6 + 31 = ?$$

1. 149 2. 163 3. 145 4. 154

10. Select the option that represents the correct order of the given words as they would appear in an English dictionary

1. Lollipop 2. Loincloth 3. Longways

4. Logician 5. Lonely

1. 3, 2, 1, 5, 4 2. 4, 3, 1, 5, 2

3. 4, 2, 1, 5, 3 4. 3, 4, 1, 5, 2

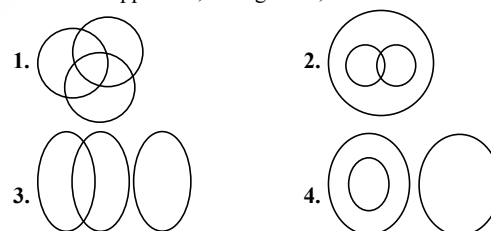
11. Which of the following terms will replace the question mark (?) in the given series?

ABEG FFHI KJJK PNNM ?

1. URQO 2. VRQO 3. RUQO 4. UROQ

12. Select the Venn diagram that best illustrates the relationship between the following classes.

Electrical Appliance, Refrigerator, Freezer



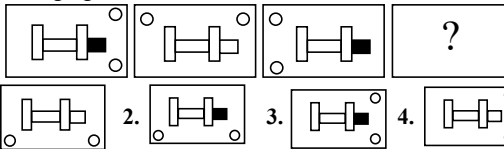
13. Select the set in which the numbers are related in the same way as are the numbers of the following sets.

(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, 35, 42), (4, 20, 24)

- 1. (8, 56, 72) 2. (6, 36, 48)
- 3. (9, 45, 54) 4. (12, 60, 48)
- 14. A person starts from point Z and moves 7 km towards the South. He turns right and moves 5 km, turns right, and moves 3 km, then turns right and moves 1 km. He takes a left turn and moves 4 km to reach a point X. How much and in which direction does he need to move now to reach point Z?
1. 4 km South 2. 4 km East
3. 4 km West 4. 6 km East
- 15. Select the figure that will replace the question mark (?) in the following figure series.



- 16. Two different positions of the same dice are shown, the six faces of which are numbered are 1 to 6. Select the number that will be on the face opposite to the one showing '1'.
1. 6 2. 4 3. 5 4. 3
- 17. 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:

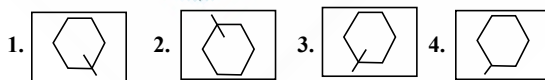
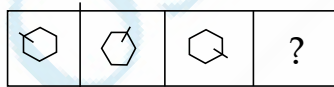
All plants are vegetables.

Some plants are poisonous.

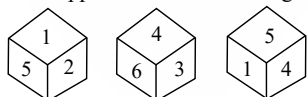
Conclusions:

- I. All vegetables are poisonous.
- II. Some vegetables are plants.

- 1. Neither conclusion I nor II follows
- 2. Only conclusion I follows
- 3. Both conclusions I and II follow
- 4. Only conclusion II follows
- 18. Select the correct option that indicates the arrangement of the given words in the order in which they appear in an English dictionary.
1. Desire 2. Destination 3. Descend 4. Destructive
5. Desolate 6. Desperate
1. 3, 1, 2, 6, 5, 4 2. 3, 1, 6, 5, 2, 4
3. 3, 1, 5, 6, 2, 4 4. 3, 1, 5, 6, 4, 2
- 19. Select the figure that will come next in the following figure series.



- 20. Three different positions of the same dice are shown. Find the number on the face opposite to the face showing '4'.



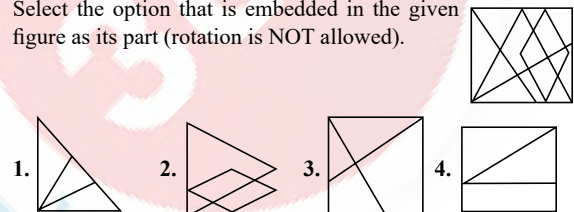
- 1. 6 2. 2 3. 3 4. 1

- 21. Select the set in which the numbers are related in the same way as are the numbers of the following sets.

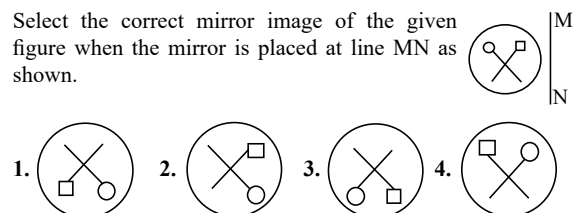
(NOTE : Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. e.g., 13 – Operations on 13 such as adding/ subtracting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is NOT allowed)

(264, 462), (132, 330)

- 1. (211, 340) 2. (188, 378) 3. (386, 584) 4. (282, 496)
- 22. If A denotes '+', B denotes '×', C denotes '−', and D denotes '÷', then what will come in place of '?' in the following equation?
2 B ? D 2 = 4 B 32 D 8
1. 12 2. 30 3. 16 4. 8
- 23. If '+' means '×', '×' means '−', '−' means '÷' and '÷' means '+', then what will come in place of the (?) in the following equation?
250 – 10 + 10 × 5 ÷ 2 = ?
1. 247 2. 167 3. 320 4. 234
- 24. 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. WYRS 2. PSJK 3. PRKL 4. FHAB
- 25. In a certain code language, 'VATT' is coded as '65' and 'STOLK' is coded as '79'. How will 'GENEROUS' be coded in that language?
1. 116 2. 216 3. 204 4. 106
- 26. Select the option that is embedded in the given figure as its part (rotation is NOT allowed).



- 27. If '+' means '÷', '−' means '+', '×' means '−' and '÷' means '×', what will be the value of the following expression?
[[{(14 × 6) – (4 ÷ 3)} + (6 – 4)] ÷ 3
1. 3 2. 6 3. 1 4. 9
- 28. 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.
TEMPLE : SCJLGY :: CHURCH : BFRNXB :: MOSQUE : ?
1. LMPYPM 2. LMPYMP 3. LPYMPM 4. LMPMPY
- 29. In a certain code language, 'COURT' is coded as OCRTR and 'JUDGE' is coded as UJAEG. How will 'ORDER' be coded in the same language?
1. LDRRE 2. ROARE 3. REARO 4. ROBRE
- 30. Which of the following numbers will replace the question mark (?) in the given series?
115, 130, 122, 137, 129, ?
1. 144 2. 142 3. 148 4. 150
- 31. Select the correct mirror image of the given figure when the mirror is placed at line MN as shown.



32. In a certain code language, 'FLORA' is written as 'WQOLC' and 'MONEY' is written as 'PNPYE'. How will 'GOING' be written in that language?

1. VNUPW 2. RMWEH 3. VBUDP 4. RHKSR

33. 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)

(6, 2, 96)

(5, 6, 240)

1. (4, 1, 6) 2. (12, 3, 45) 3. (1, 2, 16) 4. (8, 3, 28)

34. Study the given pattern carefully and select the number that can replace the question mark (?) in it.

First row: 19, 6, 37

Second row: 21, 8, 45

Third row: 72, 14, ?

(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)

1. 124 2. 134 3. 114 4. 144

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

39 D 13 B 2 C 6 A 8

1. 10 2. 8 3. 12 4. 9

36. 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, 91, 98)

(4, 52, 56)

1. (12, 156, 168) 2. (3, 36, 42)

3. (8, 80, 96) 4. (5, 25, 60)

37. If A denotes '+', B denotes '×', C denotes '−', and D denotes '÷', then what will be the value of the following equation?

96 D 3 B 8 C 25 A 14 = ?

1. 217 2. 234 3. 254 4. 245

38. If A denotes '+', B denotes '×', C denotes '−', and D denotes '÷', then what will come in place of '?' in the following equation?

7 A 3 B 24 D 2 = 20 B ? A 3

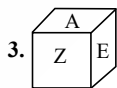
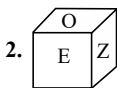
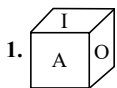
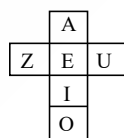
1. 2 2. 20 3. 14 4. 7

39. Which of the following numbers will replace the question mark (?) in the given series?

35, ?, 40, 47, 45, 53

1. 37 2. 43 3. 42 4. 41

40. If the given sheet is folded to form a cube, which of the given figures is/are possible? (The elements are shown to indicate the sides only).



1. Only 1 and 2 2. Only 1, 2 and 4
3. Only 2 and 3 4. Only 3

41. Which figure from the given options would replace the question mark (?) if the following figure series were to be continued?



1. 2. 3. 4.

42. Which of the following numbers will replace the question mark (?) in the given series?

$-1/729, -1/81, -1/9, ?$

1. 1 2. -1 3. $-1/3$ 4. $1/3$

43. Which letter-cluster will replace the question mark (?) to complete the given series?

MKPN, LMOP, ?, JQMT, ISLV

1. KOLT 2. KNNQ 3. KNMR 4. KONR

44. 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.)

Butterfly : Caterpillar :: Insect : ?

1. Cygnet 2. Nymph 3. Larva 4. Microbes

45. Six friends are sitting in a circle. All of them are facing the centre. Kanak sits third to the right of Sona. Kapil is an immediate neighbour of Mani. Goldy sits second to the right of Mani. Sona is an immediate neighbour of Kapil and Suresh. Who sits to the immediate right of Goldy?

1. Sona 2. Kapil 3. Kanak 4. Suresh

46. L is the wife of Q. P is the mother of M. J is the father of L. M is the sister of H. J is the husband of H. How is P related to L?

1. Mother's mother 2. Sister's son
3. Mother's sister 4. Sister's husband

47. 'A = B' means 'A is the father of B'.

'A \$ B' means 'A is the sister of B'.

'A * B' means 'A is the mother of B'.

'A ? B' means 'A is the son of B'.

If M ? C \$ J * Z, then how is J related to M?

1. Sister 2. Mother's sister
3. Mother's mother 4. Brother

48. Rohit drives 3 km towards north from point A. He takes a left turn and drives 4 km. Again he takes a left turn and drives 6 km. Finally, he takes a left turn and drives 4 km to reach point B. How far and towards which direction should he drive in order to reach point A again?

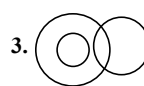
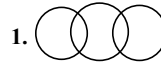
1. 4 km towards south 2. 3 km towards east
3. 3 km towards north 4. 2 km towards west

49. In a certain code language, 'FRIEND' is written as 'IIFDME' and 'DEMAND' is written as 'MVDDMA'. How will 'GROUND' be written in that language?

1. DOTENC 2. P XKRYS 3. OIGDMU 4. OFTSBU

50. Select the Venn diagram that best illustrates the relationship between the following classes.

Pencil, Eraser, Sharpener



General Awareness

51. Which of the following does NOT belong to the family of organic compounds?
 1. Ammonia 2. Nonane 3. Furan 4. Decane
52. In November 2020, _____ has set a record of becoming the world's fastest piano player ever.
 1. Lydian Nadhaswaram 2. Anisrinivasan
 3. Gauri Mishra 4. Shikha Chaurasia
53. For Kharif crops, the temperature required for farming is above 25 degrees Celsius with high humidity and annual rainfall above _____ cm.
 1. 16 2. 100 3. 35 4. 50
54. Bhutia dance is performed in which of the following states?
 1. West Bengal 2. Odisha 3. Sikkim 4. Nagaland
55. With which neighbouring country did India sign the Farakka Treaty in 1996 for sharing of the Ganga Waters and on augmenting its flows?
 1. Bhutan 2. Bangladesh 3. Nepal 4. Afghanistan
56. Which ruler of the Chahamanas dynasty made Ajmer his capital?
 1. Ajayaraja 2. Prithviraj II
 3. Arnoraj 4. Prithviraj III
57. How many Members of Parliament were elected from Punjab to the 17th Lok Sabha?
 1. 14 2. 15 3. 13 4. 17
58. In India, which of the following regulatory mechanisms was NOT in existence to enforce regulation of the industrial sector?
 1. Industrial licensing under which every entrepreneur had to get permission from government officials to start a firm, close a firm or decide the amount of goods that could be produced.
 2. Controls on price fixation and distribution of selected industrial products.
 3. Private sector was.
 4. Some goods could be produced only in small-scale industries.
59. Who among the following Indian authors has written the autobiography titled 'My Story'?
 1. Arundhati Roy 2. Shobha Dey
 3. Kiran Desai 4. Kamala Das
60. Methyl ethyl ketone is also known as:
 1. 2-butanone 2. propanone
 3. methyl pentanone 4. 2-butanol
61. Which of the following statements is NOT correct about fundamental duties in the Indian Constitution?
 1. They are made to value and preserve the rich heritage of our composite culture.
 2. They are made to cherish and follow the noble ideals which inspired our national struggle for freedom.
 3. They are made to develop the scientific temper, humanism and the spirit of inquiry and reform.
 4. They are made justiciable in nature.
62. Who was the first chairman of Finance Commission of India?
 1. Ashok Kumar Chanda 2. KC Neogy
 3. K Santhanam 4. PV Rajamannar
63. The First Commonwealth Games were organised in which of the following years?
 1. 1920 2. 1930 3. 1922 4. 1926
64. Continental Shelf which is the shallowest part of the ocean has an average gradient of:
 1. 8° or even less 2. 1° or even less
 3. 5° or even less 4. 2° or even less
65. Dhruvasena II is related to which of the following ruling dynasties?
 1. Vakataka 2. Pushyabhuti
 3. Maitraka 4. Maukhari
66. Under which of the following Acts was the National Commission for Women established?
 1. The National Commission for Women Act, 1989
 2. The National Commission for Women Act, 1987
 3. The National Commission for Women Act, 1990
 4. The National Commission for Women Act, 1988
67. Identify the position of stomata in plants.
 1. Tip of stem 2. Inside the roots
 3. Inside the flower 4. Surface of leaves
68. Who among the following has given extraordinary powers during an emergency?
 1. Prime Minister 2. The Chief Justice
 3. The President 4. The Governor
69. In India all loans that are below _____ are considered as micro loans.
 1. one lakh rupees 2. two lakh rupees
 3. four lakh rupees 4. three lakh rupees
70. Identify whether the given statements about p-block elements are correct or incorrect.
 Statement A: In p-block elements, the last electron enters the outermost p orbital.
 Statement B: The non-metals and metalloids exist only in the p-block of the periodic table.
 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
71. Vallabhbhai Patel and _____ helped Gandhi in Kheda by organising his tour of the villages and urging the peasants to stand firm against the government.
 1. Jamunlal Bajaj 2. Mohammad Ali Jinnah
 3. Motilal Nehru 4. Indulal Yajnik
72. The deliberations of the representatives at the Third Round Table Conference was held during the later months of which year?
 1. 1932 2. 1929 3. 1930 4. 1931
73. Which part of the Indian Constitution deals with fundamental rights?
 1. Part III 2. Part II 3. Part V 4. Part IV
74. At normal temperature and atmospheric pressure, _____ has a density of 1.87 kg/m³, which is 1.5 times heavier than air and exists as a liquid below the critical temperature of 31°C.
 1. carbon dioxide 2. nitrogen
 3. hydrogen 4. lithium
75. Sao Joao festival is celebrated primarily by the Catholic Christians in which of the following Indian states?
 1. Assam 2. Goa 3. Manipur 4. Nagaland
76. According to the Global Hunger Index 2022, which neighbouring country is only behind India with a rank of 109 out of 121 countries?
 1. Bangladesh 2. Afghanistan 3. Nepal 4. Pakistan
77. Which of the following was established by Jyotirao Govindrao Phule in 1873 to fight against idolatry and caste system?
 1. Shree Narayan Guru Dharma Paripalana (SNDP) Movement
 2. Satyashodhak Samaj

