Date : 03/11/2019

PUNJAB

Aakash
Medical | IIT-JEE | Foundations
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Answers & Solutions

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	Ⓧ ② 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)

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)

Sol. 16 × 2 + 1 = 33
33 × 2 – 1 = 65
65 × 2 + 1 = 131
131 × 2 – 1 = 261

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

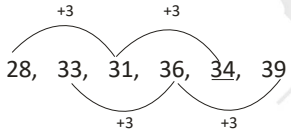
Answer (1)

Sol. 15 + 17 = 32
17 + 32 = 49
32 + 49 = 81
49 + 81 = 130
81 + 130 = 211

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

Answer (4)

Sol.



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

Answer (2)

Sol. $62+2=64 \rightarrow (62\div 2)-1=30$
$30+2=32 \rightarrow (30\div 2)-1=14$
$14+2=16 \rightarrow (14\div 2)-1=6$

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

Answer (3)

Sol. $38+(3\times 8)=62$
$62+(6\times 2)=74$
$74+(7\times 4)=102$
$102+(1\times 0\times 2)=102$

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)

Sol. $15\times 4+3=63$
$22\times 4+3=91$
$23\times 4+3=95$

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)

Sol. $2+8\times 2=18$
$3+9\times 2=21$
$5+7\times 2=19$

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

Answer (2)

Sol. $CGTX \rightarrow C+X=27=G+T$
$BFUY \rightarrow B+Y=27=F+U$
$DKPW \rightarrow D+W=27=K+P$

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

Answer (4)

Sol. $65 \rightarrow 4^3+1$,
$344 \rightarrow 7^3+1$
$730 \rightarrow 9^3+1$

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)

Sol. bbccaa/ccaabb/aabbcc

12. gfe__2g__e22__fe2_ gf_22

(1) e2fg2 (2) 2fg2g

(3) e2g2e (4) 2fg2e

Answer (4)

Sol. gfe22/gfe22/gfe22/gfe22

13. 00__0_1_0_0_1

(1) 10010

(2) 01011

(3) 01100

(4) 00111

Answer (1)

Sol. 001/001/001/001

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)

Sol. $18 \rightarrow 9 \times 2$

$48 \rightarrow 16 \times 3$

$100 \rightarrow 25 \times 4$

$180 \rightarrow 36 \times 5$

15. JOB : JOKE :: ROB: ?

(1) ROBE (2) RODE

(3) ROAL (4) ROSE

Answer (4)

Sol. JOB → JOKE (+1)

ROB → ROSE (+1)

16. Tagore : Poetry :: Picasso : ?

(1) Art (2) Literature

(3) Painting (4) Architecure

Answer (3)

Sol. Tagore → Poet

Picasso → Painter

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)

Sol. $372 - 235 \Rightarrow 137 \times 2 = 274$

$580 - 405 \Rightarrow 175 \times 2 = 350$

$918 - 735 \Rightarrow 183 \times 2 = 366$

18.

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

(1) 68 (2) 36

(3) 54 (4) 72

Answer (4)

Sol. $9^2 + 3^3 \xrightarrow{\text{opposite}} 108$

$7^2 + 4^3 \xrightarrow{\text{opposite}} 113$

$6^2 + 3^3 \xrightarrow{\text{opposite}} 63$

$8^2 + 2^3 \xrightarrow{\text{opposite}} 72$

19.

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

(1) 12 (2) 8

(3) 10 (4) 6

Answer (2)

Sol. $\frac{6 \times 3 \times 6}{12} = 9 (\text{Perfect Square})$

$\frac{10 \times 2 \times 20}{25} = 16 (\text{Perfect Square})$

$\frac{x \times 2 \times 4}{64} = 1 \text{ or } 4 \text{ or } 9 \text{ or } \ldots \Rightarrow x = 8$

20.

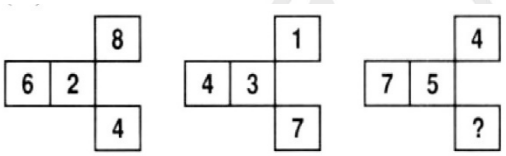
9	17	69
13	12	62
?	13	81

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

Answer (3)

Sol. $(9+17)\times 3-9=69$
$(13+12)\times 3-13=62$
$(x+13)\times 3-x=81\Rightarrow x=21$

21.

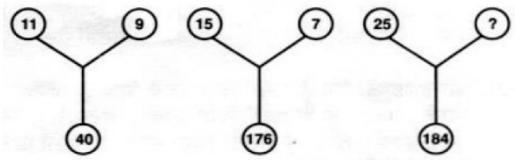


(1) 8 (2) 10
(3) 13 (4) 6

Answer (4)

Sol. $6^2-2^2=8\times 4$
$4^2-3^2=1\times 7$
$7^2-5^2=4\times x$

22.

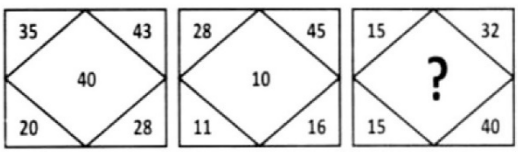


(1) 24
(2) 22
(3) 21
(4) 19

Answer (3)

Sol. $(25)^2-x^2=184\Rightarrow x^2=441\Rightarrow x=21$

23.



