



Paper Code  
(1001CPA402120086)



FORM NUMBER

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# DISTANCE LEARNING PROGRAMME

(ACADEMIC SESSION 2020-2021)

## NTSE (STAGE-II) TEST SERIES

### MENTAL ABILITY TEST (MAT)

MOCK TEST # 2(A)

DATE : 11-04-2021

#### PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY

1. Duration of Test is **120 Minutes** and Questions Paper Contains **100 Questions**. Total Marks are **100**.
2. Answers are to be given on a separate OMR sheet.
3. There are 100 questions in this test. All are compulsory.
4. Please follow the instructions given on the OMR sheet for marking the answers.
5. Mark your answers for questions 1–100 on the OMR sheet by darkening the circles.
6. Every correct answer will be awarded one mark. **THERE IS NO NEGATIVE MARKING.**
7. 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.
8. 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.
9. Rough work can be done anywhere in the booklet but not on the OMR sheet/loose paper.
10. Please return the OMR sheet to the invigilator after the test.

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1. Read the information given, and answer the question that follow. Select the correct option.

- Alka is sitting next to Barakha.
- Chandar is sitting next to Dilip.
- Dilip is not sitting with Ekta.
- Ekta is on the left end of the bench.
- Chandar is on the second position from the right.
- Alka is on the right of Barakha and Ekta.
- Alka and Chandar are sitting together.

Where is Alka sitting?

- (1) Between Barakha and Dilip
- (2) Between Dilip and Chandar
- (3) Between Ekta and Dilip
- (4) Between Barakha and Chandar

2. In a cricket match, five batsmen P, Q, R, S and T scored an average of 36 runs. S scored 5 more than T; T scored 8 fewer than P; Q scored as many as S and T combined; and Q and R both scored 107. How many runs did T score?

- (1) 20      (2) 29      (3) 28      (4) 24

**Direction (Q.3 & Q.4) :** In the following questions Statements and two Conclusions I and II given. You have to assume the given statements as true even it seems to vary from commonly known facts. Read all the conclusions carefully and decide which of the given conclusions logically follow(s) the given statement even disregarding, commonly known facts.

3. **Statement :** Unemployment is one of the main reason for the poverty of the country.

**Conclusions :**

- (I) To end poverty, it is required to create employment opportunities.
- (II) All the people in the country are unemployed.
- (1) Only conclusion I follows.
- (2) Only conclusion II follows.
- (3) Both conclusions I and II follows.
- (4) Neither conclusion I nor II follows.

4. **Statement :** Morning walk is good for health.

**Conclusions :**

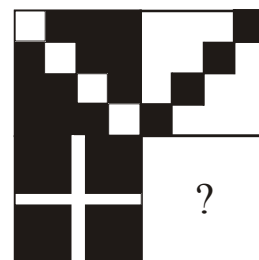
- (I) All healthy people go for morning walk.
- (II) Evening walk is harmful.
- (1) Only conclusion I follows.
- (2) Only conclusion II follows.
- (3) Both conclusions I and II follows.
- (4) Neither conclusion I nor II follows.

5. Tony designed this shipping box for a company. Which of the patterns below could be folded to make the shipping box?



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

6. The problem figure given below is a figure matrix. Complete the matrix with suitable option figure.



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

7. There are eight people in a family viz. M, K, A, C, D, E, G and H consists of 3 generations. Four of them are female. D and A are the daughter and son of K respectively and both are married. E is the sister of H whose father is C. M and G are of 3rd generation and M is the son-in-law of E. K is the brother-in-law of H. Who among the following is sister-in-law of D?

- (1) H      (2) A      (3) M      (4) G

8. Number of letters skipped in between adjacent letters in the series is odd. Which of the following series observes this rule?

- (1) BDHLR                      (2) FIMRX  
(3) EIMQV                      (4) MPRUX

9. In numbers 5 8 1 3 2 7 6 4, how many digits are such with at the same distance from the beginning as if arranged in descending order?

- (1) Three                      (2) Two  
(3) One                      (4) None of these

10. In the arithmetic expression given below, if the sign  $\times$  and  $\div$  are interchanged then what will be the solution?