3. Young Bengal Movement
4. Arya Samaj
78. Who is the first Indian to participate in a Super Heavyweight Boxing event in the 2020 Olympic Games?
1. Satish Kumar 2. Manish Harshit
3. Sakshi Chaudhary 4. Amit Panghal
79. Prithviraj Raso, an epic poem about the life of the 12th century Indian king, Prithviraj Chauhan, was written by:
1. Banabhatta 2. Ashvaghosa
3. Bharavi 4. Chand Bardai
80. Which is the most widely accepted model to explain the formation and evolution of the solar system?
1. Nebular hypothesis 2. Gas hypothesis
3. Solar hypothesis 4. Cloud hypothesis
81. How many controls are there globally that influence the climate of a particular zone?
1. 8 2. 6 3. 3 4. 5
82. Moatsu festival of Nagaland is celebrated by which of the following tribes?
1. Bhil tribe 2. Ao tribe
3. Munda tribe 4. Bodo tribe
83. Which of the following is considered as a good indicator of economic growth?
1. Steady increase in loan
2. Steady increase in international trade
3. Steady increase in population
4. Steady increase in the GDP
84. What is the full form of PPLO with respect to bacteria?
1. Pleuro Pneumonia Like Organisms
2. Pleuro Platelet Like Organisms
3. Platelet Prone Like Organisms
4. Pneumonia Platelet Like Organisms
85. Which of the following algae is also called kelp and found in the deep sea?
1. Chlamydomona 2. Fucus
3. Laminaria 4. Nostoc
86. Atal Tunnel connects which two places?
1. Manali and Lahaul-Spiti valley
2. Shimla and Nainital
3. Shimla and Mansoori
4. Manali and Nainital
87. Priorities of the government in the fiscal area and its related policies and deviations are mentioned in which part of the budget document?
1. Fiscal Policy Strategy Statement
2. Appropriation Bill
3. Macroeconomic Framework Statement
4. Medium-term Fiscal Policy Statement
88. The structure that produces and holds sperm cells in bryophytes (non-vascular plants) and ferns is called:
1. megasporangia 2. archegonium
3. antheridium 4. protonema
89. Shore temple of Mamallapuram was built by:
1. Pallavas 2. Chalukayas 3. Nagas 4. Cholas
90. Dr. Teejan Bai, a Padma Shri, Padma Bhushan and Padma Vibhushan awardee is globally recognised for her contribution to which of the following art forms?
1. Gendi 2. Pandavani
3. Raut Nacha 4. Jhirliti
91. In how many phases did the Indian Economy experience the success of the Green Revolution?
1. Two 2. Three 3. Five 4. Four
92. Which of the following statement is correct regarding climate of Indian subcontinent?
A. The climate of North India remains similar throughout the year
B. The Himalayas protect the subcontinent from extremely cold winds from central Asia.
1. Only Statement B is correct
2. Both Statements A and B incorrect
3. Only Statement A is correct
4. Both Statements A and B correct
93. In a volleyball game, each team comprise of how many players?
1. 5 2. 6 3. 8 4. 7
94. What is Kalbaisakhi?
1. Pre monsoon showers and thunderstorms
2. Cold waves and rains
3. Snowfall and hail
4. Heatwaves and loo
95. Which of the following books is an autobiography of the former American president Bill Clinton?
1. Becoming 2. My Life
3. Long Walk to Freedom 4. My Country My Life
96. Tansen, the famous musician, often sang in the court of which ruler?
1. Sher Shah Suri 2. Akbar
3. Feroz Shah Tughlaq 4. Allaudin Khilji
97. Who among the following founded the Kalakshetra Foundation in Chennai that is an important centre for the study and performance of fine arts?
1. Rukmini Devi Arundale 2. Yamini Krishnamurthy
3. Mrinalini Sarabhai 4. Alarmel Valli
98. Which German chemist was the first to show a graphical representation of the periodicity of an atomic volume plotted against atomic weight?
1. Lothar Meyer 2. John Newlands
3. William Ramsay 4. Glenn T Seaborg
99. Which of the following is NOT an Equestrian discipline?
1. Dressage 2. Sprint
3. Show jumping 4. Vaulting
100. The Guru Kelucharan Mohapatra Yuva Pratibha Samman 2021 was presented to Arushi Mudgal for _____ dance.
1. Mohiniyattam 2. Odissi
3. Kuchipudi 4. Kathak

Quantitative Aptitude

101. The radii of two cylinders are in the ratio of 4 : 5 and their heights are in the ratio of 5 : 2. The ratio of their volume is:
1. 9 : 4 2. 2 : 1 3. 9 : 7 4. 8 : 5
102. A person crosses a 900-metre long street in 6 minutes. The speed of the person, in km/h, is:
1. 10 2. 9 3. 5 4. 8
103. If 3 goats or 5 sheep can graze a field in 54 days, then in how many days can 6 goats and 8 sheep graze the same field?
1. 15 2. 12 3. 10 4. 8
104. An item with a marked price of ₹3,800 was sold for ₹3,496, after a discount of $y\%$ was offered. What was the value of y ?
1. 7.5% 2. 8.5% 3. 8% 4. 7%
105. A dishonest dealer announces selling his articles with 22% loss, but uses 35% lighter weights. What is the percentage of his profit or loss?
1. 20% loss 2. 13% profit 3. 13% loss 4. 20% profit

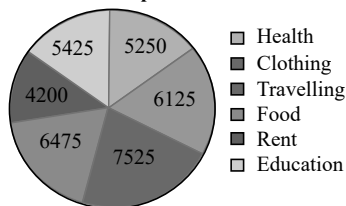
106. The following table represents the population of four different areas and the percentage of males, females and children among them.

| Area | Population | Males | Females | Children |
|------|------------|-------|---------|----------|
| P | 10,000 | 40% | 40% | 20% |
| Q | 20,000 | 30% | 40% | 30% |
| R | 16,000 | 50% | 30% | 20% |
| S | 18,000 | 45% | 35% | 20% |

What is the total number of children in areas P and Q together?

1. 7000 2. 9000 3. 6000 4. 8000
107. If θ is an acute angle and $\sin \theta + \operatorname{cosec} \theta = 2$, then the value of $\sin^5 \theta + \operatorname{cosec}^5 \theta$ is:
 1. 10 2. 2 3. 4 4. 5
108. What is the central angle corresponding to the expenditure spent on Education in the given figure?

Amount spent on different expenditures



1. 55.8° 2. 55.2° 3. 52° 4. 42°
109. Evaluate $\frac{0.04}{0.05}$ of $\left(3\frac{1}{2} - 2\frac{1}{2}\right) \div \frac{1}{2}$ of $1\frac{1}{4}$
 $\frac{1}{3} + \frac{1}{5}$ of $\frac{1}{9}$
1. 0.3 2. 5 3. 3 4. 0.03
110. If $\tan A = \frac{4}{3}$, $0 \leq A \leq 90^\circ$, then find the value of $\sin A$.
 1. $\frac{3}{5}$ 2. 1 3. $\frac{3}{4}$ 4. $\frac{4}{5}$
111. Find the LCM of 15, 24, 35 and 54.
 1. 5670 2. 7560 3. 7650 4. 6570

112. Study the given data and answer the question that follows. The data shows the number of candidates (in thousand) appearing for Civil Service (CS) and Engineering Service (ES) Examinations in the years 2020, 2021, 2022 in USA.

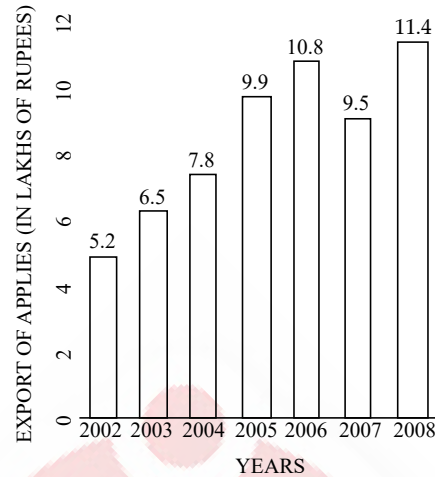
| Year | Civil Service | | Engineering service | |
|------|----------------------------------|---|----------------------------------|---|
| | Total No. of Candidates Appeared | Graduates out of the total candidates appeared (in %) | Total No. of Candidates Appeared | Graduates out of the total candidates appeared (in %) |
| 2020 | 75 | 60 | 89 | 57 |
| 2021 | 110 | 64 | 118 | 65 |
| 2022 | 120 | 80 | 135 | 78 |

What is total number of graduates who appeared for both CS and ES together in the year 2022?

1. 2,01,000 2. 2,01,100
 3. 2,01,300 4. 2,01,200
113. Let the speed of the boat in still water be 17 km/h and let the speed of the stream be 5 km/h. What is the time taken by the boat to go 110 km downstream?
 1. 4.5 hours 2. 6 hours 3. 5.5 hours 4. 5 hours
114. A number is first increased by 10% and then increased by 20%. The number, so obtained, is now decreased by 12%. What is the net increase or decrease per cent in the original number?

1. 16.16% increase 2. 14.14% decrease
 3. 11.11% decrease 4. 12.12% increase

115. Study the given graph carefully and answer the question that follows.



In which year was there maximum percentage increase in the export of apples to that of the previous years?

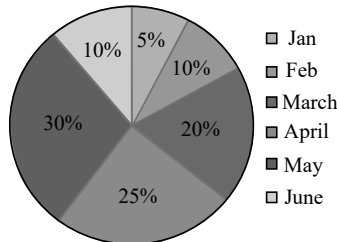
1. 2003 2. 2005 3. 2006 4. 2008
116. The following data gives a year-wise outlay (in lakhs of rupees) in a certain 4-year plan (2018-2022) of a state.

| Year | Health | Housing | Transport | Education |
|-----------|--------|---------|-----------|-----------|
| 2018-2019 | 6200 | 6500 | 7100 | 8000 |
| 2019-2020 | 7000 | 6600 | 7200 | 8100 |
| 2020-2021 | 7300 | 6800 | 7400 | 8200 |
| 2021-2022 | 7400 | 7000 | 7500 | 8400 |

What was the percentage increasing during 2020-2021 over 2018-2019 in Education outlay?

1. 2.8% 2. 3.2% 3. 2.0% 4. 2.5%
117. The first shirt is sold at twice the selling price of the second shirt. The first shirt is sold at 8% profit and the second shirt is sold at a 3% loss. What is the overall percentage profit on the shirts (Rounded off to two decimal place)?
 1. 4.86% 2. 4.07% 3. 4.60% 4. 3.86%
118. The areas of the two triangles are in the ratio 4 : 3 and their heights are in the ratio 6 : 5. Find the ratio of their bases.
 1. 5 : 6 2. 10 : 9 3. 6 : 5 4. 9 : 10
119. The largest number of four digits that is exactly divisible by 17 and 36 is:
 1. 7956 2. 9180 3. 9792 4. 8568
120. PQR is an equilateral triangle inscribed in a circle. S is any point on the arc QR . Measure of $\frac{1}{2} \angle PSQ$ is:
 1. 20° 2. 15° 3. 30° 4. 60°
121. If $\frac{x}{y} + \frac{y}{x} = 1$ and $x + y = 2$, then the value of $x^3 + y^3$ is:
 1. 1 2. 3 3. 0 4. 2
122. If the height of a cone is 7 cm and the diameter of the circular base is 12 cm, then its volume is (nearest to integer):
 1. 254 cm^3 2. 284 cm^3 3. 264 cm^3 4. 274 cm^3
123. A, B and C can do a piece of work in 20 days, 30 days and 60 days respectively. If A works daily and on every third day B and C also work with A, then in how many days, will the work be completed?
 1. 21 2. 18 3. 12 4. 15
124. Darjeeling gets tourists from two countries A and B. Percentage wise distribution of the influx of tourists is given below for the first six month of the year.

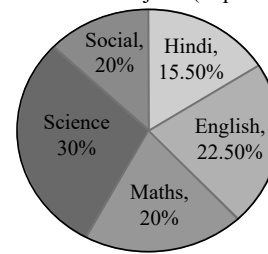
| Total number of tourists = 60000 | |
|----------------------------------|---------------|
| Month | Ratio (A : B) |
| Jan | 5:7 |
| Feb | 6:7 |
| Mar | 3:2 |
| April | 8:7 |
| May | 4:5 |
| June | 3:4 |



Find the ratio of tourists from country A coming in during March and April.