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

Answer (1)

Sol. $(35+20+28)-43=40$
$(28+11+16)-45=10$
$(15+15+40)-32=38$

24. If Physics = 106
Then Biology = ?

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

Answer (2)

Sol. $P+H+Y+S+I+C+S\Rightarrow 99+7$ Letter $=106$
$B+I+O+L+O+G+Y\Rightarrow 85+7$ Letter $=92$

25. If Blue = 160
Then Book = ?

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

Answer (4)

Sol. $B+L+U+E\Rightarrow 40\times 4=160$
$B+O+O+K\Rightarrow 43\times 4=172$

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)

Sol. 10 + 4 = 15 – 1

27. 24 * 34 * 2 * 5 * 12

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

Answer (2)

Sol. 24 = 34 ÷ 2 – 5 + 12

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)

Sol. R, P, U and T are cousin brother and sisters

29. How many male players are there?

(1) One (2) Two

(3) Three (4) Five

Answer (3)

Sol. There are three male players.

30. How many female players are there?

(1) Four (2) Three

(3) Two (4) One

Answer (2)

Sol. There are two female players.

31. How is Q related to P?

(1) Sister (2) Uncle

(3) Niece (4) Cousin

Answer (1)

Sol. Sister

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)

Sol. Code for F is a.

34. Find the code for 'P'

(1) d (2) k

(3) s (4) c

Answer (1)

Sol. Code for P is d.

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 preseded 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)

Sol. Code for P is d.

40. Find the word which can be formed from the letters of the word 'ENVIRONMENT'.

(1) ENVY

(2) ENTERTAIN

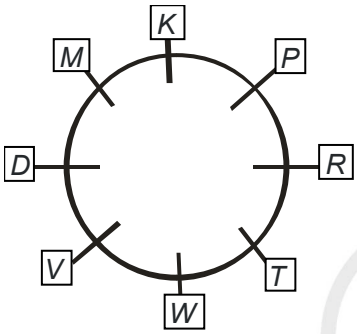
(3) ENTRANCE

(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)

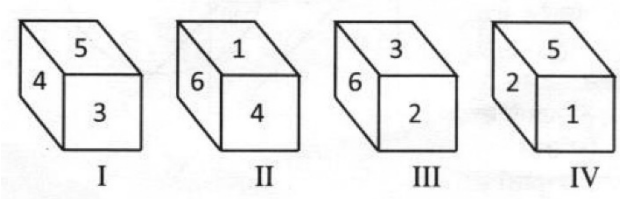
43. Who is third to right of V
    (1) P (2) R
    (3) K (4) T

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)

Sol. The position of the child is given by
$25 - 17 + 1 = 9^{th}$ position

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)

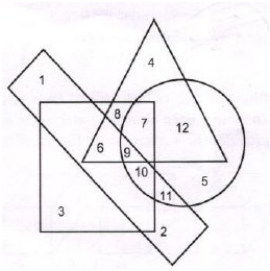
49. Anju walks 15 metres toward north, then she turns left at 90° and walks 30 metres, then turns right at 90° and walks 25 metres. How far is she from the starting point and is in which direction
    (1) 50 metres, north-west
    (2) 50 metres, west
    (3) 55 metres, north-east
    (4) 60 metre, north

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)

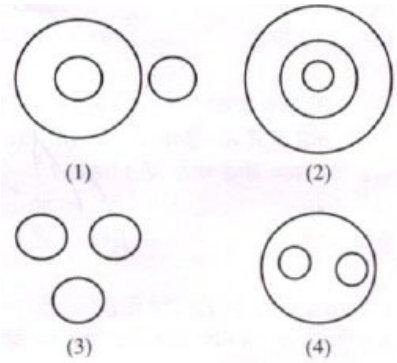
54. Non-graduates insurance agents who are not hard working and who do not belong to rural areas are represented by the region

(1) 6 (2) 5

(3) 8 (4) 11

Answer (2)

Direction (Q.55 to Q.57) : Which of the following diagrams correctly represents the relation between given three items



55. Universe, Earth, Europe

Answer (2)

56. Door, Window, House

Answer (4)

57. Radio, T.V, Cinema Halls

Answer (3)

Directions (Q.58 & Q.59) : Arrange the words as they occur in the dictionary and choose the correct sequence.

58. (I) Select (II) Seldom

(III) Send (IV) Selfish

(V) Seller

(1) II, V, IV, I, III (2) II, I, V, IV, III

(3) I, II, IV, V, III (4) II, I, IV, V, III

Answer (4)

59. (I) Continuation (II) Contention

(III) Contain (IV) Continuous

(V) Count

(1) III,II,I,IV,V (2) III,II,IV,I,V

(3) III,II,IV,V,I (4) III,I,II,IV,VS

Answer (1)

Directions (Q.60 & Q.61) : If > denotes +, < denotes – , + denotes ÷, ^ denotes x, – denotes =, x denotes >, = denotes <. Choose the correct statement in each of following question.

