

NATIONAL TALENT SEARCH EXAMINATION (FIRST LEVEL) 2019

410 – A

MENTAL ABILITY TEST

(For Students of Class X)

Date : 04/11/2018

Time : 120 Minutes

Max. Marks : 100

(For Blind Candidates Time : 2 Hours 30 Minutes)

INSTRUCTIONS TO CANDIDATES

Read the following instructions carefully before you open question booklet.

1. Answers are to be given on a **separate answer sheet (OMR sheet.)**
2. Please write your **Roll Number** as allotted to you in the admission card very clearly on **the test-booklet** and darken the appropriate circles on the **answer sheet** as per instructions given.
3. There are 100 questions in this test. All are compulsory.
4. Please follow the instructions given on the answer sheet for marking the answers.
5. If you do not know the answer to any question, do not waste time on it and pass on to the next one. Time permitting, you can come back to the questions, which you have left in the first instance and attempt them.
6. Since the time allotted for this question paper is very limited, you should make the best use of it by not spending too much time on any one question.
7. **Rough work** can be done **on the given Blank Pages at the back of the booklet** but not on the answer sheet/loose paper.
8. Every correct answer will be awarded one mark. There will be no negative marking.
9. **Please return the Answer sheet (OMR) only to the invigilator after the test.**
10. Hindi version of the question paper will be considered as final in case of any dispute arising out of variation in translated version.



Piprali Road, Sikar

Phone : 01572-241911, 242911 Mob. No. : 97832-62999

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Direction (1 – 8) : In each of the questions 1 to 8 a letter series is given with one term missing shown by question mark (?). This term is one of four alternatives given under it. Find the right alternative.

1. A, D, I, ?, Y.

- (1) R (2) P (3) N (4) T

Ans. (2)

Sol. A, D, I, P, Y
1, 4, 9, 16, 25

So, option (2) is the correct answer.

2. YX, UT, QP, ML, ?

- (1) HI (2) JI (3) HG (4) IH

Ans. (4)

Sol.
YX, UT, QP, ML, IH

Hence, option (4) is correct.

3. ACF, GIL, ?, SUX.

- (1) NPS (2) MOR (3) MNQ (4) MOQ

Ans. (2)

Sol.
A C F, G I L, M O R, S U X

Hence, option (2) is correct.

4. YB, WD, UF, ?, QJ

- (1) SH (2) TI (3) RH (4) HS

Ans. (1)

Sol.
Y B, WD, UF, SH, QJ

Hence, option (1) is correct.

5. ABC, EFG, IJK, ?, UVW

- (1) MNO (2) PQR (3) OPQ (4) QRS

Ans. (3)

Sol.
A B C, E F G, I J K, O P Q, U V W

All terms are starting with vowel.

Hence, option (3) is correct.

6. ABCD, BDFH, CFIL, ?, EJOT.

- (1) DGKO (2) DHMQ (3) DHLP (4) DIKP

Ans. (3)

Sol.
A B C D, B D F H, C F I L, D H L P, E J O T

Hence, option (3) is correct.

7. D, H, L, P, T, ?

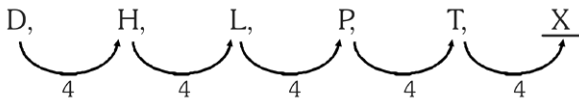
(1) W

(2) X

(3) Y

(4) U

Ans. (2)

Sol. 

Hence, option (2) is correct.

8. ZYAB, VUEF, RQIJ, ?, JIQR

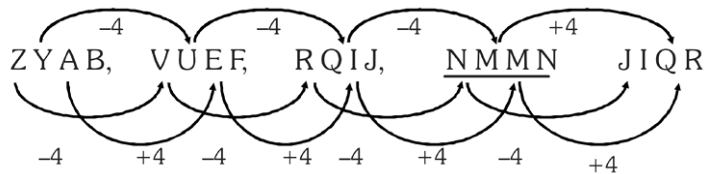
(1) NMMN

(2) MNMN

(3) MNNM

(4) NMMN

Ans. (4)

Sol. 

Hence, option (4) is correct.

Direction (9 – 16) : In each of the Questions Nos.9 to 16 a number series is given with one term missing shown by question mark (?). This term is one of the four alternatives given under it. Find the correct alternative.

9. 1, 2, 6, 15, ?, 56.

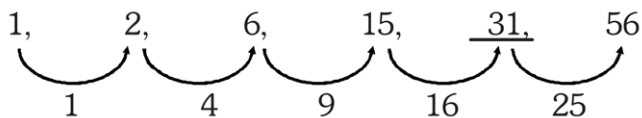
(1) 31

(2) 40

(3) 37

(4) 45

Ans. (1)

Sol. 

Hence, option (1) is correct.

10. 100, 50, $33\frac{1}{3}$, 25, 20, ?

(1) 15

(2) $16\frac{1}{3}$

(3) $17\frac{2}{3}$

(4) $16\frac{2}{3}$

Ans. (4)

Sol. 100, 50, $33\frac{1}{3}$, 25, 20, $\frac{50}{3} = 16\frac{2}{3}$

$\frac{100}{1}, \frac{100}{2}, \frac{100}{3}, \frac{100}{4}, \frac{100}{5}, \frac{100}{6}$

Hence, option (4) is correct.

11. 17, 16, 8, ?, -83.

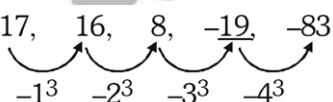
(1) -1

(2) -8

(3) -19

(4) -26

Ans. (3)

Sol. 

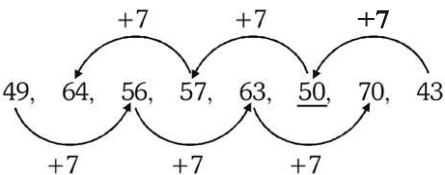
Hence, option (3) is correct.