1. 4:7 2. 3:7 3. 7:10 4. 9:10
125. The value of $11 \times 11 + 11 \div 11 - 11 \times 11 + 11 + 11 \times 11 - 11 - 11 \times 11$ is:
1. 1 2. 11 3. 121 4. 0
126. A man spends 72% of his salary and saves ₹5,740 per month. What is 10% of his annual salary (in ₹)?
1. ₹21600 2. ₹24600 3. ₹20500 4. ₹28400
127. The population of a city is 3,52,314. It increases annually at the rate of 15% per annum. What was its population 2 years ago?
1. 3,02,400 2. 3,06,360 3. 2,66,400 4. 2,56,400
128. A tourist van travels the distance of 35 km from Dehradun to Mussoorie at an average speed of 36 km/h and returns at 60 km/h. What is the approximate average speed (in km/h) of the tourist van for the entire journey?
1. 48 2. 42 3. 45 4. 50
129. The HCF and the LCM of two numbers are 5 and 175, respectively. If the ratio of the two numbers is 5:7, the larger of the two numbers is _____.
1. 35 2. 25 3. 45 4. 75
130. The product of two numbers is 726 and their HCF is 11, then their LCM is:
1. 58 2. 68 3. 66 4. 76
131. If a truck moves at a constant speed of 30 km/h for 1 kilometre and 45 km/h for the next 1 kilometre. What is the average speed of the truck?
1. 32 km/h 2. 36 km/h 3. 38 km/h 4. 34 km/h
132. P , Q and R , when working individually, can complete a job in, respectively, 36 days, 48 days and 144 days. P , Q and R start working together. P leaves the job 12 days before completion and Q leaves the job 8 days before completion. R works from the beginning till the end of the job. Determine the total number of days taken to complete the job.
1. 24 2. 27 3. 30 4. 25
133. If $a + b = 10$ and $ab = 6$, then the value of $a^3 + b^3$ is:
1. 800 2. 820 3. 860 4. 840
134. If $\cos \theta - \sin \theta = \sqrt{2} \sin \theta$, then $(\cos \theta + \sin \theta)$ is:
1. $-\sqrt{2} \cos \theta$ 2. $\sqrt{2} \cos \theta$ 3. $\sqrt{2} \tan \theta$ 4. $-\sqrt{2} \sin \theta$
135. The sides of a triangle are in the ratio 5 : 12 : 13 and its perimeter is 90 cm. Find its area (in cm^2).
1. 150 2. 270 3. 30 4. 60

136. The given pie-chart shows the distribution of the marks scored by Ram in five different subjects (in percentage).



What is the ratio of the central angle of Maths to the central angle of Science?

1. 5 : 2 2. 2 : 3 3. 4 : 3 4. 3 : 5
137. Study the given data and answer the question that follows. The tables shows the number of candidates (in lakh) appearing in an entrance exam from four different cities and the ratio of candidates passing and failing in the same.

| City | A | B | C | D |
|----------------------|------|------|------|------|
| Number of candidates | 2.15 | 1.14 | 1.56 | 2.35 |

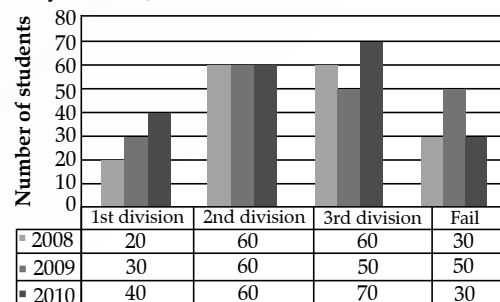
Ratio of candidates passing and failing within the city.

| City | Passing | Failing |
|------|---------|---------|
| A | 4 | 2 |
| B | 5 | 3 |
| C | 6 | 4 |
| D | 4 | 6 |

What is the number of failed candidates (in lakh) in city D?

1. 1.70 2. 1.25 3. 1.85 4. 1.41
138. Two circles of radius 13 cm and 15 cm intersect each other at points A and B . If the length of the common chord is 12 cm, then what is the distance between their centres?
1. $\sqrt{145} + \sqrt{184}$ 2. $\sqrt{131} + \sqrt{181}$
3. $\sqrt{145} + \sqrt{169}$ 4. $\sqrt{133} + \sqrt{189}$
139. Study the given bar-graph and answer the question that follows.

The bar-graph shows the higher secondary students of a school for the years 2008, 2009 and 2010.



The percentage of students who passed in the second division in the year 2010 was:

1. 25% 2. 28% 3. 30% 4. 32%
140. Two numbers are in the ratio 5:3 and the difference between these two numbers is 34. Find the smaller of the two numbers.
1. 51 2. 85 3. 68 4. 34
141. The radii of the ends of a frustum of a solid right-circular cone 45 cm high are 28 cm and 7 cm. If this frustum is melted and reconstructed into a solid right circular cylinder whose radius of base and height are in the ratio 3 : 5, find the curved surface area (in cm^2) of this cylinder. [Use $\pi = \frac{22}{7}$].
1. 4580 2. 4610 3. 4640 4. 4620

142. A man runs for 40 km. The time taken by him in the first 10 km is twice the time taken by him in the second 10 km. The time taken in the third 10 km is half of the time taken in the fourth 10 km, and the time taken in the fourth 10 km is equal to the time taken in the first 10 km. If his speed in the first 10 km is 40 km/h, then what is the average speed for 40 km?
1. 50 km/h 2. $\frac{70}{3}$ km/h 3. $\frac{160}{3}$ km/h 4. 40 km/h
143. Find the value of $(\tan^2 \theta + \tan^4 \theta)$.
1. $\cot^2 \theta - \tan^2 \theta$ 2. $\sec^4 \theta - \sec^2 \theta$
3. $\sec^2 \theta - \sec^4 \theta$ 4. $\sec^4 \theta + \sec^2 \theta$
144. If the hypotenuse of a right-angled triangle is 29 cm and the sum of the other two sides is 41 cm, then the difference between the other two sides is:
1. 5 cm 2. 1 cm 3. 2 cm 4. 10 cm
145. Two numbers are in the ratio 3 : 4. The product of their HCF and LCM is 2700. The sum of the numbers is:
1. 60 2. 105 3. 15 4. 45
146. Rajesh invested ₹10,000 by dividing it into two different investment schemes, A and B, at simple interest rates of 8% and 10%, respectively. If the total interest earned in 2 years is ₹1,680, the amount invested in scheme A is:
1. ₹8,000 2. ₹2,000 3. ₹6,000 4. ₹4,000
147. If 42, 36 and 35 are the first three terms of a proportion, then the fourth term is:
1. 27 2. 28 3. 30 4. 32
148. If the price item is increased by 70% and then allows a scheme discount of 5% and 20% on this marked price. If price is paid in cash and additional discount of 20% is allowed then what is his gain percentage?
1. 2.25% 2. 4.36% 3. 3.25% 4. 3.36%
149. Jonathan had borrowed a sum of money 3 years ago at 10% interest per annum compounded annually for a 5-year period, with the amount to be paid at the end of the period being ₹1,61,051. However, there is no pre-payment penalty and Jonathan has received some bonus payment now, with which he has decided to clear his debt. How much does Jonathan have to pay now to clear his debt?
1. ₹1,33,000 2. ₹1,32,900
3. ₹1,33,100 4. ₹1,33,200
150. What is the area of a triangle whose sides are of lengths 12 cm, 13 cm and 5 cm?
1. 30 cm² 2. 15 cm² 3. 40 cm² 4. 70 cm²
151. Select the most appropriate one-word substitution of the given group of words.
A notice of the death of a person, often with a biographical sketch, as in a newspaper.
1. Obituary 2. Oblivion
3. Elegy 4. Advertisement
152. Select the INCORRECTLY spelt word.
1. Adjacent 2. Accomplish
3. Agregate 4. Allure
153. Select the most appropriate idiomatic expression that can substitute the underlined segment in the given sentence.
Both Nitin and Uday are of the same interests.
1. under the weather
2. birds of the same feather
3. blowing smoke without fire
4. different kettles of fish
154. Select the most appropriate ANTONYM of the word 'moving' in the given sentence and choose the correct option.
The old grandfather clock chimed loudly, marking the passage of time with its steady tick-tock.
1. Steady 2. Marking 3. Chimed 4. Passage
155. 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'.
Her paintings are way better then her sketches.
1. off 2. than
3. more 4. No substitution required
156. Select the most appropriate meaning of the underlined idiom in the given sentence.
I hate to get off on the wrong foot.
1. To start something with positive factors
2. To start something with neutral factors
3. To start a relationship or activity badly
4. To start something with an injury on the wrong foot
157. Select the most appropriate phrasal verb to fill in the blank.
Arunima _____ a lot during her vacation time.
1. gets on 2. gets after 3. gets about 4. gets along
158. Select the most appropriate meaning of the given idiom.
The best of both worlds
1. Good things come after bad things
2. An ideal situation
3. Better to show than tell
4. Make people comfortable
159. Select the option that can be used as a one-word substitute for the underlined group of words.
How did you become interested in learning the art of producing beautiful handwriting?
1. Lexicography 2. Demography
3. Calligraphy 4. Graphology
160. Select the most appropriate synonym of the given word.
Haphazard
1. Random 2. Sociable 3. Aggressive 4. Confident
161. 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.
We feed the horse oats for a week because it had eaten all the hay.
1. No error 2. it had eaten all the hay
3. We feed the horse oats 4. for a week because
162. The following sentence has been split into four segments. Identify the segment that contains a grammatical error.

English Comprehension

151. Select the INCORRECTLY spelt word.
1. Interrogate 2. Alienate 3. Deserve 4. Assassinate
152. Select the most appropriate meaning of the given idiom.
Bend over backwards
1. Working hard to try to impress
2. Working slowly and lazily
3. Going backward
4. Using wrongful means
153. Select the INCORRECTLY spelt word from the underlined words in the following sentence.
This was a blatent disregard to the advisory by the host against it and in violation of norms of the meeting.
1. advisory 2. blatent 3. disregard 4. violation
154. Parts of the following sentence have been given as options. Select the option that contains an error.
The dancers swayed daintly on the stage last night.
1. last night 2. on the stage
3. The dancers 4. swayed daintly
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3. We feed the horse oats 4. for a week because
166. The following sentence has been split into four segments. Identify the segment that contains a grammatical error.

- They will not attend / the event / as they're going / away at end of April.
- away at end of April
 - as they're going
 - the event
 - They will not attend
167. Select the option that can be used as a one-word substitute for the underlined group of words.
Ms. Scarlet was indifferent to pain and pleasure, she never complained.
- Hypocrite
 - Stoic
 - Versatile
 - Amateur
168. You are preparing a speech for the upcoming function. Select a synonym for the highlighted word to make it better.
Despite the advancement in technology many rural areas in developing countries still lack access to basic necessities.
- Desist
 - Disguise
 - Avenue
 - Apathy
169. Select the most appropriate meaning of the underlined idiom.
Students often burn the midnight oil to qualify for competitive examinations.
- put the things on fire at night
 - want to be at a place full of light
 - work until late at night
 - sleep well
170. Select the most appropriate meaning of the underlined idiom.
More people in Turkey are on the breadline now than thirty years ago.
- Be very poor
 - Are well educated
 - Be very expensive
 - Earn a lot of money
171. Select the most appropriate synonym of the given word.
Justifiable
- Indefensible
 - Neutral
 - Maintainable
 - Reasonable
172. Select the most appropriate meaning of the given idiom.
Left out in the cold
- To serve stale and cold food
 - To leave in hurry
 - To bear extreme weather condition
 - To be ignored
173. Select the option that can be used as a one-word substitute for the given group of words.
Fear of water
- Hydrophobia
 - Bibliophobia
 - Microphobia
 - Botanophobia
174. Select the option that can substitute the bracketed word segment correctly and complete the following sentence meaningfully.
Lots of kids (was visualised) crossing the road when the bus arrived.
- were seen
 - have been seen
 - are seen
 - was seen
175. Select the most appropriate synonym of the given word.
Dreadful
- Feeble
 - Terrible
 - Auspicious
 - Propitious
176. Select the most appropriate meaning of the underlined idiom.
We dodged a bullet when we didn't fall for the agents' words.
- To give something a try
 - To narrowly avoid situation
 - To be out of your comfort zone
 - To start performing better
177. Select the word which means the same as the group of words underlined in the given sentence.
The pandemic deeply affected small business owners, as they have no means of livelihood left.
- Pauper
 - Worker
 - Unemployed
 - Mason
178. Select the option that will improve the underlined part of the given sentence.
The use of chemicals, insecticides and pesticides began after the Green Revolution.
- A practice of chemicals, insecticides and pesticides
 - The custom of chemicals, insecticides and pesticides
 - Consumption of chemicals, insecticides and pesticides
 - The usage of chemicals, insecticides and pesticides
179. Select the most appropriate ANTONYM of the given word.
Catastrophic
- Calamity
 - Fortuitous
 - Fiasco
 - Sabotage
180. Select the most appropriate meaning of the given idiom.
An arm and a leg
- To ask for too much
 - A large amount of money
 - Everything is ready
 - To be lost and bewildered
181. The following sentence has been split into four segments. Identify the segment that contains a spelling error.
He wrote his dairy / in code / so that nobody / could understand it.
- so that nobody
 - could understand it
 - in code
 - He wrote his dairy
182. Select the most appropriate ANTONYM for the highlighted word.
The negligent attitude of the cops was criticised.
- attentive
 - reluctant
 - amplify
 - bored
183. Select the most appropriate one-word substitution of the given group of words.
A person engaged in or trained for spaceflight.
- Astute
 - Astronomer
 - Astronaut
 - Atrocious
184. Select the most appropriate synonym of the given word.
Site
- Lap
 - Location
 - Globe
 - Pull
185. Select the INCORRECTLY spelt word.
- Serene
 - Triumph
 - Comparsion
 - Unveil
186. The following sentence has been split into four segments. Identify the segment that contains a grammatical error.
She will have participate / in the dance competition / by the time her father / returns from the tour.
- in the dance competition
 - She will have participate
 - by the time her father
 - returns from the tour
187. Select the option that can be used as a one-word substitute for the given group of words.
Working or operating quickly and effectively in an organised way
- Efficient
 - Extensive
 - Excellent
 - Effusive
188. Select the most appropriate synonym of the given word.
Abandon
- Perish
 - Desert
 - Prolong
 - Retain
189. Select the most appropriate ANTONYM of the given word.
Damp
- Misty
 - Arid
 - Tropical
 - Soaked
190. Select the most appropriate meaning of the given idiom.
A leopard can't change his spots
- Someone who is cherished above all others
 - A visual presentation is far more descriptive than words
 - Something good that isn't recognised at first
 - You cannot change who you are

In the following passage some words have been deleted. Read the passage carefully and select the most appropriate option for each blank.