60. (1) 14 > 18 + 9 = 16 + 4 < 1

(2) 3 < 6 ^ 4 > 25 = 8 + 4 > 1

(3) 12 > 9 + 3 < 6 × 25 + 5 > 6

(4) 4 > 3 ^ 8 < 1 – 6 + 2 > 24

Answer (4)

Sol. 4 > 3 ^ 8 < 1 – 6 + 2 > 24

4 + 3 × 8 – 1 = 6 ÷ 2 + 24

27 = 27

61. (1) 7^7>7+7=7^7>1 (2) 7>7<7+7=14

(3) 7<7+7=6 (4) 7+7>7=8

Answer (2)

Sol. 7 > 7 < 7 + 7 = 14

7 + 7 – 7 ÷ 7 < 14

14 – 1 < 14

13 < 14

62. A father is three times as old as his son. Five years ago he was four times as old as his son. Find the present age of the son.

(1) 17 years (2) 15 years

(3) 12 years (4) 19 years

Answer (2)

Sol. Father's age = $3x \rightarrow 3x - 5$

Son's age = $x \rightarrow x - 5$

A.T.Q

$3x - 5 = 4(x - 5)$

$3x - 5 = 4x - 20$

$x = 15$

63. An ice compartment of a refrigerator is 6 cm wide and 8 cm deep (long) and 5 cm high. The number of cubes of ice having an edge of 2 cm will there be in the compartment

(1) 80 (2) 30

(3) 24 (4) 20

Answer (2)

Sol. No. of ice cubes = $\frac{\text{Volume of compartment}}{\text{Volume of 1 ice cube}}$

$= \frac{6 \times 8 \times 5}{2 \times 2 \times 2}$

$= 30$

64. What is the least number of coins required to make one rupee from different coins of 1, 5, 10 and 25 paise, so that you have at least one coin of each type

(1) 11 (2) 12

(3) 7 (4) 4

Answer (1)

Sol. $x + 5y + 10z + 25k = 100$

Let x no of 1 paise coin

y no of 6 paise coin

z no. of 10 paise coin

k no. of 25 paise coin

So minimum no. of 11 coins is required

$x = 5,\ y = 2,\ z = 1,\ k = 3$

65. If STATION MASTERS MIND THE TRAIN" = 98 Then "SCHOOL MASTERS TRAIN THE MIND" =?

(1) 96 (2) 85

(3) 99 (4) 72

Answer (4)

Sol. STATION = 98

19+20+1+20+9+15+14

SCHOOL = 72

19+3+8+15+15+12

66. At what time between 4 and 5 O'clock will the minute hand and hour hand of a clock be in opposite direction

(1) 40 minutes past 4 (2) $54\frac{6}{11}$ minutes past 4

(3) 42 minutes past 5 (4) $54\frac{4}{11}$ minutes past 5

Answer (2)

Sol. $\frac{11}{2}M - 30H = 180°$

H = 4

$\frac{11}{2}M - 120 = 180$

$\frac{11}{2}M = 300$

$M = \frac{600}{11} = 54\frac{6}{11}\text{min}$

$54\frac{6}{11}$ minutes past 4

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)

Sol. $\frac{65\frac{5}{11} - 65}{65} \times 24 \times 60$

$= \frac{5}{11 \times 65} \times 24 \times 60 = \frac{1440}{143} = 10\frac{10}{143}$

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)

Sol. April – 30 days – 2 odd

May – 31 days – 3 odd

June – 30 days - $\frac{\text{2 odd}}{\text{7 odd days}}$

July has same day of the week as the corresponding day of April

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)

Sol. 1900 $\underset{+19}{\underset{98}{79}}$ J F M A M J J A
1 3 1 3 2 3 2 3 2

6 odd days

Saturday on 2nd Aug

5th Aug 1980 will be Tuesday.

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)

Sol. Teena income = $x+\frac{25}{100}x=\frac{5x}{4}$

Meena's income = x

$$=\frac{\frac{5x}{4}-x}{\frac{5x}{4}}\times 100=\frac{\frac{x}{4}}{\frac{5x}{4}}\times 100=\frac{1}{5}\times 100=20\%$$

71. Find correct conclusion from statement

Statements : (I) Mohit is an artist

(II) Artists are beautiful

Conclusions

(1) Mohit is not beautiful.

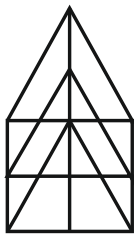
(2) All beautiful Persons are artists.

(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

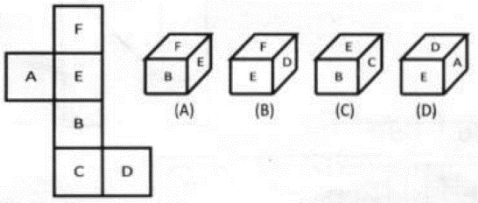
(3) 19, 17 (4) 21, 15

Answer (1)

Sol. No. of Δ's = 21

No. of parallelograms = 17

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)

Sol. F $\rightarrow$ B, E$\rightarrow$C, A$\rightarrow$D

B only is correct

74. Find the Mirror Image of figure.

(1) PLƎDGE

(2) ЬLƎDGE

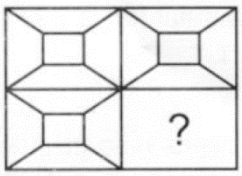
(3) ЬLEDGE

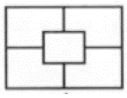
(4) ЬLƎDϽE

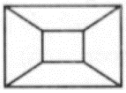
Answer (3)

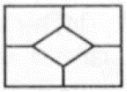
Sol. PLEDGE
ЬLEDGE

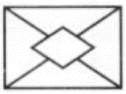
Directions (Q.75 to Q.77) : find the correct alternative from the Answer figures to complete the question figures

75. 

