Target PMT
EXCLUSIVELY FOR MEDICAL ENTRANCE

Questions & Answers
for
NTSE (Stage-I) 2020-21

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	⊗ ⊘ ③ 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)

1. $\dfrac{\left(6^2+7^2+8^2+9^2+10^2\right)}{\sqrt{\left(\sqrt{7+4\sqrt{3}}\right)-\sqrt{\left(\sqrt{4+2\sqrt{3}}\right)}}}$ is equal to :

   (1) 355   (2) 330

   (3) 305   (4) 366

   Answer (*)

   {If root is not there in the denomination over 7 and 4}

2. If 20% of x = y, then y% of 20 is the same as :

   (1) 4% of x   (2) 6% of x

   (3) 8% of x   (4) 10% of x

   Answer (1)

3. The sum of first 12 terms of an A.P. whose nth term is given by $a_n = 3n + 4$ is :

   (1) 262   (2) 272

   (3) 282   (4) 292

   Answer (3)

4. Two goods train each 500 m long, are running in opposite directions on parallel tracks. Their speeds are 45 km/hr. and 30 km/h respectively. Find the time taken by the slower train to pass the driver of the faster one :

   (1) 12 sec.   (2) 24 sec.

   (3) 48 sec.   (4) 60 sec.

   Answer (2)

5. The next term of the AP $\sqrt{18}, \sqrt{50}, \sqrt{98}, ...$ is

   (1) $\sqrt{146}$ (2) $\sqrt{128}$

   (3) $\sqrt{162}$ (4) $\sqrt{200}$

   Answer (3)

6. If $(p + q)^{th}$ term of an A.P. is m and $(p - q)^{th}$ term is n, them p^{th} term is :

   (1) mn

   (2) $\sqrt{mn}$

   (3) $(m-n)/\sqrt{2}$

   (4) $(m+n)/2$

   Answer (4)

7. If a flight of 600 km, an aircraft was slowed down due to bad weather. Its average speed for the trip was reduced by 200 km/hr. and the time of flight increased by 30 minutes. The original duration of the flight is :

   (1) 1 hour   (2) 2 hours

   (3) 3 hours   (4) 4 hours

   Answer (1)

8. A tower is observed from a point on the horizontal through the foot of the tower. The distance of this point from the foot of the tower is equal to the height of the tower. The angle of elevation on the top of the tower is :

   (1) 60°   (2) 45°

   (3) 40°   (4) 30°

   Answer (2)

9. There are 1400 students in a school, 25% of those wear spectacles and 2/7 of those wearing spectacles are boys. How many girls in the school wear spectacles?

   (1) 300   (2) 100

   (3) 200   (4) 250

   Answer (4)

10. P, Q and R jointly thought of engaging themselves in a business venture. It was agreed that P would invest Rs. 6500 for 6 months, Q, Rs. 8400 for 5 months and R, Rs. 10,000 for 3 months P wants to be the working member for which, he was to receive 5% of the profits. The profit earned was Rs. 7400. Calculate the share of Q in the profit.

    (1) Rs. 1900   (2) Rs. 2660

    (3) Rs. 2800   (4) Rs. 2840

    Answer (2)

11. John cycling at a constant speed of 10km/hr. reaches his school in time. If he cycles at a constant speed of 15 km/hr., he reaches his school in 12 minutes early. How many km. he was to cycle for his school is?

    (1) 4   (2) 6

    (3) 9   (4) 12

    Answer (2)

12. If $7\sin\alpha = 24\cos\alpha$; $0 < \alpha < \pi/2$, then the value of $14\tan\alpha - 75\cos\alpha - 7\sec\alpha$ is equal to

(1) 3   (2) 4

(3) 1   (4) 2

Answer (4)

13. If $x^2 + 1/x^2 = 98$ $(x > 0)$, then the value of $x^3 + 1/x^3$ is

(1) 970   (2) 1030

(3) −970   (4) −1030

Answer (1)

14. The correct arrangement of alphabetical order of the words :

a. music   b. monk

c. minimum   d. maximum

(1) d,a,c,b   (2) a,c,d,b

(3) d,c,a,b   (4) d,c,b,a

Answer (4)

15. At present ages of a father and son are in the ratio of 7 : 3 and they will be in the present ratio 2 : 1 after 10 years. What is the present age of father?

(1) 70 years   (2) 65 years

(3) 60 years   (4) 50 years

Answer (1)

Direction (Q.16-19): Study the following table carefully and answer the questions:

Number of students in different classes of XYZ Primary school:

Classes	Years				
	2014	2015	2016	2017	2018
I	22	28	26	32	18
II	20	26	22	24	16
III	39	33	52	17	29
IV	19	26	38	24	11
V	16	33	37	23	21

16. The difference between the sum of all the students of all the classes in 2017 and 2018 is:

(1) 112   (2) 85

(3) 25   (4) 35

Answer (3)

17. The sum of all the students in class III in all the years is what percent of the sum of all students of class I in all the years approximately?

(1) 30%   (2) 100%

(3) 60%   (4) 135%

Answer (4)

18. The square of sum of all the students of all classes in year 2018 is :

(1) 2095   (2) 9025

(3) 6059   (4) 9216

Answer (2)

19. By what percent the number of students of class I in year 2017 is more than the number of students of Class II for the same year?

(1) 60   (2) 75

(3) 35   (4) 33.33

Answer (4)

Direction (Q.20-21): First two terms are connected by some relationship. The same relationship is applicable for the next terms Identify the suitable pair.

20. Square : Cube

(1) Rectangle : Cuboid

(2) Triangle : Square

(3) Quadrilateral : Cuboid

(4) Cuboid : Rectangle

Answer (1)

21. 82 : 9

(1) 5 : 26   (2) 6 : 37

(3) 35 : 6   (4) 26 : 5

Answer (4)

22. If A = 2, T = 40 and ACT = 48 the TAKE is :

(1) 68   (2) 58

(3) 74   (4) 76

Answer (3)

Direction (Q. 23-27): Identify the wrong number/letters in the series :

23. 126, 98, 70, 41, 14

(1) 98   (2) 70

(3) 126   (4) 41

Answer (4)

24. 1, 3, 7, 15, 31, 65, 127

    (1) 7   (2) 31
    (3) 15   (4) 65

Answer (4)

25. 7, 28, 63, 124, 215, 344

    (1) 28   (2) 63
    (3) 124   (4) 344

Answer (3)

26. AD, EG, IJ, MM, QP, UP

    (1) EG   (2) UP
    (3) QP   (4) MM

Answer (2)

27. Z8, W5, T2, Q8, N5, K3

    (1) K3   (2) T2
    (3) Q8   (4) Z8

Answer (1)

Direction (Q. 28-29): First set of words are related in a certain way. You have to choose a word. So that another set of words also become related in same manner.

