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# Questions & Answers

*for*

## NTSE (Stage-I) 2019-20

### INSTRUCTIONS TO CANDIDATES

Read the following instructions carefully before you open the question booklet.

1. Use blue/black ballpoint pen only. There is no negative marking.
2. Part I : MAT : 1 - 100 questions  
Part II : SAT : 101 - 200 questions
3. This test booklet contains 200 questions of one mark each. All the questions are compulsory.
4. Answer each question by darkening the one correct alternative among the four choices on the OMR SHEET with blue/black ballpoint pen.

Example :

| Q. No.          | Alternatives |
|-----------------|--------------|
| Correct way : 1 | ① ② ● ④      |
| Q. No.          | Alternatives |
| Wrong way : 1   | ⊗ ⊖ ⊙ ④      |

Student must darkening the right oval only after ensuring correct answer on OMR Sheet.

5. Students are not allowed to scratch / alter / change out an answer once marked on OMR Sheet, by using white fluid / eraser / blade / tearing / wearing or in any other form.
6. Separate sheet has been provided for rough work in this test booklet.
7. Please handover the OMR Sheet to the invigilator before leaving the Examination Hall.
8. Darken completely the ovals of your answer on OMR Sheet in the time limit allotted for that particular paper.
9. Your OMR Sheet will be evaluated through electronic scanning process. Incomplete and incorrect entries may render your OMR Sheet invalid.
10. Use of electronic gadgets, calculator, mobile etc, is strictly prohibited.

## PART-I : MENTAL ABILITY TEST (MAT)

**Directions (Q.1 to Q.5) :** There is a number series following a pattern. One place is left blank. Find the correct answer from the given options.

1. 16, 33, 65, 131, \_\_\_\_, 523  
 (1) 613 (2) 261  
 (3) 521 (4) 262

**Answer (2)**

2. 15, 17, 32, 49, 81, 130, \_\_\_\_  
 (1) 211 (2) 226  
 (3) 179 (4) 194

**Answer (1)**

3. 28, 33, 31, 36, \_\_\_\_, 39  
 (1) 40 (2) 38  
 (3) 32 (4) 34

**Answer (4)**

4. 62, 64, 30, 32, 14, 16, \_\_\_\_  
 (1) 12 (2) 6  
 (3) 18 (4) 13

**Answer (2)**

5. 38, 62, 74, 102, \_\_\_\_  
 (1) 124 (2) 104  
 (3) 102 (4) 120

**Answer (3)**

**Directions (Q.6 to Q.10) :** Find the odd term/wrong term or which is different from the rest three terms.

6. (1) 31 : 96 (2) 15 : 63  
 (3) 22 : 91 (4) 23 : 95

**Answer (1)**

7. (1) DFGE (2) KMNL  
 (3) PRSQ (4) UXWV

**Answer (4)**

8. (1) (2, 8, 18) (2) (7, 8, 24)  
 (3) (3, 9, 21) (4) (5, 7, 19)

**Answer (2)**

9. (1) CGTX (2) QJUF  
 (3) BFUY (4) DKPW

**Answer (2)**

10. (1) 65 (2) 344  
 (3) 730 (4) 101

**Answer (4)**

**Direction (Q.11 to Q.13) :** The letters /numbers follow a definite pattern. Find the missing letter/number to complete the pattern.

11. \_\_bcc \_ac \_aabb \_\_ab\_cc  
 (1) bacab (2) bcaca  
 (3) aabca (4) abaca

**Answer (1)**

12. gfe\_\_2g\_\_e22\_\_fe2\_gf\_\_22  
 (1) e2fg2 (2) 2fg2g  
 (3) e2g2e (4) 2fg2e

**Answer (4)**

13. 00\_\_0\_1\_0\_0\_1  
 (1) 10010 (2) 01011  
 (3) 01100 (4) 00111

**Answer (1)**

**Directions (Q.14 to Q.16) :** Developing relationship among items on the left side of sign :: find relationship on the right side of sign :: by choosing from alternatives.

14. 18 : 48 :: 100 : ?  
 (1) 160 (2) 180  
 (3) 120 (4) 144

**Answer (2)**

15. JOB : JOKE :: ROB : ?  
 (1) ROBE (2) RODE  
 (3) ROAL (4) ROSE

**Answer (4)**

16. Tagore : Poetry :: Picasso : ?  
 (1) Art (2) Literature  
 (3) Painting (4) Architecture

**Answer (3)**

**Directions (Q.17 to Q.23) :** Find the missing term that will come in place of question mark.

17.

|     |     |     |
|-----|-----|-----|
| 372 | 580 | 918 |
| 235 | 405 | 735 |
| 274 | 350 |     |

- (1) 366 (2) 345  
 (3) 482 (4) 432

**Answer (1)**

18.

|   |     |     |   |
|---|-----|-----|---|
|   | 4   | 6   |   |
| 7 | 108 | ?   | 3 |
| 2 | 63  | 113 | 9 |
|   | 8   | 3   |   |

- (1) 68 (2) 36  
(3) 54 (4) 72

**Answer (4)**

19.

|    |    |    |
|----|----|----|
| 6  | 10 | ?  |
| 3  | 2  | 2  |
| 6  | 20 | 4  |
| 12 | 25 | 64 |

- (1) 12 (2) 8  
(3) 10 (4) 6

**Answer (2)**

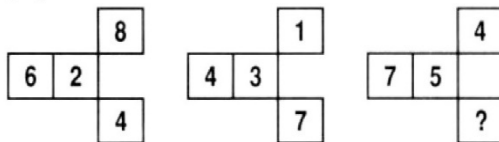
20.

|    |    |    |
|----|----|----|
| 9  | 17 | 69 |
| 13 | 12 | 62 |
| ?  | 13 | 81 |

- (1) 5 (2) 9  
(3) 21 (4) 10

**Answer (3)**

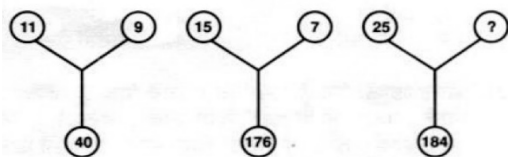
21.



- (1) 8 (2) 10  
(3) 13 (4) 6

**Answer (4)**

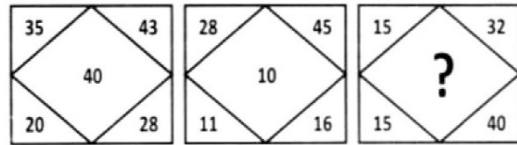
22.



- (1) 24 (2) 22  
(3) 21 (4) 19

**Answer (3)**

23.



- (1) 38 (2) 35  
(3) 28 (4) 25

**Answer (1)**

24. If Physics = 106

Then Biology = ?

