

# NTSE

National Talent Search Examination

## MAT + SAT

### [ Stage I ]

Time : 180 Min

Max. Marks : 180

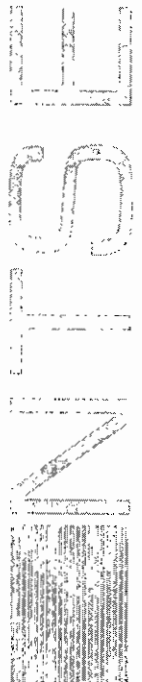
*Read the following instructions carefully.*

1. Answers are to be given on a separate answer sheet. Use only HB Pencil.
2. Write your Roll No. very clearly (only one digit in one block) on this booklet and on the answer sheet.
3. This test consists of 180 questions of one mark each. All the questions are compulsory.
4. Answer to each question by filling the correct alternative among the four choices on the answer sheet.

Example

	Q. No.	Alternatives
Correct way	1	① ② ● ④
Wrong way	1	⊗ ② ③ ④

5. Now, turn to the next page and start answering the questions.



# Paper I : Mental Ability Test

**Directions** (Q. Nos. 1-5) *Study the following information carefully and answer the questions that follow.*

Madhubala and Sumit are good in Dramatics and Computer Science. Anjali and Madhubala are good in Computer Science and Physics. Anjali, Poonam and Nishtha are good in Physics and History. Nishtha and Anjali are good in Physics and Mathematics. Poonam and Sumit are good in History and Dramatics.

- Who is good in Computer Science, History and Dramatics?  
a. Sumit                      b. Anjali                      c. Nishtha                      d. Poonam
- Who is good in Dramatics, Computer Science and Physics?  
a. Nishtha                      b. Madhubala                      c. Sumit                      d. Poonam
- Who is good in all but not in Dramatics?  
a. Nishtha                      b. Sumit                      c. Anjali                      d. Poonam
- Who is good in Physics, History and Dramatics?  
a. Sumit                      b. Madhubala                      c. Nishtha                      d. Poonam
- Who is good in Physics, Mathematics and History but not in Dramatics?  
a. Nishtha                      b. Poonam                      c. Sumit                      d. Anjali

**Directions** (Q. Nos. 6-8) *Find the missing number '?' in each of the following questions.*

- 0.5, 1.5, 4.5, 13.5, ?  
a. 42                      b. 41.5                      c. 39.8                      d. 40.5
- 3, 7, 15, 31, 63, ?  
a. 130                      b. 129                      c. 127                      d. 126
- 4, 5, 9, 18, 34, ?  
a. 59                      b. 69                      c. 89                      d. 41

**Directions** (Q. Nos. 9-12) *Choose the word from the given alternatives, which bears the same relationship to the third word as the first two bear.*

- Pork : Pig :: Beef : ?  
a. Cow                      b. Hen                      c. Lamb                      d. Farmer
- Country : President :: State : ?  
a. Citizen                      b. Governor                      c. Minister                      d. Chief Minister
- Cub : Lion :: Colt : ?  
a. Stallion                      b. Bear                      c. Doe                      d. Tiger
- Man : Biography :: Nation : ?  
a. Photography                      b. Geography                      c. History                      d. Leader

**Directions** (Q. Nos. 13-15) *Find the out odd one out in the given alternative.*

- a. Kiwi                      b. Emu                      c. Penguin                      d. Eagle
- a. Fox                      b. Wolf                      c. Jackal                      d. Deer
- a. Rat                      b. Mole                      c. Mongoose                      d. Squirrel

**Directions** (Q. Nos. 16-20) *If in a certain language, ENTRY coded as 12345 and SFEADY is coded as 931785, then state which is the correct code for each of given words.*

16. ENDEAR  
a. 127481                      b. 168172                      c. 628172                      d. 128174
17. ARREST  
a. 921812                      b. 744193                      c. 193744                      d. 371944
18. SEDATE  
a. 814195                      b. 954185                      c. 614781                      d. 918731
19. NEATNESS  
a. 21997321                      b. 73212199                      c. 21732199                      d. 99217321
20. TENANT  
a. 312723                      b. 273123                      c. 233127                      d. 312327

**Directions** (Q. Nos. 21-23) *Read the following information and answer the question given below.*

A is the father of C, but C is not his son.

E is the daughter of C, F is the spouse of A.

B is the brother of C, D is the son of B.

G is the spouse of B, H is the father of G.

21. Who is the daughter-in-law of A?  
a. C                      b. E                      c. G                      d. D
22. Who is the son-in-law of H?  
a. B                      b. D                      c. C                      d. E
23. What is the relation between E and D?  
a. Husband and Wife      b. Mother and Daughter      c. Cousins                      d. None of these

**Directions** (Q. Nos. 24-26) *Study the information given below carefully and answer the questions that follow.*

On playing ground Damu, Karan, Nidhi, Ayush and Payal are standing as described below facing the North.

- Karan is 40 m to the right of Ayush.
- Damu is 60 m to the South of Karan.
- Nidhi is 25 m to the West of Ayush.
- Payal is 90 m to the North of Damu.

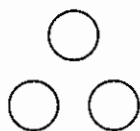
24. Who is to the North-East of the person who is to the left of Karan?  
a. Damu                      b. Ayush                      c. Karan                      d. Payal
25. What is the total distance between payal and Karan?  
a. 90 m                      b. 60 m                      c. 30 m                      d. 20 m
26. According to Damu in which direction Ayush is  
a. North-West                      b. North-South                      c. East                      d. None
27. A is 80 m South-West of B. C is 80 m South-East of B. In which direction C is, in respect of 'A'?  
a. East                      b. West                      c. North                      d. South

**Directions** (Q. Nos. 28-30) *If '×' stands for addition, '+' stands for subtraction, '÷' stands for multiplication and '-' stands for division, then*

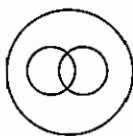
28.  $40 \times 12 + 6 - 3 + 60 = ?$   
a. 4                      b. 6                      c. 8                      d. 9

29.  $20 \times 8 \div 8 - 4 + 2 = ?$   
 a. 25                                      b. 24                                      c. 26                                      d. 27
30.  $3 + 6 \times 4 \div 8 - 4 = ?$   
 a. 20                                      b. 30                                      c. 40                                      d. 45
31. A bus starts from city Meerut and goes to Ghaziabad at a speed of 80 km/h and from Ghaziabad to Meerut comes (return speed) at a speed of 50 km/h. Find out the average speed of bus?  
 a. 61.54                                      b. 61.88                                      c. 62.89                                      d. 63
32. A shepherd had 35 sheep all but 6 died. How many was he left with?  
 a. 29                                      b. 41                                      c. 30                                      d. 6

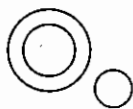
**Directions** (Q. Nos. 33-35) Each one of the following questions contains three items. Using the relationship between these items and match each question with the most suitable diagram.



a.



b.



c.



d.

33. Mountains, Forests, Earth
34. Flowers, Clothes, White
35. Sea, Island, Mountain
36. In a certain code language, 'SUMIT' is coded as 'UVOJV', how 'KRISHNA' will be code in that language?  
 a. MSKTJOC                                      b. MSKTJOA                                      c. MSKTIII                                      d. MSKTJOB

**Directions** (Q. Nos. 37-40) Arrange the given words in alphabetical order and choose the one that comes first.

37. a. Sugar                                      b. Sun                                      c. Soon                                      d. Slow
38. a. High                                      b. Hello                                      c. Hypothecation                                      d. Hydro
39. a. Magnet                                      b. Maxima                                      c. Matrix                                      d. Minus
40. a. Paper                                      b. Post                                      c. Part                                      d. Plaintiff

**Directions** (Q. Nos. 41-43) Inserting the missing numerical value in following questions.

41.

3	7	52
5	11	126
?	9	107

- a. 18                                      b. 26                                      c. 36                                      d. 6

42.

5	11	55
7	?	91
6	16	96

- a. 11                                      b. 12                                      c. 13                                      d. 14

43.

4	20	25
27	81	9
11	44	?

a. 4

b. 30

c. 55

d. 16

44.

Rajesh ranked 25th from the beginning, in the class of forty one students. What is the rank of Rajesh from the end?

a. 15th

b. 17th

c. 16th

d. 18th

45.

Rajni is 6th from either end of a row of girls. How many girls are there in that row?

a. 10

b. 12

c. 13

d. 11

46.

In the first and second digits in the sequence 5 9 8 1 3 2 7 4 3 8 are interchanged. Also the third and fourth digits, the fifth and sixth digits and so on, which digit would be the seventh when it count from your left?

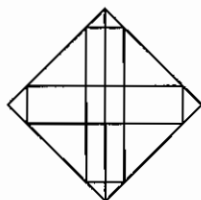
a. 1

b. 4

c. 7

d. 8

**Directions** (Q. Nos. 47-48) *These questions are based on the figure given below.*



47.

How many rectangles are there in the figure?

a. 8

b. 9

c. 10

d. 11

48.

How many triangles are there in the figure?

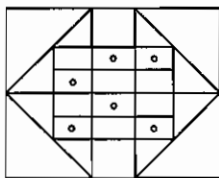
a. 10

b. 14

c. 18

d. 20

**Directions** (Q. Nos. 49-51) *These questions are based on the figure given below.*



49.

Count the number of triangles in the figure.

a. 20

b. 18

c. 17

d. 16

50.

How many straight lines are needed to draw the figure?

a. 16

b. 18

c. 17

d. 12

51.

How many rectangles having dots in the figure?

a. 7

b. 9

c. 6

d. 12

52.

How many 5's are there in the following number sequence, which are immediately followed by 2 and immediately preceded by 7?

6 5 4 3 7 5 2 3 7 8 5 2 5 7 7 5 2 7 5 3 1 4 7 5 2 3 5 2

a. Nil

b. One

c. Two

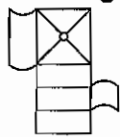
d. Three

53. How many such 9's are there in the following number sequence, which are either immediately preceded by or immediately followed by an even number in the series?

3 9 5 4 9 7 8 3 9 2 1 8 9 7 3 1 5 6 9 9 5 1 6 9 7 2

- a. Two                      b. Three                      c. Four                      d. More than four
54. Which of the following figures marks (a), (b), (c) and (d) can be fitted suitably in the figure marked (x).

**Problem Figure**



(X)

**Answer Figures**



a.



b.



c.



d.

55. Which number is opposite to 3?



(i)



(ii)



(iii)



(iv)

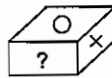
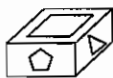
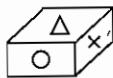
a. 2

b. 3

c. 4

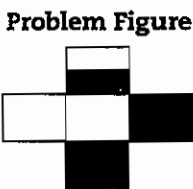
d. 6

**Directions** (Q. Nos. 56-57) Study carefully the three views of the same cube shown below and then answer the questions.