28. Transition : change : : Immobility : ?

    (1) Stillness   (2) Liveliness
    (3) Action   (4) Busyness

Answer (1)

29. Grain : Stock : : Stick : ?

    (1) String   (2) Collection
    (3) Bundle   (4) Heep

Answer (3)

30. A is B's sister. C is B's mother. D is C's father. E is D's mother. Then how is A related to D?

    (1) Grand father   (2) Grand mother
    (3) Daughter   (4) Grand Daughter

Answer (4)

Direction (Q. 31-33) : Find the odd one out :

31. A) Crusade   B) Campaign
    C) Expedition   D) Cruise

    (1) A   (2) C
    (3) B   (4) D

Answer (4)

32. A) Clove   B) Cinnamon
    C) Apricot   D) Pepper

    (1) A   (2) C
    (3) B   (4) D

Answer (2)

33. A) Acre   B) Yard
    C) Mile   D) Meter

    (1) A
    (2) C
    (3) B
    (4) D

Answer (1)

34. In a certain code MONKEY is written as XDJMNL. How is TIGER written in the same code?

    (1) SHEDQ   (2) HFDSQ
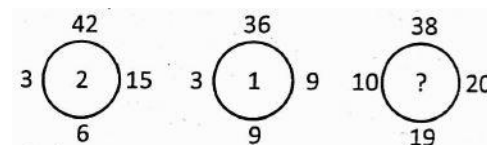   (3) QDFHS   (4) PQRST

Answer (3)

35. In the following matrix, certain numbers are arranged in a certain way. Choose the missing number to complete the matrix.

1	7	9
2	14	?
3	105	117

    (1) 16   (2) 12
    (3) 13   (4) 14

Answer (2)

36. What value will replace '?' in the figures given below :-

    (1) 0   (2) 1
    (3) 2   (4) 3

Answer (1)

37. Five plays – K, L, M, N & O are to be staged from Monday to Friday of a week. On each day only one play will be staged. O should be immediately followed by M. L should be staged immediately after N. One play is staged between K and L. N or O should not be the first or last play. Which is the second play to be staged?

    (1) M   (2) O
    (3) N   (4) K

Answer (3)

38. In a town of 500 people. 285 people, read "The Hindu" and 212 people read "Indian Express" and 127 people read "Times of India". Only 20 people read "The Hindu" and "Times of India", only 29 people read "The Hindu" and "Indian Express" and only 35 people read "Times of India" and "Indian Express". 50 people do not read newspaper. Then how many people read only one newspaper?
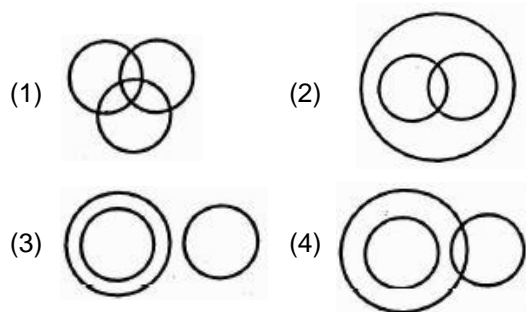
(1) 123   (2) 213

(3) 312   (4) 321

Answer (4)

39. Which of the following venn diagram truly represents the relationship between Truck, Ship and Goods.
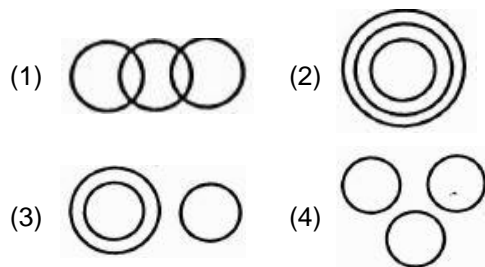
Answer (4)

40. Identify the diagram the best represents the relationship among the given animals – Reptile, Lizard, Lion

Answer (3)

41. If '–' stands for '÷', '+' stands for '×', '÷' stands for '–' and '×' stands for '+', which of the following equations is correct?

(1) $40 – 10 + 5 ÷ 4 × 5 = 21$

(2) $40 + 10 – 4 × 5 ÷ 3 = 80$

(3) $40 ÷ 10 – 4 × 5 + 3 = 32$

(4) $8 – 4 × 40 ÷ 2 + 15 = 30$

Answer (1)

42. P, Q, R, S, T, U, V and W are sitting round the circle and are facing the centre. P is second to the right of T who is neighbour of R and V. S is not the neighbour of P. V is neighbour of U. Q is not between S and W. W is not between U and S. Then who is sitting opposite to W?

(1) S   (2) Q

(3) U   (4) T

Answer (4)

43. Find the ratio in which rice at Rs 7.20 per kg be mixed with rice at Rs. 5.70 per kg. To produce a mixture worth Rs. 6.30 per kg?

(1) 2 : 3   (2) 1 : 3

(3) 3 : 4   (4) 4 : 5

Answer (1)

44. A pupil's marks were wrongly entered as 83 instead of 63. Due to which the average marks for the class got increased by half. The number of pupils in the class is :-

(1) 45   (2) 40

(3) 39   (4) 37

Answer (2)

45. A watch which gains 5 seconds in 3 minutes was set right at 7 am. In the afternoon of the same day when the watch indicated quarter past 4 O'clock, the true time is:-

(1) 9pm   (2) 7pm

(3) 4pm   (4) 5pm

Answer (3)

46. A student multiplied a number by 3/5 instead of 5/3. What is the percentage error in the calculation.

(1) 54%   (2) 64%

(3) 74%   (4) 84%

Answer (2)

47. Two goods trains each 390m long are running in same direction on parallel tracks. Their speeds are 42 km/hr. and 36 km/hr. respectively. Find the time taken by the faster train to cross the driver of the slower one?

(1) 6 min.   (2) 12 min.

(3) 18 min.   (4) 4 min.

Answer (4)

Direction (Q.48-50) : Study the Pie chart carefully and answer the following questions. Pie chart shows the percentage quantity of fruits of two shops A and B.

Shop A
(Total quantity 1200kg)

Shop B
(Total quantity 1000kg)
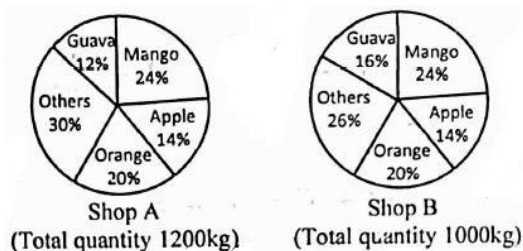
48. What is the difference between the quantity of Guava at Shop B and that of Shop A?

   (1) 20 kg   (2) 25 kg

   (3) 40 kg   (4) 16 kg

Answer (4)

49. The quantity of Mango at Shop B is what percentage of the quantity of Mango at Shop A?

   (1) 20%   (2) 120%

   (3) 84%   (4) 150%

Answer (3)

50. If the price of Mango is Rs. 30 per kg., Apple Rs. 40 per kg. and Orange Rs 20 per kg, then what is the ratio of their cost at Shop A?

   (1) 4 : 5 : 6   (2) 9 : 7 : 5

   (3) 4 : 5 : 1   (4) 2 : 5 : 7

Answer (2)

51. In given question, select the correct alternative:

   Monotony : Variety : : Crudeness : ?

   (1) Sobriety   (2) Simplicity

   (3) Raw   (4) Refinement

Answer (4)

52. If B is 20 metres south from A and C is 10 metres North from D and A is 10 metres west from D, then where is B from C ?

   (1) North-East

   (2) North-West

   (3) South-West

   (4) North

Answer (3)

53. Amit ranked 16th from the top and 29th from the bottom among those who passed the examination, 6 students does not participate and 5 failed in it. How many students were there in the class?