12. 6, 24, 60, 120, ?
 (1) 180 (2) 195 (3) 210 (4) 225

Ans. (3)

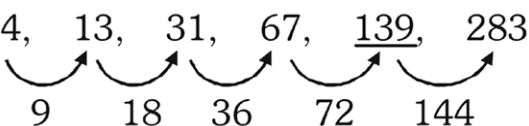
Sol. 6, 24, 60, 120, 210
 $2^3 - 2, 3^3 - 3, 4^3 - 4, 5^3 - 5, 6^3 - 6$
 Hence, option (3) is correct.

13. 49, 64, 56, 57, 63, ?, 70, 43
 (1) 64 (2) 50 (3) 52 (4) 67
 Ans. (2)

Sol. 

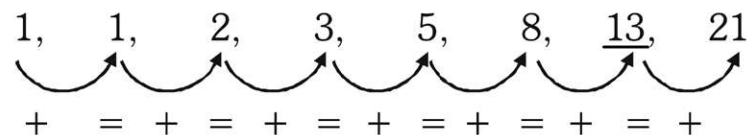
Hence, option (2) is correct.

14. 4, 13, 31, 67, ?, 283.
 (1) 139 (2) 103 (3) 121 (4) 169
 Ans. (1)

Sol. 

Hence, option (1) is correct.

15. 1, 1, 2, 3, 5, 8, ?, 21.
 (1) 11 (2) 12 (3) 13 (4) 14
 Ans. (3)

Sol. 

So, $5 + 8 = 13$

Hence, option (3) is correct.

16. 3, 24, 81, ?, 375, 648.
 (1) 128 (2) 256 (3) 169 (4) 192
 Ans. (4)

Sol. 3, 24, 81, 192, 375, 648
 $3 \times 1, 3 \times 8, 3 \times 27, 3 \times 64, 3 \times 125, 3 \times 216$
 Hence, option (4) is correct.

Direction (17 – 19) : Have two statements and two conclusions I and II. You have to assume the given statements as true even if it seems to vary to commonly known facts. Read all the conclusions carefully and decide which of the given conclusions logically follow(s) from the two given statements even disregarding commonly known facts.

17. **Statements :**

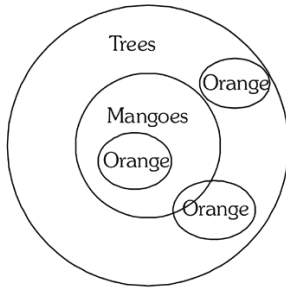
- (i) All mangoes are trees.
 (ii) All oranges are trees

Conclusions :

- (i) Some mangoes are oranges.
 (ii) All oranges are mangoes.
 (1) Only conclusion I follows (2) Only conclusion II follows
 (3) Both conclusion I and II follow (4) Neither conclusion I nor II follows

Ans. (4)

Sol.



Hence, option (4) is correct.

18. **Statements :**

- (i) Earth is smaller than Moon.
- (ii) Moon is bigger than Sun.

Conclusions :

- (i) Sun is bigger than Earth.
- (ii) Earth and Sun are equal.

- (1) Only conclusion I follows
- (3) Both conclusion I and II follow

- (2) Only conclusion II follows
- (4) Neither conclusion I nor II follows

Ans. (4)

Sol. Moon > Earth

Moon > Sun

But who is bigger in Earth and Sun is not determined.

19. **Statements :**

- (i) Some houses are vehicles.
- (ii) Some vehicles are schools.

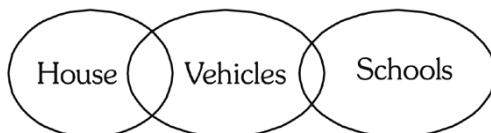
Conclusions :

- (i) Some houses are schools.
- (ii) Some schools are houses.

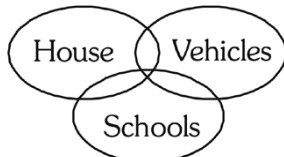
- (1) Only conclusion I follows
- (3) Both conclusion I and II follow

- (2) Only conclusion II follows
- (4) Neither conclusion I nor II follows

Ans. (4)

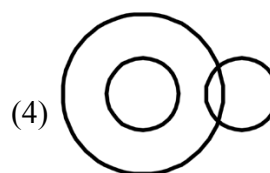
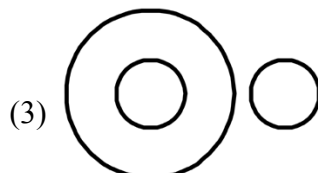
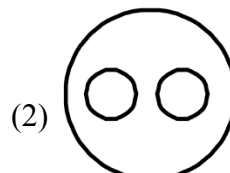
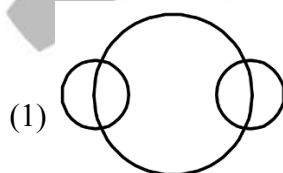


Sol.



Hence, option (4) is correct.

20. Which of the following Venn diagrams correctly represents France, Europe and Canada ?

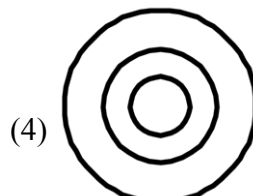
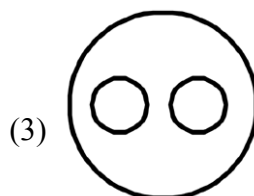
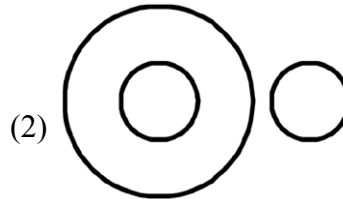
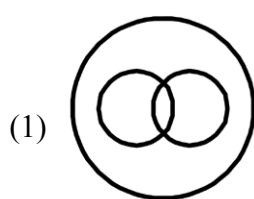


Ans. (3)

Sol. France is in Europe and Canada is in North America.

So, option (3) is correct.

