ALL INDIA SAINIK SCHOOL
ENTRANCE EXAM–2023

SECTION–A: LANGUAGE (ENGLISH)

Directions (1–5): Read the following passage and answer the questions by choosing the most appropriate option:

If you want to send a letter by post today, you have to paste a stamp on the envelope. But long ago there were no stamps. People who wanted to send a letter would fold it and stick it with wax. Then the post office would send the letter and the person who got it would have to pay for receiving the letter. The first stamp was printed in England. It was black and had a picture of Queen Victoria on it. It cost one penny (the British Paise). That is why it was called the 'Penny Black'.

The hobby of collecting stamps is known as Philately. Stamps have been brought out in many shapes and sizes. Some stamps are very valuable and can sell for a lot of money.

1. Choose the correct option to fill in the blank.
The first stamp was printed in _____.
(*a*) India (*b*) England
(*c*) America (*d*) Australia

2. Choose the correct statement.
(*a*) The first stamp had a picture of a lion.
(*b*) The first stamp had a picutre of Queen Victoria.
(*c*) The first stamp had a picture of Queen Elizabeth.
(*d*) The first stamp had a picture of a goat.

3. Choose the correct option.
The hobby of collecting stamps is called _____.
(*a*) Gardening (*b*) Fashion Designing
(*c*) Cooking (*d*) Philately

4. 'It was black and had a picutre of Queen Victoria'.
Identify the part of speech for "black" from the given sentence.
(*a*) Noun (*b*) Pronoun
(*c*) Adjective (*d*) Verb

5. Choose the opposite of 'send'.
(*a*) Receive (*b*) Cost
(*c*) Brought *d*) Sell

6. Select the incorrect option.
(*a*) Mouse – Mice (*b*) Child – Children
(*c*) Sheep – Sheeps (*d*) Woman – Women

7. Identify the question tag in the following sentence.
She sings very well, doesn't she?
(*a*) doesn't (*b*) doesn't she ?
(*c*) sings (*d*) well

8. Choose the option that does not come under gender.
(*a*) Masculine (*b*) Feminine
(*c*) Singular (*d*) Neuter

9. Identify the type of sentence.
Come and do your duty.
(*a*) Assertive (*b*) Interrogative
(*c*) Imperative (*d*) Exclamatory

10. 'Laughter is the best medicine.'
Identify the kind of Noun for 'laughter'.
(*a*) Proper Noun (*b*) Common Noun
(*c*) Abstract Noun (*d*) Collective Noun

11. Choose the correct sentence where 'enough' has been used as an adverb.
(*a*) There is enough 'ink' in the pot.
(*b*) She has time enough to buy the shoes.
(*c*) He was kind enough to help me.
(*d*) She is enough beautiful to tempt me.

12. From the following select the most appropriate option to fill in the blank:
A _____ of ships.
(*a*) bundle (*b*) brood (*c*) fleet (*d*) pack

13. Select the sentence with correct order of words.
(*a*) Call each other with the mice repeating calls.
(*b*) The mice call each other with repeating calls.
(*c*) The mice call repeating calls with each other.
(*d*) The mice repeating calls with each other.

14. Select the correct option to fill in the blank.
Don't disturb me. I _____ my work.
(*a*) do (*b*) did
(*c*) am doing (*d*) does

15. Identify the adverb.
She read the answer twice.
(*a*) twice (*b*) answer (*c*) read (*d*) she

16. Choose the option that is opposite of 'brave'.
(*a*) Coward (*b*) Clever
(*c*) Courageous (*d*) Shameful

17. Choose the word nearest in meaning to the underlined word.
She requested him to drop her home.
(*a*) Ordered (*b*) Ask politely
(*c*) Instructed (*d*) Forced

18. Choose the correct verb.
The baby was _____ in the room.
(*a*) sleep (*b*) sleeping
(*c*) will sleep (*d*) will be sleeping

19. Choose the correct option to complete the idiom given below.
You have hit the nail on the _____.
(*a*) head (*b*) leg (*c*) arm (*d*) finger

20. Choose the correct spelling.
(*a*) Sincerity (*b*) Sencerity
(*c*) Sincerrity (*d*) Sinceerity

21. Choose the correct pronoun.
_____ is standing at the gate?
(*a*) Who (*b*) Whom (*c*) Which (*d*) Whose

22. Fill in the blank with the appropriate article.
They are going to _____ Metro station.
(*a*) a (*b*) the (*c*) an (*d*) no article

23. Identify the adjective from the given options.
(*a*) Saw (*b*) To (*c*) Honest (*d*) His

24. Choose the correct preposition to complete the following sentence.
The restaurant is _____ the school.
(*a*) up (*b*) behind (*c*) along (*d*) between

25. Complete the following sentence by choosing the correct option:
They left _____ shoes on the floor as _____ was no space on the shoe rack.
(*a*) they're their (*b*) their, there
(*c*) there, their (*d*) their, they're

Section–B: Mathematics

26. A bullock cart is carrying 230 kg of sand to a construction site. If 4.65 kg sand slipped away on the way to the site, then find the amount of sand that reached the site.
(*a*) 226.65 kg (*b*) 234.65 kg
(*c*) 225.45 kg (*d*) 225.35 kg

27. If the speed of the car is reduced from 100 km/hr to 50 km/hr, then the time taken to cover the same distance will ____.
(*a*) Remain same
(*b*) Will be reduced by 50 minutes
(*c*) Double
(*d*) Will be increased by 50 minutes

28. A train covers a distance of 1862 km with a speed of 98 km/hr. Compute the time taken by the train to cover this distance.
(*a*) 17 hours (*b*) 23 hours
(*c*) 19 hours (*d*) 21 hours

29. Find the sum of 4-digit greatest number and 6- digit smallest number, each having 3 different digits.
(*a*) 109999 (*b*) 109989 (*c*) 110020 (*d*) 1000989

30. Subtract 28,576 from the sum of the least and the greatest 5-digit number formed using the digits 3, 0, 5, 8 and 1.
(*a*) 67,092 (*b*) 84,653 (*c*) 68,932 (*d*) 73,695

31. The complement of one-fourth of a straight angle will be:
(A) Acute angle (B) Right angle
(C) Obtuse angle (D) Half of a right angle
(*a*) Only (B) (*b*) Only (C)
(*c*) Both (A) and (B) (*d*) Both (A) and (D)

32. An angle is three times of the half of a right angle. Find its supplement.
(*a*) 90° (*b*) 135° (*c*) 145° (*d*) 45°

33. While arranging the given fractions from the least to the greatest, which fraction will be at second last place?
$\frac{3}{5}, \frac{1}{3}, \frac{5}{6}, \frac{7}{15}$
(*a*) $\frac{1}{3}$ (*b*) $\frac{5}{6}$ (*c*) $\frac{7}{15}$ (*d*) $\frac{3}{5}$