   (1) 50   (2) 55

   (3) 44   (4) 52

Answer (2)

Direction (Q.54-55) : Ananya is older than shruti, Arti is older than Ananya but younger than Kusum. Kusum is older than Shruti, Shruti is younger than Arti and Geeta is oldest.

54. Who is youngest?

   (1) Ananya   (2) Shruti

   (3) Arti   (4) Kusum

Answer (2)

55. Who is the middle with respect to the age?

   (1) Shruti   (2) Ananya

   (3) Arti   (4) Kusum
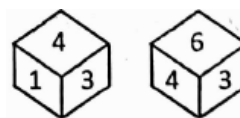
Answer (3)

56. A and B are brothers, D is brother of E, C is father of A, E is daughter of B, Then who is uncle of D?

   (1) A   (2) B

   (3) C   (4) D
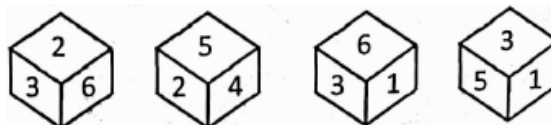
Answer (1)

57. Which digit will appear on the face opposite to the face with number 4?

   (1) 5   (2) 2 or 5

   (3) 2   (4) 2 or 3
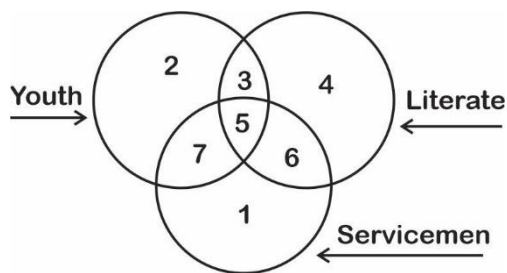
Answer (2)

58. If four different portions of a die are shown, what number is opposite of 3 ?

   (1) 6   (2) 5

   (3) 2   (4) 4

Answer (4)

59. Study the figure given below and find those youth who are in service but not literate?

(1) 3 or 4   (2) Only 7

(3) 2 or 7   (4) 2 or 5

Answer (2)

60. In the number 59164823, how many digits will be as far away from the beginning of the number if digits are arranged in descending order as they are in the number?

(1) 3   (2) More than 3

(3) 1   (4) 2

Answer (4)

61. How may such pairs of letters are there in the word EDUCATION, each of which has as many letters between them in the word, as they have in English alphabet?

(1) More than 3   (2) 1

(3) 2   (4) 3

Answer (1)

Direction (Q.62-65) : Study the following information carefully and answer the questions given below:

A, D, E, F, H, J and K are sitting on straight table facing towards south.

D sits fourth to the right of A, E sits at the left end of the table. Five persons sit between E and K, J sits third to the left of K, and F does not sit immediate to D.

62. Which of the following person sits exactly at the middle of the row?

(1) J   (2) F

(3) H   (4) A

Answer (1)

63. How many persons sit between A and H?

(1) 1   (2) 2

(3) 3   (4) 4

Answer (2)

64. Three of the following four pairs are alike in a certain way based on their positions and so formed a group. Which of the following does not belong to the group?
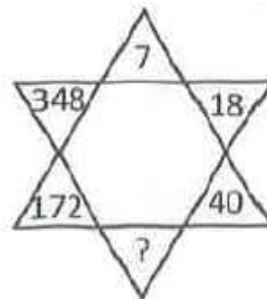
(1) AF   (2) JH

(3) EA   (4) FH

Answer (4)

65. What is the position of F with respect to H?

(1) Second to the right (2) Exactly right

(3) Second to the left (4) Third to the right

Answer (3)

66. Find out the missing number:

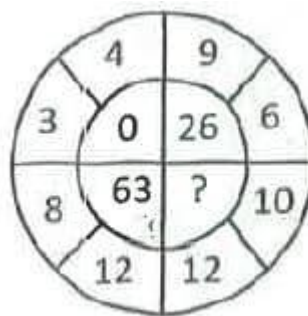(1) 72   (2) 84

(3) 68   (4) 66

Answer (2)

67. Find the missing number in given question:

9	8	7
6	7	8
5	4	6
260	216	?

(1) 191   (2) 326

(3) 330   (4) 336

Answer (3)

68. Find the missing number?

(1) 7   (2) 12

(3) 16   (4) 14

Answer (1)

69. Complete the series from given options:

    a_caa_bcc_aabbb_cc

    (1) bbca

    (2) Abac

    (3) bbac

    (4) Babc

Answer (3)

Directions (Q.70-71): Study the following information to answer the given questions.

In a certain code 'always create new ideas' is written as 'ba ri sh gi' ideas and new thoughts' is written as 'fa gi ma ri' 'create thoughts and insights' is written as 'ma jo ba fa' 'new and better solution' is written as 'ki ri to fa'.

70. What is code for 'ideas'?

    (1) sha   (2) gi

    (3) ba   (4) ma

Answer (2)

71. What does 'fa' stand for?

    (1) thoughts

    (2) insights

    (3) new

    (4) and

Answer (4)

72. Question figure
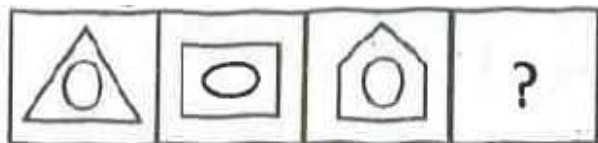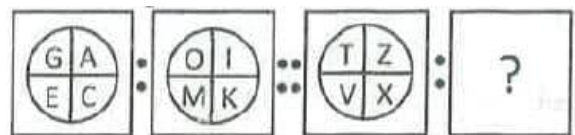

Answer figure

Answer (1)

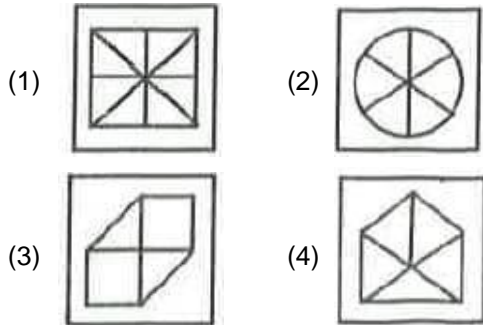73. Question figure
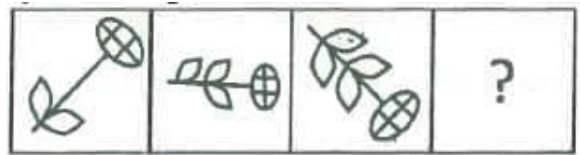
Answer figure

Answer (3)

74. Question figure

Answer figure

Answer (4)

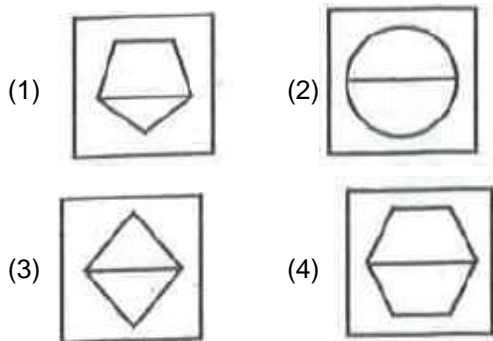**Direction :** A set of four figures are given in which three bear close resemblance. Select the odd one out.
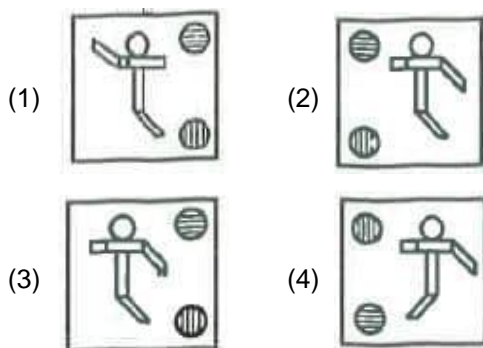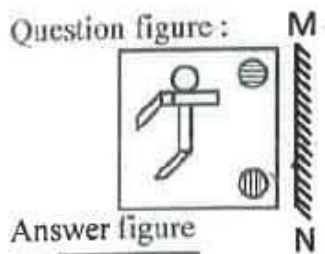
75. Select the odd one out.