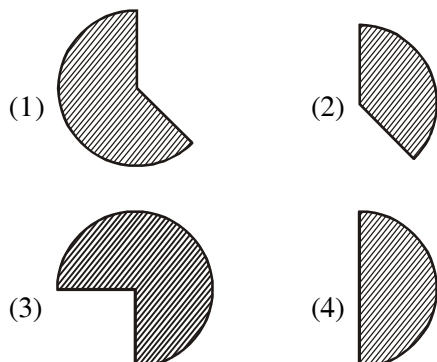
$$8 \times 3 - 2 + 3 \div 3$$

- (1)  $\frac{29}{3}$       (2) 9      (3) 23      (4)  $\frac{23}{3}$

11. If 50% books in a library are in English

language and  $\frac{7}{10}$  of the rest in Hindi language

which of the following shaded part approximately represent books in Hindi language?



12. In this question, ' $\Delta$ ' means "Greater than" ' $\square$ ' means "Less than", ' $\phi$ ' means "equal to", ' $\oplus$ ' means "not equal to".

If  $C \Delta A$ ,  $A \square B$ ,  $D \phi B$  and  $B \oplus C$ , then choose the correct option in the following.

- (1)  $D \square C$       (2)  $D \Delta C$       (3)  $D \Delta A$       (4)  $B \oplus D$

**Direction (Q.13 to Q.15) :** The following table shows the record of surgery done in a hospital. This record shows the data from January to July. Study the table carefully and answer the following questions.

Month	Total successful surgery	Total unsuccessful Surgery
January	5	3
February	4	4
March	5	2
April	6	3
May	4	2
June	3	3
July	2	4

13. As per the above table, what is the percentage of successful surgery?

- (1) 32%      (2) 29%      (3) 58%      (4) 21%

14. In which month the percentage of successful surgery was highest in the hospital?

- (1) January                      (2) April  
(3) July                      (4) March

15. In which month the percentage of unsuccessful surgery was highest in the hospital?

- (1) July                      (2) June  
(3) February                      (4) March

16. In the following question, there is a certain relationship between two given numbers on left side of sign ( $:$ ) and one number is given on the right side of sign ( $::$ ) while another number is to be found from the given alternatives having the same relationship with the number as the numbers of the given pair bear. Choose the correct alternatives.

$$20 : 11 :: 102 : ?$$

- (1) 49      (2) 52      (3) 61      (4) 96

**Direction (Q.17 to Q.20) :** Read the information given below carefully and answer the questions that follow:

A, B, C, D, E, F and G are seven students of a school, who are studying in seven different Classes V, VI, VII, VIII, IX, X and XI. Everyone of them likes a particular subject viz. English, Hindi, Physics, Chemistry, Mathematics, History and Geography. Students, Classes and subjects can always be in different order as given.

B likes History and does not study in Class VII. The one who likes English studies in Class IX. The one who studies in Class V, likes Chemistry. F likes Physics. C is studying in Class VI and doesn't like Geography. E is studying in Class X and likes Mathematics. D likes Chemistry. G doesn't like English and G is not in Class VII or VIII. F is not in Class VIII.

17. F is in which Class?  
 (1) VII (2) IX  
 (3) XI (4) Data inadequate
18. G is in which Class?  
 (1) VI (2) VII (3) XI (4) IX
19. Which subject does A like?  
 (1) Hindi (2) Geography  
 (3) English (4) Chemistry
20. Who studies in Class - 8?  
 (1) B (2) C (3) A (4) E
21. Point Q is 12 m north of point V. Point K is exactly in the middle of the points Q and V. Point W is 8 m east of point V. Point U is 7 m east of point K. Point P is 9 m north of point U. What is the shortest distance between point K and W?  
 (1) 9 m (2) 10 m (3) 11 m (4) 12 m
22. The sum of three numbers is 98. If the ratio between first and second be 2 : 3 and that between second and third be 5 : 8, then the second number is  
 (1) 30 (2) 20 (3) 58 (4) 48

23. Read the information carefully and answer the question given below.

In a certain code language,

'speak nicely to all' is coded as "ka cu ma he"

'all are like us' is coded as " si fo he to"

'teach us lesson nicely' is coded as " po ma fo re"

'lesson like all humans' is coded as "he re gu si"

What is the code for 'are' in the given language?