34. Arrange the following fractions in ascending order:
$\frac{2}{3}, \frac{5}{6}, \frac{7}{8}, \frac{9}{14}$
(*a*) $\frac{7}{8}, \frac{5}{6}, \frac{2}{3}, \frac{9}{14}$ (*b*) $\frac{7}{8}, \frac{2}{3}, \frac{5}{6}, \frac{9}{14}$
(*c*) $\frac{9}{14}, \frac{2}{3}, \frac{5}{6}, \frac{7}{8}$ (*d*) $\frac{9}{14}, \frac{7}{8}, \frac{2}{3}, \frac{5}{6}$

35. The normal body temperature of a human being is 37°C. Convert it to degree Fahrenheit.
(*a*) 98°F (*b*) 97°F (*c*) 95°F (*d*) 98.5°F

36. The difference between – 50°C and 72°C is _____.
(*a*) 122°C (*b*) 42°C (*c*) + 32°C (*d*) + 102°C

37. Express 18 kg 5 g as kg
(*a*) 18.5 kg (*b*) 18.500 kg
(*c*) 18.05 kg (*d*) 18.005 kg

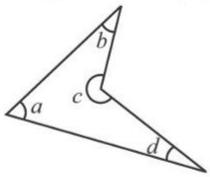
38. Find the number of zeros on 1 km when you convert a kilometer into millimeter.
(*a*) 5 (*b*) 6 (*c*) 7 (*d*) 8

39. Which of the following is the correct representation for number 99?
(*a*) IC (*b*) XCVIII (*c*) XCIX (*d*) L+XXXXIX

40. Find the value of: MXLII + CXCIV – LXIII
(*a*) MCLXXIII (*b*) MCCCCXXIX
(*c*) MCCLXXIII (*d*) MCXLIIV

41. Name the type of an angle whose measure is 29° more than the difference of 136° and 77°.
(*a*) acute angle (*b*) obtuse angle
(*c*) right angle (*d*) reflex angle

42. Which of the angles in the given figure is larger than two (2) right angles?



(*a*) Only $\angle a$
(*b*) Both $\angle a$ and $\angle d$
(*c*) Only $\angle c$
(*d*) $\angle a$, $\angle b$ and $\angle d$ only

43. Read the given statements and choose the right option.
Statement A: All chords of a circle are diameters.
Statement B: Diameter is the longest chord of the circle.
(*a*) Only statement A is true.
(*b*) Only statement B is true.
(*c*) Both statements are true.
(*d*) Both statements are false.

44. The product of Place-value and Face value of digit 6 in the number 78604430000 is _____.
(*a*) 3652800000 (*b*) 3600000000
(*c*) 3626580000 (*d*) 360000000

45. Find the smallest five digit number using three different digits.
(*a*) 10000 (*b*) 20000 (*c*) 00021 (*d*) 10002

46. If a number is divisible by 8 and 3 both, then by which other numbers will it always be divisible.
(*a*) 8 and all its factors (*b*) factors of 3
(*c*) factors of 24 (*d*) factors of 12

47. The product of two numbers with L.C.M. of 112 is 4032. The H.C.F. of the two numbers will be _____.
(*a*) 1 (*b*) 12 (*c*) 9 (*d*) 36

48. The cost of a dozen headphones is ₹ 78,564. Samar wants to buy five headphones. Find the amount to be paid by him to get five headphones.
(*a*) ₹ 40,675 (*b*) ₹ 32,735
(*c*) ₹ 32,375 (*d*) ₹ 43,675

49. Trisha is arranging fruit juices for 40 classmates. She wants to serve 250 mℓ of juice to each of the classmate. What is the minimum number of tetrapacks she requires for serving if each tetrapack contains 2.5 ℓ of juice?
(*a*) 2.5 (*b*) 3 (*c*) 4 (*d*) 10

50. Compute the reciprocal of expression given below:

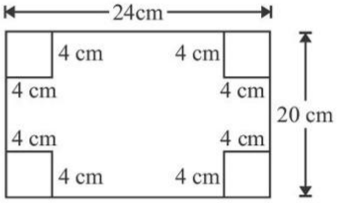
$$\frac{34}{15} \times \frac{45}{17}$$

(*a*) $\frac{17}{38}$ (*b*) $\frac{15}{45}$ (*c*) $\frac{1}{6}$ (*d*) does not exist

51. Radhika bought $8\frac{1}{4}$ kg of fruits. She used $2\frac{5}{6}$ kg of fruits in pudding and kept the rest for fruit salad. What is the quantity of fruit left for salad?
(*a*) $6\frac{2}{12}$ kg (*b*) $5\frac{5}{12}$ kg
(*c*) $6\frac{1}{24}$ kg (*d*) $5\frac{5}{24}$ kg

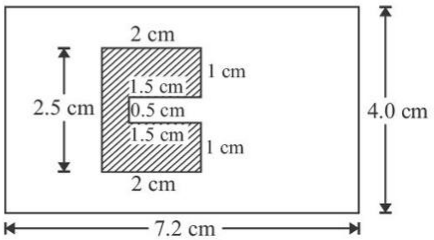
52. A batsman scored 190 runs which included 10 boundaries and 6 sixes. What percent of his total score did he make by running between the wickets?
(*a*) 50% (*b*) 60% (*c*) 70% (*d*) 75%

53. Riya is doing a paper cutting activity. She cuts out four identical square corners of the rectangular sheet as given in the figure. Find the area and perimeter of the remaining sheet.



(*a*) 416 sq. cm 88 cm (*b*) 316 sq. m 80 cm
(*c*) 480 sq. m. 88 cm (*d*) 480 sq. m 80 cm

54. Find the area of the unshaded region in the given figure.



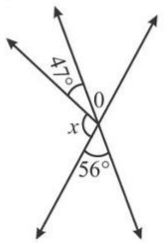
(*a*) 6.75 cm^2 (*b*) 28.8 cm^2
(*c*) 24.55 cm^2 (*d*) 22.05 cm^2

55. A farmer borrowed a sum of ₹ 10,000 from a bank at 5% rate of interest per annum. How much interest will he pay the bank in 3 years.
(*a*) ₹ 30,000 (*b*) ₹ 1,500
(*c*) ₹ 500 (*d*) ₹ 11,500

56. Rijul took ₹ 50,000 from a person for 3 years at the rate of 8% per annum. Find the amount paid by Rijul to that person after 3 years.
(*a*) ₹ 52,0000 (*b*) ₹ 62,000
(*c*) ₹ 51,200 (*d*) ₹ 48,000

57. Find the supplement of complement of two thirds of a right angle.
(*a*) 120° (*b*) 150° (*c*) 30° (*d*) 60°

58. In the figure given, the measure of x is _____.



(*a*) 124° (*b*) 43° (*c*) 77° (*d*) 56°

59. The table below shows the price of some items in a shop:

Item Price	per kg
Sugar	₹ 72
Rice	₹ 108
Coffee	₹ 237
Wheat	₹ 63

What is the ratio of combined price of Sugar and Rice to that of Coffee and Wheat?