56. The figure on the face opposite the triangle is  
 a. pentagon                      b. circle                      c. question mark                      d. rectangle
57. Which of the following do not form correct pairs on opposite faces?  
 a. Circle-rectangle                      b. Pentagon-cross  
 c. Rectangle-cross                      d. Triangle-question mark

58. Find out the answer of question below, 'X' the given figure exists in which option.



(X)

a. I and III

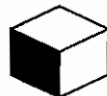
**Answer Figures**



(I)



(II)



(III)



(IV)

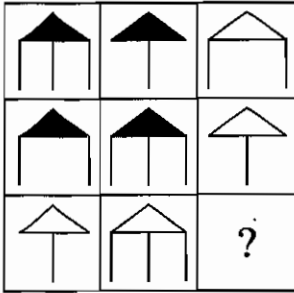
b. II and III

c. II and IV

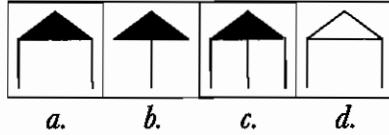
d. I and IV

**Directions** (Q. Nos. 59-62) In each of the following questions, find out which of the answer figure (a), (b), (c) and (d) complete the figure matrix?

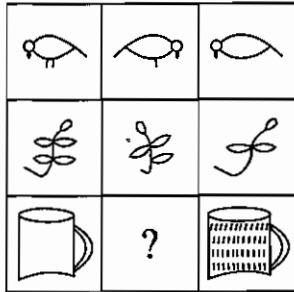
**59. Problem Figures**



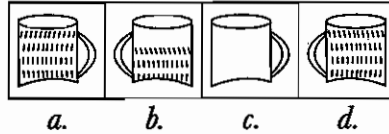
**Answer Figures**



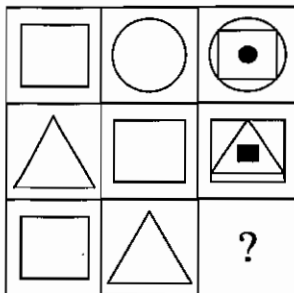
**60. Problem Figures**



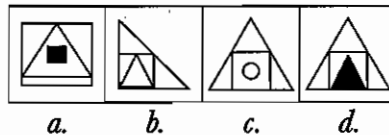
**Answer Figures**



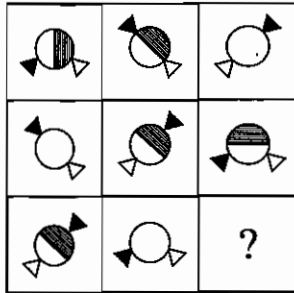
**61. Problem Figures**



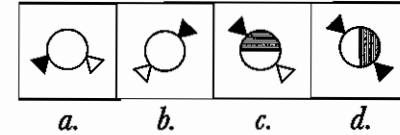
**Answer Figures**



**62. Problem Figures**

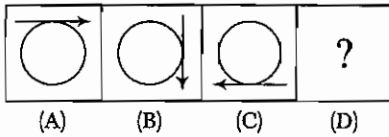


**Answer Figures**

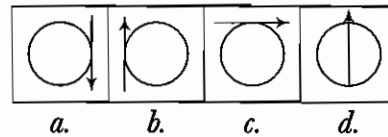


**Directions** (Q. Nos. 63-65) In each of the question, four problem figures are given. Select a figure from amongst the answer figures which will continue the same series as given in the problem.

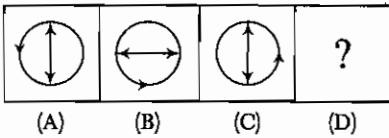
**63. Problem Figures**



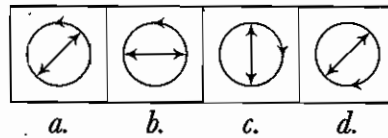
**Answer Figures**



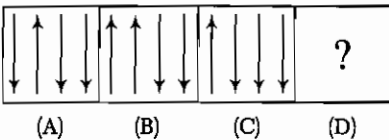
**64. Problem Figures**



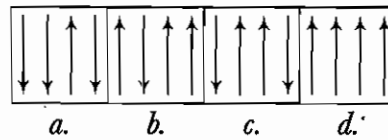
**Answer Figures**



**65. Problem Figures**

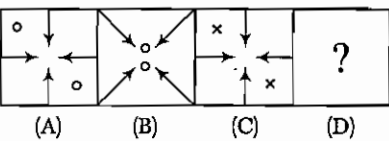


**Answer Figures**

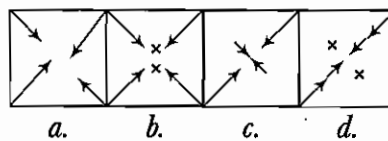


**Directions** (Q. Nos. 66-70) By the given option choosing a suitable figure for answer set.

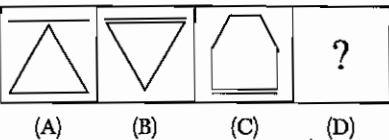
**66. Problem Figures**



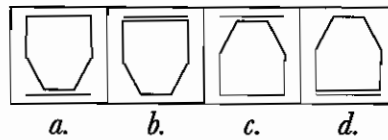
**Answer Figures**



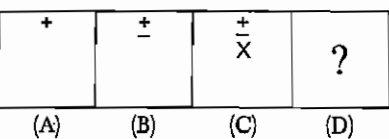
**67. Problem Figures**



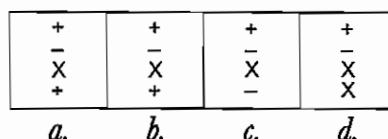
**Answer Figures**



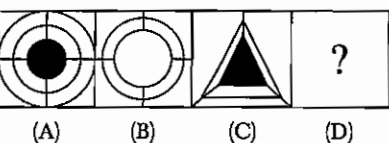
**68. Problem Figures**



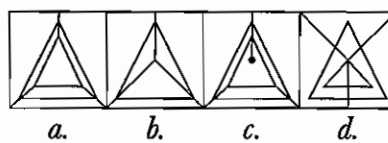
**Answer Figures**



**69. Problem Figures**

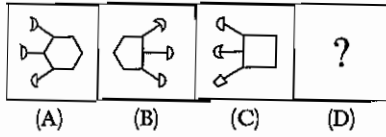


**Answer Figures**

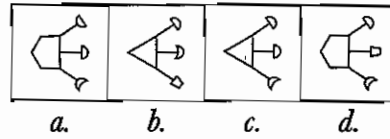




70. Problem Figures

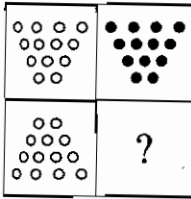


Answer Figures

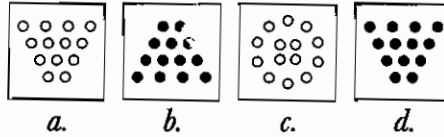


Directions (Q. Nos. 71-72) Complete the problem figure by using right answer from options.

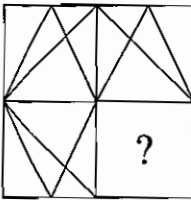
71. Problem Figures



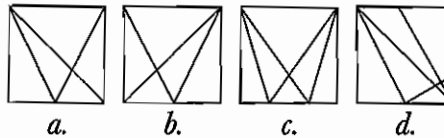
Answer Figures



72. Problem Figures

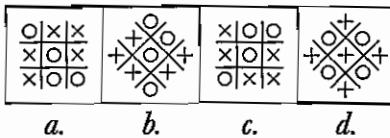


Answer Figures

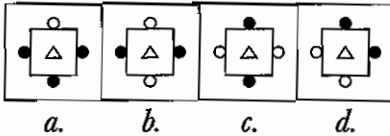


Directions (Q. Nos. 73-75) Find the odd one from given questions.

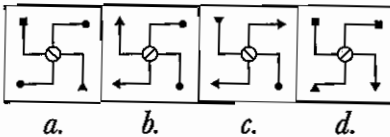
73.



74.



75.



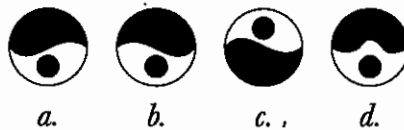
Directions (Q. Nos. 76-77) Find out the appropriate answer with respect to given question as water image.

76. Problem Figure

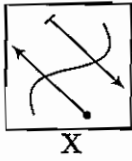


X

Answer Figures

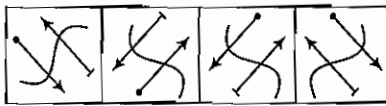


77. Problem Figure



X

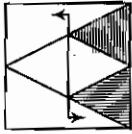
Answer Figures



a. b. c. d.

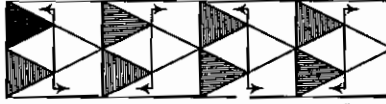
**Directions** (Q. Nos. 78-82) Find out the answer of given mirror images based questions.

78. Problem Figure



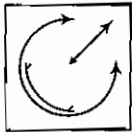
X

Answer Figures



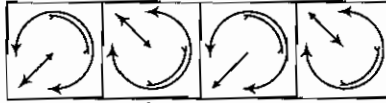
a. b. d.

79. Problem Figure



X

Answer Figures



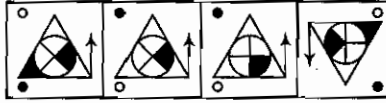
a. b. c. d.

80. Problem Figure



X

Answer Figures



a. b. c. d.

81. 247593

a. 395742

b. 802542

c. 862542

d. 302542

82. Panipat

a. tapinap

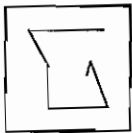
b. tsipnab

c. tsipnab

d. patpani

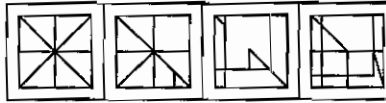
**Directions** (Q. Nos. 83-85) Find out the given question figure is exist in which option figure.

83. Problem Figure



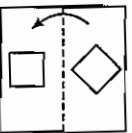
X

Answer Figures



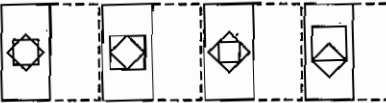
a. b. c. d.

84. Problem Figure



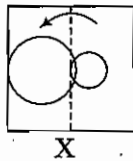
X

Answer Figures



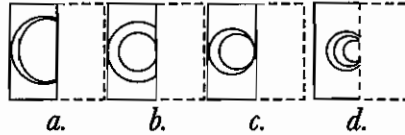
a. b. c. d.