- (1) si (2) to  
 (3) fo (4) Either 1 or 2

24. Read the information carefully and answer the question given below.

In a certain code language,

'speak nicely to all' is coded as "ka cu ma he"

'all are like us' is coded as " si fo he to"

'teach us lesson nicely' is coded as " po ma fo re"

'lesson like all humans' is coded as "he re gu si"

What would be the code for "humans teach"?

- (1) gu fo (2) he fo  
 (3) gu po (4) ma re

25. Fact 1: Jessica has four children.

Fact 2: Two of the children have blue eyes and two of the children have brown eyes.

Fact 3: Half of the children are girls.

If the first three statements are facts, which of the following statements must also be a fact ?

I. At least one girl has blue eyes.

II. Two of the children are boys.

III. The boys have brown eyes.

- (1) II only  
 (2) I and III only  
 (3) II and III only  
 (4) None of the statements is a known fact.

**Directions : (Q.26 & Q.27)** Find the number in place of question mark in the given figures

26. 

5	9	8	7
8	6	9	10
7	13	?	19
5	7	8	9

  
 (1) 9      (2) 10      (3) 12      (4) 15

27.  $4 \begin{matrix} 3 \\ \textcircled{5} \\ 2 \end{matrix} 5$        $5 \begin{matrix} 6 \\ \textcircled{7} \\ 3 \end{matrix} 2$        $5 \begin{matrix} 2 \\ \textcircled{?} \\ 9 \end{matrix} 2$   
 (1) 8      (2) 9      (3) 10      (4) 11

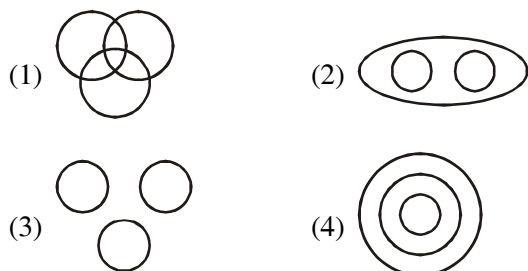
28. Given interchanges : signs – and  $\div$  ; numbers 2 and 6, which of the following is correct :  
 (1)  $32 - 12 \div 6 = 30$       (2)  $36 \div 12 - 2 = 1$   
 (3)  $32 - 16 \div 6 = 0$       (4)  $36 - 12 \div 2 = 30$

29. Study the following information carefully to answer this question :  
 'A \$ B' means 'A is wife of B'  
 'A # B' means 'A is son of B'  
 'A % B' means 'A is father of B'  
 'A & B' means 'A is sister of B'

Which of the following expressions represents the relationship 'R is mother of J' ?

- (1) M & J # K \$ R      (2) M & J # R \$ K  
 (3) J # R # T      (4) None of these

**Directions (Q.30 & Q.31) :** Each of the questions below contains three elements. These elements may or may not have some inter-linkage. Each group of elements may fit into one of the diagrams (1), (2), (3) and (4). You have to indicate the group of elements which correctly fits into the diagram.



30. Mercury, Metal, Zinc  
 31. Liars, Politicians, Male

32. A clock is set right at 8 a.m. the clock uniformly loses 24 minutes in a day. What will be the right time when the clock indicates 1.30 pm on the next day ?

- (1) 4.50 pm      (2) 2.00 pm  
 (3) 4.50 am      (4) 4.32 am

33. How much does the clock gain or lose per day if its hands coincide after every 63 minutes ?

- (1) Loses  $56\frac{8}{77}$  minutes  
 (2) Gains  $56\frac{8}{77}$  minutes

- (3) Loses  $56\frac{56}{77}$  minutes

- (4) Gains  $75\frac{75}{341}$  minutes

34. Which of the following does not fit in the series ?

$$\frac{4}{5}, \frac{7}{15}, \frac{1}{15}, -\frac{1}{5}, -\frac{8}{15}$$

- (1)  $\frac{1}{15}$       (2)  $\frac{4}{5}$   
 (3)  $-\frac{8}{15}$       (4)  $-\frac{1}{5}$

35. What should come in place of question mark?  
 5, 7, 35, 8, 9, 72, 11, 12, 132, ?, 3, 6

- (1) 12      (2) 18  
 (3) 2      (4) 6

36. In the given question a number series is given. A number is given after the series and then (a), (b), (c), (d) and (e) are given. According to the given series, you have to form a new series which begins with the given number, and then answer the question asked.