(*a*) 9 : 14 (*b*) 2 : 3 (*c*) 4 : 5 (*d*) 3 : 5

60. What least number should be added to each term of the ratio 7 : 13 to get the ratio 2 : 3?

(*a*) 1 (*b*) 3 (*c*) 5 (*d*) 7

61. By selling a watch for ₹ 1,275 Javed lost 15%. At what price should he sell so as to make a profit of 10%?

(*a*) ₹ 1,500 (*b*) ₹ 1,600 (*c*) ₹ 1,650 (*d*) ₹ 1,700

62. Seema and Ravi invested ₹ 1,50,000 in a business in the ratio of 2 : 3. At the end of the year, they made a profit of 150% on the invested sum. If they share the profit money in the same ratio, then what will be Seema's share?

(*a*) ₹ 1,50,000 (*b*) ₹ 20,000

(*c*) ₹ 1,35,000 (*d*) ₹ 90,000

63. Which of the given statement is true?

(*a*) $(21 - 15) - 6 = 21 - (15 - 6)$

(*b*) $14 \times 36 \div 6 - 10 = 84$

(*c*) $93 \times 63 - 93 \times 37 = 9300$

(*d*) $25 + 49 \div 7 \times 5 - 6 = 54$

64. $9 + [6 + 7 \text{ of } 3 - (9 + 2 - 6 \div 2)]$

(*a*) 25 (*b*) 26 (*c*) 27 (*d*) 28

65. The mean for 13, 14, 19, *a*, 17 is 22. Find the value of *a*.

(*a*) 37 (*b*) 47 (*c*) 57 (*d*) 67

66. Given below are the runs scored by a batsman in 4 matches. Calculate the average runs scored by the batsman.

Match	I	II	III	IV
Runs Scored	35	0	6	98

(*a*) 139 (*b*) 140 (*c*) 46.66 (*d*) 34.75

67. What percent of 4 days is 6 hours?

(*a*) $5\frac{1}{4}\%$ (*b*) $3\frac{1}{4}\%$ (*c*) $6\frac{1}{4}\%$ (*d*) $4\frac{1}{4}\%$

68. Match List-I with List-II.

List-I		List-II	
(A)	longest chord	(I)	radius
(B)	space between two radii	(II)	diameter
(C)	half of a circle	(III)	sector
(D)	half of diameter	(IV)	semi-circle

Choose the correct answer from the options given below:

(*a*) (A)–(IV), (B)–(I), (C)–(II), (D)–(III)

(*b*) (A)–(III), (B)–(I), (C)–(IV), (D)–(II)

(*c*) (A)–(II), (B)–(III), (C)–(IV), (D)–(I)

(*d*) (A)–(I), (B)–(II), (C)–(III), (D)–(IV)

69. Three cubes whose each edge is 4 cm are joined together to form a cuboid. Find the volume of the new cuboid formed.

(*a*) 64 cm^3 (*b*) 0.064 cm^3

(*c*) 192 cm^3 (*d*) 12 cm^3

70. The perimeter of one face of a cuboid is 40 cm. If the length and depth of this cuboid is 13 cm and 8 cm, then find the volume of the cuboid.

(*a*) 846 cm^3 (*b*) 625 cm^3

(*c*) 728 cm^3 (*d*) 746 cm^3

71. Which of the following are four consecutive composite numbers?

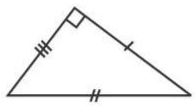
(*a*) 22, 23, 24, 25 (*b*) 60, 61, 62, 65

(*c*) 56, 57, 58, 59 (*d*) 90, 91, 92, 93

72. A pair of twin prime number between 70 and 100 is _____.

(*a*) 71, 73 (*b*) 79, 83 (*c*) 97, 99 (*d*) 87, 89

73. Name the triangle shown below based on both sides and angles.



(*a*) isosceles and acute triangle

(*b*) scalene and right triangle

(*c*) obtuse and right triangle

(*d*) equilateral and obtuse triangle

74. Given below are two statements: One is labelled as Assertion (A) and the other is labelled as Reason (R).

Assertion (A): Right angled triangle is not a regular polygon.

Reason (R): All the sides and angles of a regular polygon are equal.

In the light of the above statements, choose the correct answer from the options given below:

(*a*) Both (A) and (R) are true and (R) is the correct explanation of (A).

(*b*) Both (A) and (R) are true but (R) is not the correct explanation of (A).

(*c*) (A) is true but (R) is false.

(*d*) (A) is false but (R) is true.

75. Find the value of $54 \div 0.009$.

(*a*) 0.006 (*b*) 6.0 (*c*) 6000 (*d*) 48.6

SECTION–C: GENERAL KNOWLEDGE

76. Which animal was represented on the mascot of the Delhi Asian Games 1982?

(*a*) Elephant (*b*) Lion

(*c*) Panda (*d*) Tiger

77. The deficiency of which of the following vitamins causes Rickets?

(*a*) Vitamin-A (*b*) Vitamin-D

(*c*) Vitamin-C (*d*) Vitamin-B_{12}

78. Who was the first Governor General of Independent India?

(*a*) Rajagopalachari (*b*) Mahatma Gandhi

(*c*) Lord Mount Batten (*d*) Jawaharlal Nehru

79. Identify the Indian Nuclear Physicist, who was the founding Director and Professor of Physics at the Tata Institute of Fundamental Research.
(*a*) Homi J. Bhabha (*b*) Ramanujan
(*c*) Vikram Sarabhai (*d*) Aryabhata

80. When was Bangladesh formed?
(*a*) In 1971 (*b*) In 1905
(*c*) In 1970 (*d*) In 1947

81. Choose the correct option.
The United Nations (UN) was founded in _____.
(*a*) 1944 (*b*) 1945 (*c*) 1946 (*d*) 1947

82. Identify from the following, the disease related to brain.
(*a*) Meningitis (*b*) Migraine
(*c*) Jaundice (*d*) Diabetes