The Amazon rainforest is an awe-inspiring natural wonder that (1)_____ across several South American countries, including Brazil, Peru, Colombia, and Ecuador. Covering an (2)_____ area of 5.5 million square kilometres, it is the largest tropical rainforest on Earth. The Amazon jungle is (3)_____ for its remarkable biodiversity, harbouring an astonishing array of plant and animal species that are still being discovered and studied. The dense vegetation of the jungle creates a (4)_____ and complex ecosystem, supporting countless species and providing crucial ecosystem services such as carbon sequestration and climate regulation. It is also home to (5)_____ communities that have thrived within its rich confines for centuries, preserving their traditions and deep connection to the land.

191. Select the most appropriate option to fill in blank number 1.
 1. reaches 2. lengths 3. amounts 4. spans
192. Select the most appropriate option to fill in blank number 2.
 1. gauged 2. rated 3. estimated 4. evaluated
193. Select the most appropriate option to fill in blank number 3.
 1. great 2. acclaimed
 3. renowned 4. pre-eminent
194. Select the most appropriate option to fill in blank number 4.
 1. vigour 2. spirited 3. vibrant 4. lavish
195. Select the most appropriate option to fill in blank number 5.
 1. late 2. ancient 3. indigenous 4. organic

Read the given passage and answer the question that follows.

We started our research into organisational and personal excellence by studying a slightly different topic. We figured that if we could learn why certain people were more effective than others, then we could learn exactly what they did, clone it and pass it on to others. We asked people to identify who they thought were their most effective colleagues. In fact, over the past twenty-five years, we have asked over twenty thousand people to identify the individuals in their organisations who

could really get things done. We wanted to find those who were not just influential but who were far more influential than the rest.

196. Which real life situation can be the most appropriate to be inferred from the passage?
 1. Inflation has direct influence on the morals and ethics of an individual.
 2. If we do something wrong to decent people, the same comes to haunt us even after many years.
 3. People nowadays do not have patience and want quick success and does not matter what path they choose to obtain their targets.
 4. Jassie is an efficient employee whose work ethics can be a case study to learn more about organisational and personal excellence.
197. Select the most suitable structure for the above passage.
 1. Chronological 2. Cause and Effect
 3. Pragmatic 4. Compare and contrast
198. Select the most appropriate ANTONYM of the given word. Effective
 1. Deniable 2. Harmonious
 3. Fruitless 4. Courteous
199. Select the most appropriate title to the given passage.
 1. Research Grants in Organisations
 2. Learn, Clone and Pass
 3. Most Effective Colleagues
 4. Different Topics
200. Select the statement that most appropriately sums up the passage given.
 1. Some people cannot be identified due to their most effective ways in 25 years.
 2. Research grants in an organisation should be increased for personal excellence.
 3. It takes 25 years of research to make people more effective and influential.
 4. Some people are more effective and more influential than others to get things done.

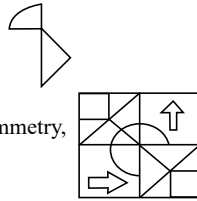
Answer Key

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

Answers with Explanations

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

Given figure:



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

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

Given series:

ELSV, FJVR, GHYN, ?, IDEF

The pattern followed here is:

Hence, HFBJ is the correct answer.

| | | | |
|----|----|----|----|
| E | L | S | V |
| +1 | -2 | +3 | -4 |
| F | J | V | R |
| +1 | -2 | +3 | -4 |
| G | H | Y | N |
| +1 | -2 | +3 | -4 |
| H | F | B | J |
| +1 | -2 | +3 | -4 |
| I | D | E | F |

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

Given that:

Three of the four letter-clusters are alike and one is different.

The pattern is as follows:

Option-1: W $\frac{-1}{-2}$ V $\frac{-2}{+10}$ T $\frac{+10}{-2}$ D

Option-2: J $\frac{-1}{-2}$ I $\frac{-2}{+10}$ G $\frac{+10}{-2}$ Q

Option-3: S $\frac{-1}{-2}$ R $\frac{-2}{+10}$ P $\frac{+10}{-2}$ Z

Option-4: K $\frac{+1}{+2}$ L $\frac{+2}{+2}$ N $\frac{+2}{+2}$ P

Hence, KLNP is the odd one out.

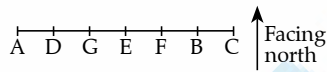
4. **Option (3) is correct.**

Given that:

Seven people are sitting in a straight row, facing north.

As per the given statements, the following sitting arrangement can be made:

Hence, C sits at the extreme right end of the row.



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

Given that:

GAME is coded as 8426 and MUST is coded as 7853.

Since, there is only one alphabet common in both the words i.e M and the common code is 8. Hence, M will be coded as 8.

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

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

Conclusion I- All trees are flowers.

As given, all flowers are trees so, all trees are flowers is not definite. Therefore, this conclusion doesn't follow.

Conclusion II- All leaves are trees.

As given, all leaves are flowers and all flowers are trees. Therefore, all leaves are trees is true.

Hence, only conclusion II follows.

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

Given figures:

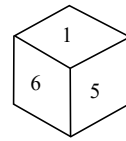


Figure 1

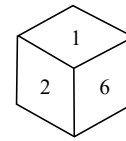


Figure 2

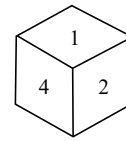


Figure 3

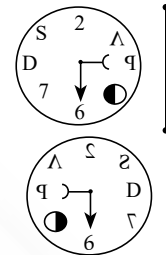
Consider figure 1 and 3, the numbers adjacent to 1 are 6, 5, 4, 2 (clockwise).

So, the remaining number is 3 which will be opposite to 1.

Hence, 3 is the correct answer.

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

Given image:



As per question, in a mirror image left becomes right and right becomes left.

Hence, the required answer figure is:

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

Given that:

+ means -

- means ×

× means ÷

÷ means +

According to question, after interchanging the signs, we get

$137 + 56 \div 7 \times 6 - 31$

Applying BODMAS rule,

$\Rightarrow 137 + 8 \times 6 - 31$

$\Rightarrow 137 + 48 - 31$

$\Rightarrow 185 - 31 = 154$

Hence, 154 is the correct answer.

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

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

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

| |
|--------------|
| 4. Logician |
| 2. Loincloth |
| 1. Lollipop |
| 5. Lonely |
| 3. Longways |

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

Given series:

ABEG FFHI KJKK PNNM ?

The pattern followed here is:

| | | | |
|----|----|----|----|
| A | B | E | G |
| +5 | +4 | +3 | +2 |
| F | F | H | I |
| +5 | +4 | +3 | +2 |
| K | J | K | K |
| +5 | +4 | +3 | +2 |
| P | N | N | M |
| +5 | +4 | +3 | +2 |
| U | R | Q | O |

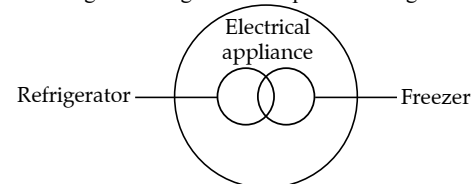
Hence, URQO is the correct answer.

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

Given words:

Electrical appliances, Refrigerator, Freezer.

The following Venn diagram best represents the given words:

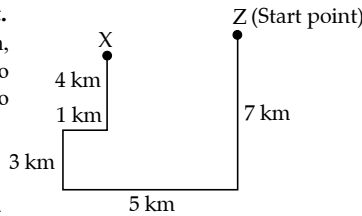


13. **Option (3) is correct.**

Given set:
 (7, 35, 42)
 (4, 20, 24)
 The pattern followed here is:
 $1^{\text{st}} \text{ term} + 2^{\text{nd}} \text{ term} = 3^{\text{rd}} \text{ term}$
 So,
 $7 + 35 = 42$
 And,
 $4 + 20 = 24$
 Similarly, upon checking option 3, we get
 $9 + 45 = 54$
 Hence, (9, 45, 54) is the correct answer.

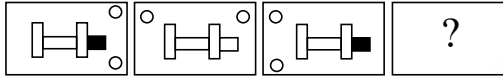
14. **Option (2) is correct.**

As per the diagram, the person needs to move 4 km East to reach point Z.

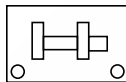


15. **Option (1) is correct.**

Given figure:

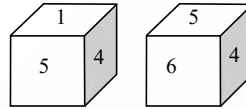


As per the pattern and symmetry, the required answer figure is:



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

Given figure:
 From the above figures, we can say that 1 and 6 are adjacent numbers of 5, which implies they are opposite to each other.
 Hence, 6 is the correct answer.



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

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

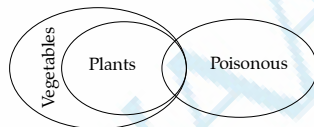
Conclusion I- All vegetables are poisonous.

This can be true but not definite. So, it doesn't follow

Conclusion II- Some vegetables are plants.

As given, all plants are vegetables, it implies some vegetables are plants is true.

Hence, only conclusion II follows.



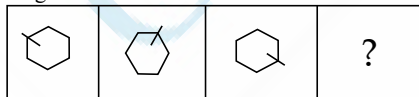
18. **Option (3) is correct.**

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

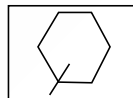
Hence, 3, 1, 5, 6, 2, 4 is the correct answer.

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

Given figure:



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



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

Given figure

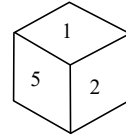


Figure 1

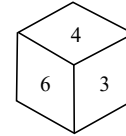


Figure 2

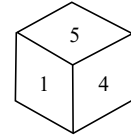


Figure 3

Consider figure 1 and 3, the numbers 5 and 1 are adjacent to 2 and 4.

Hence, 2 will be opposite to 4.

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

Given sets:

(264, 462)

(132, 330)

The pattern followed here is:

$1^{\text{st}} \text{ term} + 198 = 2^{\text{nd}} \text{ term}$

So,

$264 + 198 = 462$

And,

$132 + 198 = 330$

Similarly, upon checking option 3, we get

$386 + 198 = 584$

Hence, (386, 584) is the correct answer.

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

Given that:

$2 B ? D 2 = 4 B 32 D 8$

After putting the signs as per question, we get

$2 \times ? \div 2 = 4 \times 32 \div 8$

Applying BODMAS rule,

$= 2 \times ? \div 2 = 16$

$= ? = 16$

Hence, 16 is the correct answer.

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

Given equation:

$250 - 10 + 10 \times 5 \div 2 = ?$

After putting the signs as per question, we get

$250 \div 10 \times 10 - 5 + 2$

$\Rightarrow 25 \times 10 - 5 + 2$

$\Rightarrow 250 - 5 + 2$

$\Rightarrow 247$

Hence, 247 is the correct answer.

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

Given that:

Three of the four letter-clusters are alike and one is different.

The pattern is as follows:

Option-1 W $\frac{+2}{-}$ Y $\frac{-7}{-}$ R $\frac{+1}{-}$ S

Option-2 P $\frac{+2}{-}$ S $\frac{-9}{-}$ J $\frac{+1}{-}$ K

Option-3 P $\frac{+2}{-}$ R $\frac{-7}{-}$ K $\frac{+1}{-}$ L

Option-4 F $\frac{+2}{-}$ H $\frac{-7}{-}$ A $\frac{+1}{-}$ B

Hence, PSJK is the odd one out.

| |
|----------------|
| 3. Descend |
| 1. Desire |
| 5. Desolate |
| 6. Desperate |
| 2. Destination |
| 4. Destructive |

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

Given that:

VATT is coded as 65

The pattern followed here is:

(Sum of positional values of the alphabets) + 2

Now, $\begin{matrix} V & A & T & T \\ | & | & | & | \\ 22 & 1 & 20 & 20 \end{matrix}$

$(22 + 1 + 20 + 20) + 2$

$\Rightarrow 63 + 2 = 65$

And,

$$\begin{array}{ccccc} S & T & O & L & K \\ | & | & | & | & | \\ 19 & 20 & 15 & 12 & 11 \\ (19 + 20 + 15 + 12 + 11) + 2 \\ \Rightarrow 77 + 2 = 79 \end{array}$$

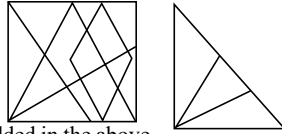
Similarly,

$$\begin{array}{cccccccc} G & E & N & E & R & O & U & S \\ | & | & | & | & | & | & | & | \\ 7 & 5 & 14 & 5 & 18 & 15 & 21 & 19 \\ (7 + 5 + 14 + 5 + 18 + 15 + 21 + 19) + 2 \\ \Rightarrow 104 + 2 = 106 \end{array}$$

Hence, 106 is the correct answer.

26. Option (1) is correct.

Given figure:



The following figure is embedded in the above figure.

27. Option (2) is correct.

Given expression:

$$[\{(14 \times 6) - (4 \div 3)\} + (6 - 4)] \div 3$$

After interchanging the signs as per question, we get

$$[\{(14 - 6) + (4 \times 3)\} \div (6 + 4)] \times 3$$

According to BODMAS rule,

$$\Rightarrow [\{8 + 12\} \div 10] \times 3$$

$$\Rightarrow [20 \div 10] \times 3$$

$$\Rightarrow 2 \times 3 = 6$$

Hence, 6 is the correct answer.

28. Option (4) is correct.

Given that:

TEMPLE : SCJLGY

CHURCH : BFRNXB

MOSQUE : ?