- (1) 90 (2) 92  
(3) 82 (4) 87

**Answer (2)**

25. If Blue = 160

Then Book = ?

- (1) 182 (2) 162  
(3) 43 (4) 172

**Answer (4)**

**Directions (Q.26 to Q.27) :** Find the correct group of signs to solve the Equation.

26.  $\sqrt{100} * \sqrt{16} * \sqrt{225} * \sqrt{1}$

- (1) x, =, + (2) +, =, x  
(3) +, =, - (4) -, x, =

**Answer (3)**

27.  $24 * 34 * 2 * 5 * 12$

- (1) +, ÷, x, = (2) =, ÷, -, +  
(3) +, ÷, =, x (4) =, ÷, +, -

**Answer (2)**

**Directions (Q.28 to Q.31) :** Six children P, Q, R, S, T, U are playing football. P and T are brothers, U is the sister of T, R is the only son of P's uncle, Q and S are the daughters of the only brother of R's father.

28. How is R related to U ?

- (1) Brother  
(2) Cousin  
(3) Uncle  
(4) Son

**Answer (2)**

29. How many male players are there?

- (1) One (2) Two  
(3) Three (4) Five

**Answer (3)**

30. How many female players are there?  
 (1) Four (2) Three  
 (3) Two (4) One

**Answer (2)**

31. How is Q related to P?  
 (1) Sister (2) Uncle  
 (3) Niece (4) Cousin

**Answer (1)**

32. If "Red" is called "Green"; "Green" is called "Yellow"; "Yellow" is called "Violet"; "Violet" is called "Blue"; "Blue" is called "Orange"; Then what is the colour of Vegetable Lady finger  
 (1) Green (2) Blue  
 (3) Yellow (4) Violet

**Answer (3)**

**Directions (Q.33 to Q.36) :** Study the columns and answer. In column I some words are given and their codes are given in column II. The codes in the column II are not in the same order as the letter of words in column I

| Column-I | Column-II |
|----------|-----------|
| FLOUR    | xncap     |
| TAP      | ksd       |
| ROSE     | cmrn      |
| LOTUS    | smcpx     |
| SAIL     | kptm      |

33. Find the code of 'F'  
 (1) p (2) c  
 (3) x (4) a

**Answer (4)**

34. Find the code for 'P'  
 (1) d (2) k  
 (3) s (4) c

**Answer (1)**

35. Code of 'Last' word  
 (1) pkns (2) mcrx  
 (3) pkms (4) pkds

**Answer (3)**

36. What is code of 'PLASTER' word  
 (1) dpkxcrn (2) dpkmsrn  
 (3) apxkrnd (4) mrnxpak

**Answer (2)**

37. How many 5's are there in the given number sequence each of which are immediately preceded by 3 or 4 but are not immediately followed by 8 or 9.

3 5 9 5 4 5 5 3 5 8 4 5 6 7 3 5 7 5 5 4 5 2 3 5 1 0

- (1) 5 (2) 4  
 (3) 3 (4) 2

**Answer (1)**

38. How many M's occur in the following letter series which are preceded by W and followed by v

X U V M R S T M W N V M W O P M U V M W A  
 C W M V H P N V M W M T

- (1) 3 (2) 1  
 (3) 2 (4) 5

**Answer (2)**

39. Find the word which cannot be formed from the letters of the word 'INFRASTRUCTURE'.  
 (1) RESTRAIN (2) FRACTURE  
 (3) CHARTER (4) NATURE

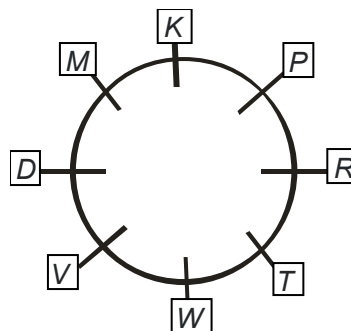
**Answer (3)**

40. Find the word which can be formed from the letters of the word 'ENVIRONMENT'.  
 (1) ENVY (2) ENTERTAIN  
 (3) ENTRANCE (4) EMINENT

**Answer (4)**

**Directions (Q.41 to Q.44) :** Read the information carefully and answer the questions (41 to 44) - P, T, V, R, M, D, K and W are sitting around a round table. V is second to left of T, T is fourth to Right of M, D and P are not immediate neighbours of T. D is the third to the right of P. W is not an immediate neighbour of P. P is to the immediate left of K.

**Solution for Q.41 to Q.44.**



41. Who is second to left of K  
 (1) R (2) P  
 (3) M (4) W

**Answer (1)**

42. Who is to the immediate left of V  
 (1) T (2) M  
 (3) D (4) W

**Answer (3)**

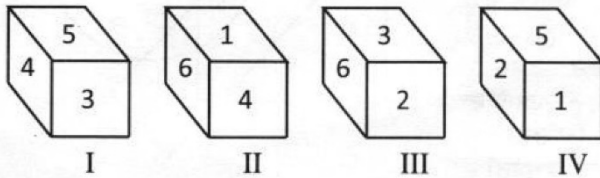
43. Who is third to right of V  
 (1) P (2) R  
 (3) K (4) T

**Answer (2)**

44. What is P's position with respect to V  
 (1) Fourth to the left (2) Second to the left  
 (3) Fifth to the right (4) Third to the right

**Answer (1)**

**Direction (Q.45 & Q.46) :** Four positions of the same dice have been shown. Select the alternative which provides correct answer to the question asked.



45. Which number would be Opposite to 3  
 (1) 6 (2) 5  
 (3) 1 (4) 4

**Answer (3)**

46. Which number would be opposite to 5  
 (1) 6 (2) 4  
 (3) 3 (4) 2

**Answer (1)**

47. In a row of twenty five children Gagan is the 14th from the right end. Varun is third to the left of Gagan. What is Varun's position from the left end of the row.  
 (1) Seventh (2) Tenth  
 (3) Eighth (4) Ninth

**Answer (4)**

48. A parson is to climb a tree of 50 feet height. In every second he climbs 5 feet but slips down 4 feet. After how many seconds he will be able to touch the top of tree?  
 (1) 50 (2) 46  
 (3) 49 (4) 48

**Answer (2)**

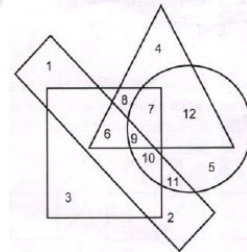
49. Anju walks 15 metres toward north, then she turns left at 90° and walks 30 metres, then turns right at 90° and walks 25 metres. How far is she from the starting point and is in which direction  
 (1) 50 metres, north-west  
 (2) 50 metres, west  
 (3) 55 metres, north-east  
 (4) 60 metre, north

**Answer (1)**

50. Karan wants to go to college which is situated in a direction opposite to that of a Mall. He starts from his house which is in the east and comes at a four way place (Churaha). His left side road goes to the Mall and straight in front is the Bus Stand. In what direction is the college located?  
 (1) North-East (2) South  
 (3) East (4) North

**Answer (4)**

**Directions (Q.51 to Q.54) :** The following diagrams circle stands for insurance agents, the square stands for hard working, the triangles stands for rural people and rectangle stands for graduates. Based upon these diagrams answer the questions.