83. Choose the correct option.
Cow dung can be used as manure as it is rich in _____
(*a*) Nitrogen (*b*) Sugar
(*c*) Mercury (*d*) Calcium

84. Who appoints the Prime Minister of India?
(*a*) The President of India
(*b*) Chief Election Commissioner
(*c*) The Chief Justice of India
(*d*) The Chief of Defence Staff

85. Kolkata is located on the banks of _____.
(*a*) Ganges (*b*) Damodar
(*c*) Hooghly (*d*) Padma

86. Choose the correct option.
This palace, located in Gwalior was built by the Maharaja of Gwalior Jayajirao Scindia. It has Italian and Tuscan style of architecture and is not a museum.
(*a*) Hawa Mahal Palace (*b*) Umaid Bhawan Palace
(*c*) Lake Palace (*d*) Jai Vilas Palace

87. In Ramayana, where did Lord Shri Ram marry Sita?
(*a*) Ayodhya (*b*) Panchvati
(*c*) Chitrokoot (*d*) Janakpur

88. Choose the correct option.
Food is stored in the roots of _____
(*a*) Potato (*b*) Sweet Potato
(*c*) Onion (*d*) Ginger

89. Choose the correct option.
_____ is the fastest healing body part.
(*a*) Tongue (*b*) Liver
(*c*) Large Intestine (*d*) Skin

90. Ayodhya is located on the banks of the river:
(*a*) Ganges (*b*) Saryu
(*c*) Godavari (*d*) Yamuna

91. Choose the correct option.
Sanjana found that as a seed germinates and seedling turns into a young plant, the size of the seed leaves gradually becomes smaller.
It is because:
(*a*) The seed leaves are absorbed back into the seed coat.
(*b*) The sunlight withers the seed leaves.
(*c*) The food in the seed leaves has been used by the growing plant.
(*d*) None of these

92. Animal which can survive without water for a long time in desert.
(*a*) Horse (*b*) Cow (*c*) Buffalo (*d*) Camel

93. The only species where the males bear the young.
(*a*) Dolphin (*b*) Whale
(*c*) Sea horse (*d*) Tortoise

94. Singlis Chham dance is related to which state?
(*a*) Assam (*b*) Manipur (*c*) Sikkim (*d*) Kerala

95. The instrument used to measure the speed of a vehicle is:
(*a*) Speedometer (*b*) Photometer
(*c*) Odometer (*d*) Tachometer

96. A sport where people use a board with small wheels is:
(*a*) Para motoring (*b*) Sky diving
(*c*) Skating (*d*) Skate boarding

97. This award is also known as the Lotus decoration and is India's second highest civilian award.
(*a*) Arjuna award (*b*) Padma Vibhushan
(*c*) Bharat Ratna (*d*) Ashok Chakra

98. _____ is the first sportsperson to win the Padma Vibhushan award in 2007.
(*a*) Vishwanathan Anand (*b*) Sunil Gavaskar
(*c*) Kapil Dev (*d*) Sachin Tendulkar

99. Choose the correct option to fill in the blank.
Mountains arranged in a line is known as _____.
(*a*) range (*b*) fold mountain
(*c*) peak (*d*) table mountain

100. Choose the correct option.
Water is known as the universal solvent because:
(*a*) It has many uses.
(*b*) It can remove all kinds of dust.
(*c*) It is the medium in which all body metabolism happens.
(*d*) It can dissolve many substances.

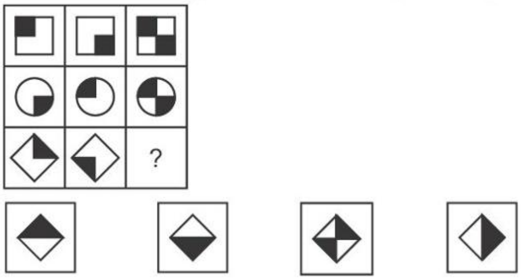
SECTION–D: INTELLIGENCE TEST

101. Find the missing term.
400, 388, 376, 364, ?
(*a*) 352 (*b*) 350 (*c*) 354 (*d*) 372

102. Find the missing term.
3, 7, 16, 35, 74, ?
(*a*) 153 (*b*) 160 (*c*) 173 (*d*) 151

103. Fill in the blank.
ADDG, EHHK, ILLO, MPPS, _____
(*a*) PRRT (*b*) QUUX (*c*) QTTW (*d*) PSSV

104. Select the correct figure which will complete the given grid:



(*a*) (*b*) (*c*) (*d*)

105. Complete the following analogy:
Book : Author : : Dish : _____

(*a*) Musician (*b*) Chef
(*c*) Painter (*d*) Artist

106. Complete the following analogy:
Flood : Drought : : Genius : _____

(*a*) Think (*b*) Intelligence
(*c*) Brain (*d*) Foolish

107. Identify the relationship in the first pair and find the missing term of the second pair.
ADE : FGJ : : KNO : ?

(*a*) PQR (*b*) PQT (*c*) RQP (*d*) TPR

108. Complete the following analogy :
Cough : Throat : : Asthama : _____

(*a*) Kidney (*b*) Lungs
(*c*) Head (*d*) Liver

109. Arrange the following in a Logical order from bottom to top.
(A) Knee (B) Toes (C) Calves (D) Heel
(E) Ankle

Choose the correct answer from the options given below:

(*a*) (D), (E), (C), (B), (A)
(*b*) (B), (D), (E), (C), (A)
(*c*) (D), (A), (B), (C), (E)
(*d*) (B), (C), (E), (D), (A)

110. Arrange the given words as they occurs in the dictionary:
(A) PRISTINE (B) PRINTER
(C) PREVIOUS (D) PREVENT
(E) PRIORITY

Choose the correct answer from the options given below:

(*a*) (B), (A), (C), (D), (E)
(*b*) (C), (D), (A), (E), (B)
(*c*) (D), (C), (B), (E), (A)
(*d*) (A), (E), (B), (C), (D)

111. Arrange the following in a logical order:
(A) Rain (B) Cooling
(C) Condensation (D) Heating
(E) Evaporation

Choose the correct answer from the options given below:

(*a*) (B), (A), (C), (D), (E)
(*b*) (E), (D), (A), (B), (C)
(*c*) (B), (C), (A), (D), (E)
(*d*) (D), (E), (B), (C), (A)

112. Which of the following is the water image of 5374?

(*a*) ʓ374 (*b*) ᔭᒣƐʓ (*c*) ʓ3⅃ᔭ (*d*) ʓƐᒣᔭ

113. Complete the following analogy :
B : 4 : : G : ?

(*a*) 36 (*b*) 17 (*c*) 18 (*d*) 49

114. Find the odd one out.

(*a*) Orange (*b*) Earth (*c*) Egg (*d*) Basketball

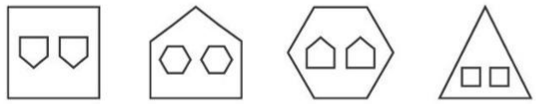
115. Find the odd one out.