The pattern followed here is:

$$\begin{array}{cccccc} T & E & M & P & L & E \\ -1 & -2 & -3 & -4 & -5 & -6 \\ | & | & | & | & | & | \\ S & C & J & L & G & Y \end{array}$$

And,

$$\begin{array}{cccccc} C & H & U & R & C & H \\ -1 & -2 & -3 & -4 & -5 & -6 \\ | & | & | & | & | & | \\ B & F & R & N & X & B \end{array}$$

Similarly,

$$\begin{array}{cccccc} M & O & S & Q & U & E \\ -1 & -2 & -3 & -4 & -5 & -6 \\ | & | & | & | & | & | \\ L & M & P & M & P & Y \end{array}$$

Hence, LMPMPY is the correct answer.

29. Option (2) is correct.

Given that:

COURT is coded as OCRTR

The pattern followed here is

$$\begin{array}{ccccc} C & O & U & R & T \\ | & | & | & | & | \\ O & C & R & T & R \end{array}$$

And

$$\begin{array}{ccccc} J & U & D & G & E \\ | & | & | & | & | \\ U & J & A & E & G \end{array}$$

Similarly,

$$\begin{array}{ccccc} O & R & D & E & R \\ | & | & | & | & | \\ R & O & A & R & E \end{array}$$

Hence, ROARE is the correct answer.

30. Option (1) is correct.

Given series:

115, 130, 122, 137, 129, ?

The pattern followed here is:

$$115 + 15 = 130$$

$$130 - 8 = 122$$

$$122 + 15 = 137$$

$$137 - 8 = 129$$

$$129 + 15 = 144$$

Hence, 144 is the correct answer.

31. Option (4) is correct.

Given figure:



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

Hence, the required image is:



32. Option (1) is correct.

Given that:

FLORA is written as WQOLC

The pattern followed here is:

1st letter = Reverse positional value + 2

2nd letter = Reverse positional value + 2

3rd letter = Reverse positional value + 3

4th letter = Reverse positional value + 3

5th letter = Reverse positional value + 3

So,

$$F = 21 + 2 = 23 \text{ i.e. } W$$

$$L = 15 + 2 = 17 \text{ i.e. } Q$$

$$O = 12 + 3 = 15 \text{ i.e. } O$$

$$R = 9 + 3 = 12 \text{ i.e. } L$$

$$A = 26 + 3 = 29 \text{ i.e. } C$$

Similarly, GOING will be written as:

$$G = 20 + 2 = 22 \text{ i.e. } V$$

$$O = 12 + 2 = 14 \text{ i.e. } N$$

$$I = 18 + 3 = 21 \text{ i.e. } U$$

$$N = 13 + 3 = 16 \text{ i.e. } P$$

$$G = 20 + 3 = 23 \text{ i.e. } W$$

Hence, VNUPW is the correct answer.

33. Option (3) is correct.

Given set:

(6, 2, 96)

(5, 6, 240)

The pattern followed here is:

$$1^{\text{st}} \text{ term} \times 2^{\text{nd}} \text{ term} \times 8 = 3^{\text{rd}} \text{ term}$$

So,

$$6 \times 2 \times 8 = 96$$

And,

$$5 \times 6 \times 8 = 240$$

Similarly, upon checking option 3, we get

$$1 \times 2 \times 8 = 16$$

Hence, it is the correct option.

34. Option (3) is correct.

Given that:

$$19 \quad 6 \quad 37$$

$$21 \quad 8 \quad 45$$

$$72 \quad 14 \quad ?$$

The pattern followed here is:

Row-wise:

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

So,

$$(6 \times 3) + 19$$

$$\Rightarrow 18 + 19 = 37$$

And,

$$(8 \times 3) + 21$$

$$\Rightarrow 24 + 21 = 45$$

Similarly,

$$(14 \times 3) + 72$$

$$\Rightarrow 42 + 72 = 114$$

Hence, 114 is the missing number.

35. Option (2) is correct.

Given expression:

$$39 \text{ D } 13 \text{ B } 2 \text{ C } 6 \text{ A } 8$$

After putting the signs as per question, we get:

$$39 \div 13 \times 2 - 6 + 8$$

$$\Rightarrow 3 \times 2 - 6 + 8$$

$$\Rightarrow 6 - 6 + 8 = 8$$

Hence, 8 is the correct answer.

36. Option (1) is correct.

Given sets:

$$(7, 91, 98)$$

$$(4, 52, 56)$$

The pattern followed here is:

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

So,

$$98 - 91 = 7$$

And,

$$56 - 52 = 4$$

Similarly, upon checking option 1, we get

$$168 - 156 = 12$$

Hence, it is the correct option.

37. Option (4) is correct.

Given expression:

$$96 \text{ D } 3 \text{ B } 8 \text{ C } 25 \text{ A } 14 = ?$$

After putting signs as per question, we get

$$96 \div 3 \times 8 - 25 + 14$$

$$\Rightarrow 32 \times 8 - 25 + 14$$

$$\Rightarrow 256 - 25 + 14$$

$$\Rightarrow 270 - 25 = 245$$

Hence, 245 is the correct answer.

38. Option (1) is correct.

Given expression:

$$7 \text{ A } 3 \text{ B } 24 \text{ D } 2 = 20 \text{ B } ? \text{ A } 3$$

After putting this signs as per question, we get

$$7 + 3 \times 24 \div 2 = 20 \times ? + 3$$

$$\Rightarrow 7 + 3 \times 12 = 20 \times ? + 3$$

$$\Rightarrow 7 + 36 = 20 \times ? + 3$$

$$\Rightarrow 43 - 3 = 20 \times ?$$

$$\Rightarrow ? = \frac{40}{20} = 2$$

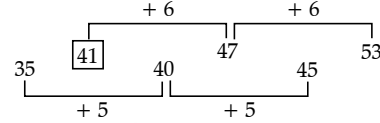
Hence, 2 is the correct answer.

39. Option (4) is correct.

Given series:

$$35, ?, 40, 47, 45, 53$$

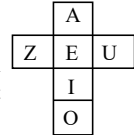
The pattern followed here is:



Hence, 41 is the correct answer.

40. Option (4) is correct.

Given sheet:



After folding the sheet only figure in option 3 can be possible because E has two adjacent letters i.e A and Z.

Hence, only 3 is the correct answer.

41. Option (4) is correct.

Given figure:



As per the pattern followed and the symmetry, the required image is:



42. Option (2) is correct.

Given series:

$$\frac{-1}{729}, \frac{-1}{81}, \frac{-1}{9}, ?$$

Here, the denominator is divided by 9 (or) the term is multiplied by 9.

So,

$$\frac{-1}{729} \times 9 = \frac{-1}{81}$$

$$\frac{-1}{81} \times 9 = \frac{-1}{9}$$

$$\frac{-1}{9} \times 9 = -1$$

Hence, -1 is the correct answer.

43. Option (4) is correct.

Given series:

$$\text{MKPN, LMOP, ?, JQMT, ISLV}$$

The pattern followed here is:

Hence, KONR is the correct answer.

44. Option (3) is correct.

Given that:

Butterfly : Caterpillar :: Insect : ?

Butterfly is an adult form of a caterpillar.

Similarly, Insect is adult form of a Larva.

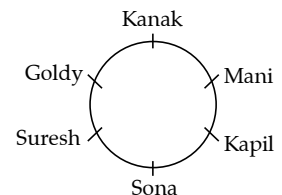
Hence, Insect : Larva is the correct answer.

45. Option (4) is correct.

Given that:

Six friends are sitting in a circle facing the centre.

As per the statements given in the question, following sitting arrangement can be made-

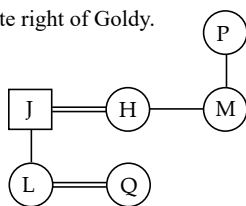


Hence, Suresh sits to the immediate right of Goldy.

46. Option (1) is correct.

As per the question, following family tree can be made:

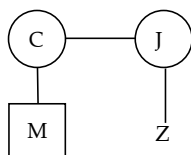
Hence, P is the mother's mother of L.



47. Option (2) is correct.

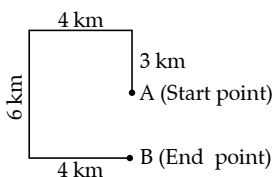
According to question, following family tree can be made:

Hence, J is the mother's sister of M.



48. Option (3) is correct.

Hence, Rohit needs to drive 3 km towards north to reach point A again.

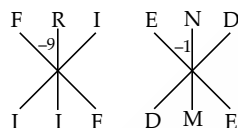


49. Option (3) is correct.

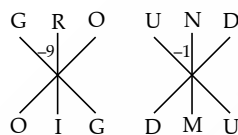
Given that:

FRIEND is written as IIFDME

The pattern followed here is:



Similarly,



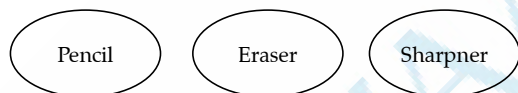
Hence, OIGDMU is the correct answer.

50. Option (2) is correct.

Given words:

Pencil, Eraser, Sharpener

The Venn diagram that best illustrates the relationship between the following classes are:



51. Option (1) is correct.

Ammonia does not fall within the category of organic compounds. Organic compounds primarily consist of carbon atoms bonded to hydrogen, oxygen, nitrogen. In contrast, ammonia (NH_3) is an inorganic compound comprising nitrogen and hydrogen atoms.

On the other hand, Nonane, Furan, and Decane are all organic compounds. They are predominantly composed of carbon and hydrogen atoms. Nonane and Decane are hydrocarbons, composed exclusively of carbon and hydrogen atoms, while Furan also contains carbon, hydrogen, and oxygen atoms, making it an organic compound.

52. Option (1) is correct.

In November 2020, Lydian Nadhaswaram set a record of becoming the world's fastest piano player ever. Lydian Nadhaswaram, an incredibly talented young pianist, gained worldwide recognition for his exceptional piano skills.

53. Option (2) is correct.

For Kharif crops, the temperature required for farming is above 25 degrees Celsius with high humidity and annual rainfall above 100 cm. Kharif crops are a type of monsoon crops in the Indian subcontinent, and they are typically

sown during the rainy season, also known as the southwest monsoon. These crops require specific climatic conditions for successful growth.

54. Option (3) is correct.

Bhutia dance is a traditional dance form of the Bhutia community, which is a major ethnic group in the Indian state of Sikkim. This dance is an integral part of their culture and is often performed during festivals and other significant events.

55. Option (2) is correct.

India signed the Farakka Treaty in 1996 with its neighbouring country Bangladesh for the sharing of the Ganga Waters and on augmenting its flows. This treaty was crafted with the objective of guaranteeing equitable distribution of Ganga River waters between the two nations and enhancing the river's flow, especially during the dry season. It holds significant importance in the management of this vital transboundary river, delivering mutual benefits to both India and Bangladesh.

56. Option (1) is correct.

Ajayaraja, also recognized as Ajayapala, held a prominent position as a ruler in the Chahamanas dynasty, and he established Ajmer as his capital city. He left an indelible mark on the region's history and played a pivotal role in governing the dynasty.

57. Option (3) is correct.

The allocation of Members of Parliament (MPs) to a state or union territory in the Lok Sabha is based on its population and representation. In the context of Punjab, it elected 13 MPs to the 17th Lok Sabha, which serves as the lower house of the Indian Parliament.

58. Option (3) is correct.

Private sector was allowed in all industries. Private sector was prohibited in many sectors dominated by the government. These included railways, telecommunication, and defence etc. in lieu of safeguarding the national interest and maintaining integrity.

59. Option (4) is correct.

Kamala Das, also known as Kamala Surayya, was a well-known Indian writer and poet. 'My Story' is her autobiography, where she shares her personal experiences and life journey.

60. Option (1) is correct.

Methyl ethyl ketone, often referred to as 2-butanone, is an organic compound characterized by the chemical formula $\text{CH}_3\text{COCH}_2\text{CH}_3$. This compound is classified as a ketone due to its four-carbon chain and the presence of a carbonyl group ($\text{C}=\text{O}$) in the second position. The remaining options do not accurately describe the chemical structure or nomenclature for methyl ethyl ketone:

- Propanone, or acetone, is a distinct compound with the chemical formula CH_3COCH_3 .
- Methyl pentanone is a separate compound featuring a five-carbon chain and does not correspond to methyl ethyl ketone.
- 2-butanol is an alcohol that shares a similar structural element with 2-butanone, but it is not the same chemical compound.

61. Option (4) is correct.

Fundamental duties within the Indian Constitution constitute a collection of moral and ethical responsibilities assigned to Indian citizens. Although options 1, 2, and 3 accurately depict the intentions and aims of these fundamental duties, option 4 is the exception.

Fundamental duties in the Indian Constitution are non-justiciable, indicating that they cannot be legally enforced, and individuals cannot be subjected to legal action for their non-compliance. These duties are designed to serve as a

source of inspiration and motivation for citizens to embrace specific values and principles, without the imposition of legal repercussions for non-compliance.

62. Option (2) is correct.

KC Neogy was the first chairman of the Finance Commission of India. The Finance Commission, a constitutional entity in India, plays a vital role in allocating financial resources between the central government and the state governments.

63. Option (2) is correct.

The inaugural Commonwealth Games, originally known as the British Empire Games, took place in the year 1930 in Hamilton, Canada.

64. Option (2) is correct.

The continental shelf, characterized as the ocean's most shallow region, generally features an exceptionally mild average gradient, typically measuring around 1° or even less. This gradual incline stretches from the coastline to the point where it transitions into the deeper ocean depths.

65. Option (3) is correct.

Dhruvasena II was a prominent ruler of the Maitraka dynasty. The Maitrakas were a dynasty that ruled the western part of India, particularly in present-day Gujarat, during the 5th to 8th centuries CE.

66. Option (3) is correct.

The National Commission for Women (NCW) was instituted in 1990, and its operations are governed by the "National Commission for Women Act, 1990." This legislation serves as the legal foundation outlining the roles and responsibilities of the National Commission for Women in India.