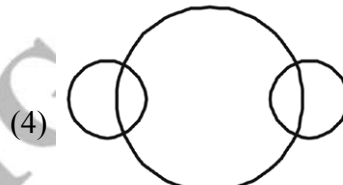
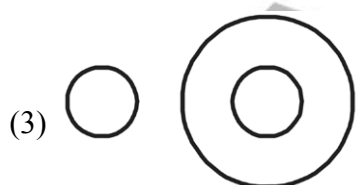
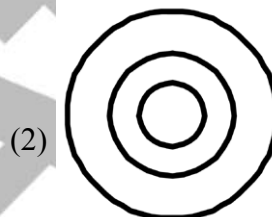
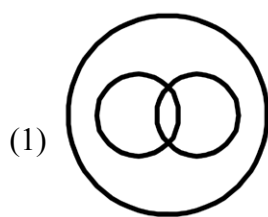
21. Which of the following Venn diagrams correctly represents House, Kitchen and Bathroom ?



Ans. (3)

Sol. House has Kitchen as well as Bathroom.

22. Which of the following Venn diagrams correctly represents Uttar Pradesh, Agra and Taj Mahal ?



Ans. (2)

Sol. Agra is in Uttar Pradesh and Taj Mahal is in Agra

23. If '<' means '-', '>' means '+', '=' means '×' and '@' means '÷', then what will be the value of $7 = 4 < 8 = 3 > 39 @ 3$?

(1) 10

(2) 17

(3) 39

(4) 52

Ans. (2)

Sol. $7 = 4 < 8 = 3 > 39 @ 3 = 7 \times 4 - 8 \times 3 + 13 = 28 - 24 + 13 = 17$

Hence, option (2) is correct.

24. In a coded language, 'ACE' is written as '1925' and 'BIG' is written as '48149', then in the same language, 'DOG' will be written as

(1) 41549

(2) 1622549

(3) 162259

(4) 42249

Ans. (2)

Sol. $A C E = (1^2 3^2 5^2) = 1925$

1, 3, 5

$B I G = (2^2 9^2 7^2) = 48149$

2, 9, 7

So, $D O G = (4^2 15^2 7^2) = 1622549$

4, 15, 7

Hence, option (2) is correct.

25. In a coded language, 'SHOULDER' is written as 'TJSNMAGZ' and 'BOXING' is written as 'RSYCPH', then in the same language, 'HORN' will be written as
 (1) JSZP (2) JSNS (3) JNZS (4) JZSP

Ans. (1)

Sol. SHOULDER → TJSNMAGZ

BOXING → RSYCPH

By taking the values from the above examples, we get :

HORN → JSZP

Hence, option (1) is the correct. answer.

26. In a coded language 'CALLED' is written as 'DELLAC' and 'TIGER' is written as 'REGIT', then in the same language, 'NORTH' will be written as

(1) PQSUK (2) PTTVL (3) HTORN (4) HTRON

Ans. (4)

Sol. Coding of letters are done in reverse order.

27. In the given question, a statement is followed by two arguments I and II. You have to decide which of the following arguments is 'strong' or 'weak'.

Statement : High chimneys should be installed in industries.

Arguments : (i) Yes, it reduces pollution at ground level.

(ii) No, it increases pollution in upper atmosphere.

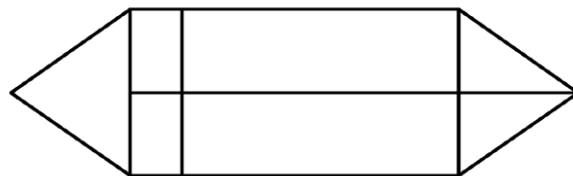
(1) Only Argument I is strong. (2) Only Argument II is strong.

(3) Both Arguments I and II are strong. (4) Both Arguments I and II are weak.

Ans. (1)

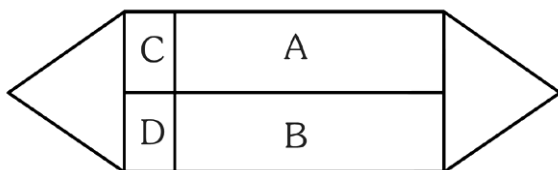
Sol. Only argument I is strong as high chimneys should be installed in industries so that it reduces pollution at ground level.

28. Determine the number of rectangles in the following figure :



(1) 7 (2) 8 (3) 9 (4) 10

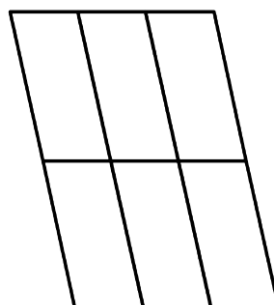
Ans. (3)



Sol.

Rectangles are A, B, C, D, AC, BD, AB, CD, ABCD = 9.

29. Determine the number of parallelograms in the following figure :



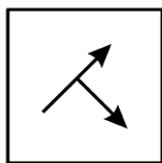
(1) 14 (2) 17 (3) 18 (4) 19

Ans. (3)

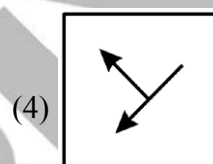
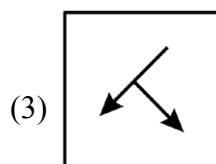
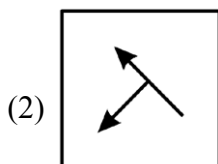
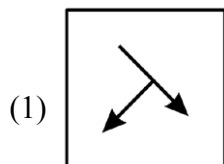
Sol. Number of parallelograms = $\left(\frac{3 \times 2}{2}\right) \times \left(\frac{4 \times 3}{2}\right) = 18$

Direction (30 – 33) : Find the correct mirror image of the given figure, when mirror is placed on right side of the figure.

30. **Question Figure :**

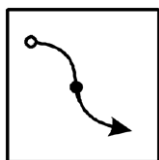


Answer – Figure :

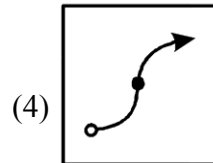
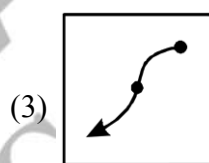
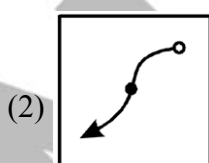
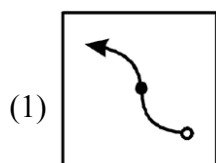


Ans. (2)

31. **Question – Figure :**



Answer – Figure :



Ans. (2)

32. QUALITY

(1) QILYATUO

(2) YTILAUQ

(3) YTIJAUQ

(4) YTIJAUQ

Ans. (3)

33. 247596

(1) 695742

(2) 982742

(3) 247298

(4) 829742

Ans. (4)

Direction (34 – 37) : Find the correct water-image of the given figure.