(*a*) 97 (*b*) 47 (*c*) 81 (*d*) 19

116. Pick the odd one out.

(*a*) Book (*b*) Pencil (*c*) Eraser (*d*) Computer

117. Find the odd out.



(*a*) (*b*) (*c*) (*d*)

118. Find the odd one out.

(*a*) Kanpur (*b*) Vijaywada
(*c*) Ganga (*d*) Guwahati

119. Choose the odd one out.

(*a*) Guitar (*b*) Violin (*c*) Sitar (*d*) Flute

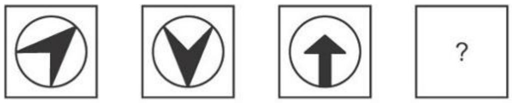
120. Complete the following analogy.
DGA : 12 : : AMQ : ?

(*a*) 19 (*b*) 31 (*c*) 28 (*d*) 17

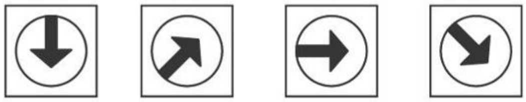
121. Find the missing number.
5 : 22 : : 8 : ?

(*a*) 61 (*b*) 37 (*c*) 80 (*d*) 50

122. Figures A and B are related in a particular manner. Establish the same relationship between figures C and D by choosing a figure from the alternations, which replaces the question mark.

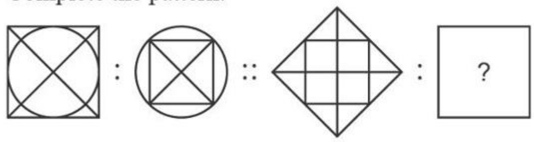


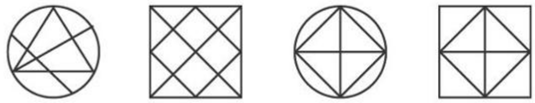
(A) (B) (C) (D)



(*a*) (*b*) (*c*) (*d*)

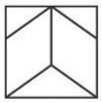
123. Complete the pattern:

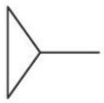




(*a*) (*b*) (*c*) (*d*)

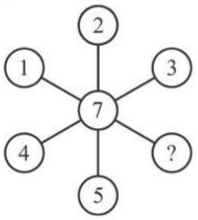
124. Which of the following shapes is a part of the given figure:





(*a*) (*b*) (*c*) (*d*)

125. Which number replaces the question mark ?



(*a*) 8 (*b*) 3 (*c*) 4 (*d*) 6

SOLUTIONS

1. (*b*)	**2.** (*b*)	**3.** (*d*)	**4.** (*c*)	**5.** (*a*)	**6.** (*c*)
7. (*b*)	**8.** (*c*)	**9.** (*c*)	**10.** (*c*)	**11.** (*b*)	**12.** (*c*)
13. (*b*)	**14.** (*c*)	**15.** (*c*)	**16.** (*a*)	**17.** (*b*)	**18.** (*b*)
19. (*a*)	**20.** (*a*)	**21.** (*a*)	**22.** (*b*)	**23.** (*c*)	**24.** (*b*)

25. (*b*)

26. (*d*) Required amount of sand
= (230 – 4.65) kg
= 225.35 kg.

$$\begin{array}{r} 230.00 \\ -\ 4.65 \\ \hline 225.35 \end{array}$$

27. (*c*) Let the distance be x km. Let first and second time taken be T_1 and T_2 respectively. Then,

$$T_1 = \frac{x}{100}\text{ hr},\ T_2 = \frac{x}{50}\text{ hr} \qquad \left[\because \text{Time taken} = \frac{\text{Distance}}{\text{Speed}}\right]$$

On dividing, we get:

$$\frac{T_1}{T_2} = \frac{\frac{x}{100}}{\frac{x}{50}} = \frac{1}{2} \Rightarrow T_2 = 2T_1$$

∴ The time taken to cover the same distance will double.

28. (*c*) Distance = 1862 km, Speed = 98 km/hr

$$\therefore \text{Time} = \frac{\text{Distance}}{\text{Speed}} = \frac{1862}{98} = 19 \text{ hours}$$

29. (*b*) 4-digit greatest number with three different digits = 9987
6-digit smallest number with three different digits = 100002
∴ Required sum = 9987 + 100002 = 109989.

30. (*a*) The least 5-digit number that can be formed by the given digits = 10358.
The greatest 5-digit number that can be formed by the given digits = 85310.
∴ Required number = [(10358 + 85310) – 28576]
= 95668 – 28576 = 67092.

31. (*d*) One-fourth of a straight angle $= \left(\frac{1}{4}\times 180°\right) = 45°$
∴ Required complement = (90° – 45°) = 45°.
Hence, required angle = acute angle and half of a right angle.

32. (*d*) Angle $= \left(3\times\frac{1}{2}\times 90°\right) = 135°$
∴ Required supplement = (180° – 135°) = 45°.

33. (*d*) $\frac{3}{5} = 0.6,\ \frac{1}{3} = 0.33,\ \frac{5}{6} = 0.83,\ \frac{7}{15} = 0.46$
Now, $0.33 < 0.46 < 0.6 < 0.83$
$\therefore \frac{1}{3} < \frac{7}{15} < \frac{3}{5} < \frac{5}{6}$
∴ Required fraction = $\frac{3}{5}$.

34. (*c*) $\frac{2}{3} = 0.66;\ \frac{5}{6} = 0.83;\ \frac{7}{8} = 0.87;\ \frac{9}{14} = 0.64$
Clearly, $0.64 < 0.66 < 0.83 < 0.87$
$\therefore \frac{9}{14} < \frac{2}{3} < \frac{5}{6} < \frac{7}{8}$.

35. (*d*) $F = \frac{9}{5}C + 32 = \left(\frac{9}{5}\times 37 + 32\right) = 66.6 + 32 = 98.6.$

36. (*a*) Required difference = [72 – (–50)]°C = 122°C.

37. (*d*) 1 kg = 1000 gm $\Rightarrow$ 1 gm = $\frac{1}{1000}$ kg
$\therefore$ 18 kg 5 g = (18 kg + 5 g) = $\left(18 + 5\times\frac{1}{1000}\right)$ kg
= (18 + 0.005) kg = 18.005 kg.