**85. Problem Figure**



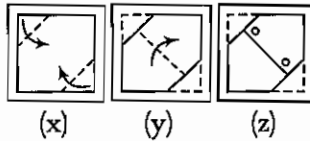
X

**Answer Figures**

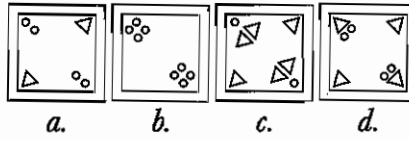


- 86.** Select the answer from the alternative which would most closely resemble the third figure when it is unfolded.

**Problem Figures**

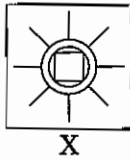


**Answer Figures**



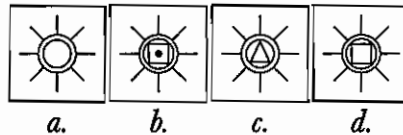
**Directions** (Q. Nos. 87-88) Find out the same figure in answer as given in question figure.

**87. Problem Figure**

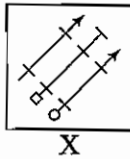


X

**Answer Figures**

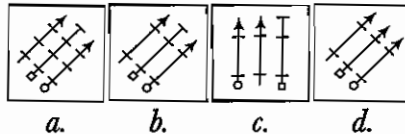


**88. Problem Figure**



X

**Answer Figures**



**Directions** (Q. Nos. 89-90) In the following questions arrange the given words in a meaningful sequence and then choose the most appropriate sequence and then choose the most below in the each question.

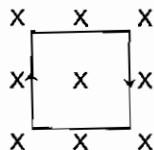
- 89.** 1. Child      2. Cry      3. Mummy      4. Milk      5. Happy  
 a. (5), (4), (3), (2), (1)      b. (1), (2), (3), (4), (5)  
 c. (2), (1), (3), (4), (5)      d. (5), (3), (2), (4), (1)
- 90.** 1. Seed      2. Wood      3. Tree      4. Plant      5. Paper  
 a. (1), (4), (3), (2), (5)      b. (5), (4), (3), (2), (1)  
 c. (1), (2), (3), (4), (5)      d. (4), (2), (1), (5), (3)

# Paper II : Scholastic Aptitude Test

91. A particle is thrown vertically upwards. Its velocity at half of the height is 10 m/s. Then, the maximum height attained by it, is  
*a.* 16 m                      *b.* 10 m                      *c.* 20 m                      *d.* 40 m
92. How does a light normally travel?  
*a.* In concentric circles                      *b.* In a straight line  
*c.* Always towards a dark area                      *d.* In a curved line
93. The freezer in a refrigerator is located at the top section so that  
*a.* the entire chamber of the refrigerator is cooled quickly due to convection  
*b.* the motor is not heated  
*c.* the heat gained from the environment is high  
*d.* the heat gained from the environment is low
94. Consider the following statements  
 I. A flute of smaller length produces waves of lower frequency.  
 II. Sound travels in rocks in the form of longitudinal elastic waves only.  
 Which of the statement(s) given above is/are correct?  
*a.* Only I                      *b.* Only II                      *c.* Both I and II                      *d.* Neither I nor II
95. Rainbow is formed due to a combination of  
*a.* dispersion and total internal reflection                      *b.* refraction and absorption  
*c.* dispersion and focussing                      *d.* refraction and scattering
96. Three equal resistors each equal to  $r$  are connected as shown in figure. The equivalent resistance between points A and B is



- a.*  $r$                       *b.*  $3r$                       *c.*  $\frac{r}{3}$                       *d.*  $\frac{2}{3}r$
97. The masses of the three wires of copper are in the ratio 5 : 3 : 1 and their lengths are in the ratio 1 : 3 : 5. The ratio of their electrical resistance is  
*a.* 5 : 3 : 1                      *b.*  $\sqrt{125} : 15 : 1$                       *c.* 1 : 15 : 125                      *d.* 1 : 3 : 5
98. **Assertion (A)** Net torque in the current carrying loop placed in a uniform magnetic field (pointing inwards) is zero.



**Reason (R)** Magnetic moment ( $m$ ) is inwards.

- a.* If both A and B are true and R is the correct explanation of A  
*b.* If both A and B are true, but R is not the correct explanation of A  
*c.* If A is true, but R is false  
*d.* If both A and R are false

99. A line passing through places having zero value of magnetic dip is called  
*a.* isoclinic line      *b.* agonic line      *c.* isogonic line      *d.* acclinic line
100. The angle which the total magnetic field of Earth makes with the surface of the Earth called  
*a.* declination      *b.* magnetic meridian      *c.* geographic meridian      *d.* inclination
101. Two lenses are placed in contact with each other and the focal length of the combination is 80 cm. If the focal length of one is 20 cm, then the power of the other will be  
*a.* 1.66 D      *b.* 4.0 D      *c.* -1.0 D      *d.* -3.75 D
102. Our eye is most sensitive for which of the following wave length?  
*a.* 4500 Å  
*b.* 5500 Å  
*c.* 6500 Å  
*d.* Equally sensitive for all wave lengths of visible spectrum
103. Which of the following pairs of elements represents a mole ratio of 1 : 1?  
*a.* 12 g of Mg and 6 g of C      *b.* 10 g of C and 12 g of Mg  
*c.* 20 g of Ca and 20 g of Na      *d.* 20 g of C and 12 g of C
104. A well-known antiseptic 'tincture of iodine' is a solution made by dissolving  
*a.* iodine in acetone      *b.* iodine in KI      *c.* iodine in alcohol      *d.* iodine in water
105. .... is the solution of solid in a solid.  
*a.* Brass      *b.* Boron      *c.* Bread      *d.* Beryllium
106. A compound 'X' has two carbon atoms having an alcoholic functional group attached to it. It is obtained by the fermentation. It is known as absolute alcohol. Identify 'X'.  
*a.* Methanol      *b.* Ethanol      *c.* Propanol      *d.* Butanol
107. Which of the following are metals, non-metals and metalloids?  
V, K, Ge, Br  
*a.* All are metals except Ge  
*b.* All are non-metals except Ge  
*c.* V, K are metals, Br is non-metal while Ge is metalloid  
*d.* Br is metal, K, V is non-metal, Ge is metalloid
108. Consider the following statements  
I. A freshly prepared mixture of 1 : 3 ratio of conc  $\text{HNO}_3$  : conc HCl.  
II. Highly corrosive, fuming liquid.  
III. It can dissolve all metal even Au and Pt.  
The incorrect statements are  
*a.* I and II      *b.* II and III      *c.* I, II and III      *d.* None of these
109. Match the following

Functional Group	Formula
A. Ketone	1. $\begin{array}{c} \text{O} \\    \\ -\text{C}-\text{OH} \end{array}$
B. Aldehyde	2. $\begin{array}{c}   \quad   \\ -\text{C}=\text{C}- \\   \quad   \end{array}$
C. Alkene	3. $-\text{CHO}$
D. Carboxylic group	4. $\begin{array}{c} \text{O} \\    \\ -\text{C}- \end{array}$

Which of the above statements is/are increase about the Aqua regia?

Codes

A B C D

a. 4 3 2 1

A B C D

b. 2 3 4 1

A B C D

c. 1 2 3 4

A B C D

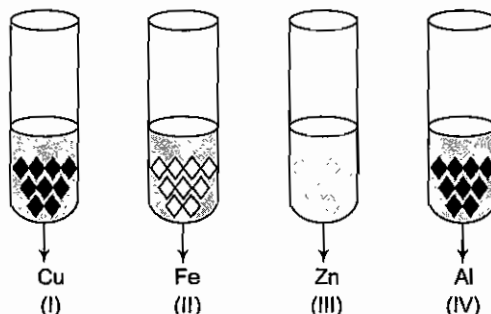
d. 4 2 1 3

110. The salt whose aqueous solution will have no effect on either red or blue litmus paper is  
 a. sodium carbonate    b. potassium sulphate    c. sodium acetate    d. ammonium sulphate

111. Electron-dot structure of  $F_2$  molecule is  
 a.  $:\ddot{F}:\ddot{F}:$     b.  $:\ddot{F}:\ddot{F}:$     c.  $:\ddot{F}:\ddot{F}:$     d.  $:\ddot{F}:\ddot{F}:$

112. In a buckminster fullerene, the number of carbon atoms joined in its spherical molecule, are  
 a. fifty    b. forty    c. seventy    d. sixty

113. Kanchan takes Cu, Fe, Zn and Al pieces separately in four test tubes labelled as I, II, III and IV respectively. She adds 10 mL of freshly prepared  $FeSO_4$  solution to each test tube and observes the colour of the metal residue in each case.



She would observe a black residue in the test tubes.

- a. III and IV    b. I and II    c. II and IV    d. I and III
114. Match the following

Compound	Formula
A. Rock salt	1. $KAl(SO_4)_2 \cdot 12H_2O$
B. Washing soda	2. $NaHCO_3$
C. Baking soda	3. $Na_2CO_3$
D. Alum	4. $NaCl$

Codes

A B C D

a. 1 3 2 4

A B C D

b. 4 2 3 1

A B C D

c. 4 3 2 1

A B C D

d. 1 2 3 4

115. Which feature of some species of blue-green algae helps to promote them as biofertilisers?  
 a. They convert atmospheric methane into ammonia which the crop plant can absorb readily  
 b. They induce the crop plant to produce the enzymes which help to convert atmospheric nitrogen to nitrate  
 c. They have a mechanism to convert atmospheric nitrogen into form that the crop plants can absorb readily  
 d. They induce the roots of the crop plants to absorb the soil nitrates in large quantities
116. Which one of the following processes in the bodies of living organism is a digestive process?  
 a. Breakdown of protein into amino acids  
 b. Breakdown of glucose into  $CO_2$  and  $H_2O$   
 c. Conversion of glucose into glycogen  
 d. Conversion of amino acids into proteins

117. Two Australians made a discovery that a bacterium which was responsible for pepticulcers is  
*a. Helicobacter pylori*    *b. Trypanosoma*    *c. Staphylocci*    *d. Cow pox virus*
118. Consider the following statements  
 I. Mammals have mammary glands for the production of milk to nourish their young.  
 II. Mollusca have kidney-like organs for excretion.  
 III. Amphibia have a three chambered heart.  
 Which of the statement(s) given above is/are correct?  
*a. I and II*    *b. I and III*    *c. II and III*    *d. All of these*
119. Which one of the following is commonly used in transfer of foreign DNA into crop plants?  
*a. Meloidogyne incognita*    *b. Trichoderma harzianum*  
*c. Penicillium expansum*    *d. Agrobacterium tumefaciens*
120. If one chews an unsweetened chapati for a short time, a distinctly sweetish taste becomes noticeable because  
*a. carbohydrate is converted into sugar in the mouth*  
*b. protein is converted into sugar in the mouth*  
*c. fat is converted into sugar in the mouth*  
*d. vitamins are converted into sugar in the mouth*
121. Self-pollination is called as  
*a. transference of pollens from one flower to another on the same plant*  
*b. presence of male and female sex organs*  
*c. germination of pollen with in the anther*  
*d. transference of pollens from anthers to the stigma with in the same flower*
122. Camel's hump is made-up of a tissue which provides water when oxidised  
*a. adipose*    *b. areolar*    *c. skeletal*    *d. muscular*
123. The neurons that transmit impulses from the central nervous system towards the muscle cells are called  
*a. sensory neurons*    *b. motor neurons*    *c. relay neurons*    *d. synapse*
124. Match the following