51. Non-rural and hard working Insurance agents who are graduates are indicated by the region  
 (1) 9 (2) 5  
 (3) 10 (4) 7

**Answer (3)**

52. Insurance agents who are neither graduates nor hard working but rural are represented by the region.  
 (1) 12 (2) 11  
 (3) 10 (4) 8

**Answer (1)**

53. Hard working non-graduates rural agents are represented by the region  
 (1) 6 (2) 9  
 (3) 7 (4) 12

**Answer (3)**



67. The minute hand of a clock overtakes the hour hand at intervals of 65 minutes of the correct time. How much in a day does the clock gain or lose?

- (1) Lose  $10\frac{10}{143}$  minutes
- (2) Gain  $10\frac{10}{143}$  minutes
- (3) Gain  $11\frac{10}{143}$  minutes
- (4) Lose  $11\frac{10}{143}$  minutes

**Answer (2)**

68. Any day in April is always on the same day of the week as the corresponding day in

- (1) June
- (2) December
- (3) July
- (4) August

**Answer (3)**

69. On what dates of August 1980 did Tuesday fall?

- (1) 2nd, 9th, 16th, 23rd, 30th
- (2) 3rd, 10th, 17th, 24th, 31st
- (3) 4th, 11th, 18th, 25th
- (4) 5th, 12th, 19th, 26th

**Answer (4)**

70. Teena's income is 25% more than Meena. By what percent Meena's income is less than Teena

- (1) 20
- (2) 18
- (3) 25
- (4) 15

**Answer (1)**

71. Find correct conclusion from statement

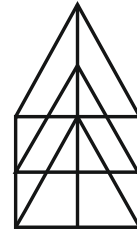
- Statements : (I) Mohit is an artist  
(II) Artists are beautiful

Conclusions

- (1) Mohit is not beautiful.
- (2) All beautiful Persons are artists.
- (3) Mohit is beautiful.
- (4) Beautiful Persons are not artists.

**Answer (3)**

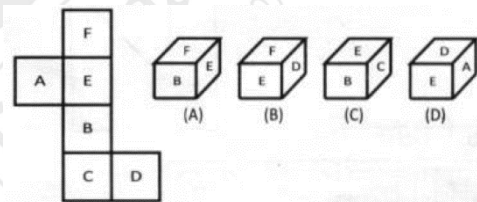
72. How many triangles and Parallelograms are in the given figure



- (1) 21, 17
- (2) 19, 13
- (3) 19, 17
- (4) 21, 15

**Answer (1)**

73. Select from the four alternatives, the box that can be formed by folding the sheet as shown in figure.



- (1) B only
- (2) A only
- (3) A and C only
- (4) A, B, C and D

**Answer (1)**

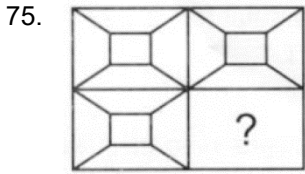
74. Find the Mirror Image of figure.



- (1) PГЭDGE
- (2) ЪГЭDGE
- (3) ЪГEDGE
- (4) ЪГЭDGE

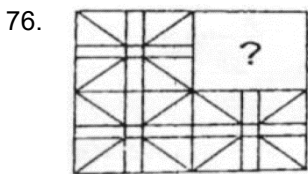
**Answer (3)**

**Directions (Q.75 to Q.77) :** find the correct alternative from the Answer figures to complete the question figures



- (1)
- (2)
- (3)
- (4)

**Answer (2)**



- (1)
- (2)
- (3)
- (4)

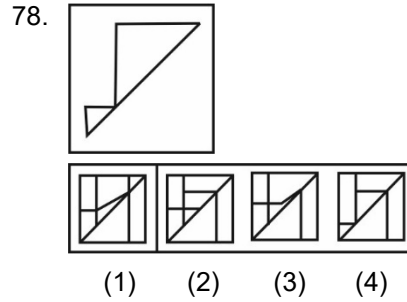
**Answer (4)**



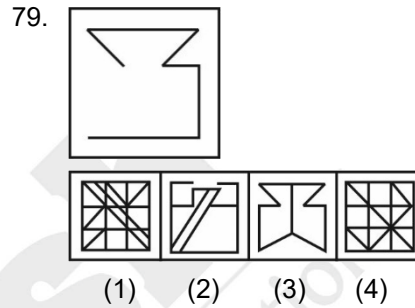
- (1)
- (2)
- (3)
- (4)

**Answer (4)**

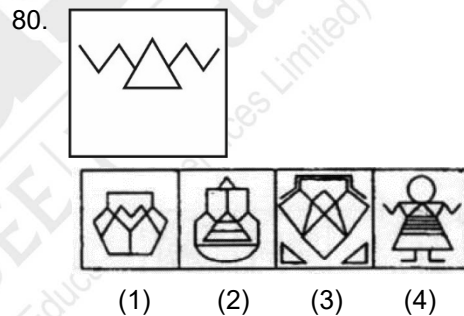
**Directions (Q.78 to 80) :** The question figure is embedded in one of the Answer figure. Find the alternative in which it is embedded.



**Answer (4)**

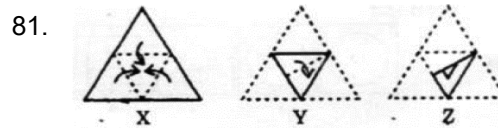


**Answer (1)**



**Answer (4)**

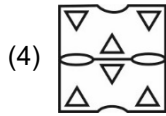
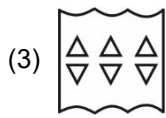
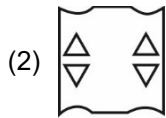
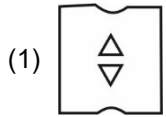
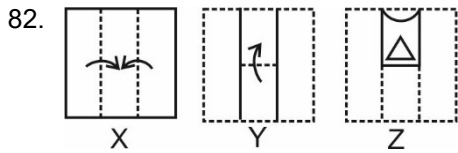
**Direction (Q.81 to Q.83) :** Paper is folded as shown with the dotted lines in 'X' & 'Y' and the last figure 'Z' has been cut. How would the paper look like when unfolded?