38. (*b*) 1 km = 1000000 mm.
∴ Required number of zeroes = 6.

39. (*c*) 99 = 90 + 9 = XCIX.

40. (*a*) MXLII = 1000 + 40 + 2 = 1042
CXCIV = 100 + 90 + 4 = 194
LXIII = 50 + 10 + 3 = 63
∴ MXLII + CXCIV – LXIII = 1042 + 194 – 63 = 1173
= MCLXXIII.

41. (*a*) Required angle = (136° – 77°) + 29° = 88°.
∴ Type of angle = Acute angle.

42. (*c*) Two right angles = 2 × 90° = 180°.
Only $\angle C$ is larger than two right angles. It is a reflex angle.

43. (*b*) Statement *A* is false since only those chords which pass through the centre of the circle are diameters. Statement *B* is true.

44. (*b*) Place value of 6 in 78604430000 → 6 × 100000000 = 600000000
Face value of 6 in 78604430000 = 6
∴ Required product = 600000000 × 6 = 3600000000.

45. (*d*) Required number = 10002.

46. (*c*) If a number is divisible by 8 and 3, then the number is divisible by 24 and all the factors of 24.

47. (*d*) L.C.M. × H.C.F. = Product of two numbers
$\Rightarrow$ 112 × H.C.F. = 4032 $\Rightarrow$ H.C.F. = $\frac{4032}{112}$ = 36.

48. (*b*) 1 dozen = 12 articles.
Cost of 12 headphones = ₹ 78564

Cost of 1 headphone $= ₹\left(\frac{78564}{12}\right) = ₹\ 6547.$

$\therefore$ Cost of 5 headphones $= ₹\ (6547 \times 5) = ₹\ 32{,}735.$

49. (*c*) Quantity of juice required $= (40 \times 250)\ m\ell = 10000\ m\ell$

Quantity of juice in each tetrapack $= 2.5\ \ell = 2500\ m\ell$

Number of tetrapacks required $= \frac{10000}{2500} = 4.$

50. (*c*) $\frac{34}{15} \times \frac{45}{17} = 6.$

$\therefore$ Required reciprocal $= \frac{1}{6}.$

51. (*b*) Quantity of fruit left for salad

$$= \left(8\frac{1}{4} - 2\frac{5}{6}\right) kg = \left(\frac{33}{4} - \frac{17}{6}\right) kg = \frac{65}{12} kg = 5\frac{5}{12} kg.$$

52. (*b*) Runs made by boundaries and sixes $= (10 \times 4 + 6 \times 6) = 76.$

Runs made between the wickets $= 190 - 76 = 114.$

$\therefore$ Required percent $= \left(\frac{114}{190} \times 100\right)\% = 60\%.$

53. (*a*) Area of 1 square $= (4)^2 = 16\ cm^2.$

Area of 4 squares $= (4 \times 16)\ cm^2 = 64\ cm^2.$

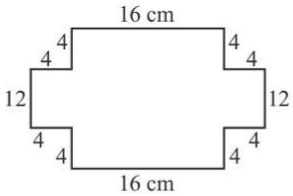
Area of rectangle $= l \times b = (24 \times 20)\ cm^2 = 480\ cm^2.$

$\therefore$ Area of remaining sheet $= (480 - 64)\ cm^2 = 416\ cm^2.$

Perimeter of remaining sheet

$= (16 + 4 + 4 + 12 + 4 + 4 + 16 + 4 + 4 + 12 + 4 + 4)$ cm

$= 88$ cm.



54. (*c*) Area of shaded region

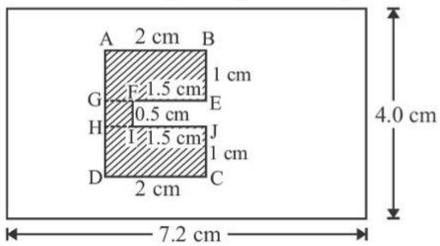
= Area of rectangle *ABEG* + Area of square *FGHI*

+ Area of rectangle *CDHJ*

$= [2 \times 1 + (0.5)^2 + 2 \times 1]\ cm^2 = 4.25\ cm^2$

Area of original rectangle $= l \times b = (7.2 \times 4)\ cm^2 = 28.8\ cm^2$

$\therefore$ Area of unshaded region $= (28.8 - 4.25)\ cm^2 = 24.55\ cm^2.$



55. (*b*) $P = ₹\ 10000,\ R = 5\%$ p.a., $T = 3$ years

$$\text{S.I.} = \frac{P \times R \times T}{100} = ₹\left(\frac{10000 \times 5 \times 3}{100}\right) = ₹\ 1500.$$

56. (*b*) $P = ₹\ 50000,\ R = 8\%$ p.a., $T = 3$ years

$$\text{S.I.} = \frac{P \times R \times T}{100} = ₹\left(\frac{50000 \times 8 \times 3}{100}\right) = ₹\ 12000.$$

Amount = S.I. + $P = ₹\ (12000 + 50000) = ₹\ 62000.$

57. (*b*) Two thirds of right angle $= \left(\frac{2}{3} \times 90°\right) = 60°.$

Complement of $60° = (90° - 60°) = 30°.$

Supplement of $30° = (180° - 30°) = 150°.$

58. (*c*) $47° + x + 56° = 180°$ [Linear pair]

$\Rightarrow x + 103° = 180° \Rightarrow x = 180° - 103° = 77°.$

59. (*d*) Price of (Sugar + Rice) $= ₹\ (72 + 108) = ₹\ 180$

Price of (Coffee + Wheat) $= ₹\ (237 + 63) = ₹\ 300$

$\therefore$ Required ratio $= 180 : 300 = 3 : 5.$

60. (*c*) Let x be the least number that should be added to each term.

Then, $\frac{7 + x}{13 + x} = \frac{2}{3} \Rightarrow 21 + 3x = 26 + 2x \Rightarrow x = 5.$

61. (*c*) S.P. $= ₹\ 1275$, Loss% $= 15\%$

$$\text{C.P.} = \left(\frac{100}{100 - \text{Loss}\%} \times \text{S.P.}\right) = ₹\left(\frac{100}{(100 - 15)} \times 1275\right)$$

$$= ₹\left(\frac{100}{85} \times 1275\right) = ₹\ 1500.$$

Now, Profit% $= 10\%$

$$\therefore \text{ New selling price} = \left(\frac{100 + \text{Profit}\%}{100} \times \text{C.P.}\right)$$

$$= ₹\left\{\frac{(100 + 10)}{100} \times 1500\right\} = ₹\left(\frac{110}{100} \times 1500\right)$$

$= ₹\ 1650.$

62. (*d*) Total profit $= ₹\ (150\%$ of $150000) = ₹\ 225000.$

Now, the profit is divided in the ratio of the investment.