67. Option (4) is correct.

Stomata are minuscule pores situated on the surface of plant leaves, mainly on the underside, although they can also be present on the upper surface. These pores facilitate the exchange of gases like carbon dioxide and oxygen and play a crucial role in regulating water vapor levels in plants. Stomata are typically not found at the tip of the stem, within the roots, or inside the flower; their primary functions are associated with the processes of transpiration and photosynthesis occurring in leaves.

68. Option (3) is correct.

The Indian Constitution grants the President the power to declare different types of emergencies, like a national emergency, state emergency, or financial emergency, in specific situations. When such emergencies are in effect, the President, with guidance from the Council of Ministers, can use special authority. It's important to note that the Prime Minister, Chief Justice, and Governor don't have these extraordinary powers during emergencies.

69. Option (1) is correct.

Microloans, often referred to as microcredit, are modest financial aids extended to individuals, small businesses, or aspiring entrepreneurs to support the establishment or growth of their ventures. In India, loans fall into the microloan category when they are under the threshold of one lakh rupees. This classification serves the purpose of directing financial support toward individuals who are usually underserved by traditional banking institutions, particularly those from marginalized backgrounds.

70. Option (1) is correct.

Both Statements A and B are correct.

Statement A is accurate as the outermost electron in p-block elements does, indeed, occupy the outermost p orbital. These elements are situated in groups 13 to 18 of the periodic table, and their last electrons are typically positioned in p orbitals.

Statement B is also correct. Non-metals and metalloids are predominantly situated within the p-block of the periodic table. They are commonly located on the right side of the periodic table, whereas metals are more abundant in the s and d-blocks.

71. Option (4) is correct.

Vallabhbhai Patel and Indulal Yajnik helped Gandhi in Kheda by organizing his tour of the villages and urging the peasants to stand firm against the government. In the Kheda Satyagraha of 1918, Vallabhbhai Patel and Indulal Yajnik played crucial roles in aiding Mahatma Gandhi's campaign to unite local peasants and champion their cause against the unjust British government policies. These two individuals emerged as pivotal figures in this nonviolent protest, ultimately contributing to the successful fulfillment of the farmers' demands, which included tax relief and relief from other adversities.

72. Option (1) is correct.

The deliberations of the representatives at the Third Round Table Conference were held from November 17 to December 24 in the year 1932. It played a crucial role in shaping the constitutional discussions and negotiations involving different Indian parties and the British government.

73. Option (1) is correct.

Part III of the Indian Constitution, titled "Fundamental Rights," are provisions safeguarding the fundamental rights of Indian citizens. These rights hold a central place in the constitution, covering a range of civil liberties and freedoms aimed at preserving the dignity and personal liberty of individuals.

74. Option (1) is correct.

At normal temperature and atmospheric pressure, carbon dioxide (CO₂) has a density of 1.87 kg/m³, making it 1.5 times heavier than air. Below its critical temperature of 31°C, carbon dioxide exists in a liquid state. The other options do not match these specific characteristics of carbon dioxide.

75. Option (2) is correct.

The Sao Joao festival also known as the Feast of St. John the Baptist is primarily celebrated by Catholic Christians in the Indian state of Goa. This vibrant celebration features diverse water-related activities and processions, all dedicated to honoring St. John the Baptist. It holds a special place in the hearts of Goa's Catholic community, setting it apart as a distinctive and lively observance. Meanwhile, states like Assam, Manipur, and Nagaland do not have a notable tradition of partaking in the Sao Joao festival.

76. Option (2) is correct.

In the Asian region, India is followed closely by Afghanistan, which ranks 109 out of 121 countries. However, neighboring countries such as Pakistan (99), Bangladesh (84), Nepal (81), and Sri Lanka (64) have all achieved better rankings than India in the Global Hunger Index. In 2021, India's ranking dropped to 101 out of 116 countries, a decline from its 94th position in the previous year, 2020.

77. Option (2) is correct.

In 1873, Jyotirao Govindrao Phule started the Satyashodhak Samaj to fight against caste discrimination and the practice of idol worship in India. This was a social reform movement with the goal of making society more equal and providing education to everyone.

78. Option (1) is correct.

The first Indian to participate in a Super Heavyweight Boxing event in the 2020 Olympic Games was Satish Kumar. He made history by being the first Indian boxer to compete in this weight category at the Olympics.

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

Chand Bardai, the court poet of Prithviraj Chauhan, authored the epic poem Prithviraj Raso, chronicling the life and bravery of King Prithviraj Chauhan. It's important to note that while Banabhatta, Ashvaghosa, and Bharavi were esteemed ancient Indian poets and scholars, they were not the creators of Prithviraj Raso.

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

As per the Nebular hypothesis, the solar system came into being through the gravitational collapse of a vast molecular cloud. This phenomenon led to the formation of the Sun at the center, with a surrounding protoplanetary disk where planets and other celestial objects gradually formed. This hypothesis enjoys widespread acceptance in the field of astrophysics, supported by robust scientific evidence.

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

Globally, there are six major controls that influence the climate of a particular zone. Climate is shaped by various factors, but it is mainly influenced by six major controls: latitude, altitude, proximity to the sea, ocean currents, prevailing winds, and topography. Together, these factors work to define the climate of a particular region.

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

The Moatsu festival holds great agricultural significance and is observed by the Ao Naga tribe in Nagaland. It signifies the successful completion of seed sowing and serves as a time of gratitude to the gods for a prosperous harvest. This celebration is known for its traditional ceremonies, dances, and communal feasting. In contrast, the Bhil, Munda, and Bodo tribes have their unique cultures and festivals, distinct from Moatsu.

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

GDP is a measure of the total economic output of a country and is often used as a key indicator of economic growth. A steady increase in GDP signifies that a country is producing more goods and services, which can indicate economic expansion. In contrast, a steady rise in loans, international trade, or population, on their own, may not be dependable indicators of economic growth, as they can be influenced by a range of factors and may not provide a comprehensive assessment of a nation's overall economic well-being.

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

PPLLO, or Pleuro Pneumonia Like Organisms, are a group of bacteria that are often associated with pleuropneumonia, a contagious respiratory disease in cattle. These organisms are characterized by their small size and lack of a rigid cell wall.

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

Kelp, which belongs to the brown algae group, is often referred to as Laminaria. These remarkable algae thrive in deep-sea environments, forming expansive kelp forests. These underwater ecosystems are renowned for their large and intricate algae, playing a vital role as habitats for a diverse range of marine species.

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

The Atal Tunnel, officially referred to as the Atal Rohtang Tunnel, is situated in Himachal Pradesh, India. It plays a crucial role in establishing an all-weather road link between Manali and the Lahaul-Spiti valley. This engineering marvel ensures that the Lahaul-Spiti region remains accessible year-round, eliminating the previous issue of being cut off during winter due to heavy snowfall.

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

The Fiscal Policy Strategy Statement is the part of the budget document that outlines the government's fiscal priorities, policies, and deviations. It provides insights into the government's fiscal objectives and strategies for the upcoming

fiscal year and beyond. This statement plays a crucial role in presenting the fiscal roadmap and policy direction of the government.

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

In bryophytes like mosses and ferns, the antheridium is a key structure responsible for producing and housing sperm cells. These antheridia play a vital role in the reproductive cycle of these plants. Sperm cells are released from antheridia and swim towards the archegonium, which is the female reproductive structure, to fertilize the egg. It's important to note that megasporangia are involved in producing female spores, and protonema is a term that signifies the initial stage of development in mosses and liverworts.

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

The Shore Temple in Mamallapuram, Tamil Nadu, was built by the Pallava dynasty. It's famous for its location by the Bay of Bengal and is a UNESCO World Heritage Site. Other dynasties like Chalukayas, Nagas, and Cholas had their own historical contributions.

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

Dr. Teejan Bai, a recipient of Padma Shri, Padma Bhushan, and Padma Vibhushan awards, is globally recognized for her significant contribution to the art form of Pandavani.

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

The Green Revolution's success in the Indian economy unfolded across two distinct phases.

Phase 1 (mid-1960s to mid-1970s): During this period, the primary focus was on introducing high-yielding varieties of wheat and rice, along with modern agricultural techniques, aimed at boosting crop production and ensuring food security. Phase 2 (late 1970s onwards): In this subsequent phase, the achievements of the Green Revolution expanded to include additional crops like pulses and oilseeds. It also encompassed more regions across the country, with the overarching goal of further improving agricultural productivity and reducing the need for food imports.

These two phases of the Green Revolution played a crucial role in driving India's agricultural growth and attaining self-sufficiency in food production.

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

Statement B is correct: The Himalayan Mountain range acts as a natural barrier and provides protection to the Indian subcontinent from the extremely cold winds that originate in central Asia. This geographical characteristic plays a vital role in tempering the climate of northern India.

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

In volleyball, each team consists of six players. This standard team size is fundamental to the structure of the game.

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

Kalbaisakhi is a term used to describe the pre-monsoon showers and thunderstorms that occur in India just before the monsoon season. These weather phenomena bring vital rainfall to different regions of the country and are characterized by intense thunderstorms with strong winds, lightning, and heavy rainfall. Kalbaisakhi serves an essential role in preparing the environment for the upcoming monsoon season.

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

Former American President Bill Clinton penned his autobiography, "My Life," which offers a comprehensive account of his life, spanning from his early years to his political career and presidency.

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

The famous musician Tansen frequently performed in the court of the Mughal Emperor Akbar. As one of Akbar's Navaratnas (nine gems), he made substantial contributions to the realm of Indian classical music.

97. Option (1) is correct.

The Kalakshetra Foundation in Chennai, an important center for the study and performance of fine arts, was founded by Rukmini Devi Arundale. She was a renowned dancer, choreographer, and theosophist who played a significant role in promoting and preserving Indian classical dance and culture.

98. Option (1) is correct.

Lothar Meyer, a German chemist, was one of the first people to create a chart that showed how the size of atoms changed with their weight. He did this by organizing elements based on their weights and properties, and his work was a significant step in creating the periodic table of elements that we use today.

99. Option (2) is correct.

Sprint is NOT an Equestrian discipline. Equestrian disciplines encompass various activities related to horseback riding and horsemanship skills. Examples of Equestrian disciplines include Dressage, show jumping, and vaulting. In contrast, Sprint is an athletic event in track and field that focuses on running and is not connected to horseback riding.

100. Option (2) is correct.

Arushi Mudgal was awarded the Guru Kelucharan Mohapatra Yuva Pratibha Samman 2021 in recognition of her exceptional achievements and commitment to the art of Odissi dance. She is a highly skilled and dedicated Odissi dancer, celebrated for her contributions to this traditional Indian dance form.

101. Option (4) is correct.

Let the radius of both the cylinders are $4x$ and $5x$ respectively. And the heights of both the cylinders are $5y$ and $2y$ respectively. Using volume of cylinder = $\pi r^2 h$

$$\text{So, the required volume} = \frac{\pi \times 4x \times 4x \times 5y}{\pi \times 5x \times 5x \times 2y} = \frac{8}{5}$$

102. Option (2) is correct.

Given distance = 900m

And time taken = 6 min = 360 sec

$$\text{Using, speed} = \frac{\text{Distance}}{\text{time}} = \frac{900}{360} = \frac{5}{2} \text{ m/s or } \frac{5}{2} \times \frac{18}{5} = 9 \text{ km/h}$$

103. Option (1) is correct.

3 goats can graze a field in = 54 days

So, 1 goat can graze the field in = $54 \times 3 = 162$ days

Hence, 1 goat can graze in one day = $\frac{1}{162}$ part of field

5 sheeps can graze the field in = 54 days

So, 1 sheep can graze the field in = $54 \times 5 = 270$ days

Hence, 1 goat can graze in one day = $\frac{1}{270}$ part of field

$$\begin{aligned} \text{So, the required time} &= \frac{1}{\frac{1}{162} + \frac{1}{270}} = \frac{270 \times 162}{6 \times 270 + 162} \\ &= \frac{270}{1620 + 1296} = 15 \text{ days} \end{aligned}$$

104. Option (3) is correct.

Given that the MRP = Rs. 3800

And SP = Rs. 3496

$$\text{So, the discount percentage} = \frac{3800 - 3496}{3800} \times 100 = 8\%$$

105. Option (4) is correct.

Let the original cost price of article = Rs. 100

Now, the selling price = Rs. 78

Due to lighter weight, the cost price for shopkeeper = $100 - 35$

= Rs. 65

$$\text{So, the profit percentage} = \frac{78 - 65}{65} \times 100 = 20\%$$

106. Option (4) is correct.

According to the given graph:

Total number of children in the area P and Q together

$$= \frac{20}{100} \times 10000 + \frac{30}{100} \times 20000 = 8000$$

107. Option (2) is correct.

Given that $\sin \theta + \operatorname{cosec} \theta = 2$

$$\therefore \sin \theta + \frac{1}{\sin \theta} = 2$$

$$\therefore \sin \theta = 1$$

and $\operatorname{cosec} \theta = 1$

Hence, $\sin^2 \theta + \operatorname{cosec}^2 \theta$

$$= (1)^2 + [1]^2 = 2$$

108. Option (1) is correct.

According to the given pi chart:

Central angle corresponding to the expenditure on education

$$\begin{aligned} &= \frac{5425}{5425 + 5250 + 6125 + 7525 + 6475 + 4200} \times 360 \\ &= \frac{5425}{35000} \times 360 = 55.8 \end{aligned}$$