34. FAMILY

(1) YIMAFIL

(2) EYIMIL

(3) EYIMIL

(4) EYIMIL

Ans. (4)

35. NhRqSy

(1) Y2pRnI

(2) NpRq2Y

(3) I2pRnI

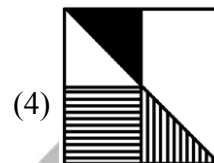
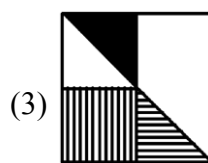
(4) I2pRnI

Ans. (1)

36. Question – figure :

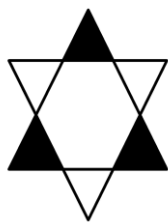


Answer – figures :

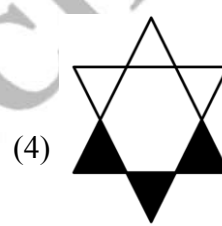
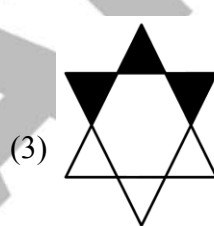
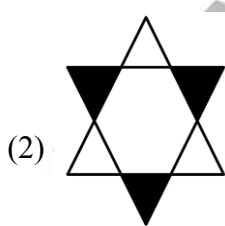
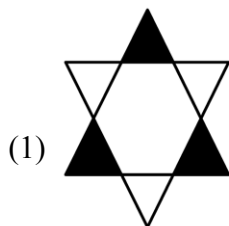


Ans. (4)

37. Question – Figure :



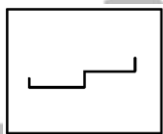
Answer – Figures :



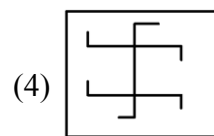
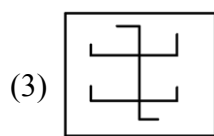
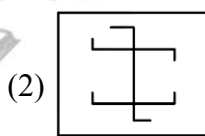
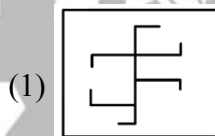
Ans. (2)

Direction (38 – 41) : In the following Question Nos. 38 to 41, there is a question figure, which is embedded in one of the answer figures. Trace out the correct figure.

38. Question – Figure :

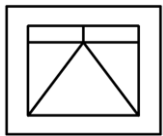


Answer – Figures :

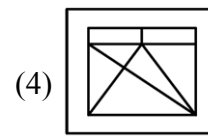
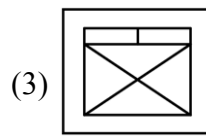
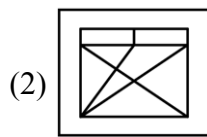
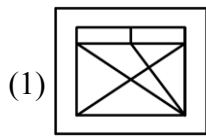


Ans. (1,3)

39. **Question – Figure :**

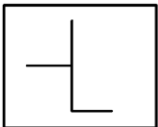


Answer – Figures :

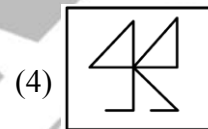
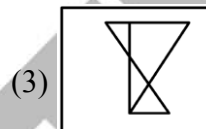
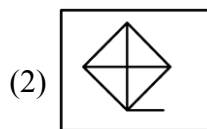
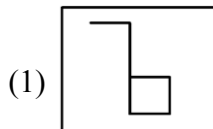


Ans. (4)

40. **Question – Figure :**

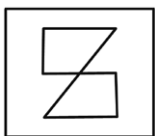


Answer – Figures :

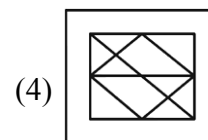
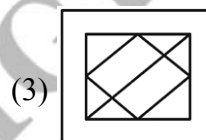
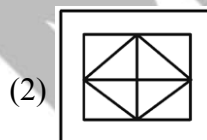
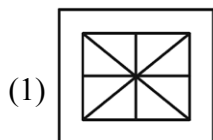


Ans. (2)

41. **Question – Figure :**

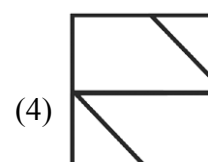
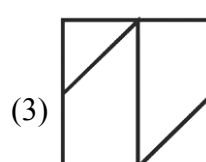
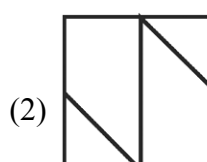
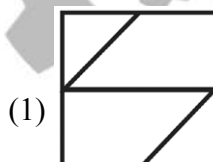
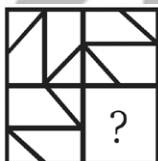


Answer – Figures :



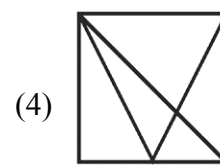
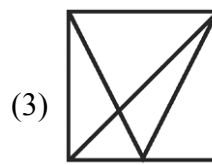
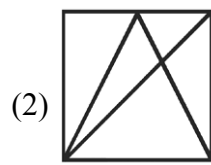
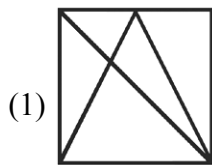
Ans. (1)

42. Which of the answer figures will complete the given matrix figure ?



Ans. (3)

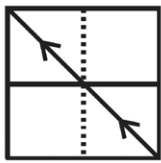
43. Which of the answer figures will complete the given matrix figure ?