- (1)
- (2)
- (3)
- (4)

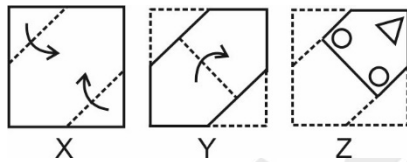
**Answer (4)**



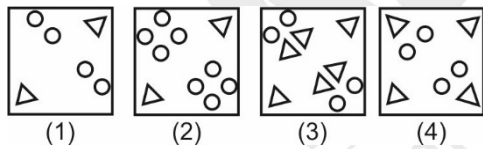


**Answer (3)**

83. Question Figure



Answer Figure



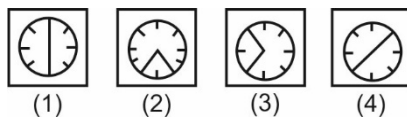
**Answer (2)**

**Directions (Q.84 to Q.86) :** Which figure among alternatives will replace the question mark according to series.

84. Question Figures

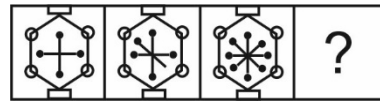


Answer Figure

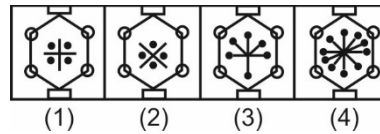


**Answer (2)**

85. Question Figure



Answer Figures

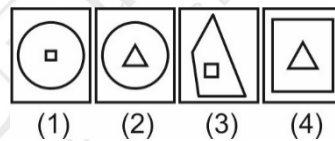


**Answer (4)**

86. Question Figure



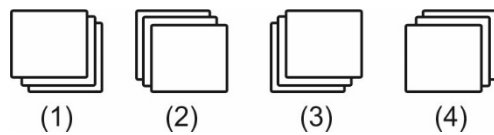
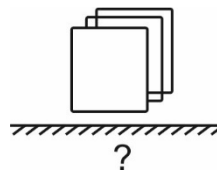
Answer Figures



**Answer (4)**

**Directions :** First rotate the figure by 90° in clockwise direction and then find out the water Image from the given Alternatives.

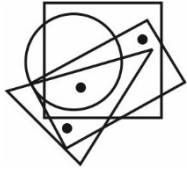
87. Question Figure



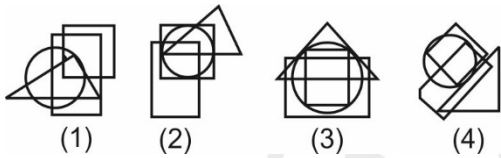
**Answer (4)**

**Directions (Q.88 to Q.90) :** Select the alternative which satisfy the same condition of placement of dots as shown in the figure.

88. Question Figure



Answer Figures

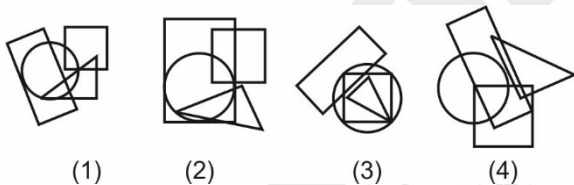


**Answer (1)**

89. Question Figure

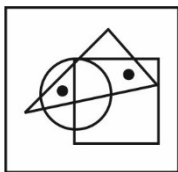


Answer Figures

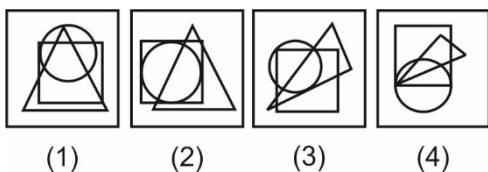


**Answer (4)**

90. Question Figure



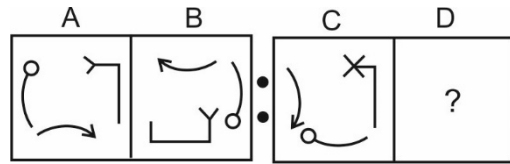
Answer Figures



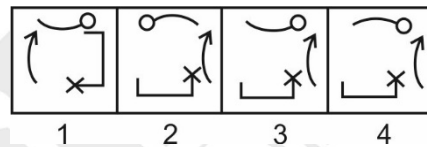
**Answer (1)**

**Directions (Q.91 to Q.93) :** Figure A and B are related in some Particular Manner. Replace question mark for figure D, by developing same relationship between C and D as is between A & B

91. Question Figure

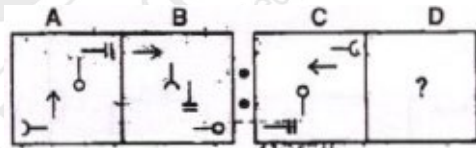


Answer Figures

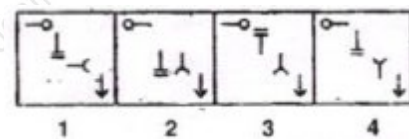


**Answer (4)**

92. Question Figure

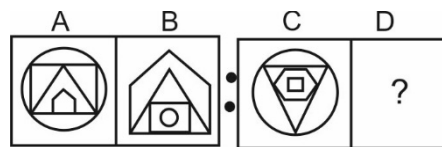


Answer Figures

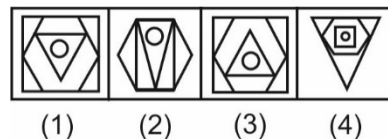


**Answer (3)**

93. Question Figures



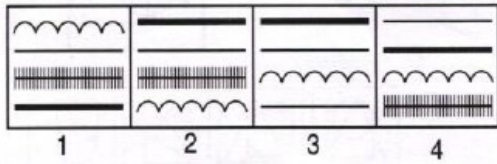
Answer Figures



**Answer (1)**

**Directions (Q94 & Q.95) :** Out of four figures, one figure is different, while the others are similar in some way. Find out the different figure.

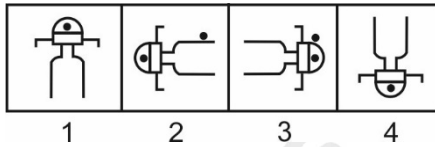
94.



- (1) 1
- (2) 2
- (3) 3
- (4) 4

**Answer (3)**

95.

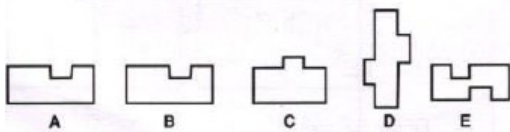


- (1) 1
- (2) 2
- (3) 3
- (4) 4

**Answer (4)**

**Direction (Q.96 & Q.97) :** Five diagrams A, B, C, D, E are given. Three out of these when put together make a square. Find the alternative which one has three such diagrams.

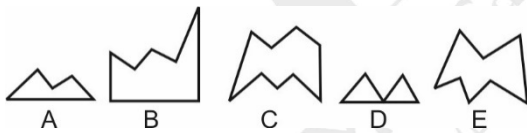
96.