List I	List II
A. Flavr Savr tomato	1. Pest resistant
B. Golden rice	2. With higher protein content
C. Potato	3. Vitamin-A rich
D. Bt cotton	4. With delayed ripening and better nutrient quality

Codes

- a. A B C D*    *b. A B C D*    *c. A B C D*    *d. A B C D*  
*a. 4 3 2 1*    *b. 3 2 1 4*    *c. 2 1 4 3*    *d. 1 4 3 2*

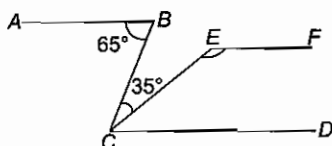
125. Match the following

List I (Breeds of Indian sheep)	List II (Uses)
A. Deccani	1. Brown coloured wool
B. Rampur-Bushair	2. Mutton, no wool
C. Patanwadi	3. Superior carpet wool
D. Nali	4. Wool for army hosiery

Codes

- a. A B C D*    *b. A B C D*    *c. A B C D*    *d. A B C D*  
*a. 2 1 4 3*    *b. 1 4 3 2*    *c. 4 3 2 1*    *d. 3 2 1 4*

126. AB and CD are two parallel lines. The points B and C are joined such that  $\angle ABC = 65^\circ$ . A line CE is drawn making angle of  $35^\circ$  with the line CB, EF is drawn parallel to AB, as show in figure, then  $\angle CEF$  is equal to



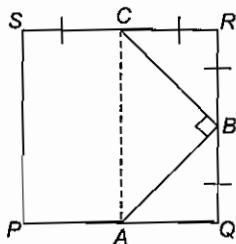
- a.  $160^\circ$                       b.  $155^\circ$                       c.  $150^\circ$                       d.  $145^\circ$
127. A person bought a certain number of books for ₹ 80. If he had bought 4 more books for the same sum, each book would have cost ₹ 1 less. What is the price of each book?
- a. ₹ 10                      b. ₹ 8                      c. ₹ 5                      d. ₹ 4

128. The quadratic equation whose roots are  $\frac{4 + \sqrt{7}}{2}$  and  $\frac{4 - \sqrt{7}}{2}$  is
- a.  $4x^2 + 16x + 9 = 0$       b.  $4x^2 - 16x - 9 = 0$       c.  $4x^2 - 16x + 9 = 0$       d.  $4x^2 + 16x - 9 = 0$

129. The volume of the largest right circular cone that can be cut out of a cube whose edge is 9 cm is
- a.  $\frac{2673}{14} \text{ cm}^3$                       b.  $\frac{2683}{14} \text{ cm}^3$                       c.  $\frac{2693}{14} \text{ cm}^3$                       d. None of these

130. If AD, BE and CF are the medians of a  $\Delta ABC$ , then the current relation between the sum of the squares of sides to the sum of the squares of median is
- a.  $2(AB^2 + BC^2 + AC^2) = 3(AD^2 + BE^2 + CF^2)$   
 b.  $4(AB^2 + BC^2 + AC^2) = 3(AD^2 + BE^2 + CF^2)$   
 c.  $3(AB^2 + BC^2 + AC^2) = 4(AD^2 + BE^2 + CF^2)$   
 d. None of the above

131. In the given figure, PQRS is a square and  $\angle ABC = 90^\circ$ . If  $AQ = BR = SC$ , then consider the following statements.



- I.  $QB = RC$                       II.  $AB = BC$                       III.  $\angle BAC = 45^\circ$                       IV.  $AC = PS$
- a. I and IV are correct                      b. I, II and III are correct  
 c. II, III and IV are correct                      d. All are correct
132. The incircle of a  $\Delta ABC$  touches the sides AB, BC and AC at the point P, Q and R respectively, then which of the following statements is/are correct?
- I.  $AP + BQ + CR = PB + QC + RA$   
 II.  $AP + BQ + CR = \frac{1}{2}$  (perimeter of  $\Delta ABC$ )  
 III.  $AP + BQ + CR = 3(AB + BC + CA)$
- a. I, II and III                      b. Only I                      c. II and III                      d. I and II



133. The combined mean of three groups is 12 and the combined mean of first two groups is 3. If the first, second and third groups have 2, 3 and 5 items respectively, then mean of third group is  
*a.* 10                      *b.* 21                      *c.* 12                      *d.* 18
134. A man sells fans at the same price on one he gains 20% and loses 20% on the other. His gain or loss is  
*a.* 4% loss                      *b.* 4% gain                      *c.* Neither gain nor loss                      *d.* 1% loss
135. A field is in the form of circle. The cost of ploughing the field at ₹ 1.50 per  $m^2$  is ₹ 5775. The cost of fencing the field at ₹ 8.50 per m is  
*a.* ₹ 1870                      *b.* ₹ 2870                      *c.* ₹ 1970                      *d.* ₹ 2970
136. In a single throw of a dice, what is the probability of getting a number greater than 4?  
*a.*  $1/2$                       *b.*  $1/3$                       *c.*  $1/4$                       *d.*  $1/5$
137. The coordinate of the point which divide the line segment joining A(2, 1) and B(3, 5) internally in 2 : 3 ratio is  
*a.* (6, 13)                      *b.*  $(\frac{12}{5}, \frac{13}{5})$                       *c.* (12, 13)                      *d.* (6, 6.5)
138. The price of an item is increased by 20% and then decreased by 20% the final price as compared to original price is  
*a.* 4% less                      *b.* 4% more                      *c.* 20% less                      *d.* 20% more
139. If  $(a - b) : (a + b) = 1 : 5$ , then what is  $(a^2 - b^2) : (a^2 + b^2)$  equal to  
*a.* 2 : 3                      *b.* 3 : 2                      *c.* 5 : 13                      *d.* 13 : 15
140. If  $pqr = 1$ , what is the value of the expression  $\frac{1}{1+p+q^{-1}} + \frac{1}{1+q+r^{-1}} + \frac{1}{1+r+p^{-1}}$ ?  
*a.* 1                      *b.* -1                      *c.* 0                      *d.*  $\frac{1}{3}$
141. ABC is a triangle and AD is perpendicular to BC. It is given that the length of AB, BC and CA are all rational numbers. Which of the following is correct?  
*a.* AD and BD must be rational  
*b.* AD must be rational but BD need not be rational  
*c.* BD must be rational but AD need not be rational  
*d.* Neither AD nor BD need be rational
142. If  $\sin(\theta + \phi) = 2 \sin(\theta - \phi)$ , then  
*a.*  $\cot \phi = 3 \tan \theta$                       *b.*  $\tan \theta = 3 \tan \phi$                       *c.*  $\sin \theta = 3 \sin \phi$                       *d.*  $\sin \phi = \sin 2\theta$
143. The angle of elevations 'θ' of the top of a light house at a point 'A' on the ground is such that  $\tan \theta$  is  $\frac{5}{12}$ . When the point is moved 240 m towards the light house, the angle of elevation become φ such that  $\tan \phi = \frac{3}{4}$ . Then, the height of light house is  
*a.* 225 m                      *b.* 200 m                      *c.* 215 m                      *d.* 235 m
144. A train  $T_1$  leaves a place P at 5 am and reaches another place Q at 9 am another train  $T_2$  leaves the place Q at 7 am and reaches the place P at 10 : 30 am. The time at which the two trains cross each other is  
*a.* 8 : 26 am                      *b.* 7 : 56 am                      *c.* 8 : 15 am                      *d.* 8 am

145. Out of a sum of ₹ 625 a part was lent at 5% and the other at 10% simple interest. If the interest on the first part after 2 yr is equal to the interest on the second part after 4 yr, then the second sum is  
a. ₹ 125                      b. ₹ 200                      c. ₹ 250                      d. ₹ 300
146. The 'Battle of Plassey' is historically significant because  
a. it showed the Indian Nawab bravery  
b. it paved the way to the British conquest of Bengal and eventually to the whole of India  
c. it brought out Clive's extraordinary military skill  
d. French power in India was brought to an end
147. The Government Complex in New Delhi consisted of two-mile avenue, kingsway (now Rajpath). The Viceroy's Palace (now Rashtrapati Bhavan) with the secretariat building on either sides avenue was designed by which of the following architect?  
a. Edwin Lutyens              b. Hugh Keelingr              c. Charles Baker              d. Both 'a' and 'b'
148. Consider the following statements  
I. These paintings celebrated the British, their power, their victories and their supremacy.  
II. Historical paintings sought to create a public memory of imperial triumphs.  
III. These paintings show British invincible and all powerful.  
Which of the above is/are the features of history paintings?  
a. Only I                      b. Only II                      c. I and III                      d. All of these
149. Consider the following statements  
I. The style of painting developed around in Bengal, pilgrimage centre of the temple of Kalighat.  
II. The mythological themes and images of gods and goddesses were the central theme of this style.  
III. After the 19th century, Kalighat painters began to use shading to give them a rounded form, to make the images look three dimensional.  
Which of the above statement(s) is/are true about Kalighat paintings?  
a. Only I                      b. Only II                      c. I and III                      d. All of these
150. Consider the following statements  
I. Right to work.                      II. Right to adequate livelihood.  
III. Right to protect one's culture.                      IV. Right of privacy.  
Which of the above rights is/are available under the Indian Constitution?  
a. I and III                      b. I, II and III                      c. III and IV                      d. All of these
151. The Parliament is to meet at an interval of  
a. not more than 6 months between one session and another  
b. 12 months at the most  
c. 9 months  
d. None of the above
152. Which of the following is not one of the provisions made in the Constitution to secure independence of the Supreme Court judges?  
a. The judges of Supreme Court hold office not during President's pleasure but on good behaviour  
b. They can be removed by the President only after a joint address by both Houses of Parliament passed by two-third majority of members present and voting in each House  
c. The allowances, leave and pension etc., of the judges cannot be changed to the disadvantage of the judge during his term of office  
d. The judge of Supreme Court can practise only after 10 years of his retirement