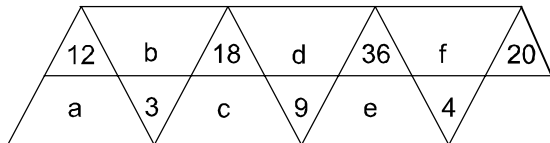
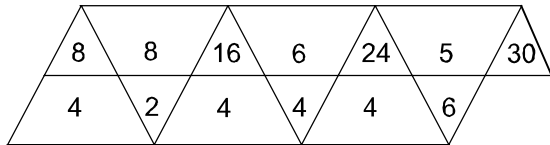
$$4 \quad 14 \quad 36 \quad 114 \quad 460$$

$$2 \quad a \quad b \quad c \quad d \quad e$$

Find the value of e.

- (1) 2842      (2) 1942      (3) 2008      (4) 2062

37. There are two figures. In the figure numbers are related to each other in particular pattern you have to recognise that and answer the following question.



Find the value of  $a^2 + b^2$  :

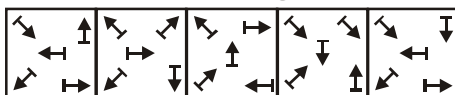
- (1) 16      (2) 52      (3) 60      (4) 72

38. Nurse Kemp has worked more night shifts in a row than Nurse Rogers, who has worked five. Nurse Miller has worked fifteen night shifts in a row, more than Nurses Kemp and Rogers combined. Nurse Calvin has worked eight night shifts in a row, less than Nurse Kemp. How many night shifts in a row has Nurse Kemp worked ?

- (1) eight    (2) nine    (3) ten    (4) eleven

39. The given question consists of Problem Figures followed by option figures. Select a figure which will continue the series.

**Problem Figure**



- (1)      (2)      (3)      (4)

**Direction (Q.40 & Q.41) :** In the following questions, choose the missing word in place of sign (?) on the basis of the relationship between the words given on the left/right hand side of the signs.

40. Pig : Farrow :: Dog : ?

- (1) Mare    (2) Puppy    (3) Bitch    (4) Colt

41. UAS : Congress :: Iran : ?

- (1) Althing                      (2) Storting  
(3) Majlis                      (4) Cortes

42. Select the related number from the given alternatives.

5 : 100, 4 : 64 :: 4 : 80, 3 : ?

- (1) 26      (2) 48      (3) 50      (4) 54

43. In the following question, choose the missing word in place of sign (?) on the basis of the relationship between the words given on the left/right hand side of the signs.

Mountain : Valley :: Genius : ?

- (1) Brain                      (2) Idiot  
(3) Think                      (4) Intelligence

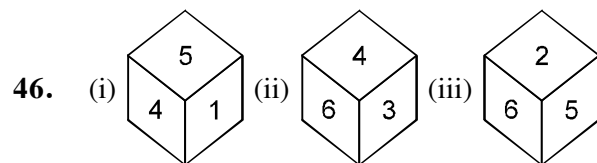
44. If 3rd of the month falls on Friday, what day will be on the 4th day after 21st of the Month?

- (1) Monday                      (2) Saturday  
(3) Thursday                      (4) Friday

45. Find the missing term in the given series.

LRX, DJP, VBH, NTZ, ?

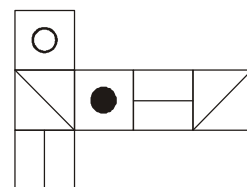
- (1) ELS    (2) FMR    (3) GKS    (4) FLR



Which number lies at the bottom face of the dice (i) ?

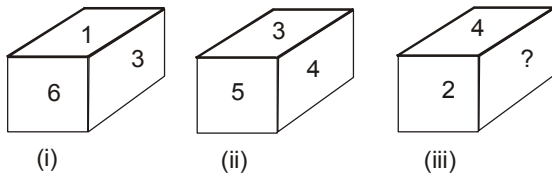
- (1) 1      (2) 2      (3) 3      (4) 4

47. Choose from among the alternatives the box or boxes that can be formed by folding the figure.



- (1)      (2)      (3)      (4)

48. Three positions of the same dice are given below. Observe the figures carefully and tell which number will come in place(?):



- (i) 1      (ii) 6      (iii) 3      (iv) 5

**Directions (Q.49 & Q.50) :** Three of the following four are alike in a certain way and so form a group. Which is the one that does not belong to the group.