- (1) A, B, D
- (2) A, C, D
- (3) B, D, E
- (4) B, C, E

**Answer (1)**

97.

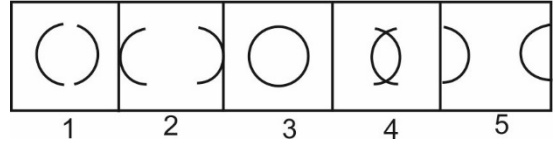


- (1) A, B, D
- (2) B, C, D
- (3) A, B, C
- (4) C, D, E

**Answer (3)**

**Direction (Q.98 & Q.99) :** If two figures among five figures are interchanged then five figures arranged in certain order. Find among alternatives.

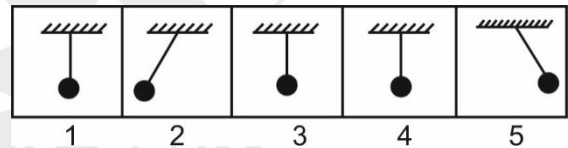
98.



- (1) 1, 3
- (2) 2, 3
- (3) 1, 2
- (4) 2, 4

**Answer (3)**

99.



- (1) 4, 5
- (2) 1, 2
- (3) 2, 3
- (4) 3, 4

**Answer (1)**

100. How many squares are in given figure.



- (1) 32
- (2) 48
- (3) 78
- (4) 70

**Answer (3)**



## PART-II : SCHOLASTIC APTITUDE TEST (SAT)

101. A small source of light casts a sharp shadow on an opaque object shows

- (1) Ray Nature of Light
- (2) Wave Nature of Light
- (3) Particle Nature of Light
- (4) Dual Nature of Light

**Answer (1)**

102. In Domestic Electric Circuits appliances are always connected in

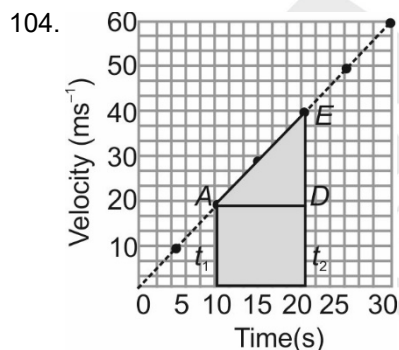
- (1) Series
- (2) Parallel
- (3) Mixed
- (4) Bulbs in Series and Fans in Parallel

**Answer (2)**

103. A force of 40 N acts on a body, and body moves through a distance of 2 metre at an angle of  $45^\circ$  in the direction of the force. The work done by the force is

- |                                     |                                     |
|-------------------------------------|-------------------------------------|
| (1) $\frac{40}{\sqrt{2}} \text{ J}$ | (2) $\frac{20}{\sqrt{2}} \text{ J}$ |
| (3) $\frac{80}{\sqrt{2}} \text{ J}$ | (4) $\frac{40}{\sqrt{2}} \text{ J}$ |

**Answer (3)**



In the above graph what is the value of acceleration?

- |                           |                           |
|---------------------------|---------------------------|
| (1) $360 \text{ ms}^{-2}$ | (2) $180 \text{ ms}^{-2}$ |
| (3) $0.9 \text{ ms}^{-2}$ | (4) $1.8 \text{ ms}^{-2}$ |

**Answer (4)**

105. A Person cannot see the object beyond 50 cm. The power of lens to correct this defect will be

- |          |            |
|----------|------------|
| (1) +2 D | (2) -2 D   |
| (3) +5 D | (4) +0.5 D |

**Answer (2)**

106. If the frequency of wave is tripled, then its wave length

- (1) Becomes Double
- (2) Becomes Half
- (3) Becomes One third of original
- (4) Remains same

**Answer (3)**

107. A positively charged particle (alpha particle) projected towards west is deflected towards north by magnetic field. The direction of magnetic field is

- |                  |                   |
|------------------|-------------------|
| (1) Downwards    | (2) Towards south |
| (3) Towards east | (4) Upwards       |

**Answer (4)**

108. If distance between Earth and Moon is increased by Six time, then force of gravitation between both will

- (1) Increased 1/36 times
- (2) Decrease 1/36 times
- (3) Increase 36 times
- (4) Decrease 6 times

**Answer (1)**

109. A bullet of mass 20 g is horizontally fired with velocity of  $150 \text{ ms}^{-1}$  from pistol of mass 2kg. What is the recoil velocity of the Pistol.

- |                            |                            |
|----------------------------|----------------------------|
| (1) $-1.5 \text{ ms}^{-1}$ | (2) $+1.5 \text{ ms}^{-1}$ |
| (3) $-3.0 \text{ ms}^{-1}$ | (4) $0 \text{ ms}^{-1}$    |

**Answer (1)**

110. A object is placed 5 cm in front of Convex mirror, whose radius of curvature is 3cm. Find the Position and Nature of Image.

- (1) +1.15 cm, Real and Erect
- (2) +1.15 cm, Virtual and inverted
- (3) +1.15 cm, Virtual and Erect
- (4) -1.15 cm, Virtual and Erect

**Answer (3)**

111. A current of 0.5 A is drawn by a filament of an electric bulb for 10 minutes, find the number of electrons flows through the circuit are

- |                                  |                                   |
|----------------------------------|-----------------------------------|
| (1) $6 \times 10^{18}$ Electrons | (2) $18 \times 10^{18}$ Electrons |
| (3) $6 \times 10^{20}$ Electrons | (4) $18 \times 10^{20}$ Electrons |

**Answer (4)**

112. Which of the following cannot hear ultrasound waves?

- (1) Bats (2) Human  
(3) Dolphins (4) Dogs

**Answer (2)**

113. Refractive Index (indices) of Water = 1.33, Kerosene = 1.44, Ruby = 1.71 & Diamond = 2.42 are respectively, in which of these velocities of light is minimum?