Seema's share $= ₹\left(\frac{2}{5} \times 225000\right) = ₹\ 90{,}000.$

63. (*d*) (*a*) L.H.S. $= (21 - 15) - 6 = 6 - 6 = 0.$

R.H.S. $= 21 - (15 - 6) = 21 - 9 = 12.$

L.H.S. $\neq$ R.H.S.

(*b*) L.H.S. $= 14 \times 36 \div 6 - 10 = 14 \times 6 - 10 = 74.$

R.H.S. $= 84$

L.H.S. $\neq$ R.H.S.

(*c*) L.H.S. $= 93 \times 63 - 93 \times 37 = 93\ (63 - 37) = 93 \times 26 = 2418.$

R.H.S. $= 9300.$

L.H.S. $\neq$ R.H.S.

(*d*) L.H.S. $= 25 + 49 \div 7 \times 5 - 6 = 25 + 7 \times 5 - 6 = 25 + 35 - 6 = 54.$

R.H.S. $= 54.$

$\therefore$ L.H.S. = R.H.S.

Hence, correct answer is (*d*).

64. (*d*) $9 + [6 + 7$ of $3 - (9 + 2 - 6 \div 2)]$

$= 9 + [6 + 7$ of $3 - (9 + 2 - 3)] = 9 + [6 + 7$ of $3 - (11 - 3)]$

$= 9 + [6 + 7$ of $3 - 8] = 9 + [6 + 21 - 8] = 9 + [27 - 8]$

$= 9 + 19 = 28.$

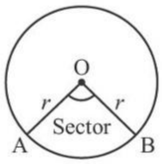
65. (*b*) Mean $= \frac{\text{Sum of observations}}{\text{Number of observations}}$

$$\Rightarrow 22 = \frac{13 + 14 + 19 + a + 17}{5} \Rightarrow 110 = 63 + a \Rightarrow a = 47.$$

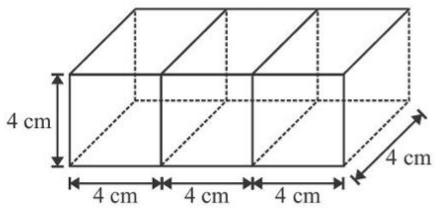
66. (*d*) Average runs $= \frac{\text{Sum of runs}}{\text{Total matches}} = \frac{35+0+6+98}{4} = \frac{139}{4}$
$= 34.75.$

67. (*c*) 1 day = 24 hours $\Rightarrow$ 4 days = (24 × 4) hours = 96 hours
$\therefore$ Required percent $= \left(\frac{6}{96}\times 100\right)\% = 6\frac{1}{4}\%.$

68. (*b*) Longest chord—diameter;
Space between two radii—sector (of the circle);
Half of a circle—semi-circle;
Half of a diameter—radius.



69. (*c*) $l = (4 + 4 + 4)$ cm = 12 cm
$b = 4$ cm
$h = 4$ cm
$\therefore$ Volume of new cuboid $= lbh = (12 \times 4 \times 4)\ \text{cm}^3 = 192\ \text{cm}^3$.

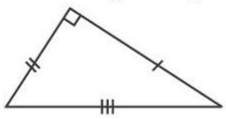


70. (*c*) $l = 13$ cm, $h = 8$ cm
Perimeter of one face = 40 cm
$\Rightarrow 2(l + b) = 40 \Rightarrow (13 + b) = 20 \Rightarrow b = 7$ cm.
$\therefore$ Volume of cuboid $= lbh = (13 \times 7 \times 8)\ \text{cm}^3 = 728\ \text{cm}^3$.

71. (*d*) 90,91,92,93 are consecutive composite numbers.

72. (*a*) Twin prime numbers are prime numbers having a difference of 2. Clearly, 71 and 73 are twin prime numbers.

73. (*b*) All sides of the given triangle are not equal and one angle is 90°. So, this is scalene and right triangle.



74. (*a*) *A* is true since the hypotenuse of a right angled triangle is always greater than the other two sides. So, all sides cannot be equal.
R is true since a regular polygon has all sides equal and all angles equal.

75. (*c*) $54 \div 0.009 = \frac{54}{0.009} = \frac{54\times 1000}{9} = 6000.$

76. (*a*) The mascot of the Delhi Asian Games 1982 was Appu—a kid elephant. Known in real life as 'Kuttinarayan', this elephant fractured its leg in an accident when he stepped into a septic tank while he was seven years old. The wound didn't heal, that eventually killed him on 14 May 2005.

77. (*b*) Rickets is a disorder caused by lack of vitamin D, calcium or phosphate. It leads to the softening and weakening of the bones. Vitamin D helps the body regulate calcium and phosphate levels.

78. (*c*) Lord Mountbatten served as the last viceroy of India and the first Governor-General of independent India. India and Pakistan were partitioned under the plan prepared by him known as June 3 plan or the Mountbatten plan.

79. (*a*) Homi Jehangir Bhabha was an Indian nuclear physicist, founding director, and professor of physics at the Tata Institute of Fundamental Research (TIFR). Also known as 'Father of Indian nuclear programme', Bhabha was also the founding director of the Atomic Energy Establishment, Trombay (AEET), which is now named Bhabha Atomic Research centre in his honour.

80. (*a*) Bangladesh became an independent nation in 1971. Pakistan experienced the Bangladesh crisis under General Yahya's military administration, and following a war with India in 1971, East Pakistan split out to become an independent nation known as Bangladesh.

81. (*b*) The United Nations (UN) was established on 24 October, 1945 with it's headquarters in Manhattan, New York. It was created after the end of World War II as an international peace keeping organization, replacing the ineffective League of Nations, which had failed to prevent the outbreak of the Second World War.

82. (*) Both Migraine and Meningitis are the diseases related to brain. Migraine is a neurological disease characterized by repeated episodes of symptoms, called attacks that usually include headache, often accompanied by nausea, sensitivity to light, touch, smell or sound, dizziness, visual disturbances and tingling or numbness in the face, hands or feet. Meningitis is an inflammation (swelling) of the protective membranes covering the brain and the spinal cord.

83. (*a*) Cow dung is made up of digested grass and grain. It is an organic material, rich in nutrients. It contains about 3% Nitrogen, 2% phosphorus and 1% Potassium. Therefore, it acts as a perfect fertiliser.

84. (*a*) The Prime Minister of India is appointed by the President of India. According to Article 75, the Prime Minister shall be appointed by the President and other Ministers shall be appointed by the President on the advice of the Prime Minister.