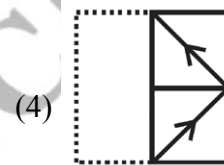
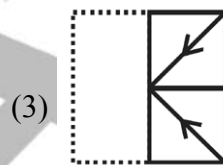
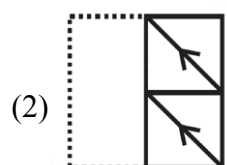
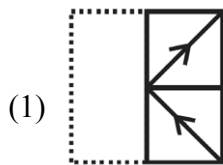
Ans. (3)

Direction (44 – 47) : A square transparent sheet with a pattern is folded along the dotted line. Which of the following answer figures is formed after folding the transparent sheet ?

44. **Transparent sheet**



Answer figures

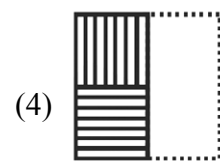
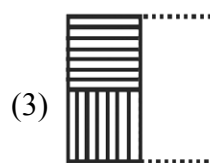
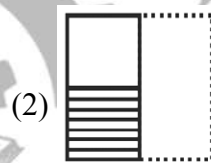
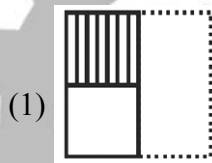


Ans. (1)

45. **Transparent sheet**

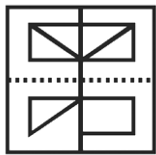


Answer figures

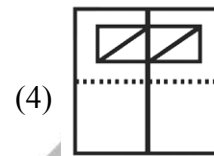
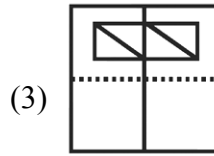
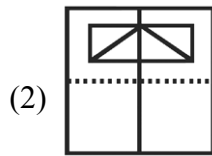
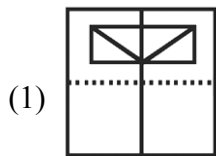


Ans. (4)

46. **Transparent sheet**

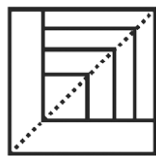


Answer figures

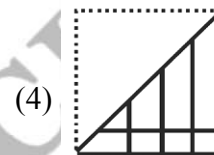
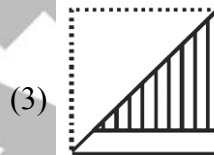
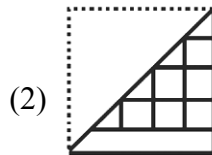
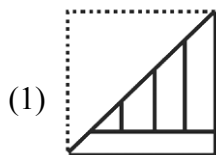


Ans. (1)

47. **Transparent sheet**



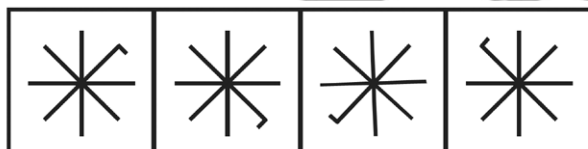
Answer figures



Ans. (1)

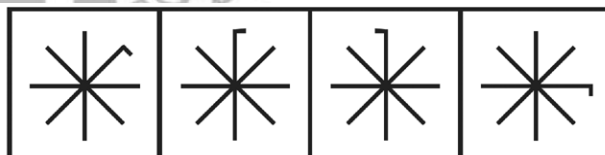
Direction (48 – 55) : In Question Nos. 48 to 55, there are two sets of figures. One set contains problem figures while the other has answer figures. There is a sequence according to which the problem figures are arranged. You have to select and answer figure which can be added in sequence with the problem figures. Choose the correct answer figure.

48. **Problem figures**



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

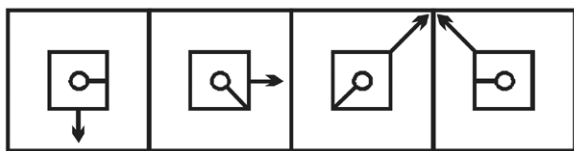
Answer figures



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

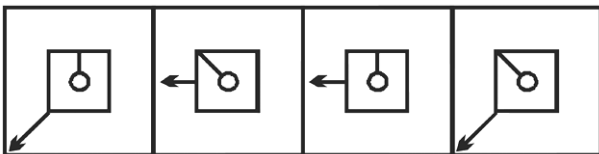
Ans. (1)

49. **Problem figures**



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

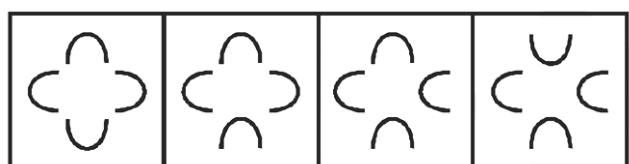
Answer figures



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

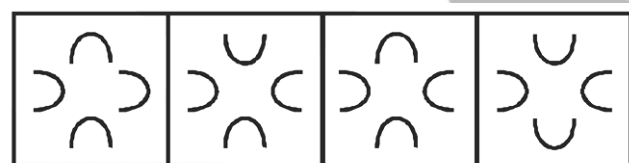
Ans. (3)

50. **Problem figures**



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

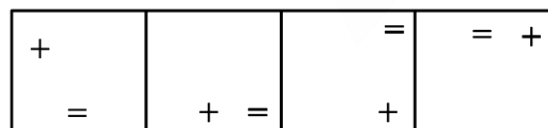
Answer figures



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

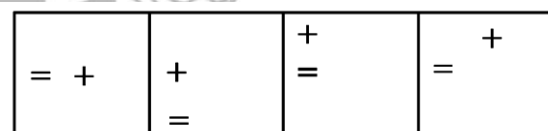
Ans. (2)

51. **Problem figures**



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

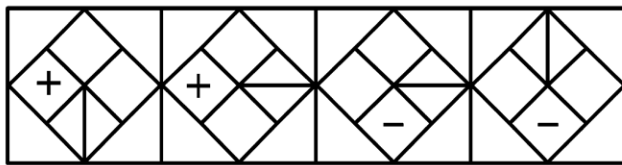
Answer figures



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

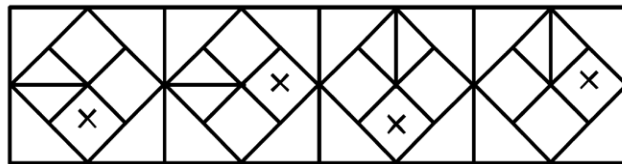
Ans. (4)