- (1) Water (2) Kerosene  
(3) Ruby (4) Diamond

**Answer (4)**

114. Among Mg,  $Mg^{2+}$ , Al,  $Al^{3+}$  which will have the largest and smallest size respectively?

- (1)  $Mg^{2+}$ , Al (2)  $Al^{3+}$ , Mg  
(3) Mg,  $Al^{3+}$  (4) Al,  $Mg^{2+}$

**Answer (3)**

115. Which of the following statements about the modern periodic Table is/are incorrect?

- The elements in the Modern periodic table are arranged on the basis of their decreasing atomic number
- The elements in the Modern periodic table are arranged on the basis of increasing atomic masses
- Isotopes are arranged in adjoining or different groups in the Modern periodic table
- The elements in the Modern periodic table are arranged on the basis of their increasing atomic number

- (1) 1 only (2) 1, 2 and 3  
(3) 1, 2 and 4 (4) 4 only

**Answer (2)**

116. In Alumino-Thermite process aluminium is used as

- (1) Oxidising agent (2) Ore  
(3) Reducing agent (4) Catalyst

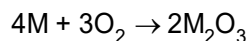
**Answer (3)**

117. The greater number of water molecule will be in

- (1) 18 gm of  $H_2O$   
(2) 18 moles of water  
(3) 18 molecules of water  
(4) 1.8 gram of water

**Answer (2)**

118. Consider the following equation of chemical reaction of a metal M

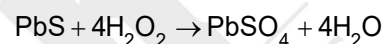


The equation represents: -

- (1) Combination reaction as well as oxidation reaction  
(2) Combination reaction as well as reduction  
(3) Decomposition reaction as well as oxidation  
(4) Oxidation reaction as well as displacement reaction

**Answer (1)**

119. Identify the correct oxidant and reductant in the following reaction



- (1) PbS - Oxidant  
 $H_2O_2$  - Reductant  
(2) PbS - Reductant  
 $PbSO_4$  - Oxidant  
(3) PbS - Reductant  
 $H_2O_2$  - Oxidant  
(4)  $H_2O_2$  - Oxidant  
 $H_2O$  - Reductant

**Answer (3)**

120. Silver articles become black on prolonged exposure to air. This is due to the formation of

- (1)  $Ag_3N$  (2)  $Ag_2O$   
(3)  $Ag_2S$  (4)  $Ag_2S$  and  $Ag_3N$

**Answer (3)**

121. How many moles of NaOH are present in 160 g of NaOH?

- (1) 4 mole (2) 2 mole  
(3) 1 mole (4) 3 mole

**Answer (3)**

122. When a vegetative oil is treated with Hydrogen in the presence of Nickel catalyst it forms fat (Vegetable Ghee). This is an example of

- (1) Displacement reaction  
(2) Decomposition reaction  
(3) Addition reaction  
(4) Double displacement reaction

**Answer (3)**

123. The electronic configuration 2,8,6 represents element

- (1) Calcium (2) Sulphur  
(3) Oxygen (4) Magnesium

**Answer (2)**

124. The soap molecule has a

- (1) Hydrophobic head and Hydrophobic tail  
(2) Hydrophobic head and Hydrophilic tail  
(3) Hydrophilic head and Hydrophilic tail  
(4) Hydrophilic head and Hydrophobic tail

**Answer (4)**

125. pH is defined as

- (1)  $-\log[H_3O^+]$  (2)  $-\log[H_2O]$   
(3)  $+\log[H^+][OH^-]$  (4)  $-\log[H^+][OH^-]$

**Answer (1)**

126. Which gas boils out first during fractional distillation of air?

- (1) Argon (2) Nitrogen  
(3) Oxygen (4) Carbon dioxide

**Answer (2)**

127. Which of the following is a plant hormone?

- (1) Insulin (2) Thyroxine  
(3) Estrogen (4) Cytokinin

**Answer (4)**

128. The shape of guard cells changes due to change in the

- (1) Protein composition of cells  
(2) Temperature of cells  
(3) Amount of water in cells  
(4) Position of nucleus in the cells

**Answer (3)**

**Sol.** Shape of guard cells change due to turgidity. They open when guard cells become turgid due to endosmosis of water and closed due to exosmosis of water as guard cells become flaccid.

129. Which of the following is a true statement?

- (1) Ovary releases three eggs in every month  
(2) The eggs are produced in the uterus  
(3) If the egg is not fertilized, it lives for about one day  
(4) The fertilization takes place in the ovaries

**Answer (3)**

130. The tissue that helps in the movement of body are

- (1) Muscular tissues (2) Skeletal tissues  
(3) Connective tissues (4) Conducting tissues

**Answer (1)**

131. Match the terms in column (A) with those in column (B)

| Column A                           | Column B           |
|------------------------------------|--------------------|
| (i) Trypsin                        | (a) Pancreas       |
| (ii) Amylase                       | (b) Liver          |
| (iii) Bile Juice                   | (c) Gastric glands |
| (iv) Pepsin                        | (d) Saliva         |
| (1) (i) a, (ii) d, (iii) b, (iv) c |                    |
| (2) (i) b, (ii) c, (iii) d, (iv) a |                    |
| (3) (i) a, (ii) b, (iii) c, (iv) d |                    |
| (4) (i) b, (ii) c, (iii) a, (iv) d |                    |

**Answer (1)**

132. Adenosine triphosphate (ATP) produces during \_\_\_\_\_ in living organisms and also during \_\_\_\_\_ in plants.

- (1) Photosynthesis, Absorption  
(2) Respiration, Nutrition  
(3) Photosynthesis, Respiration  
(4) Respiration, Photosynthesis

**Answer (4)**

133. Muscles contain special proteins called \_\_\_\_\_

- (1) Contractile Proteins  
(2) Vacuole Proteins  
(3) Globular Protein  
(4) Vesical Protein

**Answer (1)**

134. Which of the following groups have naked embryos

- (1) Bryophytes and Pteridophytes  
(2) Bryophytes and Gymnosperms  
(3) Angiosperms and Pteridophytes  
(4) Pteridophytes and Angiosperms

**Answer (1)**

135. Which of the following cellular component of blood containing haemoglobin

- (1) Red blood Cell  
(2) White blood Cell  
(3) Plasma  
(4) Cytoplasm

**Answer (1)**

136. Recessive characters will appear in

- (1)  $F_1$  generations      (2)  $F_2$  generations  
 (3) Both  $F_1$  and  $F_2$       (4)  $F_3$  Only

**Answer (2)**

137. Which of the following statements is correct

- (1) Prokaryotic cells have a well defined nucleus  
 (2) Eukaryotic cells have no Mitochondria  
 (3) Prokaryotic cells having Mitochondria  
 (4) Eukaryotic cells having membrane bound organelles

**Answer (4)**

138. Pineal gland is located

- (1) On the kidney      (2) In the Brain  
 (3) Near Thyroid      (4) In Pancreas

**Answer (2)**

139. Which of the following is body's largest blood vessel

- (1) Aorta      (2) Pulmonary Vein  
 (3) Capillaries      (4) Heart

**Answer (1)**

140. Which of the following is not a raw material for photosynthesis

- (1) Carbon dioxide      (2) Water  
 (3) Oxygen      (4) Chlorophyll

**Answer (3)**

141. The pair of equation

$X = 0$  and  $x = -\frac{3}{4}$  has \_\_\_\_\_

- (1) One Solutions  
 (2) Two solutions  
 (3) Infinitely many solutions  
 (4) No solution

**Answer (4)**

142. If a point  $(a, b)$  is equidistant from points  $(x + y, y - x)$  and  $(x - y, x + y)$  then which of the following is true?