(1)   (2)

(3)   (4)

Answer (3)

76. Select the odd one out.

(1)   (2)

(3)   (4)

Answer (1)

77. If a mirror is kept on a line, then which of the answer figure is the correct mirror image of question figure?
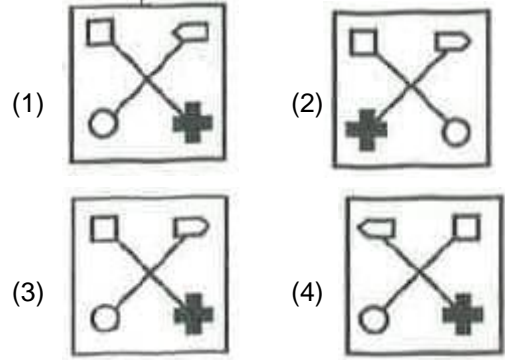

(1)   (2)

(3)   (4)

Answer (2)

78. Which of the four alternative given below is the correct water image of the question figure?

Question figure:

Answer figure

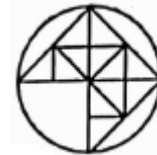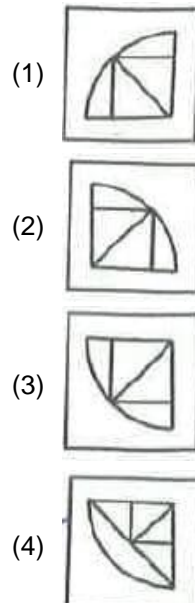(1)   (2)

(3)   (4)

Answer (2)

79. Which one of the given alternative figures will complete the given figure pattern ?

Question figure:

Answer figure

(1)

(2)

(3)

(4)

Answer (4)

Direction (Q.80-81) : All the surfaces of a solid cube of side 4 cm have been coloured black and cut into equal sized cube of side 1cm each. Now answer the following questions:

80. How many cubes are there which do not have any of their surfaces coloured?

    (1) 0   (2) 2

    (3) 16   (4) 8

Answer (4)

81. How many cubes have two of their surface coloured with black on the opposite surfaces?

    (1) 4   (2) 2

    (3) 0   (4) 8

Answer (3)

82. In a row of 40 children, A is 13th from the left end and B is 9th from right end. How many children are there between A and C, if C is 4th to the left of B?

    (1) 12   (2) 13

    (3) 14   (4) 15

Answer (3)

   Direction (Q.83-85): In a family A is younger brother of B and D is the son of B. D is brother of E but E is not son of B. F is grandson of B and C is cousin of E.

83. Who is the father of E?

    (1) A   (2) B

    (3) C   (4) Can't determine

Answer (4)

84. The relation of A with D is.

    (1) Father   (2) Brother

    (3) Cousin   (4) Uncle

Answer (4)

85. The relation of E with F is

    (1) Uncle   (2) Aunt

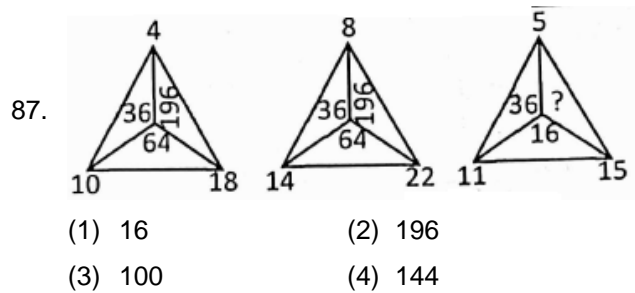   (3) Grant Father   (4) Brother

Answer (2)

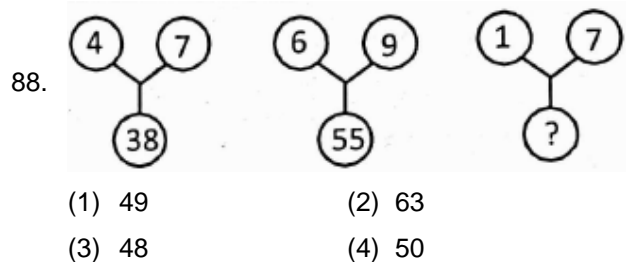86. How many times are the hands of a clock at right angles in 12 hours?

    (1) 24 times   (2) 48 times
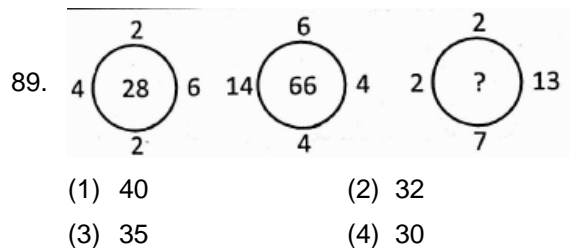
    (3) 22 times   (4) 44 times

Answer (3)

Direction (Q.87-90) : Find the missing character in the following figures.

87.

    (1) 16   (2) 196

    (3) 100   (4) 144

Answer (3)

88.

    (1) 49   (2) 63

    (3) 48   (4) 50

Answer (2)

89.

    (1) 40   (2) 32

    (3) 35   (4) 30

Answer (3)

90.

7	9	11
2	3	2
53	88	?

    (1) 125   (2) 100

    (3) 129   (4) 64

Answer (3)

91. How many triangles are there in the given figure.

    (1) 15   (2) 14

    (3) 16   (4) 20
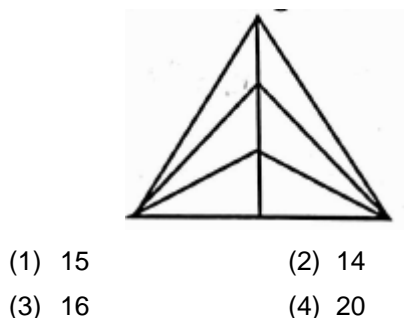
Answer (1)

92. If 2 × 2 = 16, 2 × 3 = 36, 2 × 4 = 64 then 2 × 6 =?
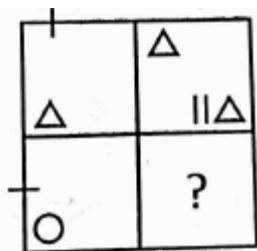
(1) 72

(2) 80

(3) 96

(4) 144

Answer (4)

93. $\sqrt{10+\sqrt{25+\sqrt{108+\sqrt{154+\sqrt{225}}}}}$ find the value:
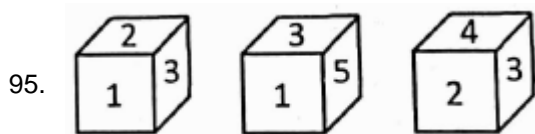
(1) 10

(2) 8

(3) 6

(4) 4

Answer (4)

94. Find the correct figure.

(1)

(2)

(3)

(4)

Answer (3)

95.