49. (1) Camel (2) Horse (3) Bullock (4) Cat  
 50. (1) 27 (2) 125 (3) 1321 (4) 729  
 51. The following characteristics apply to a group of people in a room: Fourteen are blonds, eight are blue-eyed, and two are neither blond nor blue-eyed. If five of the people are blue-eyed blonds, how many people are in the room ?  
 (1) 3 (2) 17 (3) 19 (4) 24  
 52. If 10th May, 1997 was a Monday, what was the day on Oct 10, 2001?  
 (1) Saturday (2) Sunday  
 (3) Thursday (4) Friday

**Directions (Q.53 to Q.55) :-** Write which number in sequence replaces the question mark (?).

53. 200, 200, 205, 195, 215, 185, 235, 165, ?, ?  
 (1) 125, 275 (2) 275, 125  
 (3) 265, 145 (4) 295, 145  
 54. 840, 168, 42, 14, 7, ?  
 (1) 7 (2) 9 (3) 5 (4) 2  
 55. 111, 129, 183, 345, 831, ?  
 (1) 2389 (2) 2379 (3) 2229 (4) 2289  
 56. How many times do the hands of a clock make an angle of  $90^\circ$  in 36 hr ?  
 (1) 22 (2) 44 (3) 66 (4) 72  
 57. What can we infer from the following statement ?  
 "Since every child I know likes ice cream, Mike must also like ice cream."  
 (1) The speaker doesn't know many children.  
 (2) Mike is a child.  
 (3) Mike likes anything sweet.  
 (4) The speaker is a good friend of Mike's.

**Directions : (Q.58 to Q.60)** Read the following information carefully to answer the given questions

A word and number arrangement machine when given an input line in words and numbers, rearranges them following a particular rule in each step. The following is an illustration of input and rearrangement.

**Input :** goal 63 57 home five task 82 17

**Step I :** 82 goal 63 57 home five task 17

**Step II :** 82 five goal 63 57 home task 17

**Step III :** 82 five 63 goal 57 home task 17

**Step IV :** 82 five 63 goal 57 home 17 task

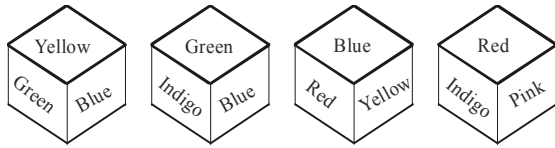
And Step IV is the last output.

As per the rules followed in the above steps, find out in each of the following questions the appropriate step for the given input.

58. Step III of an input is : 81 boat 73 wheel spike dancer 32 59  
 How many more steps are required to complete the rearrangement ?  
 (1) Two (2) Three  
 (3) Four (4) Five  
 59. Step II of an input is : 67 cat 12 25 dog fight man 42.  
 Which of the following will be Step V ?  
 (1) 67 cat 42 dog 25 fight 12 man  
 (2) 67 cat 42 dog 25 12 fight man  
 (3) 67 cat 42 dog 12 25 fight man  
 (4) 67 cat 42 12 25 dog fight man  
 60. **Input :** world 23 new 47 major 13 62 desk  
 Which of the following will be Step V for the above input ?  
 (1) 62 desk 47 major world 23 new 13  
 (2) 62 desk 47 world 23 new major 13  
 (3) 62 desk 47 major 23 world new 13  
 (4) 62 desk 47 major 23 new world 13  
 61. Lata is now 6 years younger to her brother Suraj. After 18 years she will be 4 times her present age. Then what will be the age of Lata after 18 years ?  
 (1) 18 Years (2) 36 Years  
 (3) 32 Years (4) 24 Years



62. On the basis of the four positions of a dice given below find the colour of the face opposite to 'Yellow'?



- (1) Indigo (2) Red  
(3) Pink (4) Blue

**Direction (Q.63 to Q.65) :** In each of the following questions, three statements are given followed by three conclusions numbered I, II and III. You have to take the given statements to be true even if they seem to be at variance with commonly known facts and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

63. **Statements :** All tigers are jungles.  
No jungles are birds.

Some birds are rains.

- Conclusions :** I. No rain is jungle.  
II. Some rains are jungles.  
III. No birds is tiger.

- (1) Only I and II follow  
(2) Only III follows  
(3) Only either I or II, and III follow  
(4) Only II follows

64. **Statements :** All flowers are toys.  
Some toys are trees.  
Some angles are trees.