85. (*c*) Kolkata is the capital of the Indian state of West Bengal. It is located approximately 80 kilometers west of the border with Bangladesh, on the banks of the Hooghly river, a distributary of the Ganges river which is about 260 km long.

86. (*d*) Jai Vilas Mahal, built by Jayajirao Scindia in 1874 is a ninteenth century palace in Gwalior in India. It is a combination of architectural styles, the first storey is Tuscan, the second Italian-Doric and the third Corinthian. The major part of the palace is now the 'Jiwajirao Scindia Museum', with the residence of some of the descendants in the other part.

87. (*d*) Lord Ram is an incarnation of Lord Vishnu and is the eldest son of King Dashrath of Ayodhya. Lord Ram visited Janakpur, Goddess Sita's birthplace, on the 'Margashira' Panchami. He married Sita after breaking Lord Shiva's bow in Swayamvara.

88. (*b*) Some plants have modified roots for storage purposes. Storage roots, such as carrot, beetroot, raddish and sweet potato, are examples of roots that are specifically modified for storage of starch and water.

89. (*a*) Tongue is the fastest healing part of the body, as all areas inside the mouth heal faster than any other part of the body. Infection within the mouth is extremely rare because the enzymes in saliva kill most infectious materials.

90. (*b*) Ayodhya, a city of Uttar Pradesh is situated on the banks of the River Sarayu. The Sarayu originates from lake Mansarovar in the Himalayas and merges with river Ganga in Bihar.

91. (*a*) As a seed germinates and seedling grow-up into young plant, the size of the seed leaves gradually become smaller because the seed leaves are absorbed back into the seed coat.

92. (*d*) Camel is an animal that can survive without water for a long time in desert. It is also known as the 'ship of the desert' mainly because of it's physical characteristics like large flat feet and double eye lashes, which are well adapted to the conditions of the desert.

93. (*c*) In the entire animal kingdom, male seahorses (and their close relatives) are the only male animals that give birth to the young ones in comparison to their female counterparts.

94. (*c*) Singhi Chham or Kanchendzonga Dance is a lion dance form in Sikkim where the dancers perform in a lion costume that represents the snow lion.

95. (*a*) Speedometer or speed meter is a device used by the vehicle to measure the speed of the vehicle.

96. (*d*) Skateboarding is an action sport as well as a recreational activity, that involves riding and performing tricks using a skateboard which is a board with small wheels attached at the bottom.

97. (*b*) The Padma Vibhushan also known as 'Lotus Decoration' is the second-highest civilian award of India after the Bharat Ratna. The following award was instituted on 2 January 1954 and is given for exceptional and distinguished service.

98. (*a*) Viswanathan Anand is an Indian chess grandmaster and a former World Chess Champion. He is the first sports person of India to win the Padma Vibhushan award in 2007.

99. (*a*) A mountain range is a gathering or chain of mountains found near one another. They have a comparative structure, size and age in a general area. One notable mountain range is the rockies in the North America.

100. (*d*) Water is called a 'Universal Solvent' because it can dissolve many substances than any other liquid found in nature.

101. (*a*) 400 $\xrightarrow{-12}$ 388 $\xrightarrow{-12}$ 376 $\xrightarrow{-12}$ 364 $\xrightarrow{-12}$ [352]

102. (*a*) 3 $\xrightarrow{\times 2+1}$ 7 $\xrightarrow{\times 2+2}$ 16 $\xrightarrow{\times 2+3}$ 35 $\xrightarrow{\times 2+4}$ 74 $\xrightarrow{\times 2+5}$ [153]

103. (*c*)

A $\xrightarrow{+4}$ E $\xrightarrow{+4}$ I $\xrightarrow{+4}$ M $\xrightarrow{+4}$ [Q]

D $\xrightarrow{+4}$ H $\xrightarrow{+4}$ L $\xrightarrow{+4}$ P $\xrightarrow{+4}$ [T]

D $\xrightarrow{+4}$ H $\xrightarrow{+4}$ L $\xrightarrow{+4}$ P $\xrightarrow{+4}$ [T]

G $\xrightarrow{+4}$ K $\xrightarrow{+4}$ O $\xrightarrow{+4}$ S $\xrightarrow{+4}$ [W]

104. (*c*) Each figure of the third column is obtained by overlapping the figures of the first and second column.

105. (*b*) A book is written by an author. Similarly, a dish is prepared by a chef.

106. (*d*) In each pair, both the words are antonyms of each other.

107. (*b*) We have,

A	D	F
↓+5	↓+3	↓+5
F	G	J

Similarly,

K	N	O
↓+5	↓+3	↓+5
P	Q	T

108. (*b*) Cough effects the throat. Similarly, asthma effects the lungs.

109. (*b*) The following sequence shows various parts of the human body from bottom to top.

Toes → Heel → Ankle → Calves → Knee

110. (*c*) The order of words in the dictionary will be as follows:

Prevent → Previous → Printer → Priority → Pristine

111. (*d*) The following sequence shows various stages of water cycle in chronological order.

Heating → Evaporation → Cooling → Condensation → Rain

112. (*c*)

113. (*d*) In each pair, the number represents the square of the positional value of the letter in the English alphabet.

For example, $B \rightarrow 2 \rightarrow 2^2 = 4$

Similarly, $G \rightarrow 7 \rightarrow 7^2 = 49$

114. (*c*) All except egg have a spherical shape.

115. (*c*) All except 81 are prime numbers.

116. (*d*) All except computer are stationery items.

117. (*c*) In all the other figures except (*c*), the number of sides of the enclosed polygons is one more than that of enclosing polygon.

118. (*c*) All except Ganga are cities.

119. (*d*) All except flute are string instruments.

120. (*b*) In each pair, the number denotes the sum of the positional values of the letters.

For example, 4(D) + 7(G) + 1(A) = 12

Similarly, 1(A) + 13(M) + 17(Q) = 31

121. (*b*) The numbers are of the form N : 5N – 3

For example, in the first pair,

$5 \times 5 - 3 = 25 - 3 = 22$

Similarly, in the second pair,

$8 \times 5 - 3 = 40 - 3 = 37$

122. (*d*) The second figure of each pair is obtained by rotating the first figure by 135° in clockwise direction.

123. (*d*) The enclosing element of the first figure becomes in the enclosed element in the second figure. While the enclosed element of the first figure becomes the enclosing element of the second figure.

124. (*a*)

125. (*d*) The sum of the numbers in two diagonally opposite circles is same i.e. 7.

For example, 4 + 3 = 7

2 + 5 = 7

Similarly, 1 + N = 7

N = 7 – 1 = 6

Hence, the missing number is 6.

❑❑❑