Which number is opposite to 3?

(1) 1

(2) 6

(3) 5

(4) 4

Answer (2)

Direction (Q. 96-100): Study the diagram and answer each of the following.
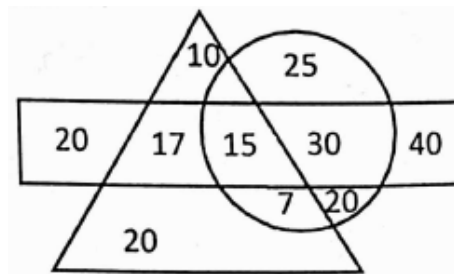
△ Person who takes tea

▭ Person who takes Lassi

◯ Person who takes coffee

96. How many persons who take tea and lassi but not coffee?

(1) 20 (2) 17

(3) 25 (4) 15

Answer (2)

97. How many persons are there who take both tea and coffee but not lassi?

(1) 22 (2) 17

(3) 7 (4) 20

Answer (3)

98. How many persons take lassi?

(1) 100 (2) 82

(3) 92 (4) 122

Answer (4)

99. How many persons are there who takes only coffee?

(1) 90 (2) 45

(3) 25 (4) 20

Answer (2)

100. How many person take all the three?

(1) 20 (2) 17

(3) 25 (4) 15

Answer (4)

❏ ❏ ❏

PART-II : SCHOLASTIC APTITUDE TEST (SAT)

101. The sound of same pitch and loudness are distinguished from one another by their.

    (1) Wavelengths

    (2) Velocity

   (3) Quality

    (4) Tones

Answer (3)

102. A water pump lifts water from a level 10 m below the ground. The water is pumped at the rate 30 kg/min with negligible velocity. Calculate the minimum power the pump should have to do this work.

    (1) 49 J/s   (2) 490 J/s

    (3) 500 J/s   (4) 48 J/s

Answer (1)

103. Six identical resistors connected between points A, B and C as shown in diagram. The equivalent resistance would be maximum between.
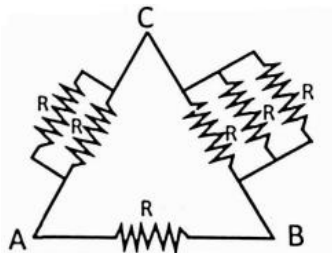
    (1) A and B

    (2) B and C
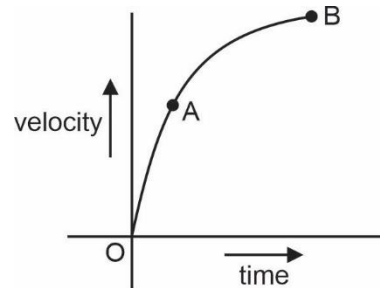
    (3) A and C

    (4) Option 1, 2, 3 all are correct

Answer (1)

104. A particle of mass 0.3kg is subjected to a force $F = Kx$ with K = 15 N/m, what will be its acceleration if it is released from a point $x = 20$ cm.

    (1) 1 m/s^2

    (2) 10 m/s^2

    (3) 100 m/s^2

    (4) 0.1 m/s^2

Answer (2)

105. An object is moving in a straight line. The velocity time graph is as shown below. Then-

    (1) In part OA acceleration is increasing

    (2) In part AB acceleration is increasing

    (3) In part OA acceleration is decreasing

    (4) In part AB acceleration is decreasing

Answer (4)

106. A force of 100N acts on a body so that the body acquire a velocity of 10 m/s. after some time. Now the force of 100N is replaced by another force F which decelerates the body and body come to the rest then.

    (1) F > 100N   (2) F < 100N

    (3) F = 100N   (4) All options are possible

Answer (4)

107. 2 points A and B are at electric potentials 10V and 100V respectively. A charge q is taken from A to B and 18 Joule of work is done. The value of q is

    (1) 2 Coulomb

    (2) 0.2 Coulomb

    (3) 20 Coulomb

    (4) 0.02 Coulomb

Answer (2)

108. Which of the following is NOT correct for magnetic field lines?

    (1) The direction of magnetic field lines outside the magnet is from north pole to south pole.

    (2) The direction of magnetic field lines inside the magnet is from south pole to north pole.

    (3) The degree of closeness of magnetic field lines tells the relatives strength of magnetic field.

    (4) Magnetic field lines never form closed loop.

Answer (4)

109. A car moving along straight line covers 1/5th of total distance with speed v_1 and remaining part of distance with speed v_2. The average speed of car over entire distance is.

(1) $\dfrac{5v_1v_2}{v_2+4v_1}$ (2) $\dfrac{4v_1v_2}{5v_1+v_2}$

(3) $\dfrac{5v_1v_2}{4v_2+v_1}$ (4) $\dfrac{4v_1v_2}{4v_1+v_2}$

Answer (1)

110. Light travels through a glass slab of thickness t and having refractive index n. If c is the velocity of light in vacuum then the time taken by light to travel this thickness of glass is.

(1) $\dfrac{t}{nc}$ (2) $\dfrac{nt}{c}$

(3) $\dfrac{n^2t}{c}$ (4) $\dfrac{t}{n^2c}$

Answer (2)

111. The resistance of rheostat shown in figure below is 0-30 Ω. Neglecting the resistance of ammeter and connecting wire the minimum and maximum currents through the ammeter will be.
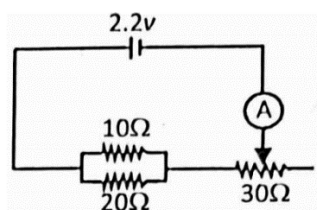
(1) (0.08A, 0.33A)   (2) (0.06A, 0.08A)

(3) (0.06A, 0.33A)   (4) (0.33A, 0.09A)

Answer (3)

112. Three particles A, B and C are thrown from top of a building with same speed. A is thrown upwards, B is thrown downwards and C is thrown horizontally, they hit the ground with speed V_A, V_B and V_C respectively then.

(1) $V_A = V_B = V_C$ (2) $V_B > V_C > V_A$

(3) $V_A = V_B > V_C$ (4) $V_A > V_B = V_C$

Answer (1)

113. An object of height 2.0cm is placed on the principal axis of a concave mirror at a distance of 12cm from the pole. If the image is inverted, real and 5cm. in height then location of the image and focal length of the mirror respectively are.

(1) (-30cm, +8.6cm)   (2) (-30cm, -8.6cm)

(3) (+30cm, + 8.6cm)   (4) (+30cm, -8.6cm)

Answer (2)

114. When lead Nitrate is heated a brown gas is evolved, the evolved gas is _____.

(1) Dioxygen   (2) Nitrogen dioxide

(3) Nitrous oxide   (4) Dinitrogen

Answer (2)

115. When a solution of lead (II) nitrate and potassium iodide are mixed, the yellow ppt is formed, the ppt is of _____.

(1) KNO_3 (2) KCl

(3) PbI_2 (4) PbI_4

Answer (3)

116. Baking powder is a mixture of _____.

(1) Sodium hydrogen carbonate and oxalic acid.