- 153.** Consider the following two statements on power sharing and select the correct answer.  
I. Power sharing is good for democracy.  
II. It helps to reduce the possibility of conflicts between social groups.
- a.* I is true, but II is false  
*b.* Both I and II are true  
*c.* Both I and II are false  
*d.* I is false, but II is true
- 154.** The Indian sub-continent, marked by the mountains in the North and sea in the South. Which of the following groups of countries are part of Indian sub-continent, along with India?
- a.* Pakistan, Nepal, Bhutan and Bangladesh  
*b.* Pakistan, Nepal, Bangladesh and Sri Lanka  
*c.* Pakistan, Nepal, Bhutan and Maldives  
*d.* Pakistan, Bhutan, Bangladesh and Burma
- 155.** One of the states through which the Tropic of Cancer passes is
- a.* Jammu and Kashmir  
*b.* Himachal Pradesh  
*c.* Uttar Pradesh  
*d.* Paschim Banga
- 156.** Which of the following has the oldest rocks in the country?
- a.* The Himalayas  
*b.* The Aravallis  
*c.* The Indo-Gangetic Plain  
*d.* The Siwaliks
- 157.** Which river flows between the Satpuras and the Vindhya?
- a.* Godavari  
*b.* Gandak  
*c.* Tapi  
*d.* Narmada
- 158.** Which part of the islands in the Arabian Sea is known as Minicoy Islands?
- a.* Northern  
*b.* Eastern  
*c.* Southern  
*d.* Western
- 159.** Which two of the following extreme locations of India are connected by the East-West corridor?
- a.* Mumbai-Nagpur  
*b.* Mumbai-Kolkata  
*c.* Silchar-Porbandar  
*d.* Nagpur-Siliguri
- 160.** The most important factor in the production of goods and services and able to put together land, labour and capital is
- a.* physical capital  
*b.* knowledge and enterprise  
*c.* working capital  
*d.* None of these
- 161.** The Indian cotton or textiles had long been renowned both for their fine quality and exquisite craftsmanship. They were extensively traded in which of the following parts of the world?
- a.* West  
*b.* Central Asia  
*c.* South-East Asia (Java, Sumatra)  
*d.* All of these
- 162.** How can the Fundamental Rights be protected by a citizen?
- a.* By approaching the Supreme Court which will issue appropriate Writ against the authority  
*b.* Parliament will take note of such violations and tell the court  
*c.* It is automatically protected  
*d.* The executive will inform the court
- 163.** Who can dissolve the Lok Sabha before the expiry of its term?
- a.* The President  
*b.* The President on the advice of the Prime Minister  
*c.* The Prime Minister  
*d.* None of these
- 164.** The judges of the Supreme Court after their retirement are not permitted to practise
- a.* before the High Court  
*b.* before the Supreme Court  
*c.* before any court in India  
*d.* None of these

165. Match the following

List I	List II
A. Power shared among different organs of government	1. Coalition Government
B. Power shared among government at different levels	2. Community Government
C. Power shared by different social groups	3. Federal Government
D. Power shared by two or more political parties	4. Separation of powers

Codes

A B C D

a. 4 3 2 1

A B C D

b. 3 4 2 1

A B C D

c. 1 2 3 4

A B C D

d. 2 1 3 4

166. Which of the following is known for being the Gold Capital of the world?

a. Kimberley

b. Johannesburg

c. South Africa

d. None of these

167. The Sahara is located in which part of Africa?

a. Eastern

b. Northern

c. Western

d. None of these

168. Match the following

List I	List II
A. Gulf stream	1. Cold current in Atlantic ocean
B. Curoshio	2. Warm current in Indian ocean
C. Agulhas	3. Warm current in Pacific ocean
D. Labrador	4. Warm current in Atlantic ocean

Codes

A B C D

a. 4 3 2 1

A B C D

b. 3 4 2 1

A B C D

c. 1 2 3 4

A B C D

d. 2 1 3 4

169. Which one of the following is not an example of cold current?

a. Canaries

b. Benguela

c. Florida

d. Humboldt

170. Consider the following mountains

I. The Himalayas

II. Andes

III. Vasges

IV. Rockies

Which of the above is/are example(s) of fold mountains?

a. I, II and IV

b. II, III and IV

c. I and II

d. All of these

171. Multiple cropping refers

a. to grow more than one crop on a piece of land during the year

b. to grow different crops on a piece of land at the same time

c. to grow different crops on a different piece of land

d. None of the above

172. Which of the following is/are required for the production of goods and services in the village economy?

a. Land

b. Labour

c. Physical capital

d. All of these

173. Match the following

List I	List II
A. Land	1. Knowledge and enterprise
B. Fixed capital	2. Raw material and money in hand
C. Working capital	3. Tools, machinery, building
D. Human capital	4. Natural resources such as water, forests and minerals

**Codes**

A B C D                      A B C D                      A B C D                      A B C D  
*a.* 3 4 2 1                      *b.* 4 3 2 1                      *c.* 1 2 3 4                      *d.* 2 1 3 4

**174.** The headquarters of the United Nations Educational Scientific and Cultural Organisation (UNESCO) is situated at

- a.* Paris                      *b.* Geneva                      *c.* Washington DC                      *d.* Austria

**175.** Which of the following countries won the 3rd World Cup Kabaddi Tournament?

- a.* India                      *b.* Pakistan                      *c.* Iran                      *d.* Malaysia

**176.** Match the following

List I	List II
A. Rabindranath Tagore	1. Psychology (Medicine)
B. CV Raman	2. Economic Science
C. Amartya Sen	3. Physics
D. Hargobind Khurana	4. Literature

**Codes**

A B C D                      A B C D                      A B C D                      A B C D  
*a.* 3 4 2 1                      *b.* 4 3 2 1                      *c.* 1 2 3 4                      *d.* 2 1 3 4

**177.** The British Government enacted a legislation banning the use of printed cotton textiles-‘Chintz’ in England. The act was known as

- a.* Chintz Act                      *b.* Textile Act                      *c.* Calico Act                      *d.* None of these

**178.** Consider the following statements

- I. The development of cotton industries in Britain affected textile producers in India.
- II. Indian textiles had to compete with British textiles in the European and American markets.
- III. Exporting textile to England became increasingly difficult, since very high duties were imposed on Indian textiles imported into Britain.

Which of the above statement(s) is/are true about the decline on Indian textiles?

- a.* Only I                      *b.* I and II                      *c.* I and III                      *d.* All of these

**179.** The sword of Tipu Sultan, who ruled Mysore till 1799, was made of

- a.* iron                      *b.* Wootz iron  
*c.* wootz-high carbon steel                      *d.* None of these

**180.** Match the following

List I	List II
A. William Jones	1. Critical of English education
B. Rabindranath Tagore	2. Promotion of English education
C. Thomas Macaulay	3. Learning in a natural environment
D. Mahatma Gandhi	4. Respect for ancient cultures

**Codes**

A B C D                      A B C D                      A B C D                      A B C D  
*a.* 3 4 2 1                      *b.* 4 3 2 1                      *c.* 1 2 3 4                      *d.* 2 1 3 4

## Paper I : Mental Ability Test

### Solutions (Q. Nos. 1-5)

	Dramatics	Computer Science	Physics	History	Mathematics
Madhubala	✓	✓	✓	X	X
Sumit	✓	✓	X	✓	X
Anjali	X	✓	✓	✓	✓
Poonam	✓	X	✓	✓	X
Nishtha	X	X	✓	✓	✓

1. (a)                      2. (b)                      3. (c)

4. (d)                      5. (a)

6. (d) 0.5, 1.5, 4.5, 13.5, 40.5

$\xrightarrow{\times 3}$     $\xrightarrow{\times 3}$     $\xrightarrow{\times 3}$     $\xrightarrow{\times 3}$

7. (c) 3, 7, 15, 31, 63, 127

$\xrightarrow{\times 2+1}$     $\xrightarrow{\times 2+1}$     $\xrightarrow{\times 2+1}$     $\xrightarrow{\times 2+1}$

8. (a) 4, 5, 9, 18, 34, 59

$\xrightarrow{+1^2}$     $\xrightarrow{+2^2}$     $\xrightarrow{+3^2}$     $\xrightarrow{+4^2}$     $\xrightarrow{+5^2}$

9. (a) First is the name give to meat of second.  
 10. (b) President is the nominal head of the country same as Governor is the head of the State.  
 11. (a) First is the young one of second.  
 12. (c) Second is contain the story of first.  
 13. (d) All except 'eagle' are flightless bird.  
 14. (d) All except 'deer' are flesh eating animal.  
 15. (c) All except 'mongoose' are rodents.

16. (d) E N D E A R  
          ↓ ↓ ↓ ↓ ↓ ↓  
          1 2 8 1 7 4

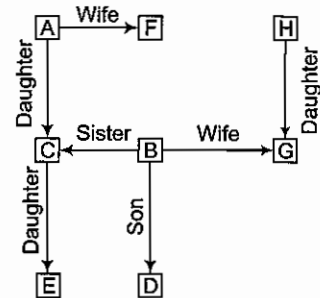
17. (b) A R R E S T  
          ↓ ↓ ↓ ↓ ↓ ↓  
          7 4 4 1 9 3

18. (d) S E D A T E  
          ↓ ↓ ↓ ↓ ↓ ↓  
          9 1 8 7 3 1

19. (c) N E A T N E S S  
          ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓  
          2 1 7 3 2 1 9 9

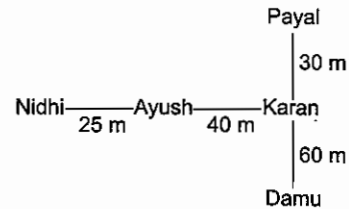
20. (a) T E N A N T  
          ↓ ↓ ↓ ↓ ↓ ↓  
          3 1 2 7 2 3

### Solutions (Q. Nos. 21-23)

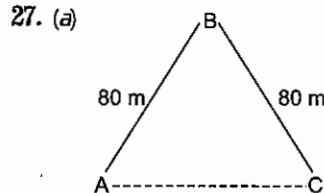


21. (c)                      22. (a)                      23. (c)

### Solutions (Q. Nos. 24-26)



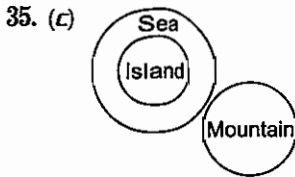
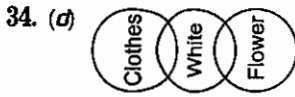
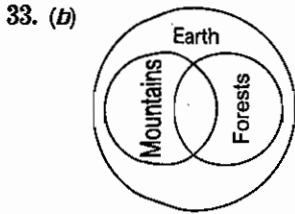
24. (d)                      25. (c)                      26. (a)



28. (a) Given,  $40 \times 12 + 6 - 3 + 60 = ?$   
 Changed series =  $40 + 12 \times 6 + 3 - 60$   
 $= 40 + 12 \times 2 - 60$   
 $= 64 - 60 = 4$

29. (b) Given,  $20 \times 8 + 8 - 4 + 2$   
 Changed series =  $20 + 8 - 8 + 4 \times 2$   
 $= 28 - 2 \times 2 = 24$
30. (a) Given,  $3 + 6 \times 4 + 8 - 4 = ?$   
 Changed series =  $3 \times 6 + 4 - 8 + 4$   
 $= 18 + 4 - 2 = 20$
31. (a) When distance is same the formula will be  
 $= \frac{2xy}{x+y}$   
 $= \frac{2 \times 80 \times 50}{80 + 50} = \frac{8000}{130} = 61.54$  (approx)

32. (d) All but 6 died means all except 6 died i.e., 6 sheep remained alive.