- Conclusions :** I. Some angles are toys.  
II. Some trees are flowers.  
III. Some flowers are angles.

- (1) None follows  
(2) Only III follows  
(3) Only I follow  
(4) Only II follows

65. **Statements :** All trains are buses.  
No room is bus.  
All boats are rooms.

- Conclusions :** I. No boat is train.  
II. No bus is boat.  
III. No train is room.

- (1) None follows  
(2) Only II and III follows  
(3) Only I and II follow  
(4) All follows

**Directions (Q.66 & Q.67) :** In each of the following figures, numbers are written according to some patterns and one number is missing, shown by question mark. Find the missing number that replaces the question mark.

6	21	36
9	45	81
7	?	49

66.

- (1) 32 (2) 28 (3) 35 (4) 56

67.  $24 \begin{matrix} 16 \\ \circlearrowleft 8 \\ 4 \end{matrix} 20$      $81 \begin{matrix} 16 \\ \circlearrowleft 12 \\ 11 \end{matrix} 36$      $64 \begin{matrix} 25 \\ \circlearrowleft ? \\ 31 \end{matrix} 49$

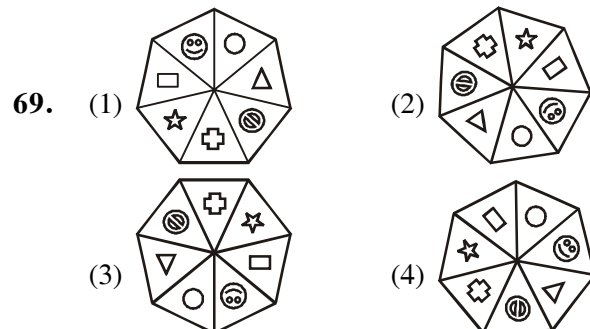
67.

- (1) 11 (2) 13 (3) 15 (4) 17

68. A tailor had a number of shirt pieces to cut from a roll of fabric. He cut each roll of equal length into 10 pieces. He cut at the rate of 45 cuts a minute. How many rolls would be cut in 24 minutes?

- (1) 32 rolls (2) 54 rolls  
(3) 108 rolls (4) 120 rolls

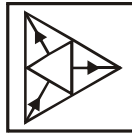
**Directions (Q.69 & Q.70) :** In the following questions, four figures are given. Three of them are alike in a certain way and one is different. Find the odd one from the alternatives.



70. (1)



(2)



(3)



(4)



71. In the following question, what digit will come in place of shaded part ?

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

(1)

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

(2)

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

(3)

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

(4)

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

72. In the following figures digits follow a certain pattern. What will replace question mark (?) sign ?

4	1	11	11	3
3	3	1	6	5
9	2	9	4	2
6	4	8	9	3
5	1	?	1	4

(1) 6

(2) 7

(3) 8

(4) 9

73. If a boy is asked to put in a basket one mango when ordered one, one orange when ordered two, one apple when ordered three and is asked to take out from the basket one mango and one orange both when ordered four. How many total fruits will be in the basket if sequence of order is as under?

1 2 3 3 2 1 4 2 3 1 4 2 2 3 3 1 4 1 1 3 2 3 4

(1) 10 (2) 11 (3) 12 (4) 13

74. If in a certain code 'facing problems with health' is coded as 'mlp hlt ngi snk', 'rise with every challenge' is coded as 'snk rtv lne riy', 'facing challenge each day' is coded as 'ngi riy nop hus', 'health problems on rise' is coded as 'hlt sa rtv mlp' then whose code can be 'riy snk mlp'

(1) problems every day

(2) with health day

(3) facing every challenge

(4) challenge with health

75. (a)  $P \times Q$  means Q is mother of P ;  
 (b)  $P + Q$  means P is father of Q ;  
 (c)  $P - Q$  means P is brother of Q ;  
 (d)  $P \div Q$  means Q is sister of P.

Which of the following means 'M is niece of T' ?