(2) Sodium carbonate and tartaric acid.

(3) Sodium hydrogen carbonate and tartaric acid.

(4) Sodium carbonate and oxalic acid.

Answer (3)

117. Aqua Regia is a mixture of concentrated hydrochloric acid and concentrated nitric acid in the ratio of _____.

(1) 3:1   (2) 2:1

(3) 1:5   (4) 2:3

Answer (1)

118. $CH_3CH_2OH \xrightarrow[443K]{conc.H_2SO_4} Products$

The products formed in the above reaction is/are-

(1) Ethene and H_2O

(2) Ethyne and H_2O

(3) Ethane and H_2O

(4) Methane and H_2O

Answer (1)

119. 'Denatured alcohol' is mixture of

(1) CH_3OH and $HCHO$

(2) CH_3OH and CH_3COOH

(3) C_2H_5OH and CH_3OH

(4) C_2H_5OH and CH_3COOH

Answer (3)

120. For welding a mixture of oxygen and _____ is burnt.

(1) Benzene   (2) Butane

(3) Methane   (4) Ethyne

Answer (4)

121. The following metals are arranged in the increasing order of their metallic character. Choose the correct option.

(1) Be < Si < K < Al

(2) Si < Be < Al < K

(3) K < Al < Si < Be

(4) Be < Si < Al < K

Answer (2)

122. Which one of the following oxide is insoluble in water?

(1) Na_2O (2) CuO

(3) K_2O (4) CaO

Answer (2)

123. Which of the following oxide turns red litmus into blue?

(1) SO_2 (2) CO_2

(3) NO_2 (4) KO_2

Answer (4)

124. Which one of the following is not a green house gas?

(1) CH_4 (2) O_3

(3) CO_2 (4) SO_2

Answer (4)

125. Which of the following element does not show allotropy?

(1) Phosphorus   (2) Sulphur

(3) Oxygen   (4) Aluminium

Answer (4)

126. Which one of the following will have the largest number of atoms?

(1) 100 g of He   (2) 100 g of Na

(3) 100 g of Li   (4) 100 g of Al

Answer (1)

127. Rearrange of following sentences and choose the correct option.

a. Breakdown of H_2O into Hydrogen and Oxygen and Conversion of light energy into chemical energy.

b. Reduction of carbon dioxide to carbohydrates.

c. Absorption of light energy by chlorophyll.

(1) $a \rightarrow b \rightarrow c$ (2) $c \rightarrow b \rightarrow a$

(3) $c \rightarrow a \rightarrow b$ (4) $a \rightarrow c \rightarrow b$

Answer (3)

128. Deepak is trying to study flow of energy in an area and he made the following diagram for the same. How will you interpret his observations?

(1) His observations and number of trophic levels are wrong.

(2) His observations are correct but the number of trophic levels can be more.

(3) His observations are wrong but number of trophic levels is correct.

(4) His observations as well as number of trophic levels are correct.

Answer (1)

129. UV rays cause cancer but in stratosphere the same UV rays are helping us, how?

(1) They divert harmful UV rays back to sun.

(2) They convert oxygen in stratosphere into ozone.

(3) UV rays are not present in stratosphere.

(4) UV rays reach the earth surface then bounce back carrying ozone to stratosphere.

Answer (2)

130. Match the following:

   (i) Regeneration   a) Shoot

   (ii) Rhizopus   b) Pollen grain

   (iii) Plumule   c) Vegetative Propagation

   (iv) Rose   d) Planaria

   (v) Stigma   e) Spores

   (1) (i)-a, (ii)-e, (iii)-d, (iv)-b, (v)-c

   (2) (i)-b, (ii)-d, (iii)-a, (iv)-c, (v)-e

   (3) (i)-b, (ii)-a, (iii)-d, (iv)-c, (v)-e

   (4) (i)-d, (ii)-e, (iii)-a, (iv)-c, (v)-b

Answer (4)

131. The opening and closing of the stomata depends upon

   (1) Oxygen   (2) Temperature

   (3) Carbon-dioxide   (4) Water in guard Cells

Answer (4)

132. Sonu performed an experiment to study dihybrid cross for round/wrinkled and yellow/green coloured seeds. He obtained 2432 seeds in total. What will be the number of seeds which are round and yellow?

   (1) 1367   (2) 1356

   (3) 1368   (4) 1438

Answer (3)

133. The stakeholders of various forest products are

   (i) People living near forests

   (ii) Government only

   (iii) Nature lovers

   (iv) Wild life

   (1) All options are correct

   (2) Only (i), (ii) and (iii) is correct

   (3) Only (ii) is incorrect

   (4) None of the option is correct

Answer (2)

134. Choose the correct sequence

   (1) Pulmonary vein → Pulmonary artery → Left auricle → Right ventricle

   (2) Pulmonary artery → Right auricle → Left ventricle → Pulmonary vein

   (3) Right auricle → Pulmonary artery → Pulmonary vein → Left ventricle

   (4) Left ventricle → Pulmonary vein → Pulmonary artery → Right auricle

Answer (3)

135. **Assertion (A):** No carbon dioxide is released during the day in plants

   Reason (R): Only photosynthesis occurs during the day

   (1) 'A' is true and 'R' is false

   (2) 'A' is false and 'R' is true

   (3) Both 'A' and 'R' are false

   (4) Both 'A' and 'R' are true but 'R' does not explain 'A'

Answer (3)

136. Choose the non-biodegradable substance from the following.

   (i) Carrot

   (ii) Glass bottle

   (iii) Perfume spray bottle

   (iv) Rice bran

   (v) Papaya

   (vi) Thermocol

   (vii) Wooden stick

   (viii) Ball pen refill

   (1) (ii), (iii), (vii), (viii)

   (2) (ii), (iii), (vi), (viii)

   (3) (iii), (i), (v), (vii)

   (4) (viii), (v), (i), (iii)

Answer (2)

137. Match the column I and column II and select correct option

Column I		Column II
A. Ribosome	(i)	ATP formation
B. Mitochondria	(ii)	Photosynthesis
C. Centriole	(iii)	Protein synthesis
D. Chloroplast	(iv)	Cell division

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

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

Answer (2)

138. Which of the following is a barrier method of contraception

   (1) Diaphragm   (2) Contraceptive pills

   (3) Tubectomy   (4) All of the above

Answer (1)

139. Sperms are produced in the

    (1) Seminiferous tubules

    (2) Interstitial cell

    (3) Vas deferens

    (4) Prostate gland

Answer (1)

140. Blood pressure is measured by an instrument called

    (1) Barometer

    (2) Sphygmomanometer

    (3) Photometer

    (4) Manometer

Answer (2)

141. If $\triangle$ ABC is an Equilateral Triangle such that A (2, 2) and centroid of the triangle is (-2, 2) then find the length of its side.

    (1) 4 units

    (2) 6 units

    (3) $4\sqrt{3}$ units

    (4) 9 units

Answer (3)

142. The sum of the n consecutive odd natural numbers starting from 5 is 60. Find the value of $(n^2 - n)$.

    (1) 20   (2) 30

    (3) 42   (4) 56

Answer (2)

143. The sum of the first 'p' odd natural numbers is 100 & the sum of the first 'q' even natural numbers is 90, Find the value of (p + q).