52. Problem figures



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

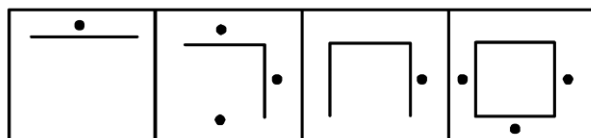
Answer figures



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

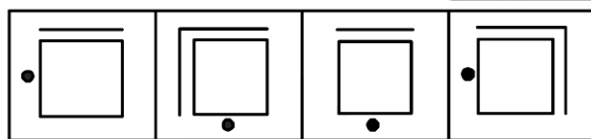
Ans. (4)

53. Problem figures



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

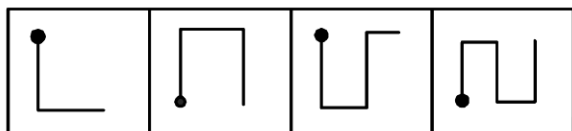
Answer figures



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

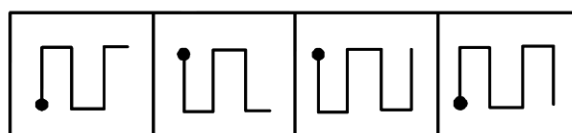
Ans. (3)

54. Problem figures



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

Answer figures



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

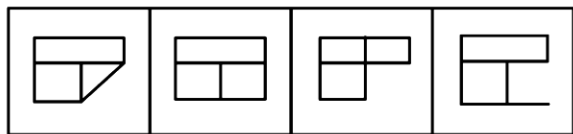
Ans. (2)

55. **Problem figures**



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

Answer figures



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

Ans. (3)

56. A family has a man, his wife, their four sons and their wives. Each son has 3 sons and 1 daughter. How many male members are there in the whole family ?

(1) 5 (2) 8 (3) 16 (4) 17

Ans. (4)

Sol. A man and his 4 sons and every son's 3 sons

So, $1 + 4 + 3 \times 4 = 17$

Direction : Read the information given below carefully :

A is the son of B. B's sister C has a son D and a daughter E. F is maternal uncle of D.

Answer Question Nos. 57 to 60 based on this information.

57. How is A related to D ?

(1) Cousin (2) Nephew (3) Brother (4) Uncle

Ans. (1)

58. How is E related to F ?

(1) Sister (2) Daughter (3) Niece (4) Wife

Ans. (3)

59. How many nephews does F have ?

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

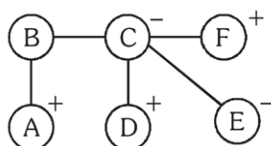
Ans. (3)

60. How is B related to F ?

(1) Brother/Sister (2) Husband (3) Father (4) Cousin

Ans. (1)

Sol. (57 to 60)



A is cousin of D.

E is Niece of F.

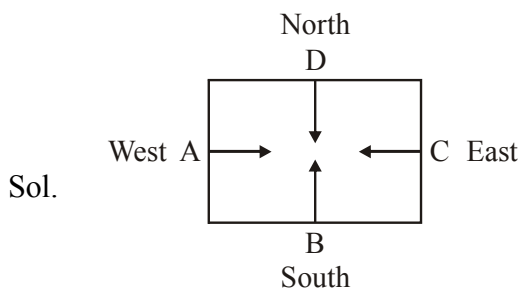
F have 2 nephews (A & D)

B can be brother or sister of F.

61. A,B,C and D are playing carrom. C, A and D, B are partners. D is to the right of C. C is facing west. Then, B is facing which direction ?

(1) North (2) South (3) East (4) West

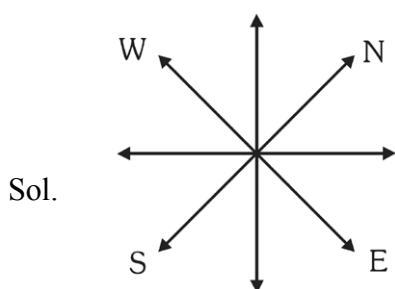
Ans. (1)



62. If 'South-east' is called 'East', 'North-west' is called 'West', 'South-west' is called 'South', then in the same way, 'North' will be called as

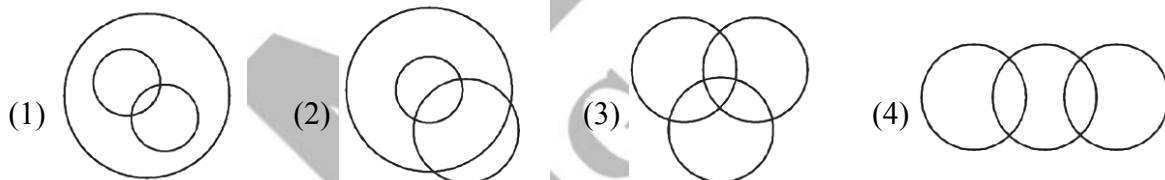
(1) East (2) North-east (3) North-west (4) West

Ans. (3)



By the diagram we can say 'North' will be North-west.

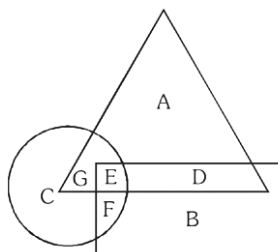
63. Which of the following Venn diagrams correctly represents Males, Fathers and doctors ?



Ans. (2)



Direction (64 – 67) : Answer Question Nos. 64 to 67 based on the diagram given below :



In above figure, triangle shows rural women, rectangle shows unemployed women and circle shows educated women.