- (1)  $ay = bx$   
 (2)  $ax = by$   
 (3)  $a + b = x + y$   
 (4)  $a^2y = b^2x$

**Answer (1)**

143. For going to a city  $B$  from city  $A$ , there is a route via city  $C$  such that  $AC \perp CB$ .  $AC = 2x$  km and  $CB = 2(x + 7)$  km. It is proposed to construct a 26km highway which directly connects the two cities  $A$  and  $B$ . Find how much distance will be saved in reaching city  $B$  from city  $A$  after the construction of the highway.

- (1) 5 km      (2) 6 km  
 (3) 8 km      (4) 13 km

**Answer (3)**

144. In quadrilateral  $ABCD$ ,  $\angle B = 90^\circ$ ,  $\angle C - \angle D = 60^\circ$  and  $\angle A - \angle C - \angle D = 10^\circ$ . Find the measure of the smallest angle of this quadrilateral

- (1)  $35^\circ$       (2)  $25^\circ$   
 (3)  $50^\circ$       (4)  $55^\circ$

**Answer (1)**

145. Find a natural number whose square diminished by 84 is equal to thrice of 8 more than the given number

- (1) -3      (2) 12  
 (3) 6      (4) 9

**Answer (2)**

146. Find the common difference of an AP whose first term is 1 and the sum of the first four terms is one third of the sum of the next four terms.

- (1) 2      (2) 4  
 (3) 1.5      (4) -2

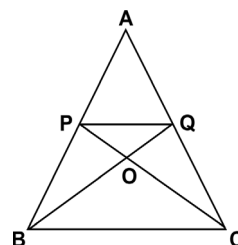
**Answer (1)**

147. The mean weight of students of a particular class is 52 kg. The mean weight of boys of this class is 56 kg and that of girls is 50 kg. Find the ratio of number of boys to the number of girls in the class.

- (1) 1 : 2      (2) 2 : 1  
 (3) 1 : 1      (4) 2 : 3

**Answer (1)**

148. In figure  $PQ \parallel BC$ ,  $AP : PB = 4 : 3$ . Find the ratio of areas of  $\triangle BOC$  and  $\triangle POQ$



- (1) 16 : 9      (2) 4 : 3  
 (3) 49 : 16      (4) 16 : 49

**Answer (3)**

149. In  $\triangle ABC$ ,  $\angle C = 90^\circ$  and  $\tan A = 1$ . Find the value of  $2\sin A \cos A$

- (1)  $\sqrt{2}$  (2)  $1/2$   
(3) 1 (4)  $1/\sqrt{2}$

**Answer (3)**

150. Consider the following statements when two straight lines intersect:

- (i) Adjacent angles are complementary  
(ii) Adjacent angles are supplementary  
(iii) Vertically opposite angles are equal  
(iv) Vertically opposite angles are supplementary  
(1) (i) and (iii) are correct  
(2) (ii) and (iii) are correct  
(3) (i) and (iv) are correct  
(4) (ii) and (iv) are correct

**Answer (2)**

151.  $3.\overline{27}$  is \_\_\_\_\_

- (1) An integer (2) A rational number  
(3) A natural number (4) An irrational number

**Answer (2)**

152. The sum of all odd natural numbers between 0 to 40 is \_\_\_\_\_

- (1) 1600 (2) 420  
(3) 400 (4) 210

**Answer (3)**

153. The empirical relation between mean, mode and median is \_\_\_\_\_

- (1) Mode = 3median - 2mean  
(2) Mode = 2median - 3mean  
(3) Median = 3mode - 2mean  
(4) Mean = 3median - 2mode

**Answer (1)**

154. If the perimeter of a circle is equal to that of a square, then find the ratio of their areas.

- (1) 14 : 9 (2) 13 : 11  
(3) 13 : 9 (4) 14 : 11

**Answer (4)**

155. Find the number whose square root is twice of its cube root.

- (1) 64 (2) 128  
(3) 16 (4) 4

**Answer (1)**

156. Fill in the blank

- 49, 343, 64, \_\_\_\_\_, 81, 729  
(1) 1024 (2) 512  
(3) 778 (4) 182

**Answer (2)**

157. In an examination a student scores 4 marks for each correct answer and loses 1 mark for each wrong answer. If he attempts total 60 questions and secures 130 marks. Find the number of questions he attempted correct.

- (1) 35 (2) 38  
(3) 40 (4) 42

**Answer (2)**

158. A number consist of two digits. The sum of both digits is 11. If 27 added to the number then digits interchange their places. Find the number.

- (1) 47 (2) 65  
(3) 83 (4) 92

**Answer (1)**

159. If  $\sqrt{2048} = \sqrt{2^x}$ ,  $\sqrt{2187} = \sqrt{3^y}$  and  $\sqrt{3125} = \sqrt{5^z}$  then the value of  $x + y - z =$

- (1) 1 (2) 9  
(3) 13 (4) 23

**Answer (3)**

160. Find the value of y in terms of x

- $$\frac{3x + 4y - 3}{7} = \frac{-3x + 4y - 7}{9}$$
- (1)  $\frac{-24x - 11}{4}$  (2)  $\frac{-11x - 24}{4}$   
(3)  $\frac{-4x - 11}{24}$  (4)  $\frac{-24x - 4}{11}$

**Answer (1)**

161. Who was the first Viceroy of India?

- (1) Robert Clive (2) Lord Willam Bentick  
(3) Warren Hastings (4) Charles John Canning

**Answer (4)**

162. By which name was Punjab known in Ramayan and Mahabharat?

- (1) Panchnad (2) Sapat Sindhu  
(3) Panta Potamia (4) Lahore Suba

**Answer (1)**



163. In which year was Guru Teg Bahadur Ji born?

- (1) 1605                      (2) 1628  
(3) 1656                      (4) 1621

**Answer (4)**

164. To whom did Guru Har Rai Ji sent Delhi when he was called by Mughal Emperor Aurangzeb?

- (1) Prithvi Chand          (2) Ram Rai  
(3) Dhirmal                      (4) Harkrishan ji

**Answer (2)**

165. Who is credited for demanding Swaraj from the Congress platform for the first time-

- (1) Surinder Nath Banerjee  
(2) Gopal Krishan Gokhale  
(3) Dadabhai Naroji  
(4) V.D. Savarkar

**Answer (3)**

166. Which Guru Sahib started the Manji System?

- (1) Guru Amardas ji      (2) Guru Angad Dev ji  
(3) Guru Ram Das ji      (4) Guru Arjun Dev ji

**Answer (1)**

167. Which of the following cities was the capital during Banda Singh Bahadur's Rule?

- (1) Khanna                      (2) Sirhind  
(3) Lohgarh                      (4) Kethal