109. Option (3) is correct.

$$\frac{0.04}{0.05} \text{ of } \left(\frac{3\frac{1}{3} - 2\frac{1}{2}}{2} \right) \div \frac{1}{2} \text{ of } 1\frac{1}{4}$$

$$= \frac{0.04}{0.05} \text{ of } \left(\frac{10}{3} - \frac{5}{2} \right) \div \frac{1}{2} \text{ of } \frac{5}{4}$$

$$= \frac{0.04}{0.05} \text{ of } \left(\frac{5}{6} \right) \div \frac{5}{8}$$

$$= \frac{0.04}{0.05} \text{ of } \frac{4}{3} \times \frac{45}{16}$$

$$= \frac{4}{5} \times \frac{4}{3} \times \frac{45}{16} = 3$$

110. Option (4) is correct.

Given that: $\tan A = \frac{4}{3}$

Using, $\tan A = \frac{\text{Perpendicular}}{\text{Base}}$

So, Hypotenuse² = Perpendicular² + Base²

$$\Rightarrow H^2 = 4^2 + 3^2$$

$$\Rightarrow H = 5$$

$$\text{So, } \sin A = \frac{P}{H} = \frac{4}{5}$$

111. Option (2) is correct.

We have,

$$15 = 3 \times 5$$

$$24 = 2 \times 2 \times 2 \times 3$$

$$35 = 5 \times 7$$

$$54 = 2 \times 3 \times 3 \times 3$$

So, LCM of given numbers = $2 \times 2 \times 2 \times 3 \times 3 \times 3 \times 5 \times 7 = 7560$

112. Option (3) is correct.

According to the given graph:

Total number of graduates who appeared for both CS and ES

$$\begin{aligned} \text{together in the year 2022} &= 120000 \times \frac{80}{100} + 1350000 \times \frac{78}{100} \\ &= 96000 + 1053000 = 201300 \end{aligned}$$

113. Option (4) is correct.

Given that:

Speed of the boat in still water = 17 km/h

And speed of stream = 5 km/h

So, the time taken by boat to go 110 km downstream

$$= \frac{110}{17+5} = 5 \text{ hours}$$

114. Option (1) is correct.

Let the number = X

According to the question:

$$\text{New number} = X \times \frac{110}{100} \times \frac{120}{100} \times \frac{88}{100} = 1.1616 X$$

$$\text{So, the percentage increase} = \frac{(1.1616-1)X}{X} \times 100 = 16.16\%$$

115. Option (2) is correct.

According to the given graph:

Percentage increase in export of apples in 2003

$$= \frac{6.5-5.2}{5.2} \times 100 = 25\%$$

Percentage increase in export of apples in 2004

$$= \frac{7.8-6.5}{6.5} \times 100 = 20\%$$

Percentage increase in export of apples in 2005

$$= \frac{9.9-7.8}{7.8} \times 100 = 26.9\%$$

Percentage increase in export of apples in 2006

$$= \frac{10.8-9.9}{9.9} \times 100 = 9.09\%$$

Percentage increase in export of apples in 2008

$$= \frac{11.4-9.5}{9.5} \times 100 = 20\%$$

So, the percentage increase in export of apples in 2005 in maximum.

116. Option (4) is correct.

According to the given table:

$$\text{Required percentage increase} = \frac{(8200-8000)}{8000} \times 100 = 2.5\%$$

117. Option (2) is correct.

Let the selling price of second shirt = Rs. x

So, the selling price of first shirt = Rs. $2x$

According to the question:

$$\text{Cost price of 1st shirt} = \frac{100}{108} \times 2x = 1.85x$$

$$\text{And cost price of 2nd shirt} = \frac{100}{97} \times x = 1.03x$$

$$\begin{aligned} \text{Overall profit percentage} &= \frac{[(x+2x)-(1.85x+1.03x)]}{(1.85x+1.03x)} \times 100 \\ &= 4.07\% \end{aligned}$$

118. Option (2) is correct.

Let the areas of both triangles are $4x$ and $3x$.

And their heights are $6y$ and $5y$.

Let their bases be B_1 and B_2 .

Using, Area of triangle = $\frac{1}{2} \times \text{Base} \times \text{Height}$

$$\Rightarrow 4x = \frac{1}{2} \times B_1 \times 6y$$

$$\Rightarrow B_1 = \frac{4x}{3y}$$

$$\text{Again, } 3x = \frac{1}{2} \times B_2 \times 5y$$

$$\therefore B_2 = \frac{6x}{5y}$$

$$\therefore B_1 : B_2 = \frac{4x}{3y} : \frac{6x}{5y} = 10 : 9$$

119. Option (3) is correct.

LCM (17, 36) = 612

So, the largest number of four digits that is exactly divisible by 17 and 36 = $612 \times 16 = 9792$

120. Option (3) is correct.

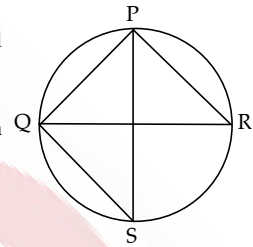
Given that ΔPQR is an equilateral triangle.

$$\therefore \angle PQR = \angle QRP = \angle RPQ = 60^\circ$$

According to the circular theorem of angles.

$$\angle PRQ = \angle PSQ = 60^\circ$$

$$\text{So, } \frac{1}{2} \angle PSQ = \frac{1}{2} \times 60 = 30^\circ$$

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

$$\text{Given that, } \frac{x}{y} + \frac{y}{x} = 1$$

$$\Rightarrow x^2 + y^2 = xy \Rightarrow x^2 + y^2 + 2xy = xy + 2xy$$

$$\Rightarrow (x+y)^2 = 3xy$$

$$\Rightarrow (2)^2 = 3xy$$

$$\Rightarrow xy = \frac{4}{3}$$

$$\text{So, } x^3 + y^3 = (x+y)(x^2 + y^2 - xy)$$

$$= 2[(x+y)^2 - 3xy]$$

$$= 2 \left[2^2 - 3 \times \frac{4}{3} \right] = 2[4 - 4] = 0$$

[Given: $x + y = 2$]

122. Option (3) is correct.

$$\begin{aligned} \text{Using, volume of a cone} &= \frac{1}{3} \pi r^2 h = \frac{1}{3} \times \frac{22}{7} \times 6 \times 6 \times 7 \\ &= 264 \text{ cm}^3 \end{aligned}$$

123. Option (4) is correct.

Let the total work = LCM [20, 30, 60] = 60 units

$$\text{So, A's per day work} = \frac{60}{20} = 3 \text{ unit per day}$$

$$\text{B's per day work} = \frac{60}{30} = 2 \text{ unit per day}$$

$$\text{C's per day work} = \frac{60}{60} = 1 \text{ unit per day}$$

According to the question,

$$\text{Work done in 3 days} = 3 \times 3 + 2 + 1 = 12 \text{ units}$$

$$\text{So, the time required to finish the work} = \frac{60}{12} \times 3 = 15 \text{ days}$$

124. Option (4) is correct.

According to the given pi chart:

Tourist from country A coming in during March

$$= \frac{20}{100} \times \frac{3}{5} \times 60000 = 7200$$

Tourist from country A coming in during April

$$= \frac{25}{100} \times \frac{8}{15} \times 60000 = 8000$$

So, the required ratio = $\frac{7200}{8000} = \frac{9}{10}$

125. Option (1) is correct.

Value of $11 \times 11 + 11 \div 11 - 11 \times 11 + 11 + 11 \times 11 - 11 - 11 \times 11$
 $= 11 \times 11 + 1 - 11 \times 11 + 11 + 11 \times 11 - 11 - 11 \times 11$
 $= 121 + 1 - 121 + 11 + 121 - 11 - 121$
 $= 1$

126. Option (2) is correct.

Let his annual salary = Rs. x
 According to the question:

$x \times \frac{100 - 72}{100} = 5740$

$\Rightarrow x = 20500$

So, his annual salary = 20500×12

Hence, 10% of his annual salary = $20500 \times \frac{12}{10} = \text{Rs. } 24600$

127. Option (3) is correct.

Given that the population of city = 352314

Let the population 2 years ago was = x

According to the question:

$\Rightarrow x \times \frac{115}{100} \times \frac{115}{100} = 352314$

$\Rightarrow x = 266400$

128. Option (3) is correct.

Using, average speed = $\frac{2 \times s_1 \times s_2}{s_1 + s_2}$

Average speed = $\frac{2 \times 36 \times 60}{36 + 60} = 45 \text{ km/h}$

129. Option (1) is correct.

Let the numbers are $5x$ and $7x$.

According to the question:

Value of $x = 5$ [As HCF of both the numbers is 5]

So, the required number = $7 \times 5 = 35$

130. Option (3) is correct.

Using, HCF \times LCM = multiplication of both numbers

$\Rightarrow \text{LCM} \times 11 = 726 \Rightarrow \text{LCM} = 66$

131. Option (2) is correct.

Using, average speed = $\frac{2 \times s_1 \times s_2}{s_1 + s_2}$

Average speed = $\frac{2 \times 30 \times 45}{30 + 45} = 36 \text{ km/h}$

132. Option (2) is correct.

Let the work = LCM (36, 48, 144) = 144 unit

So, P's per day work = $\frac{144}{36} = 4$ unit per day

Q's per day work = $\frac{144}{48} = 3$ unit per day

R's per day work = $\frac{144}{144} = 1$ unit per day

Let P work x days alone.

According to the question, work distribution

For x days (P, Q and R)

Work done = $(4 + 3 + 1)x = 8x$ unit

For 4 days (Only Q and R)

Work done = $(3 + 1)4 = 16$ unit

For last 8 days (only R)

Work done = $(1)8 = 8$ unit

Total work = $8x + 16 + 8 = 144$

$\Rightarrow x = 15$

So, the total required days = $15 + 12 = 27$ days

133. Option (2) is correct.

Given that, $a + b = 10$ and $ab = 6$

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

$= 10[(a + b)^2 - 3ab]$

$= 10[10^2 - 3 \times 6]$

$= 10[100 - 18] = 820$

134. Option (2) is correct.

Given that, $\cos \theta - \sin \theta = \sqrt{2} \sin \theta$

Squaring both sides:

$(\cos \theta - \sin \theta)^2 = (\sqrt{2} \sin \theta)^2$

$\Rightarrow \cos^2 \theta + \sin^2 \theta - 2 \sin \theta \cdot \cos \theta = 2 \sin^2 \theta$

$\Rightarrow 2 \sin \theta \cdot \cos \theta = 1 - 2 \sin^2 \theta$

Using, $(a + b) = \sqrt{(a - b)^2 - 4ab}$

$\cos \theta + \sin \theta = \sqrt{(\cos \theta - \sin \theta)^2 - 4 \cos \theta \cdot \sin \theta}$

$= \sqrt{2 \sin^2 \theta + 4 \sin \theta \cdot \cos \theta}$

$= \sqrt{2} \sqrt{\sin^2 \theta + (1 - 2 \sin^2 \theta)}$

$= \sqrt{2} \sqrt{-\sin^2 \theta + 1}$

$= \sqrt{2} \sqrt{-\sin^2 \theta + \sin^2 \theta + \cos^2 \theta}$

$\cos \theta + \sin \theta = \sqrt{2} \cos \theta$

135. Option (2) is correct.

Let the sides of triangle are $5x$, $12x$ and $13x$ respectively.

According to the question,

$5x + 12x + 13x = 90$

$x = 3$

So, sides of triangle will be 15 cm, 36 cm and 39 cm respectively.

Now, $s = \frac{15 + 36 + 39}{2} = 45$

So, the Area of triangle = $\sqrt{s(s-a)(s-b)(s-c)}$

$= \sqrt{45(45-15)(45-36)(45-39)}$

$= \sqrt{45 \times 30 \times 9 \times 6}$

$= 270 \text{ cm}^2$

136. Option (2) is correct.

According to the given pi chart:

Central angle of maths = $\frac{20}{100} \times 360 = 72$

Central angle of science = $\frac{30}{100} \times 360 = 108$

Required ratio = $\frac{72}{108} = \frac{2}{3}$

137. Option (4) is correct.

According to the given table:

Number of failed candidates in city D

$= 2.35 \times 100000 \times \frac{6}{10} = 1.41 \times 100000 = 1.41 \text{ lakh}$

138. Option (4) is correct.

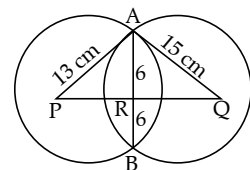
In $\triangle APR$, using pythagoras,

$PR = \sqrt{PA^2 - AR^2} = \sqrt{13^2 - 6^2}$

$= \sqrt{169 - 36} = \sqrt{133}$

and in $\triangle ARQ$, using pythagoras,

$RQ = \sqrt{AQ^2 - AR^2} = \sqrt{15^2 - 6^2}$



$$= \sqrt{225-36} = \sqrt{189}$$

So, the required distance = PR + RQ = $\sqrt{133} + \sqrt{189}$

139. Option (3) is correct.

According to the graph:

The percentage students who passed in second division in

$$\text{year 2010} = \frac{60}{40+60+70+30} \times 100 = 30\%$$

140. Option (1) is correct.

Let the number are $5x$ and $3x$.

According to the question:

$$5x - 3x = 34$$

$$x = 17$$

So, the smaller number = $17 \times 3 = 51$

141. Option (4) is correct.

Using, the volume of frustum = $\frac{\pi h}{3}(R^2 + r^2 + Rr)$

$$= \frac{22}{7} \times \frac{45}{3} (28^2 + 7^2 + 28 \times 7) = 48510$$

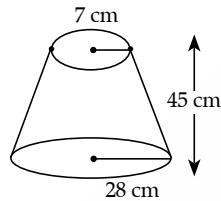
Let the radius of base of cylinder is $3x$ and height is $5x$.