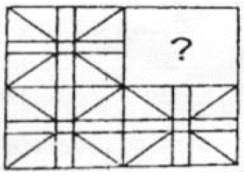
(1) 

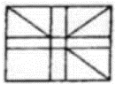
(2) 

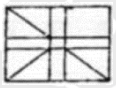
(3) 

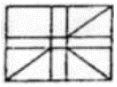
(4) 

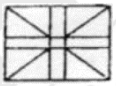
Answer (2)

76. 

(1) 

(2) 

(3) 

(4) 

Answer (4)

77. 

(1) 

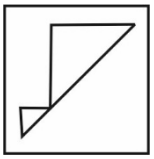
(2) 

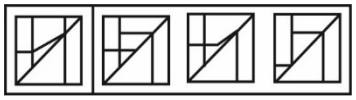
(3) 

(4) 

Answer (4)

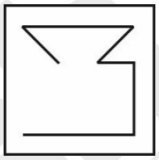
Directions (Q.78 to 80) : The question figure is embedded in one of the Answer figure. Find the alternative in which it is embeded.

78. 



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

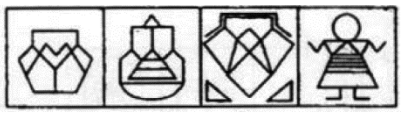
Answer (4)

79. 

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

Answer (1)

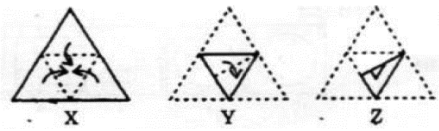
80. 

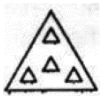


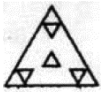
(1) (2) (3) (4)

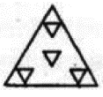
Answer (4)

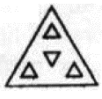
Direction (Q.81 to Q.83) : Paper is folded as shown with the dotted lines in 'X' & 'Y' and the last figure 'Z' has been cut. How would the paper look like when unfolded?

81. 

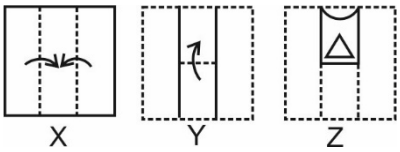
(1) 

(2) 

(3) 

(4) 

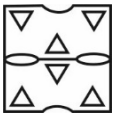
Answer (4)

82. 

(1) 

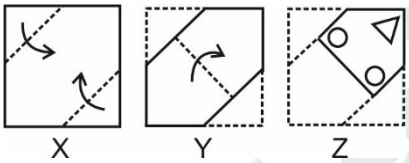
(2) 

(3) 

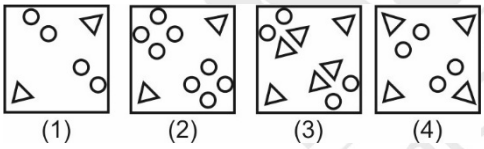
(4) 

Answer (3)

83. Question Figure



Answer Figure

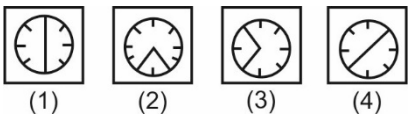


Answer (2)

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

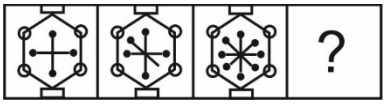
84. Question Figures

Answer Figure

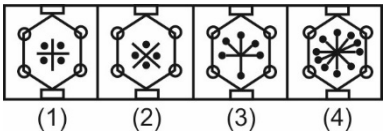


Answer (2)

85. Question Figure

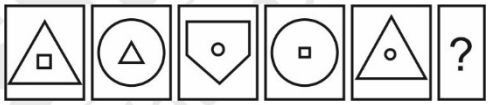


Answer Figures

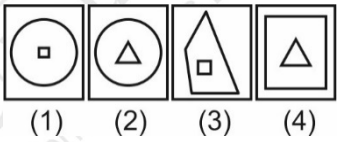


Answer (4)

86. Question Figure



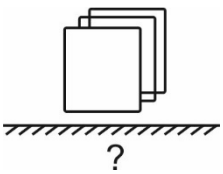
Answer Figures

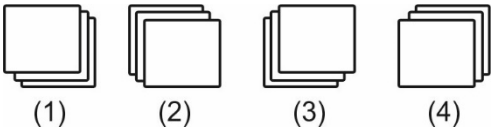


Answer (4)