**Answer (3)**

168. When was the 'Gadar Party' formed?

- (1) 1914                      (2) 1913  
(3) 1920                      (4) 1929

**Answer (2)**

169. During the middle of 19<sup>th</sup> Century Italy was divided into how many states and which one was ruled by the Italian Princely house-

- (1) 7, Sardinia-Piedmont  
(2) 6, Sardinia-Piedmont  
(3) 5, Florence  
(4) 6, Habsburg

**Answer (1)**

170. In France the female allegory was named as

- (1) Germania                      (2) Maria  
(3) Alice                              (4) Marianne

**Answer (4)**

171. A liberal colonial officer who formulated new rules to restore the freedom of the Press in India was-

- (1) Warren Hastings      (2) Thomas Macaulary  
(3) William Bentick      (4) Robert Clive

**Answer (2)**

172. Which one of the following countries is not a member of South Asian Association for Regional Co-operation (SAARC)

- (1) Bhutan                      (2) India  
(3) Nepal                      (4) China

**Answer (4)**

173. By what name the coastal plains from Daman to Goa are known as?

- (1) Malabar Coast  
(2) Konkan Coastal plains  
(3) Eastern Coastal plains  
(4) Northern Coastal plains

**Answer (2)**

174. Which one of the following districts is the smallest in area?

- (1) Ludhiana                      (2) Bathinda  
(3) Gurdaspur                      (4) Pathankot

**Answer (4)**

175. Which one of the following regions normally experience the convectional type of rainfall?

- (1) Equatorial region      (2) South Polar Region  
(3) North Polar Region      (4) Glaciated region

**Answer (1)**

176. Ravi, Jhelum and Chenab are distributaries of which river

- (1) Godavari                      (2) Ganga  
(3) Yamuna                      (4) Sindhu

**Answer (4)**

177. Which one of the following agents causes the formation of V-shaped valley?

- (1) Snow                              (2) Wind  
(3) River                              (4) Sea waves

**Answer (3)**

178. Which type of soil is extensively found in Punjab

- (1) Black Soil                      (2) Alluvial Soil  
(3) Red soil                              (4) Laterite soil

**Answer (2)**

179. Which is the first express way of India?

- (1) Delhi-Calcutta (2) Mumbai-Pune  
(3) Bengluru-Chennai (4) Delhi-Mumbai

**Answer (2)**

180. The food needs of any country are determined by?

- (1) The size of population and its standard of living  
(2) The geographical size of area  
(3) The urbanized population  
(4) The rural population

**Answer (1)**

181. Tropic of Cancer passes through \_\_\_\_\_ State

- (1) Bihar  
(2) Uttar Pradesh  
(3) Mizoram  
(4) Nagaland

**Answer (3)**

182. The area with more concentration of Jute mills in India

- (1) Maharashtra  
(2) Gujarat  
(3) West Bengal  
(4) Uttar Pradesh

**Answer (3)**

183. Which of the following countries does not have veto power?

- (1) France (2) India  
(3) China (4) Russia

**Answer (2)**

184. The principle of 'Judicial Review' has been taken from which country?

- (1) United State of America  
(2) Germany  
(3) France  
(4) England

**Answer (1)**

185. How many members are taken for the Lok Sabha and Rajya Sabha from Punjab?

- (1) Lok Sabha-11 (2) Lok Sabha-13  
Rajya Sabha-9 Rajya Sabha-7  
(3) Lok Sabha-9 (4) Lok Sabha-12  
Rajya Sabha-7 Rajya Sabha-2

**Answer (2)**

186. Who is included in the 'electoral college' or electorate for the election of our President?

- (1) All the members of Lok Sabha  
(2) All the members of Rajya Sabha  
(3) Elected members of Lok Sabha, Rajya Sabha and elected members from State Legislative Assemblies and elected members from Union Territories.  
(4) All members of Lok Sabha, Rajya Sabha and State Legislative Assemblies

**Answer (3)**

187. 'Peaceful Co-existence' is the part of which agreement?

- (1) Panchsheel  
(2) Simla Agreement  
(3) Tashkand Agreement  
(4) Nehru Layakat Agreement

**Answer (1)**

188. India opposes strongly at International lever for which issue?

- (1) United Nations  
(2) Foreign Companies  
(3) Common Wealth Nations  
(4) Terrorism in all forms

**Answer (4)**

189. Which rights are not given to foreigners?

- (1) Political Rights  
(2) Economic Rights  
(3) Social Rights  
(4) Economic Rights

**Answer (1)**

190. The Chief Minister Generally belongs to

- (1) Rajya Sabha  
(2) Lok Sabha  
(3) State Legislative Assembly  
(4) State Legislative Council

**Answer (3)**

191. Right to 'Free and Compulsory Education' was implemented in all over India on \_\_\_\_\_?

- (1) March 2009  
(2) April 2010  
(3) January 2002  
(4) February 2014

**Answer (2)**

192. Which among the following is not a key feature of Parliamentary form of Govt. \_\_\_\_\_?

- (1) Close relationship between Legislature and Executive
- (2) The Power of Judicial Review by Judiciary Courts
- (3) Real and Nominal Executive
- (4) Responsibility of Executive towards Legislature

**Answer (2)**

193. The extra ordinary increase in agriculture especially in the production of wheat and rice is called

- (1) Wheat Revolution (2) Paddy Revolution
- (3) Green Revolution (4) White Revolution

**Answer (3)**

194. The reward given to the entrepreneur for his factor services is called:

- (1) Interest (2) Rent
- (3) Wages (4) Profit

**Answer (4)**

195. When more than required labourers are employed in any occupation, then these extra labourers is called which type of unemployed?

- (1) Seasonal unemployed
- (2) Distinguished Unemployed
- (3) Industrial Unemployed
- (4) Under Unemployed

**Answer (4)**

196. The Government policy related to its revenue and expenditure is called:

- (1) Monetary Policy (2) Fiscal Policy
- (3) Price Policy (4) Industrial Policy

**Answer (1)**

197. When was the New Industrial Policy launched in India?

- (1) 1948 (2) 1956
- (3) 1991 (4) 2001

**Answer (3)**

198. In India \_\_\_\_\_ percent of people are living below poverty line.

- (1) 21.9 (2) 22.9
- (3) 23.9 (4) 24.9

**Answer (1)**

199. Under MNREGA Scheme of the Government how many days of employment is provided to the labourers in India?

- (1) 100 (2) 120
- (3) 150 (4) 200

**Answer (1)**

200. Banking Services are included in which of the following sectors of the economy?

- (1) Primary Sector (2) Secondary Sector
- (3) Service Sector (4) Industrial Sector

**Answer (3)**