    (1) 18   (2) 19

    (3) 20   (4) 21

Answer (2)

144. If $x + \dfrac{1}{y} = 1$ and $y + \dfrac{1}{z} = 1$, then what is the value of $\left(z + \dfrac{1}{x} + 1 \right)$.

    (1) 0   (2) 1

    (3) 2   (4) 3

Answer (3)

145. If $\sqrt[3]{p} + \sqrt[3]{q} + \sqrt[3]{r} = 0$ then the value of $(p + q + r)^3$ is

    (1) 3pqr   (2) 9pqr

    (3) 27pqr   (4) 0

Answer (3)

146. If $a_1, a_2, a_3 \ldots\ldots\ldots a_n$ and $b_1, b_2, b_3 \ldots\ldots\ldots b_n$ are two A.P.'s such that $a_1 b_1 = 120$, $a_2 b_2 = 143$, $a_3 b_3 = 154$ the $a_8 b_8 =$

    (1) 209   (2) 89

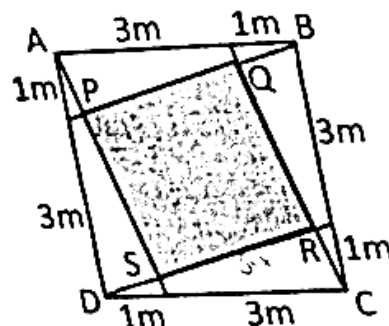   (3) 195   (4) 29

Answer (4)

147. In a $\triangle$ ABC, AX bisects BC & AX is also the angle bisector of angle A. If AB = 12cm, BX = 3cm, then what is the area of $\triangle$ ABC.

    (1) 9 cm^2 (2) $9\sqrt{2}$ cm^2

    (3) $9\sqrt{5}$ cm^2 (4) $9\sqrt{15}$ cm^2

Answer (4)

148. If ABCD & PQRS are two squares, such that area of square PQRS is 'A' m^2, Then find the value of $\sqrt{17A}$.

    (1) 12   (2) 144

    (3) 16   (4) 9

Answer (1)

149. If $\cos^2\theta + 2\sin^2\theta + 3\cos^2\theta + 4\cos^2\theta + \ldots\ldots + 200\sin^2\theta = 10050$, Where θ is an acute angle, find the value of $(\sin\theta + 3\cos\theta)^2$

    (1) 8   (2) 4
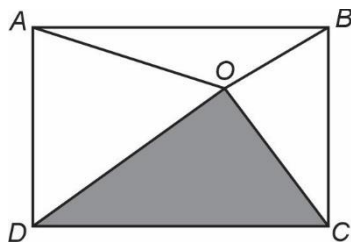
    (3) 2   (4) 1

Answer (1)

150. A 'p' m long wire is cut into two pieces one of which is bent into a circle and the other into a square enclosing the circle. What is the radius (in meter) of the circle?

(1) $\dfrac{p}{\pi + 4}$　　　　(2) $\dfrac{2p}{\pi + 4}$

(3) $\dfrac{p}{2\pi + 8}$　　　　(4) $\dfrac{2p\pi}{\pi + 4}$
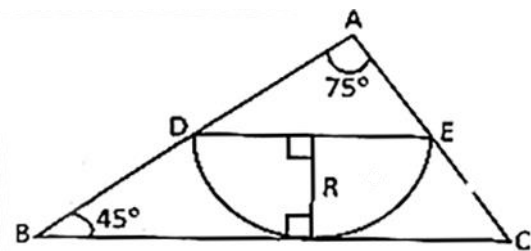
Answer (3)

151. In the figure, $ABCD$ is a rectangle such that Area of $\triangle AOB = a$ m^2. Area of $\triangle AOD = b$ m^2, Area of $\triangle COD = c$ m^2. The Area of $\triangle BOC$ (in m^2) =

(1) $a + b + c$　　　　(2) $a + b - c$

(3) $b + c - a$　　　　(4) $a + c - b$

Answer (4)

152. In $\triangle ABC$, A semi-circle with DE as diameter is drawn such that $BC = 26$m, the radius R (in meter) =

(1) $3 + \sqrt{3}$　　　　(2) $9 - \sqrt{3}$

(3) $9 + \sqrt{3}$　　　　(4) $3 - \sqrt{3}$

Answer (2)

153. If the values of x in the roots of the equation $p(\sin^2 x) + q \sin x + r = 0$ are complementary, then

(1) $p^2 = q(q + 2r)$

(2) $q^2 = p(p + 2r)$

(3) $r^2 = q(q + 2p)$

(4) $r^2 = p(q + 2p)$

Answer (2)

154. The average age of all the 100 employees in an office is 29 years, where $\dfrac{2}{5}$ employees are ladies. The ratio of average age of men to women is 5:7. The average age of female employees is

(1) 18 years　　　　(2) 35 years

(3) 25 years　　　　(4) None of these

Answer (2)

155. If $\dfrac{1}{a}, \dfrac{1}{b}, \dfrac{1}{c}$ are in A.P., then $\dfrac{b+a}{b-a} + \dfrac{b+c}{b-c}$ equals

(1) 1　　　　(2) 2

(3) $\dfrac{b-c}{a-b}$　　　　(4) $\dfrac{ab}{c}$

Answer (2)

156. If $(x + k)$ is a common factor of $(x^2 + px + q)$ and $(x^2 + lx + m)$, then the value of k is

(1) $1 + p$　　　　(2) $m - p$

(3) $\dfrac{1 - p}{m - q}$　　　　(4) $\dfrac{m - q}{l - p}$

Answer (4)

157. As a result of 40% hike in the price of rice per kg., a person is able to purchase 10 kg less rice for Rs. 1400. What was the original price of rice per kg?

(1) Rs. 50　　　　(2) Rs.60

(3) Rs.40　　　　(4) Rs.30

Answer (3)

158. A man takes half time in rowing a certain distance downstream than upstream. What is the ratio of the speed of boat in still water to the speed of current?

(1) 1 : 2　　　　(2) 2 : 1

(3) 1 : 3　　　　(4) 3 : 1

Answer (4)

159. The mean of a group of 20 consecutive natural numbers is M. What will be the percentage change in the mean when last six consecutive natural numbers are left from the group?

(1) $\dfrac{3M}{100}\%$　　　　(2) $\dfrac{3}{M}\%$

(3) $\dfrac{300}{M}\%$　　　　(4) $\dfrac{30}{M}\%$

Answer (3)

160. One box contains four cards numbered 1, 3, 5 and 7 and another box contains four cards numbered as 2, 4, 6 and 8. One card is down from each box at random. The probability that the product of the numbers so drawn is more than 14 is

(1) $\dfrac{1}{2}$ (2) $\dfrac{7}{10}$

(3) $\dfrac{3}{8}$ (4) $\dfrac{5}{8}$

Answer (1)

161. "God save our Noble King" was the National anthem of

(1) Britain   (2) Italy
(3) Germany   (4) France

Answer (1)

162. Who was the ruler of France during the French revolution?

(1) Louis XV   (2) Louis XIV
(3) Louis XX   (4) Louis XVI

Answer (4)

163. Hitler was born in

(1) France   (2) Austria
(3) Germany   (4) Poland

Answer (2)

164. Who published "The folklores of southern India?

(1) Rabindra Nath Tagore
(2) Natesa Sastri
(3) Mahatma Gandhi
(4) Pattabhi Srimalu