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

87. Question Figure

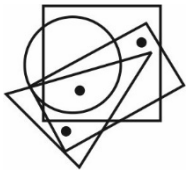




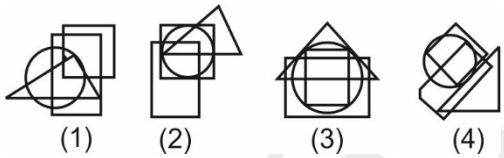
Answer (4)

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

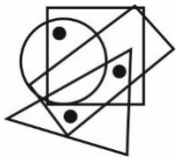


Answer Figures

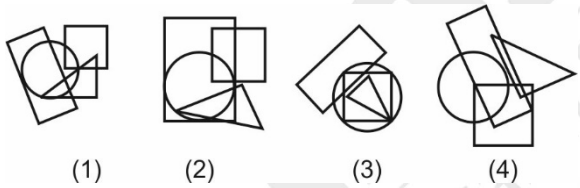


Answer (1)

89. Question Figure

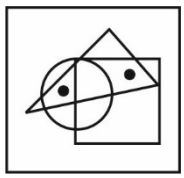


Answer Figures

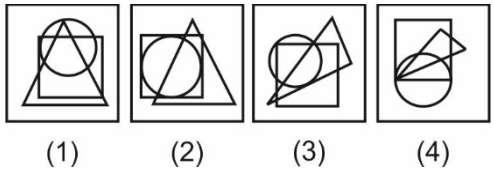


Answer (4)

90. Question Figure



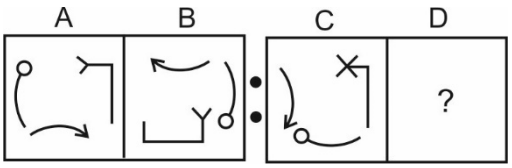
Answer Figures



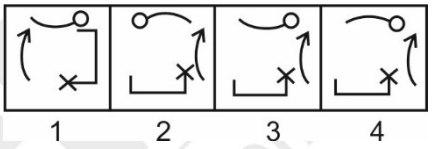
Answer (1)

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

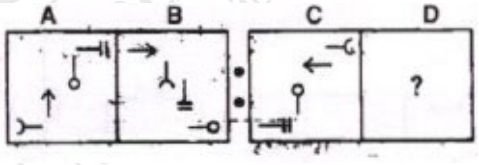


Answer Figures

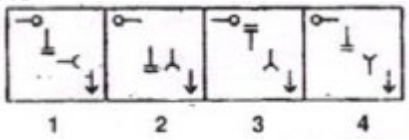


Answer (4)

92. Question Figure

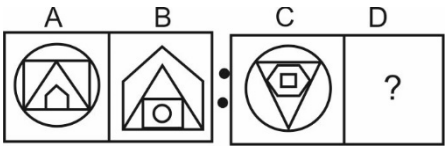


Answer Figures

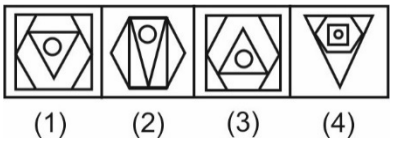


Answer (3)

93. Question Figures



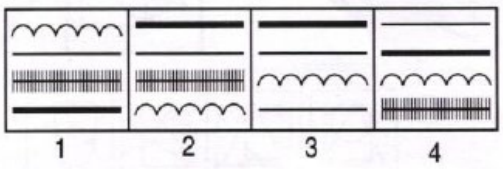
Answer Figures



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.

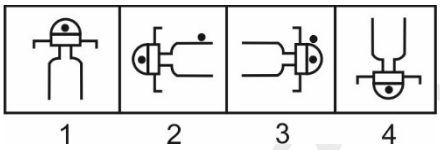


(1) 1 (2) 2

(3) 3 (4) 4

Answer (3)

95.



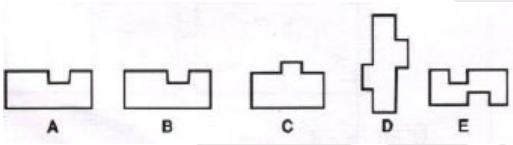
(1) 1 (2) 2

(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

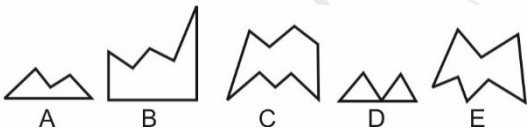
(2) A, C, D

(3) B, D, E

(4) B, C, E

Answer (1)

97.



(1) A, B, D

(2) B, C, D

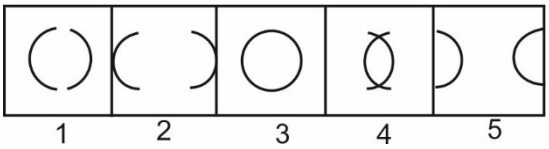
(3) A, B, C

(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

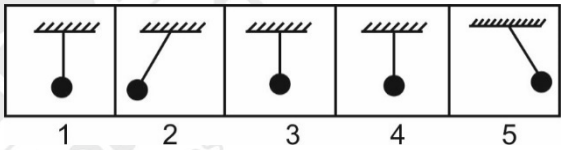
(2) 2, 3

(3) 1, 2

(4) 2, 4

Answer (3)

99.