(1)  $M \div D + T \times R$  (2)  $T - D + R \div M$

(3)  $T \times D + R \div M$  (4)  $D \div M + R - T$

76. Consider a 99 digit number created by writing side by side the first fifty four natural numbers as follows :

1 2 3 4 5 6 7 8 9 10 11 12 13 ----- 53 54

The above number when divided by 8 will leave a remainder of

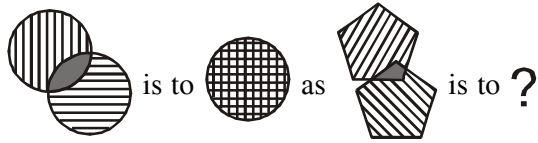
(1) 6 (2) 4 (3) 2 (4) 0

77. Figure below represent a balance which symbol replaces (?)



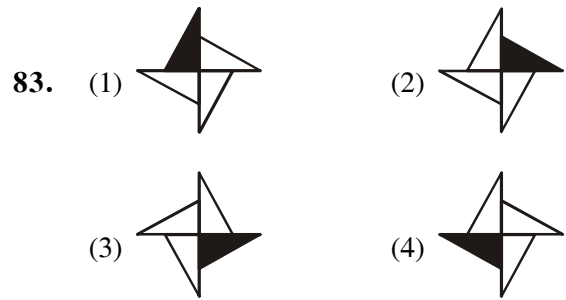
(1) □ (2) ○ (3) Δ (4) Δ ○

78. Which shape of the figure completes the second pair in a similar way as the first pair?

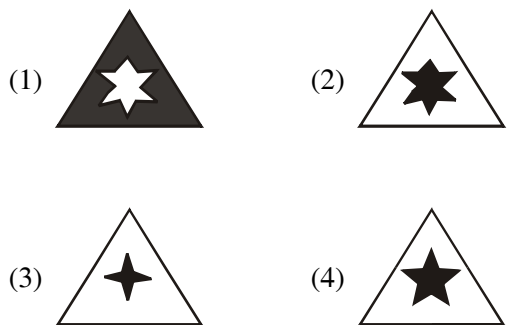
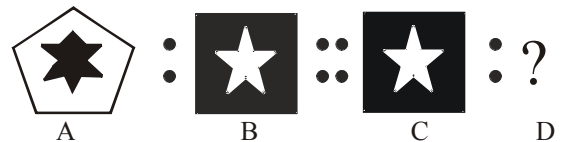


- (1) (2)
- (3) (4)

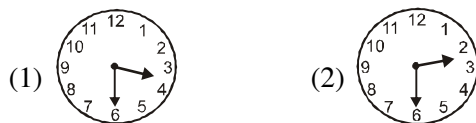
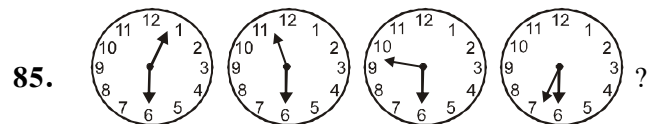
**Directions (Q.79 to Q.83) :** In the following questions, three figures are alike, while one is different. Identify the one which is different.

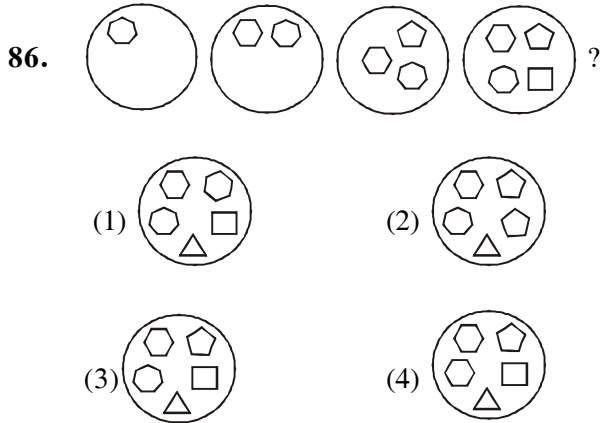


84. Two sets of figures are given in the question. Figures A, B, C and D are problem-figures and figures 1, 2, 3 and 4 are answer figures. There is a definite relationship between figures A and B. Establish a similar relationship between C and D by choosing a figure D from the answer-figures.



**Directions (Q.85 & Q.86) :** Complete the figural series, choosing the correct figure from the given alternatives.





**Directions (Q.87 to Q.89) :** The letters in the words given below are coded using symbols. The symbols are in the same order as the letters. Identify the symbols for each letter and find correct answer in the following questions.