36. (a) Given,
- |    |    |    |    |    |
|----|----|----|----|----|
| S  | U  | M  | I  | T  |
| ↓  | ↓  | ↓  | ↓  | ↓  |
| U  | V  | O  | J  | V  |
| +2 | +1 | +2 | +1 | +2 |
- Then,
- |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|
| K  | R  | I  | S  | H  | N  | A  |
| ↓  | ↓  | ↓  | ↓  | ↓  | ↓  | ↓  |
| M  | S  | K  | T  | J  | O  | C  |
| +2 | +1 | +2 | +1 | +2 | +1 | +2 |

37. (d) Slow, Soon, Sugar, Sun
38. (b) Hello, High, Hydro, Hypothecation
39. (a) Magnet, Matrix, Maxima, Minus
40. (a) Paper, Part, Plaintiff, Post
41. (b)  $(7)^2 = 49, 49 + 3 = 52$   
 $(11)^2 = 121, 121 + 5 = 126$   
 $(9)^2 = 81, 81 + ? = 107$   
 $? = 107 - 81 = 26$
42. (c)  $5 \times 11 = 55, 6 \times 16 = 96$   
 $\Rightarrow 7 \times ? = 91$   
 $\therefore ? = \frac{91}{7} = 13$

43. (d)  $\frac{20}{4} = 5, (5)^2 = 25$   
 Similarly,  $\frac{81}{27} = 3, (3)^2 = 9$   
 So,  $\frac{44}{11} = 4, (4)^2 = ?$   
 $\Rightarrow ? = 16$

44. (b)  $n = 41, T_r = 25^{\text{th}}$   
 $\Rightarrow n = T_r + B_r - 1$   
 $B_r = 41 + 1 - 25$   
 $= 17^{\text{th}}$

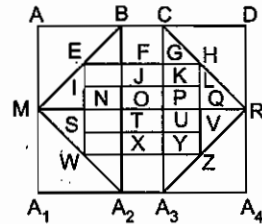
45. (d) Rajni is on 6th place.  
 So,  $n = 6 + 6 - 1 = 11$

46. (b) The new sequence becomes 9 5 1 8 2 3 4 7 8 3 count from the left, the 7th number is 4.

47. (d)

48. (d) Triangles are  $\triangle AFG, \triangle AFE, \triangle LQB, \triangle STC, \triangle RSC, \triangle DHM, \triangle EIH, \triangle GKL, \triangle PQT, \triangle MNR, \triangle AJH, \triangle AJL, \triangle MQC, \triangle AHL, \triangle ERD, \triangle GBC, \triangle ABC, \triangle ADC, \triangle MOC$  and  $\triangle COQ$ . i.e., 20

### Solutions (Q. Nos. 49-51)



49. (a)  $\triangle ABM, \triangle MA_1A_2, \triangle CDR, \triangle RA_3A_4, \triangle BMO, \triangle MOA_2, \triangle CPR, \triangle PRA_3, \triangle MBA_2, \triangle CRA_3, \triangle MEW, \triangle RHZ, \triangle BEF, \triangle CGH, \triangle WXA_2, \triangle YZA_3, \triangle EMN, \triangle MNW, \triangle HQR$  and  $\triangle QRZ$ . i.g., 20

50. (c) —AD, —AA<sub>1</sub>, —A<sub>1</sub>A<sub>4</sub>, —DA<sub>4</sub>—BA<sub>2</sub>,  
 —CA<sub>3</sub>, —CR, —RA<sub>3</sub>, —EH, —IL, —SV,  
 —WZ, —EW, —FX, —HZ, —MB, —MA<sub>2</sub> and MR

51. (c)

52. (d)
- |                              |                      |                      |
|------------------------------|----------------------|----------------------|
| 7                            | 5                    | 2                    |
| 6543□□□3785257□□□75314□□□352 |                      |                      |
| ↓                            | ↓                    | ↓                    |
| Satisfies conditions         | Satisfies conditions | Satisfies conditions |

53. (d) 2 or 4 or 6 or 8 9 or 9 2 or 4 or 6 or 8
- |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 3         | 9         | 5         | 4         | 9         | 7         | 8         | 3         | 9         | 2         | 1         | 8         | 9         | 7         | 3         | 1         | 5         | 6         | 9         | 9         | 5         | 1         | 6         | 9         | 7         | 2         |           |
| ↓         | ↓         | ↓         | ↓         | ↓         | ↓         | ↓         | ↓         | ↓         | ↓         | ↓         | ↓         | ↓         | ↓         | ↓         | ↓         | ↓         | ↓         | ↓         | ↓         | ↓         | ↓         | ↓         | ↓         | ↓         | ↓         | ↓         |
| Satisfies | Satisfies | Satisfies | Satisfies | Satisfies | Satisfies | Satisfies | Satisfies | Satisfies | Satisfies | Satisfies | Satisfies | Satisfies | Satisfies | Satisfies | Satisfies | Satisfies | Satisfies | Satisfies | Satisfies | Satisfies | Satisfies | Satisfies | Satisfies | Satisfies | Satisfies | Satisfies |

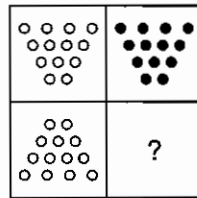
Thus, there are five such 9's.

54. (a) The pattern of the figure (X) and the fact that the faces, the rectangle indicate, shows that only figure 'a' can be formed by folding the figure (X).

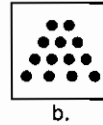
55. (c) From figure I, III and IV, it is clear that number 6, 1, 5 and 2 are adjacent to 3. So, number 4 is opposite to 3.
56. (c) The neighbouring faces of the face having a triangle on it have circle, cross mark, rectangle and pentagon marked on these as can be seen from figure (1) and (3). Therefore, the question mark must be opposite the triangle.
57. (b) Pentagon is not opposite the cross mark.
58. (b) Figure (X) is similar to form 1. So, the two rectangular shaded portions form two faces of the cuboid. Therefore, the cuboids 'I' and 'IV' cannot be obtained by folding the figure (X). The cuboids 'II' and 'III' can be obtained by folding figure (X).
59. (a) There are 3 types of triangular shadings, 3 types of legs, 3 positions of circles; each of which is used only once in a single row, the circle is shaded in alternate figures.
60. (b) Directions are changing and the quantities are either increasing or decreasing from left to right in each row.
61. (d) The second figure in each row forms the outermost and innermost part of the third figure and the first one forms the middle part.
62. (d) In each row, one figure is unshaded, the other has its upper part shaded and the third one has its RHS part shaded. There are three specified positions of the two triangles each of which is used only once in a row. Also, of the figures in each row have one triangle shaded.
63. (b) Figure moves in clockwise direction.
64. (b) Figure move  $90^\circ$  in anti-clockwise direction.
65. (a) Figure (a) is correct answer because one by one each arrow rotate by  $180^\circ$  in each subsequent step.
66. (b)
67. (a) Line remains at same place but the figure get reverted by  $180^\circ$ .
68. (a) One other sign is added to the initial sign.

69. (a)

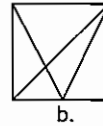
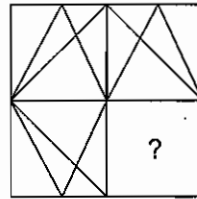
71. (b)



70. (b)



72. (b)



73. (d) Figure (d) is different from other figures because all figure having '0' at centre.

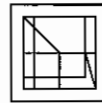
74. (a) Figure (a) has, three black dots but all other having only two black dots.

75. (d) In rest of the figure, the design are different on the every arm of the 'Swastik'卐.

76. (b) 77. (c) 78. (d) 79. (b)

80. (a) 81. (b) 82. (c)

83. (d)



84. (a) 85. (d) 86. (b) 87. (d) 88. (b)

89. (b) Firstly child cry then mummy give him/her milk, then child will be happy.

90. (a) Seed  $\rightarrow$  Plant  $\rightarrow$  Tree—Wood  $\rightarrow$  Paper  
(development of paper)

## Paper II : Scholastic Aptitude Test

91. (b)  $h = \frac{u^2}{2g} = \frac{10^2}{2 \times 10} = 5 \text{ m}$  [ $\because g = 10 \text{ m/s}^2$ ]

$\therefore$  Total height =  $2h = 2 \times 5 = 10 \text{ m}$

92. (b) Light will travel in a straight line until it reaches a boundary at which time can reflect or refract.

93. (a) Domestic freezers are generally upright units, so it is placed at top.

94. (b) The flute blows a rapid jet of air across the hole. The resonance in the air produces an oscillating component of the flow.

95. (a) The formation of rainbow involves a series of physical phenomena-reflection, refraction, dispersion and total internal reflection.