(1) 4, 5

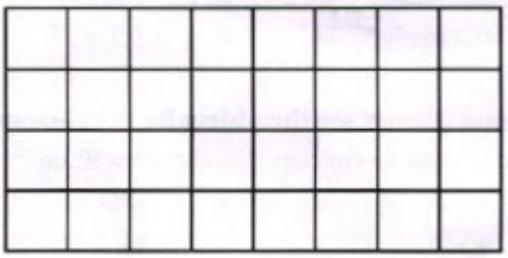
(2) 1, 2

(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

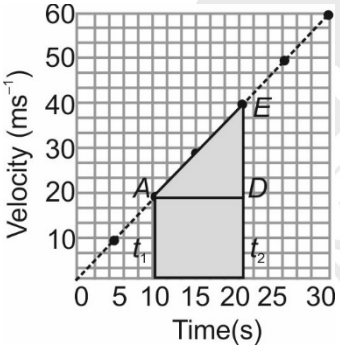
Answer (2)

103. A force of 40 N acts on a body, and body moves through a distance of 2 metre at an angle of 45° in the direction of the force. The work done by the force is
(1) $\frac{40}{\sqrt{2}}$ J (2) $\frac{20}{\sqrt{2}}$ J
(3) $\frac{80}{\sqrt{2}}$ J (4) $\frac{40}{\sqrt{2}}$ J

Answer (3)

Sol. $\omega = F \times d \times \cos\theta$

104.



In the above graph what is the value of acceleration?
(1) 360 ms^{-2} (2) 180 ms^{-2}
(3) 0.9 ms^{-2} (4) 1.8 ms^{-2}

Answer (4)

Sol. $a = \frac{\Delta v}{\Delta t}$

$a = \frac{36-18}{10}$

$a = 1.8\ m/s^2$

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)

Sol. $\frac{1}{f} = -\frac{1}{\text{Far point}}$

$\frac{1}{f} = -\frac{1}{50}$

$P = \frac{100}{f} = -2D$

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)

Sol. $v = fd$ ....(i)

$\Rightarrow v' = 3f \times d'$ ....(ii)

$\Rightarrow$ Velocity of wave in same medium is equal, so $v = v'$

$\Rightarrow \lambda' = \frac{\lambda}{3}$

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)

Sol. By left-hand Fleming rule

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)

Sol. $f \propto \frac{1}{r^2}$

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

(1) $-1.5\ ms^{-1}$ (2) $+1.5\ ms^{-1}$

(3) $-3.0\ ms^{-1}$ (4) $0\ ms^{-1}$

Answer (1)

Sol. $V_G = \frac{m_b V_b}{m_G}$

$V_G = \frac{\frac{20}{1000} \times 150}{2}$

V_G = 1.5 m/s

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)

Sol. u = 5 cm

f = 1.5 cm

$\frac{1}{v} + \frac{1}{u} = \frac{1}{f}$

$\Rightarrow \frac{1}{v} = \frac{1}{1.5} + \frac{1}{5}$

V = +1.15 cm, virtual, erect

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

(1) 6×10^{18} Electrons (2) 18×10^{18} Electrons

(3) 6×10^{20} Electrons (4) 18×10^{20} Electrons

Answer (4)

Sol. $i = \frac{ne}{t}$

$n = \frac{0.5 \times 10 \times 60}{1.6 \times 10^{-19}}$

$n = 18 \times 10^{20}$

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)

Sol. $n \propto \frac{1}{V}$

$\left[\text{Refrective index} \propto \frac{1}{\text{velocity of light in medium}}\right]$

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)

Sol. Order of size will be: -

Mg > Al & $Mg^{2+} > Al^{3+}$

Mg > Al > Mg^{2+} > Al^{3+}

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

1. The elements in the Modern periodic table are arranged on the basis of their decreasing atomic number
2. The elements in the Modern periodic table are arranged on the basis of increasing atomic masses
3. Isotopes are arranged in adjoining or different groups in the Modern periodic table
4. 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)

Sol. Only statement 4 is correct

116. In Alumino-Thermite process aluminium is used as

(1) Oxidising agent (2) Ore

(3) Reducing agent (4) Catalyst

Answer (3)

Sol. $Al + Fe_2O_3 \rightarrow Al_2O_3 + Fe$

Al is getting oxidised, therefore it is the Reducing agent

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)

Sol. 18 moles of water will have

$= 18 \times N_A$ molecules

$= 18 \times 6.022 \times 1023$ molecules

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

$4M + 3O_2 \rightarrow 2M_2O_3$

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)

Sol. $4M + 3O_2 \rightarrow 2M_2O_3$

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

$PbS + 4H_2O_2 \rightarrow PbSO_4 + 4H_2O$

(1) PbS - Oxidant

H_2O_2 - Reductant

(2) PbS - Reductant

$PbSO_4$ - Oxidant

(3) PbS - Reductant

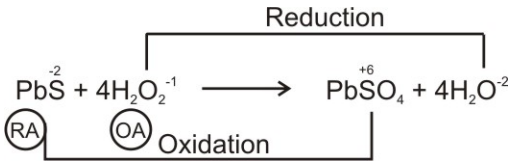
H_2O_2 - Oxidant

(4) H_2O_2 - Oxidant

H_2O - Reductant

Answer (3)

Sol.