Answer (2)

165. A tax levied by the church, comprising one tenth of the agricultural produce was

(1) Livre   (2) Taille
(3) Tithe   (4) None of these

Answer (3)

166. What was not the aim of Swaraj Party?

(1) To participate in provincial council election
(2) To oppose British policies within the councils
(3) To demonstrate that councils were not democratic
(4) To make the Act of 1919 successful

Answer (4)

167. Who formed the secret society "young Italy"?

(1) Otto Van Bismarck
(2) General Wan Run
(3) Giuseppe Mazzini
(4) King Victor Emmanual II

Answer (3)

168. The meaning of the symbol "Crown of Oak Leaves" was

(1) Readiness of fight
(2) Heroism
(3) Being freed
(4) Willingness to make peace

Answer (2)

169. Which was achieved by the "Enabling Act of 3 March 1933 in Germany?

(1) Established dictatorship
(2) Hitler was appointed chancellor
(3) Establishment of German workers Party
(4) Establishment of Weimar Republic

Answer (1)

170. Which of following was not related to Gandhi Irwin Pact 1931?

(1) Government agreed to release the Political prisoners.
(2) Gandhi Ji consented to participate in second Round Table Conference
(3) Formation of Simon Commission.
(4) Gandhi Ji called off civil disobedience Movement.

Answer (3)

171. In Swaraj Flag (1921), Self Help was represented by

(1) Flower   (2) Crescent Moon
(3) Two Ox   (4) Spinning wheel

Answer (4)

172. Coffee cultivation was first introduced in

(1) Himalayas   (2) Aravali Hills
(3) Garo Hills   (4) Baba Budan Hills

Answer (*)

173. Which one of the following groups of state have largest number of cotton textile centres?

   (1) Gujarat and Maharashtra

   (2) Karnataka and Tamil Nadu

   (3) Maharashtra and Madhya Pradesh

   (4) Uttar Pradesh and Gujarat

Answer (?)

174. Which of the following describes a system of agriculture where a single crop is grown on a large area?

   (1) Shifting Agriculture

   (2) Plantation Agriculture

   (3) Horticulture

   (4) Intensive Agriculture

Answer (*)

175. Neyveli lignite mines are located in the state of

   (1) Kerala

   (2) Tamil Nadu

   (3) Karnataka

   (4) Andhra Pradesh

176. Which of the following regions is suitable to construct railway lines?

   (1) Himalaya Mountains Range

   (2) Garo, Khasi and Jaintia Hills

   (3) The Northern Plains

   (4) Rajasthan Desert

Answer (3)

177. Hirakund Dam is constructed on the river-

   (1) Ganga   (2) Manjira

   (3) Manas   (4) Mahanandi

Answer (4)

178. When and where was first cement plant set up?

   (1) Chennai, 1905   (2) Chennai, 1904

   (3) Kolkata, 1905   (4) Kolkata, 1904

Answer (2)

179. Who wrote the book "Small is Beautiful"?

   (1) Gandhiji   (2) Brundtland

   (3) Schumacher   (4) Annie Besant

Answer (3)

180. In which city of Haryana is the automobile industry situated?

   (1) Faridabad   (2) Gurgaon

   (3) Punjab   (4) Sonipat

Answer (2)

181. According to the main role industries can be classified into-

   (1) Agro-based and mineral based

   (2) Key and consumer industries

   (3) Public, Private and Joint sector

   (4) Heavy and light industries

Answer (2)

182. Which of the following is not a property of mica?

   (1) Conducting properties

   (2) Excellent di-electric strength

   (3) Low power loss factor

   (4) Resistance to high voltage

Answer (1)

183. Who was chairman of the drafting committee of Indian Constitution assembly?

   (1) Dr. Rajendra Prasad

   (2) Dr. B.R.Verma

   (3) Dr. B.R.Menon

   (4) Dr. B.R.Ambedkar

Answer (4)

184. Amnesty International is an international organisation which work for

   (1) World Peace

   (2) Human Rights

   (3) World Justice

   (4) Restoration of Democracy

Answer (2)

185. The movement that seeks equality in the personal and family life of women is known as-

   (1) Narivadi Andolan

   (2) Nari Sashaktikaran Andolan

   (3) Mahila Shakti Andolan

   (4) Mahila Adikar Andolan

Answer (2)

186. A person who is not a member of Parliament is appointed on minister, he/she has to get elected to one of the house of Parliament within:-

   (1) A month

   (2) Three months

   (3) Six months

   (4) Selected time is fixed by the President

Answer (3)

187. Who become the member of Gram Sabha?

   (1) Only elderly people

   (2) Only elected members of Gram Panchayat

   (3) All the voters of villages

   (4) Only the youth of village

Answer (3)

188. President declare emergency when:-

   (1) Prime Minister advises him to do

   (2) Parliament advises him to declare

   (3) The council of minister, in writing advises him to declare

   (4) Home Minister asks him to declare

Answer (3)

189. In case of conflict between the centre Government and the state Government over subject in the Concurrent list:

   (1) Supreme Court decides which of the two should be considered

   (2) The state government should be obeyed

   (3) The central government should be obeyed

   (4) Both government should be obeyed

Answer (3)

190. What is Mid-Term Election?

   (1) Election for the seat to be vocated due to some reason

   (2) Election in the event of death of one member

   (3) Election to be held in whole country or state before the scheduled time

   (4) Completion of 5 years election

Answer (3)

191. In India seats are reserved for women in which of the following bodies:-

   (1) In Lock Sabha

   (2) In State Legislatures

   (3) In Rajya Sabha

   (4) In Panchayati Raj

Answer (4)

192. Which famous Revolution took place in the world history in 1789

   (1) Russian Revolution

   (2) American Revolution

   (3) German Revolution

   (4) French Revolution

Answer (4)

193. Main Recommendation of Mandal Commission was:

   (1) Reservation for socially and educationally backward classes

   (2) Reservation for schedule caste

   (3) Reservation for schedule Tribes

   (4) Reservation of Minorities

Answer (1)

194. Capital requirement of "NABARD" (National Bank of Agriculture and Rural Development) are met by which of the following institution-

   (1) Reserve Bank of India

   (2) International Development Associations (IDA)

   (3) World Bank

   (4) All of above

Answer (4)

195. Golden Revolution of India is related

   (1) Jewellery Export

   (2) Gold mines

   (3) Honey and Horticulture

   (4) Electronic Goods

Answer (3)

196. Which of the following is not a renewable resource?

(1) Forest

(2) Animals

(3) Water

(4) Petroleum

Answer (4)

197. Which of the following is not related to agriculture marketing?

(1) Storage

(2) Use of chemical fertilizers

(3) Processing

(4) Preservation

Answer (2)

198. When an able person is willingly unemployed while here is opportunity to work is known as

(1) Disguised unemployment

(2) Voluntary unemployment

(3) Seasonal unemployment

(4) Educated unemployment

Answer (2)

199. The production unit producting shoe comes under

(1) Primary sector

(2) Secondary sector

(3) Tertiary sector

(4) None of the above

Answer (2)

200. Which of the following prepares Human Development Report?

(1) Planning Commission of India

(2) International Monetary Fund

(3) World Health Organisation

(4) United Nation Development Programe

Answer (4)

❑   ❑   ❑