96. (c) All the resistance are in parallel.

$$\frac{1}{R} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$$

$$\frac{1}{R} = \frac{1}{r} + \frac{1}{r} + \frac{1}{r} = \frac{3}{r}$$

$$R = \frac{r}{3}$$

97. (c)  $R_1 : R_2 : R_3 = \frac{l_1}{A_1} : \frac{l_2}{A_2} : \frac{l_3}{A_3} = \frac{l_1^2}{V_1} : \frac{l_2^2}{V_2} : \frac{l_3^2}{V_3}$

$$= \frac{l_1^2}{m_1} : \frac{l_2^2}{m_2} : \frac{l_3^2}{m_3} = \frac{1}{5} : \frac{9}{3} : \frac{25}{1}$$

$$= 1 : 15 : 125$$



98. (a) *M* and *B* are parallel (both inwards). Therefore,  $Z = 0$ .
99. (d) An imaginary line on the Earth's surface parallel to the equator and passing through those points, where a magnetic needle, if suspended freely has no dip or inclination.
100. (c) **Geographic meridian** At any point on the Earth surface, it is a vertical plane containing two *N-S* directions at the point.
101. (d) 
$$\frac{1}{f} = \frac{1}{f_1} + \frac{1}{f_2}$$

$$\Rightarrow \frac{1}{80} = \frac{1}{20} + \frac{1}{f_2} \Rightarrow f_2 = \frac{-80}{3} \text{ cm}$$

$$\therefore P = \frac{100}{f_2} = \frac{100 \times 3}{-80} = -3.75 \text{ D}$$
102. (b) The human eye is sensible to light wave having wavelength between 4000 Å to 7000 Å.
103. (a) 12 g of Mg and 6 g of C is equivalent to 0.5 mole of Mg and carbon each.  
[∴ Atomic mass of Mg = 24 and C = 12]
104. (c) Iodine in alcohol is known as tincture of iodine. It is 2-7% iodine dissolved in a mixture of ethanol and water. It is used as an antiseptic.
105. (a) Brass is an alloy of copper and zinc. Alloys in general may be solid solutions or they simply be mixtures. Brass is a solid solution consisting of zinc and other metals dissolved in copper.
106. (b) **Ethanol** It has 2 C atoms and —OH group is attached to it. Its chemical formula is  $\text{CH}_3\text{CH}_2\text{OH}$ . It is obtained by fermentation.  
$$\text{C}_6\text{H}_{12}\text{O}_6 \longrightarrow 2\text{CH}_3\text{CH}_2\text{OH} + 2\text{CO}_2$$
107. (c) V, K are metals of group 5 and 1, respectively. Br is non-metal (halogen) of group-17. Ge is a metalloid of group 14.
108. (d)
109. (a) Example of ketone is acetone ( $\text{CH}_3\text{COCH}_3$ )  
Example of aldehyde is formaldehyde ( $\text{HCHO}$ )  
Example of alkane is ethene ( $\text{CH}_2 = \text{CH}_2$ )  
Example of carboxylic group is acetic acid ( $\text{CH}_3\text{COOH}$ )
110. (b) **Potassium sulphate** Its aqueous solution will have no effect on either red or blue litmus paper.
111. (a) Electron dot structure of  $\text{F}_2$  molecule is  
$$\begin{array}{c} \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \\ \cdot\cdot \end{array}$$
112. (d) Sixty, formula of buckminster fullerene is  $\text{C}_{60}$ , so it has sixty carbon atoms joined in a spherical molecule.
113. (a) Black residue will be observed in the test tubes containing Zn and Al.
114. (c) Rock salt is used for making ice-cream.  
Washing soda is used in washing clothes.
- Baking soda is used in food-preparation.  
Alum is used in water purification.
115. (c) Blue, green algae has a mechanism to convert atmospheric nitrogen into a form that the crop plants can absorb readily.
116. (a) Digestion is a form of catabolism: a breakdown of large food molecules into smaller ones e.g., protein into amino acid. Glycogenesis is the formation of glycogen from glucose. Cellular respiration usually breaks down glucose into  $\text{CO}_2$  and  $\text{H}_2\text{O}$ . Protein synthesis is the process by which amino acids are linearly arranged into proteins.
117. (a) Two Australian scientists (Robin Warren and Barry Marshall) who upset medical dogma by discovering a bacterium (*Helicobacter pylori*) that causes stomach inflammation, ulcers and cancer won the 2005 Nobel Prize for Physiology or Medicine.
118. (d) Mammary glands are the organs that, in the female mammal, produce milk for the sustenance of the young. Mollusca has an organ called the nephridium that gets rid of wastes. The three chambered amphibian heart consist of the right and left atria and a single ventricle.
119. (d) Transfer DNA (T-DNA) is the DNA segment of the transfer inducing plasmid that is present in the pathogenic bacterium. *Agrobacterium tumefaciens* that is transferred to plant cells and inserted into the plants's DNA as part of the injection process. It is commonly used as a vector for transferring foreign genes into the genome during the production of transgenic plants.
120. (a) If one chews an unsweetened chapati for a short time, a distinctly sweetish taste becomes noticeable because carbohydrate is converted into sugar in the mouth.
121. (d) **Self-pollination** The transfer of pollen from the anthers to the stigma of the same flower or of another flower on the same plant.
122. (a) Camel humps are made from fatty tissue (adipose tissue). This concentrated fat minimises heat trapping throughout the rest of the body. When the fat tissue is metabolised, it becomes energy and also yields more than 1 g of water.
123. (b) **Motor neuron** A neuron that conveys impulses from the central nervous system to a muscle, gland or other effector tissue.
124. (a) The benefits of Flavr savr tomato include delayed ripening and better nutrient quality. Golden rice, a new strain that boosts Vitamin-A levels and reduces blindness. Researchers in India have created a potato with 35-60% more protein. Bt cotton is ineffective against many cotton pests, however such as plant bugs, stink bugs and aphids.
125. (a) Deccani is known for quality mutton production. Rampur Bushair is an important dual-purpose (meat and wool) sheep. Patanwadi wool is used for army hosiery. Nali breed wool is used to make carpet wool.

126. (c)  $\angle ABC = \angle BCD$  as  $AB \parallel CD$

$$\angle BCD = 65^\circ$$

$$\angle ECD = 65^\circ - \angle BCE$$

$$= 65^\circ - 35^\circ = 30^\circ$$

$$\angle CEF + \angle ECD = 180^\circ$$

$$\angle CEF = 180^\circ - 30^\circ = 150^\circ$$

127. (c) Let the price of each book is ₹  $x$  and the number of books is  $y$ .

$$\text{Then, } xy = 80 \quad \dots(i)$$

$$\text{and } (y + 4)(x - 1) = 80 \quad (\text{by condition})$$

$$\Rightarrow xy - y + 4x - 4 = 80$$

$$\Rightarrow 80 - y + 4x = 84 \quad [\text{using Eq. (i)}]$$

$$\Rightarrow 4x - y = 4$$

$$\Rightarrow y = 4(x - 1)$$

On putting the value of  $y$  in Eq. (i), we get

$$4(x - 1)x = 80$$

$$\Rightarrow x^2 - x - 20 = 0$$

$$\Rightarrow x^2 - 5x + 4x - 20 = 0$$

$$\Rightarrow (x - 5)(x + 4) = 0$$

$$\therefore x = 5 \quad (\because x \neq -4)$$

Hence, price of each book is ₹ 5.

128. (c) Here, sum of roots,  $S = \frac{4 + \sqrt{7}}{2} + \frac{4 - \sqrt{7}}{2} = 4$

$$\begin{aligned} \text{Product of roots, } P &= \left(\frac{4 + \sqrt{7}}{2}\right) \left(\frac{4 - \sqrt{7}}{2}\right) \\ &= \frac{16 - 7}{4} = \frac{9}{4} \end{aligned}$$

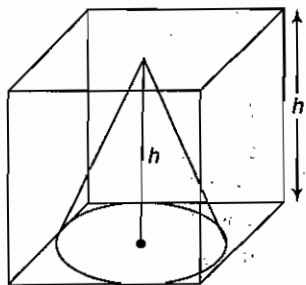
The required equation is

$$x^2 - Sx + P = 0$$

$$x^2 - 4x + \frac{9}{4} = 0$$

$$4x^2 - 16x + 9 = 0$$

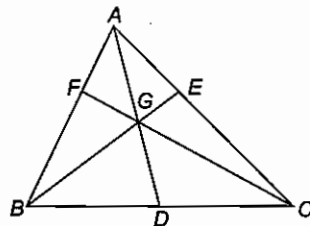
129. (a) Radius of base ( $r$ ) =  $\frac{9}{2}$  cm



Height of cone ( $h$ ) = 9 cm

$$\begin{aligned} \therefore \text{Volume of cone} &= \frac{1}{3} \times \pi \times \left(\frac{9}{2}\right)^2 \times 9 \\ &= \frac{2673}{4} \text{ cm}^3 \\ &= 668.25 \text{ cm}^3 \end{aligned}$$

130. (c) Let  $G$  be the centroid of  $\triangle ABC$ .



In  $\triangle ABC$ ,

( $\because$  the sum of the squares of any two sides is equal to twice the square of half of the third side together with the square of the median bisecting the third side)

$$\therefore AB^2 + AC^2 = 2AD^2 + 2\left(\frac{1}{2}BC\right)^2 \quad \dots(i)$$

$$\Rightarrow AB^2 + AC^2 = AD^2 + \frac{1}{2}BC^2$$

$$\Rightarrow BC^2 + AB^2 = 2BE^2 + \frac{1}{2}AC^2 \quad \dots(ii)$$

$$\Rightarrow BC^2 + AC^2 = 2CF^2 + \frac{1}{2}AB^2 \quad \dots(iii)$$

On adding Eqs. (i), (ii) and (iii), we get

$$\begin{aligned} 2(AB^2 + BC^2 + AC^2) &= 2(AD^2 + BE^2 + CF^2) \\ &\quad + \frac{1}{2}(AB^2 + BC^2 + AC^2) \\ \therefore 3(AB^2 + BC^2 + AC^2) &= 4(AD^2 + BE^2 + CF^2) \end{aligned}$$

131. (d) I.  $QR = RS$

$$\Rightarrow QR - BR = RS - SC$$

$$\Rightarrow QB = RC$$

II. In  $\triangle RCB$  and  $\triangle AQB$ ,

$$\angle R = \angle Q, QB = RC, AQ = RB$$

$$\therefore \triangle RCB \cong \triangle AQB$$

$$\therefore AB = BC$$

III.  $\because AB = BC$ , so  $\angle BCA = \angle BAC$

$$\angle BCA + \angle BAC = 90^\circ$$

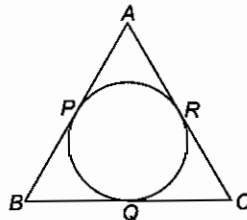
$$2\angle BAC = 90^\circ$$

$$\angle BAC = 45^\circ$$

IV.  $AC \parallel PS$

$$\text{and } AC = PS$$

132. (d) As, the tangent drawn from an external point to a circle are equal.



$$\begin{aligned} \therefore AP &= AR, BQ = BP \\ \text{and } CR &= QC \\ \therefore AP + BQ + CR &= BP + QC + RA \\ \text{and perimeter of } \triangle ABC &= AB + BC + CA \\ &= (AP + PB) + (BQ + QC) + (OR + RA) \\ &= (AP + BQ) + (BQ + CR) + (CR + AP) \\ &= 2(AP + BQ + CR) \\ \therefore AP + BQ + CR &= \frac{1}{2} (\text{perimeter of } \triangle ABC) \end{aligned}$$

**133. (b)** Total sum of items  
 $= 2 \times 12 + 3 \times 12 + 5 \times 12 = 120$

Total sum of items of first two group  
 $= (2 + 3) \times 3 = 15$

Total sum of 5 items of group third  
 $= 120 - 15 = 105$

$\therefore$  Mean of third group  $= \frac{105}{5} = 21$

**134. (a)** When there is gain of 20% on one item and loss of 20% of other, then on whole transaction there is a loss  
 $= \frac{(20)^2}{100} \% = \frac{400}{100} = 4\%$

**135. (a)** Area of the field  $= \frac{\text{Total cost of ploughing}}{\text{Rate per m}^2}$

$$\begin{aligned} &= \left( \frac{5775}{1.5} \right) \text{m}^2 = 5775 \times \frac{2}{3} \\ &= 3850 \text{m}^2 \end{aligned}$$

Let radius be  $r$ .