So, volume = $\pi r^2 h$

$$\Rightarrow 48510 = \frac{22}{7} \times 3x \times 3x \times 5x$$

$$\Rightarrow x = 7$$

$$\therefore \text{Curved surface area} = 2\pi rh = 2 \times \frac{22}{7} \times 21 \times 35 = 4620 \text{ cm}^2$$



142. Option (3) is correct.

Total distance = 40 km

$$\text{Using time} = \frac{\text{Distance}}{\text{Speed}}$$

According to question,

$$\text{Time taken by first 10 km} = \frac{10}{40} = \frac{1}{4} \text{ h}$$

$$\begin{aligned} \text{Using, average speed} &= \frac{\text{Total distance}}{\text{Total time}} \\ &= \frac{10+10+10+10}{\frac{1}{4} + \frac{1}{8} + \frac{1}{8} + \frac{1}{4}} \\ &= \frac{40}{\frac{1}{2} + \frac{1}{4}} = \frac{160}{3} \text{ km/hr} \end{aligned}$$

143. Option (2) is correct.

$$\text{Value of } \tan^4 \theta + \tan^2 \theta = (\sec^2 \theta - 1)2 + \sec^2 \theta - 1$$

$$[\text{Using: } \tan^2 \theta = \sec^2 \theta - 1]$$

$$= \sec^4 \theta + 1 - 2 \sec^2 \theta + \sec^2 \theta - 1$$

$$= \sec^4 \theta - \sec^2 \theta$$

144. Option (2) is correct.

In triangle ABC, using pythagoras theorem,

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

$$\Rightarrow 29^2 = x^2 + y^2$$

$$\Rightarrow 841 = x^2 + y^2$$

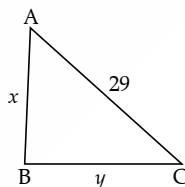
Also given that $x + y = 41$

$$\text{Squaring both sides, } x^2 + y^2 + 2xy = 1681$$

Putting value of $x^2 + y^2$ in above equation,

$$\Rightarrow 2xy = 1681 - 841$$

$$\Rightarrow xy = 420$$



$$\text{Now, } (x - y) = \sqrt{(x + y)^2 - 4xy} = \sqrt{41^2 - 4 \times 420}$$

$$= \sqrt{1681 - 1680} = 1$$

145. Option (2) is correct.

Let the numbers are $3x$ and $4x$.

Using, LCM \times HCF = 1st number \times 2nd number

$$\Rightarrow 3x \times 4x = 2700$$

$$\Rightarrow x^2 = 225$$

$$\Rightarrow x = 15$$

So, the sum of the numbers = $3x + 4x = 7 \times 15 = 105$

146. Option (1) is correct.

Let the amount invested in scheme A = x and in scheme B = 10000 x

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

According to the question,

$$\frac{x \times 8 \times 2}{100} + \frac{(10000 - x) \times 10 \times 2}{100} = 1680$$

$$\Rightarrow \frac{4x}{25} + 2000 - \frac{x}{5} = 1680 = 1680$$

$$\Rightarrow \frac{x}{25} = 2000 - 1680 = 2000 - 1680$$

$$\Rightarrow x = 8000$$

So, the amount invested in scheme A = Rs. 8000

147. Option (3) is correct.

Given numbers are 42, 36 and 35.

Let the fourth number = x

$$\text{So, } \frac{42}{36} = \frac{35}{x}$$

$$x = \frac{35 \times 36}{42} = 30$$

148. Option (4) is correct.

Let the price of article = Rs. 170

New price, after increasing it by 70% = Rs. 170

According to question:

Selling price after allowing all the discounts

$$= 170 \times \frac{95}{100} \times \frac{80}{100} \times \frac{80}{100} = 103.36$$

So, the percentage profit = 3.36%

149. Option (3) is correct.

Let the principal amount = P

$$\text{Using, } A = P \left(1 + \frac{r}{100} \right)^3$$

$$\Rightarrow 161051 = P \left(1 + \frac{10}{100} \right)^5$$

$$\Rightarrow P = 100000$$

According to the question,

$$\begin{aligned} \text{Required amount to pay} &= 100000 \left(1 + \frac{10}{100} \right)^3 \\ &= 100000 \times \frac{11}{10} \times \frac{11}{10} \times \frac{11}{10} = 133100 \end{aligned}$$

150. Option (1) is correct.

$$\text{Using, the area of triangle} = \frac{1}{2} \times \text{base} \times \text{height}$$

$$= \frac{1}{2} \times 12 \times 5 = 30 \text{ cm}^2$$

151. Option (4) is correct.

The incorrectly spelt word is 'assassinate', it will be spelt as 'assassinate', meaning 'murder'.

152. Option (1) is correct.

'Bend over backwards' means 'to try very hard to do something and to help'. So, 'working hard to try to impress' is the correct answer. Example: The boy bent over backwards to help his friend even after being terribly sick.

153. Option (2) is correct.

This was a blatant disregard to the advisory by the host against it and in violation of norms of the meeting. The correct spelling of 'blatent' is 'blatant', meaning obvious.

154. Option (4) is correct.

The dancers swayed daintily on the stage last night. The part 'swayed dainty' will be replaced by 'swayed daintily', 'Dainty' is an adjective meaning delicate. While 'daintily' is an adverb meaning 'in an attractive, careful way'. The word placed after the verb must be an adverb, not an adjective.

155. Option (1) is correct.

An obituary is an article about a recently deceased person. Oblivion is the fact or condition of not remembering. An elegy is a poem of serious reflection, usually a lament for the dead. Advertisement is the means of communication in which a product, brand or service is promoted to a viewership in order to attract interest.

156. Option (3) is correct.

'Agregate' is the incorrectly spelt word; it must be 'aggregate'. (collective).

157. Option (2) is correct.

Both Nitin and Uday are birds of the same feather. The part 'are of the same interests' will be replaced by 'birds of the same feather', meaning 'beings (typically humans) of similar type, interest, personality'. The idiom 'under the weather' means 'slightly unwell or in low spirits.' The idiom 'blowing smoke without fire' means that there is a lot of talk and speculation but no real evidence to support it. The meaning of kettle of fish is a bad state of affairs.

158. Option (1) is correct.

'Steady' means 'stable'. Therefore, the antonym of 'moving' is 'steady'.

159. Option (2) is correct.

Her paintings are way better than her sketches. The word 'then' will be replaced by 'than' because when comparing two things, the conjunction 'than' is used, not 'then'.

160. Option (3) is correct.

To start a relationship or activity badly. The idiom 'to get off on the wrong foot' implies 'to start a relationship or activity badly'. Example: In order to impress my parents, my fiancé got them roses, which they are allergic to. In this way, he got off on the wrong foot.

161. Option (3) is correct.

Arunima gets about a lot during her vacation time. The phrasal verb 'gets about' means to travel to a lot of places. 'Gets on' implies perform or make progress in a specified way. 'Gets after' means to get it done. 'Gets along' connotes 'have a harmonious or friendly relationship.'

162. Option (2) is correct.

The idiom 'the best of both worlds' is to describe a situation in which you can enjoy the benefits of two different opportunities. Example: Nirav resides in India but is an American green card holder. He gets the best of both worlds. The correct answer is: an ideal situation.

163. Option (3) is correct.

Lexicography is the activity or occupation of compiling dictionaries. Demography is the statistical study of human populations. Calligraphy is the art of beautiful handwriting. Graphology is the study of human personality through writing.

164. Option (1) is correct.

'Haphazard' means lack of order or planning. It is synonymous to 'random' (accidental).

165. Option (3) is correct.

We fed the horse oats for a week because it had eaten all the hay. ': We feed the horse' is incorrect and will be replaced by ' We fed the horse'. In this sentence, both actions took place in the past, but the action of the independent clause (the feeding of oats) follows the action of the dependent clause (the eating of the hay). By, rule the first action in past takes the past perfect and the subsequent one takes simple past.

166. Option (1) is correct.

They will not attend the event as they're going away by end of April. The part 'away at end of April' will be replaced by 'away by end of April'. "By the end of the month" means a deadline ; "not later than the last day of the month".

167. Option (2) is correct.

Ms. Scarlet was stoic, she never complained. The part 'indifferent to pain and pleasure' will be substituted by 'stoic'. Hypocrite is a person who puts on a false appearance of virtue or religion. Stoic is a person who can endure hardship without showing their feelings. Versatile is having great diversity or variety. Amateur refers to a person who engages in a study, sport, or other activity for pleasure rather than for financial benefit or professional reasons.

168. Option (3) is correct.

In the sentence, 'Despite the advancement in technology many rural areas in developing countries still lack access to basic necessities', 'access' means admission, so 'avenue' is a better alternative to it.

169. Option (3) is correct.

The proverb 'burn the midnight oil' means 'read or work late into the night'. Example: Josephine has been awake since last two days to study. She has been burning the midnight oil for an examination in which she has to top.

170. Option (1) is correct.

The proverb 'on the breadline' means 'to be extremely poor.' Example: The family has been living on the breadline since Ali was born, and all with the intention of educating him from a reputed school.

171. Option (4) is correct.

'Justifiable' means 'reasonable'.

172. Option (4) is correct.

'Left out in the cold' implies 'neglected ; ignored'. Example: Rohan was depressed because most of his colleagues had received a decent raise in their salaries; it was he who was left in the cold.

173. Option (1) is correct.

Hydrophobia is the fear of water. Bibliophobia is an intense fear of books. Microphobia is an intense fear of small things, like germs and insects. Botanophobia is an intense fear of plants.

174. Option (1) is correct.

Lots of kids were seen crossing the road when the bus arrived. Here, 'was visualised' will be replaced by 'were seen'. Since the sentence is in past (bus arrived), the remaining verbs will also be congruent. Moreover, the subject is plural (kids), so the verb will be in plural.

175. Option (2) is correct.

'Dreadful' means 'causing fear, shock, or suffering'. The correct synonym is 'terrible'. 'Auspicious' and 'propitious' mean the same as 'fortunate', and they are antonyms of 'dreadful'.

176. Option (2) is correct.

The idiom 'dodged a bullet' implies 'manage to avoid a difficult or unwelcome situation.'

177. Option (1) is correct.

Pauper is an old-fashioned word for someone who is really poor. Thus, having no means of livelihood left refers to pauper.

178. Option (4) is correct.

The usage of chemicals, insecticides and pesticides began after the Green Revolution. The part 'the use of chemicals' will be substituted by 'the usage of chemicals'. 'Use' can be both a verb and a noun, while 'usage' can only function as a noun. Usage is how something is used; the fact of something being used is use. Therefore, the most appropriate form is 'usage'.

179. Option (2) is correct.

'Catastrophic' means 'causing sudden and very great harm or destruction'. 'Calamity' is its synonym. While 'fortuitous' means by chance, like a lucky accident. 'Fiasco' means disaster. Sabotage is a deliberate action aimed at weakening someone (or something, a nation, etc) or preventing them from being successful.

180. Option (2) is correct.

'An arm and a leg' is a very large amount of money. Example: To win over the heart of his fiancé, he purchased a humongous diamond set, that must have cost him an arm and a leg.

181. Option (4) is correct.

He wrote his diary in code so that nobody could understand it. The part 'He wrote his dairy' will be replaced by 'He wrote his diary'. Diary refers to a book where someone writes things. Dairy refers to something made from milk.

182. Option (1) is correct.

The word 'negligent' implies 'lacking attention, care, or concern'. So, 'attentive' is the most suitable antonym. 'Reluctant' means 'hesitant'; 'amplify' means to enlarge.

183. Option (3) is correct.

Astute is 'keenly perceptive or discerning'. Astronomers study planets, stars, and other celestial bodies. Astronaut is a person who is trained to travel in a spacecraft. Atrocious is horrifyingly wicked.

184. Option (2) is correct.

Site is an area of ground on which a town, building, or monument is constructed. So, 'location' is the correct synonym.

185. Option (3) is correct.

'Comparision' is incorrectly spelt, it will be 'Comparison'.

186. Option (2) is correct.

She will have to participate in the dance competition by the time her father returns from the tour. The part 'She will have participate' will be replaced by 'She will have to participate'. The modal 'have to' is used to say that something is required or necessary.

187. Option (1) is correct.

'Efficient' means 'operating quickly and effectively'. 'Extensive' is 'covering or affecting a large area.' 'Effusive' is marked by the expression of great or excessive emotion or enthusiasm.

188. Option (2) is correct.

'Abandon' means 'to leave a place, thing, or person, usually for ever'. Perish means 'die'. 'Prolong' means 'extend the duration of.' 'Retain' means 'keep possession of.'

189. Option (2) is correct.

'Damp' means 'slightly wet.' Therefore, the antonym is 'arid' (dry).

190. Option (4) is correct.

'A leopard can't change his spots' means 'people can't change

their basic nature.' Example: The mother tried to coax her son into keeping his room tidy, but a leopard can't change his spots. He still litters his belongings in the room.

191. Option (4) is correct.

The Amazon rainforest is an awe-inspiring natural wonder that spans across several South American countries, including Brazil, Peru, Colombia, and Ecuador. The phrase 'spans across' means 'something extending from one side to the other'.

192. Option (3) is correct.

Covering an estimated area of 5.5 million square kilometres, it is the largest tropical rainforest on Earth. Estimated means valued, here an approximation of values has been done, so this is the appropriate word.

193. Option (3) is correct.

The Amazon jungle is renowned for its remarkable biodiversity, harbouring an astonishing array of plant and animal species...The word 'renowned' means 'famous', so the Amazon jungle is famous for its remarkable biodiversity.

194. Option (3) is correct.

The dense vegetation of the jungle creates a vibrant and complex ecosystem,... The word 'vibrant' means 'animated'.

195. Option (3) is correct.

It is also home to indigenous communities that have thrived within its rich confines for centuries, preserving their traditions and deep connection to the land. The word 'indigenous' means 'native'. The context establishes that the native communities that have thrived in the Amazon rainforest have preserved their traditions and deep connection to the land.

196. Option (4) is correct.

The passage is about a research into organisational and personal excellence, which proves certain people were more effective than others, and involves identifying the individuals in their organisations who could really get things done. Thus, the example of Jassie is an efficient employee whose work ethics can be a case study to learn more about organisational and personal excellence most appropriately reflects the context and can be inferred from the passage.

197. Option (3) is correct.

The meaning of pragmatic is relating to matters of fact or practical affairs often to the exclusion of intellectual or artistic matters. There is no chronology, cause/effect or comparison in the passage.

198. Option (3) is correct.

'Effective' is successful; thus, the antonym is 'fruitless' (unproductive).

199. Option (3) is correct.

The passage is about a research into organisational and personal excellence, which proves certain people were more effective than others, and involves identifying the individuals in their organisations who could really get things done. Thus, the most appropriate title is most effective colleagues.

200. Option (4) is correct.

The passage is about a research into organisational and personal excellence, which proves certain people were more effective than others, and involves identifying the individuals in their organisations who could really get things done. This was done in order to find those who were not just influential but who were far more influential than the rest. Thus, the statement that most appropriately sums up the passage given is that some people are more effective and more influential than others to get things done.