64. Educated, employed and rural women are represented by
 (1) D (2) E (3) F (4) G
 Ans. (4)
 Sol. By the given diagram answer will be G, i.e. (4).
65. What does D represent ?
 (1) Educated rural women (2) Uneducated, unemployed and rural women
 (3) Educated unemployed women (4) Educated employed women
 Ans. (2)
 Sol. 'D' Represents uneducated, employed and rural women. Hence answer is (2).
66. Educated, unemployed and rural women are represented by
 (1) A (2) B (3) D (4) E
 Ans. (4)
 Sol. 'E' represents.
67. Educated unemployed women are represented by
 (1) B, C (2) D, E (3) E, F (4) G, E
 Ans. (3)
 Sol. 'E' & 'F' represents.
68. How many numbers from 1 to 100 are there which are completely divisible by 4 and also has 4 as digit ?
 (1) 7 (2) 10 (3) 20 (4) 25
 Ans. (1)
 Sol. 7 numbers (4, 24, 40, 44, 48, 64, 84)
69. How many odd numbers are there in the sequence each of which is immediately followed by an odd number ?
 5 1 4 7 3 9 8 5 7 2 6 3 1 5 8 6 3 8 5 2 2 4 6 4 9 6
 (1) 2 (2) 5 (3) 6 (4) 7
 Ans. (3)
 Sol. 5 1 4 7 3 9 8 5 7 2 6 3 1 5 8 6 3 8 5 2 2 4 6 4 9 6
70. An integer is greater than 3 but less than 8. Also it is greater than 6 but less than 10. This number is equal to
 (1) 4 (2) 6 (3) 7 (4) 8
 Ans. (3)
 Sol. $3 < x < 8$ i.e. 4, 5, 6, 7
 $6 < x < 10$ i.e. 7, 8, 9
 Common number is 7.
 Hence answer is (3).
71. A has 18th rank in a class of 49 students. What is his rank from the last ?
 (1) 18 (2) 19 (3) 31 (4) 32
 Ans. (4)
 Sol. A's rank from the last is $(49 - 18 + 1) = 32^{\text{th}}$.
72. If it was Saturday on 17th December, 2002, then what was the day on 22nd December, 2004 ?
 (1) Monday (2) Sunday (3) Friday (4) Tuesday
 Ans. (2)
 Sol. 17th December 2002 ----- 22nd December 2004
 Number of odd days between given dates are 8.

$$= \frac{8}{7} = 1 \text{ odd day}$$

 22nd December 2004 will be Saturday + 1 = Sunday, hence answer is (2).

73. If number of days are not considered, which two months in a year have same calendar ?
 (1) June, October (2) April, November (3) April, July (4) October, December

Ans. (3)

Sol. By options

	April	May	June	July
	↓	↓	↓	↓
Number of odd days	2	3	2	3

According to number of odd days April will have same calendar as July. Hence answer is (3).

74. If 25th August in a year is Thursday, then number of Mondays in that month is

(1) 3 (2) 4 (3) 5 (4) 6

Ans. (3)

Sol. There are 5 Mondays (1, 8, 15, 22, 29).

75. If (+) stands for (\times), (–) stand for (\div), (\times) stands for (–) and (\div) stands for (+), then value of $[26 + 72 - 4 \times 5 \div 2]$ is

(1) 108 (2) 465 (3) 471 (4) 488

Ans. (2)

Sol. $[26 \times 72 \div 4 - 5 + 2]$

$$[26 \times 18 - 3] = 465$$

76. If $A + B > C + D$ and $D + A < B + C$, then

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

Ans. (4)

Sol. $A + B > C + D$... (i)

$$B + C > D + A$$
 ... (ii)

Add (i) & (ii)

$$A + 2B + C > A + 2D + C$$

$$2B > 2D$$

So, answer is $B > D$.

77. Arrange the following in a meaningful sequence :

A = Birth, B = Death, C = Funeral, D = Marriage, E = Education

(1) AEDBC (2) ADECB (3) AEBDC (4) ADEBC

Ans. (1)

78. Arrange the following in a meaningful sequence :

A = Study, B = Service, C = Examination, D = Earning, E = Result.

(1) EACDB (2) ABECB (3) ACEBD (4) AECBD

Ans. (3)

79. A solid cube of white material is painted black on all its surface. If it is cut into 125 smaller cubes of same size, then how many cubes will have two sides painted black ?

(1) 32 (2) 36 (3) 42 (4) 40

Ans. (2)

Sol. $12 \times (n - 2)$ n = length of bigger cube = 5

$$12 \times (5 - 2)$$

$$12 \times 3 = 36$$

80. A cube painted red on all faces is cut into 27 small cubes of equal size. How many cubes are not painted on any face ?

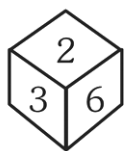
(1) 1 (2) 3 (3) 4 (4) 6

Ans. (1)

Sol. $(n - 2)^3$ n = length of bigger cube = 3

$$(3 - 2)^3 = 1$$

81. The four different positions of a die are given below. Which number is on the face opposite to 3 ?

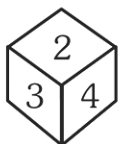


- (1) 6 (2) 4 (3) 2 (4) 5

Ans. (2)

Sol. 3 is adjacent 2, 6, 1, 5 (by 1st and 4th die)
so, 3 on the face opposite to 4.

82. The four different positions of the die are given below. Which number is on the face opposite to 2 ?



- (1) 3 (2) 4 (3) 5 (4) 6

Ans. (3)

Sol. 2 is adjacent 6, 4, 3, 1 (by 1st and 4th die)
so, 2 on the face opposite to 5.

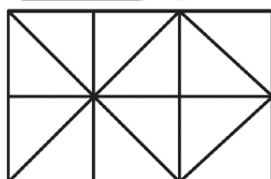
83. How many two-digit numbers can be formed from numbers 2, 5, 6, 8, 7, 1 such that each number has digit 8 always ?

- (1) 9 (2) 10 (3) 11 (4) 12

Ans. (3)

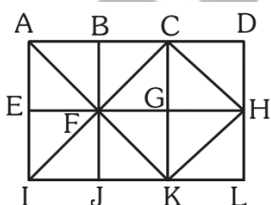
Sol. Numbers are formed 81, 82, 85, 86, 87, 18, 28, 58, 68, 78, 88 so, total 11 numbers are formed.