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)

Sol. $4Ag + O_2 + H_2S \rightarrow 2Ag_2S + 2H_2O$

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)

Sol. 40 g of NaOH = 1 mole

160 g of NaOH = $\frac{1}{40} \times 160 = 4$ moles

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

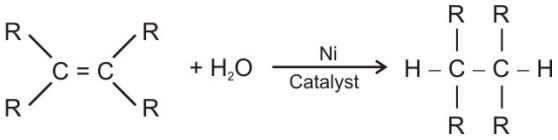
(2) Decomposition reaction

(3) Addition reaction

(4) Double displacement reaction

Answer (3)

Sol.



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

(1) Calcium (2) Sulphur

(3) Oxygen (4) Magnesium

Answer (2)

Sol. S = 2, 8, 6

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)

Sol. $\underbrace{C_{17}H_{35}}_{\text{hydrophobic tail}}$ $\underbrace{COO^-Na^+}_{\text{Hydrophilic head}}$

125. pH is defined as

(1) $-\log[H_3O^+]$

(2) $-\log[H_2O]$

(3) $+\log[H^+][OH^-]$

(4) $-\log[H^+][OH^-]$

Answer (1)

Sol. pH = - log[H⁺]

pH = - log[H₃O⁺]

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

(1) Argon (2) Nitrogen

(3) Oxygen (4) Carbon dioxide

Answer (2)

Sol. BP of N_2 = -196°C

127. Which of the following is a plant harmone?

(1) Insulin (2) Thyroxine

(3) Estrogen (4) Cytokinin

Answer (4)

Sol. Cytokinin is a plant hormone.

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)

Sol. Unfertilized egg is viable for one day after that it degenerates if it doesn't gets sperm

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)

Sol. Muscular tissue helps in locomotion and movement of the body.

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)

Sol.

- Trypsin is secreted by pancreas which acts upon proteins for digestion.
- Saliva contains enzyme salivary amylase for the breakdown of starch.
- Liver contains Bile Juice, which is responsible for emulsification of fats
- Pepsin is secreted by gastric glands for the digestion of proteins.

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)

Sol. ATP is released during respiration and it is synthesised in light reaction of photosynthesis in plants.

133. Muscles contain special proteins called _____

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

Answer (1)

Sol. Muscles contain special protein called contractile proteins, that helps to regulate the process of contraction.

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)

Sol. Bryophytes and pteridophytes are seedless so embryo is naked.

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)

Sol. Haemoglobin is present in Red Blood cells. It helps in transportation of respiratory gases.

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)

Sol. Recessive characters are expressed in F_2 generations because in hybrid F, they are suppressed due to presence of dominant cells.

137. Which of the following statements is correct

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

Answer (4)

Sol. Membrane bound organelles are present in eukaryotes only such as Mitochondria, ER – in prokaryotes, membraneless nucleus called nucleoid is present.

138. Pineal gland is located

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

Answer (2)

Sol. Pineal gland is located in the Brain. It acts as endocrine gland and secretes melatonin hormone which regulates sleep-wake cycle.

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

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

Answer (1)

Sol. Largest blood vessel is Arota. It distributes oxygenated blood to the entire body parts.

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

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

Answer (3)

Sol. Raw materials for photosynthesis are CO_2, H_2O, sunlight and photosynthetic pigments.

Oxygen is released as by-product

$$6CO_2+12H_2O \xrightarrow[\text{Pigments}]{\text{Sunlight}} C_6H_{12}O_6 + 6O_2 + 6H_2O$$

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)

Sol. Parallel lines

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)

Sol. $(x+y-a)^2+(y-x-b)^2=(x-y-a)^2+(x+y-b)^2$
$\Rightarrow (2x+2y-a-b)(-a+b)=(-a-b)(2x-2y-a+b)$
$\Rightarrow ay = bx$

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)

Sol. $(2x)^2 + 2(x+7)^2 = (26)^2$

$x = 5, -12$

Distance Saved = 34 – 26 = 8 km

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

(1) 35º (2) 25º

(3) 50º (4) 55º

Answer (1)

Sol. $A + B + C + D = 360°$

$A - C - D = 10°$

$C - D = 60°$

$B = 90°$

On Solving D = 35°

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)

Sol. $x^2 - 84 = 3(8 + x)$

$x = 12$

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)

Sol. Let a, $a + d$, $a + 2d$, $a + 3d$, $a + 4d$, $a + 5d$, $a + 6d$ and $a + 7d$ are 8 terms in AP

A. T. Q,

$(4a + 6d) = \frac{1}{3}(4a + 22d)$

$\Rightarrow d = 2$

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

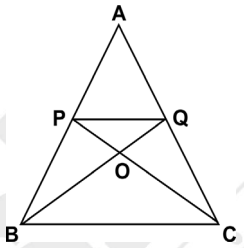
Answer (1)

Sol. $\frac{56x + 50y}{x + y} = 52$

$x : y = 1 : 2$

Where x is number of boys and y is number of girls.