Then,  $\pi r^2 = 3850$

$$\begin{aligned} \Rightarrow r^2 &= \frac{3850}{\pi} = \frac{3850}{22} \times 7 = 1225 \\ r &= \sqrt{1225} = 35 \end{aligned}$$

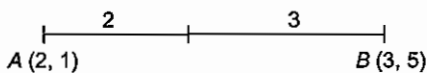
Circumference of the field  $= 2\pi r$   
 $= 2 \times \frac{22}{7} \times 35$   
 $= 220 \text{m}$

$\therefore$  Cost of fencing the field  $= 220 \times \frac{17}{2} = ₹ 1870$

**136. (b)** Number greater than 4 are 5 and 6 i.e., 2 number out of 6.

So,  $P$  (getting more than 4 in dice)  $= \frac{2}{6} = \frac{1}{3}$

**137. (b)** The coordinate of point which divides  $A(2, 1)$  and  $B(3, 5)$  internally in  $2 : 3$  ratio is



$$\begin{aligned} &= \left( \frac{2 \times 3 + 3 \times 2}{2 + 3}, \frac{2 \times 5 + 3 \times 1}{2 + 3} \right) \\ &= \left( \frac{12}{5}, \frac{13}{5} \right) \end{aligned}$$

**138. (a)** Let original price be 100.

First new price with rise of 20% = 120

Final price = 80% of 120  $= \frac{80}{100} \times 120 = 96$

$\therefore$  Percentage less in final price =  $100 - 96 = 4\%$

So, final price is 4% less than original.

**139. (c)** Given,  $\frac{a-b}{a+b} = \frac{1}{5}$

$$\Rightarrow \frac{a+b}{a-b} = \frac{5}{1}$$

(using componendo and dividendo rule)

$$\Rightarrow \frac{2a}{2b} = \frac{6}{4} = \frac{3}{2}$$

$$\Rightarrow \frac{a}{b} = \frac{3}{2}$$

$$\Rightarrow \frac{a^2}{b^2} = \frac{9}{4}$$

(using componendo and dividendo rule)

$$\Rightarrow \frac{a^2 + b^2}{a^2 - b^2} = \frac{13}{5}$$

$$\Rightarrow \frac{a^2 - b^2}{a^2 + b^2} = \frac{5}{13}$$

$$\Rightarrow (a^2 - b^2) : (a^2 + b^2) = 5 : 13$$

**140. (a)**  $\frac{1}{1+p+q^{-1}} + \frac{1}{1+q+r^{-1}} + \frac{1}{1+r+p^{-1}}$

$$= \frac{1}{1+p+\frac{1}{q}} + \frac{1}{1+q+\frac{1}{r}} + \frac{1}{1+r+\frac{1}{p}}$$

$$= \frac{q}{1+pq+q} + \frac{r}{r+rq+1} + \frac{p}{r+rp+1}$$

$$= \frac{q}{1+pq+q} + \frac{r}{\frac{1}{pq} + \frac{1}{p} + 1} + \frac{p}{p + \frac{1}{q} + 1} \quad (\because qpr = 1)$$

$$= \frac{q}{1+pq+q} + \frac{rpq}{1+q+pq} + \frac{pq}{pq+1+q}$$

$$= \frac{q + rpq + pq}{1+pq+q} \quad (\because qpr = 1)$$

$$= \frac{q + 1 + pq}{1+pq+q} = 1$$

**141. (c)** Since,  $D$  is point of  $BC$ . As,  $BC$  is rational, so  $BD$  must be rational but  $AD$  need not be rational.

**142. (b)**  $\sin(\theta + \phi) = 2\sin(\theta - \phi)$

$$\Rightarrow \sin\theta \cos\phi + \cos\theta \sin\phi = 2(\sin\theta \cos\phi - \cos\theta \sin\phi)$$

$$\Rightarrow 3\cos\theta \sin\phi = \sin\theta \cos\phi$$

$$\Rightarrow \frac{3\sin\phi}{\cos\phi} = \frac{\sin\theta}{\cos\theta}$$

$$\Rightarrow 3\tan\phi = \tan\theta$$

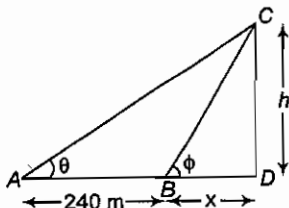
$$\therefore \tan\theta = 3\tan\phi$$

143. (a) Let  $CD$  be the height  $h$ .

$$\text{In } \triangle ADC, \tan \theta = \frac{h}{240 + x}$$

$$\frac{5}{12} = \frac{h}{240 + x}$$

$$\therefore 12h = 5(240 + x)$$



In  $\triangle BDC$ , we have

$$\tan \phi = \frac{h}{x}$$

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

So, Eq. (i) becomes

$$12h = 5 \left( 240 + \frac{4}{3}h \right)$$

$$\Rightarrow 12h = 1200 + \frac{20h}{3}$$

$$\Rightarrow 16h + 3600$$

$$h = \frac{3600}{16} = 225 \text{ m}$$

$\therefore$  Height of the light house = 225 m

144. (b) Let the distance between  $P$  and  $Q$  be  $x$  km and let the two trains meet  $y$  h after 7 am.

So,  $T_1$  covers  $x$  km in 4 h and  $T_2$  cover  $x$  km in  $3\frac{1}{2}$  h.

$$\therefore \text{Speed of train } T_1 = \frac{x}{4} \text{ km/h}$$

$$\text{Speed of train } T_2 = \frac{2x}{7} \text{ km/h}$$

According to the question,

$$\frac{x(y+2)}{4} + \frac{2xy}{7} = x$$

$$\Rightarrow \frac{(y+2)}{4} + \frac{2y}{7} = 1$$

$$\Rightarrow y = \frac{14}{15} \text{ h} = 56 \text{ min}$$

So, trains will meet at 7 : 56 am.

145. (a) Let the first part = ₹  $x$

and the second part = ₹  $(625 - x)$

As the simple interest of both part in same.

$$\text{So, } \frac{x \times 5 \times 2}{100} = \frac{(625 - x) \times 10 \times 4}{100}$$

$$\Rightarrow 10x = (625 - x) 40$$

$$\Rightarrow x = (625 - x) 4$$

$$\Rightarrow 4x + x = 625 \times 4$$

$$\Rightarrow 5x + 625 \times 4$$

$$\Rightarrow x = \frac{625 \times 4}{5}$$

$$\therefore x = ₹ 500$$

$$\therefore \text{Second part} = (625 - 500) = ₹ 125$$

146. (b)

147. (d) The Rashtrapati Bhawan, the official residence of the President of India was designed by Sir Edwin Lutyens, a British architect, along with chief architect and chief engineer Hugh Keeling and many Indian contractors.

148. (d) These paintings, sought to create a public memory of imperial triumphs and superiority of the British culture.

149. (d) Kalighat paintings a style of Indian painting derives its name from the place Kalighat locality of Kolkata. It developed during the 19th century in response to the prosperity brought to Calcutta by the East India Company.

150. (a) The Right to Work is given under Article 19 of the Constitution and Article 23 and 24 provide cultural and educational rights.

151. (a) The Constitution empowers the President to summon each House at such intervals that there should not be more than 6 months' gap between the two sessions. The Parliament must meet at least twice a year.

152. (d) No person who has held office as a judge of the Supreme Court shall plead or act in any court or before any authority within the territory of India.

153. (b) Power sharing is the very spirit of democracy. A democratic rule involves sharing power with those who are affected by its exercise.

154. (a) The Indian sub-continent is a large section of Asian continent consisting of countries lying substantially on the Indian Tectonic Plate.

155. (d) The Tropic of Cancer passes through the states of Gujarat, Rajasthan, Madhya Pradesh, Chattisgarh, Jharkhand and Paschim Banga.

156. (b) The Aravalli's ranges are the oldest fold mountains in India. The Northern end of the range counts as isolated hills and rocky ridges into Haryana state, ending in Delhi.

157. (d) Narmada river originates from North-Eastern end of Satpura and runs in the depression between the Satpura and Vindhya ranges, draining the Northern slope of Satpura range, running West towards the Arabian sea.

158. (c) The Southern most island among the islands in Lakshadweep and farthest area after Andrott island. The island is credited with one of the largest lagoons in Lakshadweep.

159. (c) East-West corridor starts at Srirampur and ends at Silchar. The project aims to improve the connectivity of the North-Eastern region with the rest of India.

160. (b) Through knowledge and enterprise, one can put together the land, labour and capital for the production of goods and services.
161. (a) Cotton in India is the 'King of Crops' and is also the 'White Gold' of India. India had a flourishing trade in cotton textiles with Greece, Egypt, Persia and the Roman Empire.
162. (a) The Supreme Court is made the protector and guarantor of the Fundamental Rights. The citizens have been given the right to seek the protection of the Supreme Court/High Court for getting their rights enforced.
163. (b) The President of India can dissolve the Lok Sabha on the advice of the Prime Minister as the Government lost the majority on the floor of the House.
164. (c) The judges of the Supreme Court are not authorised to practise before any court within the territory of India.
165. (a)
166. (b) Johannesburg is the provincial capital of Gauteng, known as Gold Capital of the world. Gold was discovered at Langlaagte, Johannesburg in 1886.
167. (b) The Sahara covers the Northern section of Africa and spreads over almost all of the top of the continent. The Sahara covers all or part of Algeria, Chad, Egypt, Libya, Mali, Morocco, Sudan, Tunisia and Western Sahara.
168. (a)
169. (c) The Florida current is a well defined component of the Gulf Stream, and warm current, flows generally from the Gulf of Mexico to the Atlantic Ocean.
170. (a) The Himalayas, Andes and Rockies are examples of fold mountains. These are created when two of Earth's tectonic plates crash together.
171. (a) Multiple cropping is the practice of growing two or more crops in the same space during a single growing season.
172. (d) The village economy is based on the land, labour and capital for the production of goods and services.
173. (b)
174. (a) UNESCO is specialised agency of UNO to contribute to peace and security by promoting international collaboration through education, science and culture in order to further universal respect for justice. Its headquarter is situated at Paris (France).
175. (a) India beat Pakistan to lift the title at 3rd World Cup Kabaddi Tournament.
176. (b)
177. (c) The Calico Act (1690-1721) banned the import of textiles into England followed by the restriction of sale of most cotton textiles.
178. (d)
179. (c) It was made from a special steel called Wootz. It contains small crystal of carbon. The crystal gives the sword a water flowing pattern.
180. (b)

180. (b)

180. (b)

180. (b)

180. (b)