84. Determine the number of squares in the following figure :



- (1) 7 (2) 8 (3) 9 (4) 10

Ans. (3)



Sol.

Squares are ABFE, BCGF, CDHG, EFJI, FGKJ, GHLK, ACKI, BDLJ, CHKF

85. If '+' stands for '×', '-' stands for '÷', '×' stands for '-' and '÷' stands for '+',

then value of $\frac{(36 \times 4) - 8 \times 4}{4 + 8 \times 2 + 16 \div 1}$ is

- (1) 8 (2) 12 (3) 0 (4) 4

Ans. (3)

Sol.
$$\frac{(36 \times 4) - 8 \times 4}{4 + 8 \times 2 + 16 \div 1}$$

after sign changing

$$\frac{(36 - 4) \div 8 - 4}{4 \times 8 - 2 \times 16 + 1} = \frac{4 - 4}{32 - 32 + 1} = 0$$

86. In a row of students, A is sixth from the left and B is tenth from the right. If there are 8 students between A and B, then total number of students in the row is –

- (1) 23 (2) 24 (3) 25 (4) 26

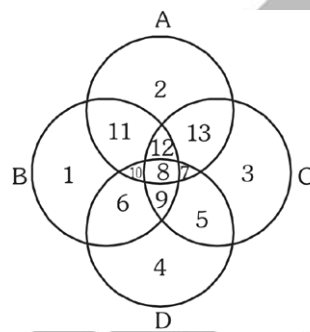
Ans. (2)

Left ————— 6 A 8 students

Sol. 10 ————— Right
B

so total number of students in the row is $6 + 8 + 10 = 24$

Direction (87 – 90) : Answer Question Nos. 87 to 90 based on the diagram given below :



Circle A represents men having TV, circle B represents men having scooter, circle C represents men having laptop and circle D represents men having car.

87. Men having scooter, TV, laptop but not car are represented by which number ?

- (1) 4 (2) 7 (3) 11 (4) 12

Ans. (4)

88. Men having only car (no other item) are presented by which number ?

- (1) 4 (2) 5 (3) 6 (4) 7

Ans. (1)

89. Men having neither scooter nor car are presented by which number ?

- (1) 13 only (2) 2 only (3) 3 only (4) 2, 13, 3

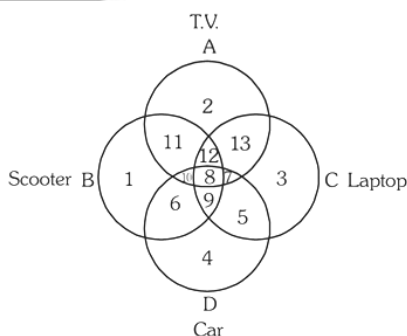
Ans. (4)

90. Men having car and laptop only are represented by which number ?

- (1) 9 (2) 8 (3) 7 (4) 5

Ans. (4)

Sol. (87 to 90)



87. By observation Answer is 12.
 88. By observation Answer is 4.
 89. By observation Answer is 2, 13, 3.
 90. By observation Answer is 5.
 91. As 'circle' is related to its 'circumference', in the same way, 'square' is related to which of the following ?

(1) Volume (2) Area (3) Diagonal (4) Perimeter

Ans. (4)

92. As 'walking' is related to 'running', in the same way, 'smiling' is related to which of the following ?

(1) Feeling (2) Weeping (3) Laughing (4) Watching

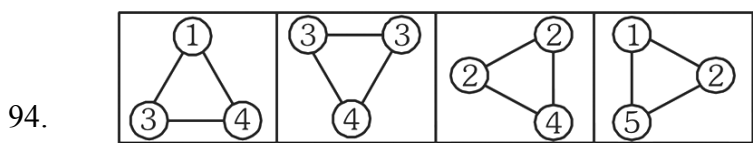
Ans. (3)

93. As 'college' is related to its 'student' in the same way, 'hospital' is related to which of the following ?

(1) Doctor (2) Patient (3) Nurse (4) Treatment

Ans. (2)

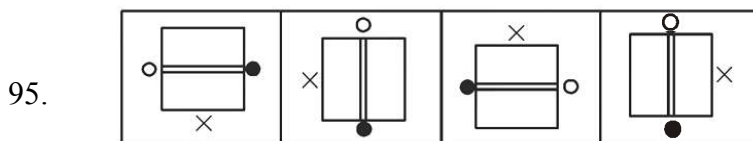
Direction (94 – 96) : In Questions Nos. 94 to 96, there are four figures given in each. One of these figures does not correlate with the rest of the figures. Select that odd figure.



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

Ans. (2)

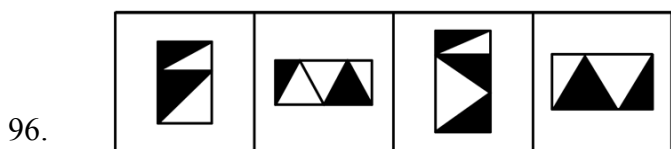
Sol. Sum of all three vertices number equal to 8, except option (2).



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

Ans. (4)

Sol. Options (1), (2) and (3) are formed by rotating each other, except option (4).



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

Ans. (2)

Sol. Options (1), (3) and (4) have equal dark and light area, except option (2).

Direction (97 – 100) : In Questions Nos. 97 to 100, there are alternatives are alike in a certain way but the rest one is different. Select the odd one.

97. (1) Radish (2) Carrot (3) Pea (4) Turnip

Ans. (3)

Sol. All are roots except Pea.

98. (1) 105 (2) 91 (3) 65 (4) 117

Ans. (1)

Sol. By option (2), (3) and (4) multiple of 13, except option (1).

99. (1) OVO (2) CUU (3) TTA (4) AFA

Ans. (3)

Sol. Options (1), (2) and (4) have two vowels and one consonant, except option (2).

100. (1) Football (2) Carrom (3) Hockey (4) Cricket.

Ans. (2)

Sol. Options (1), (3) and (4) have outdoor games, except option (2).