148. In figure $PQ \| BC$, AP : PB = 4 : 3. Find the ratio of areas of ΔBOC and ΔPOQ



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

(3) 49 : 16 (4) 16 : 49

Answer (3)

Sol. $\Delta BOC \sim \Delta POQ$

$\frac{Ar(BOC)}{Ar(POQ)} = \left(\frac{BC}{PQ}\right)^2 = \left(\frac{7}{4}\right)^2 = \frac{49}{16}$

149. In ΔABC, $\angle C$ = 90º and tan A = 1. Find the value of 2sin$A$ Cos$A$

(1) $\sqrt{2}$ (2) 1/2

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

Answer (3)

$\tan A = 1 = \frac{BC}{AC}$

Sol. $\Rightarrow BC = AC$

$\Rightarrow \angle A = \angle B = 45°$

so, $2\sin A \cos A = \sin 2A = \sin 90° = 1$

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)

Sol. $x = 3.\overline{27} = 3.27\ 27\ 27$..... (1)

$100x = 327.\ 27\ 27\ 27$.....$= 327.\ \overline{27}$ -(2)

By subtracting equation (1) from equation (2)

$$\begin{array}{rcl} 100x & = & 327.\overline{27} \\ -x & = & -3.27 \\ \hline 99x & = & 327.00 \end{array}$$ s

$x = 36/11$ Clearly 'x' is a rational no.

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

(1) 1600 (2) 420

(3) 400 (4) 210

Answer (3)

Sol. Odd Natural numbers b/w 0 to 40 are

1,3,5,7,_ _ _ _ _ ,39 This is an A.P

Sum = $\frac{n}{2}[2a + (n-1)d]$, Where, $n = 20$, $a = 1$, $d = 2$

Sum = $\frac{20}{2}[2 \times 1 + 19 \times 2] = 400$

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)

Sol. Relation b/w mean, mode, and median is

Mode = 3 median - 2 means

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)

Sol. Circle perimeter = $2\pi r$ = 4a (Square perimeter)

$A = a = \frac{\pi r}{2}$

Ratio of area = $\frac{\pi r^2}{a^2} = \frac{\pi r^2 \times 4}{\pi^2 r^2}$

$\frac{4}{\pi} = \frac{4 \times 7}{22} = \frac{14}{11}$

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

(1) 64 (2) 128

(3) 16 (4) 4

Answer (1)

Sol. Let the number be 'N'

$\sqrt{N} = 2(N)^{\frac{1}{3}}$

$\left(\sqrt{N}\right)^6 = 2^6 (N)^{\frac{6}{3}}$

$N^3 = 2^6 N^2$

$N = 2^6 = 64$

156. Fill in the blank

49, 343, 64, _____, 81, 729

(1) 1024 (2) 512

(3) 778 (4) 182

Answer (2)

Sol. 49, 343, 64, ____, 81, 729

$7^2, 7^3, 8^2,$ _____,$9^2, 9^3$

$7^2, 7^3, 8^2, 8^3, 9^2, 9^3$

$8^3 = 512$

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)

Sol. Let total correct questions attempted = x

Let total correct wrong questions attempted = y

$x + y = 60$ and $4x - y = 130$

from these two-equation $x = 38$, $y = 22$

Number of questions attempted correct = 38

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)

Sol. Let total number be 'N' = ab

Given $a + b = 11$ ...(1)

$10a + b + 27 = 10b + a$

$9a - 9b + 27 = 0$, $a - b + 3 = 0$ ...(2)

From (1) and (2), $a = 4$, $b = 7$

$N = 47$

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)

Sol. $\sqrt{2048} = \sqrt{2^x}$

$\left(2^{11}\right)^{\frac{1}{2}} = \left(2^x\right)^{\frac{1}{2}}$

$2^{\frac{11}{2}} = 2^{\frac{x}{2}}$

$\frac{x}{2} = \frac{11}{2}$

$x = 11$

$\sqrt{2187} = \sqrt{3^y}$

$\left(3^7\right)^{\frac{1}{2}} = \left(3^y\right)^{\frac{1}{2}}$

$\frac{7}{x} = \frac{y}{x}$

$y = 7$

$\sqrt{3125} = \sqrt{5^z}$

$\left(5^5\right)^{\frac{1}{2}} = \left(5^z\right)^{\frac{1}{2}}$

$5^{\frac{5}{2}} = 5^{\frac{7}{2}}$

$\frac{5}{2} = \frac{7}{2}$

$z = 5$

$x + y - z = (11 + 7) - 5 = 13$

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)

Sol. $\frac{3x+4y-3}{7} = \frac{-3x+4y-7}{9}$

$27x + 36y - 27 = -21x + 28y - 49$

$48x + 8y = -22 = 24x + 4y = -11$

$y = \frac{-24x-11}{4}$

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 19th 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 Rajya Sabha-9 (2) Lok Sabha-13 Rajya Sabha-7
(3) Lok Sabha-9 Rajya Sabha-7 (4) Lok Sabha-12 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)

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