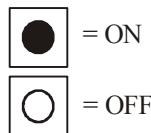
NEAT - qbdp  
GAP - ydm  
BUMP - shlm  
TIRE - pxfb

87. PAINT can be coded as  
(1) pdxqm (2) mqxdp  
(3) mdxqp (4) qdxpm

88. GAME can be coded as  
(1) ydlb (2) dybl  
(3) bydl (4) ldby

89. The code x l s f h b represent the word  
(1) BUMPER (2) IMBRUE  
(3) GARNET (4) NATURE

90. An electrical circuit wiring a set of four lights depends on a system of switches A, B, C and D. Each switch when working has the following effect on the lights :  
Switch A turns lights 1 and 2 on/off or off/on  
Switch B turns lights 2 and 4 on/off or off/on  
Switch C turns lights 1 and 3 on/off or off/on  
Switch D turns lights 3 and 4 on/off or off/on



In the following, switches D A B C are thrown in turn, with the result that Figure 1 is transformed into Figure 2. One of the switches is therefore not working and has had no effect on the numbered lights. Identify which one of the switches is not working.

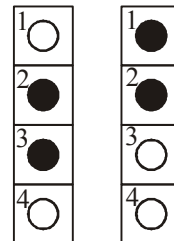
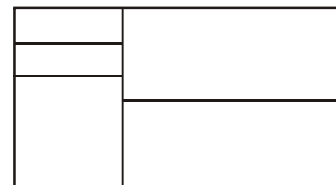


Figure 1 Figure 2

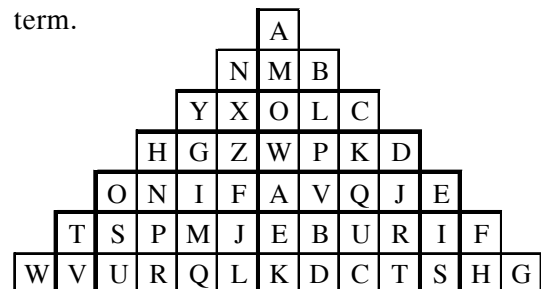
- (1) Switch C (2) Switch B  
(3) Switch D (4) Switch A

91. The ratio of Sara's age 4 years ago and Vaishali's age after 4 years is 1: 1. Presently, the ratio of their ages is 5: 3. Find the ratio between Sara's age 4 years hence and Vaishali's age 4 years ago.  
(1) 1 : 3 (2) 3 : 1 (3) 4 : 3 (4) 3 : 4
92. How many rectangles are there in the given figure ?



- (1) 10 (2) 9 (3) 6 (4) 5

**Directions (Q.93 & Q.94) :** A pyramid of letters is given below. Study the pyramid and select the correct alternative to fill in the missing term.



93. HNPRQ, GIMQL, ZFJLK, ?, PVBDC  
(1) QLKDC (2) WAEKD  
(3) WPVBD (4) IFAVQ

94. FHSIE, ISTRJ, RTCUQ, UCDBV, ?

- (1) JLKDC                      (2) LPVBD  
(3) BDKEA                    (4) BDCTS

95. Pankaj met his friend three days ago. He told his friend that he had his last exam five days later. He met his friend again, three days after the exam. 6 days after he met his friend after the exam they left for a vacation. The day on which they left for a vacation is Saturday. What is today ?

- (1) Tuesday                    (2) Monday  
(3) Saturday                  (4) Wednesday

96. How many Mondays are there in a particular month of a particular year. If the month ends on Wednesday ?

- (1) 4  
(2) 5  
(3) 6  
(4) Cannot be determined

97. Karan was born on 29th February 1972. How many birthdays he celebrate upto 2008 ?

- (1) 8                                (2) 9  
(3) 10                              (4) 11

**Directions (Q.98 to Q.100) :** A cube of 5 cm has been painted on its surfaces in such a way that two opposite surfaces have been painted blue and two adjacent surfaces have been painted red. Two remaining surfaces have been left unpainted. Now the cube is cut into smaller cubes of side 1 cm each.

98. How many cubes will have no side painted?

- (1) 48                              (2) 27  
(3) 45                              (4) 50

99. How many cubes will have at least red colour on its surfaces?

- (1) 50                              (2) 48  
(3) 45                              (4) 46

100. How many cubes will have at least blue colour on its surfaces?

- (1) 48                              (2) 45  
(3) 32                              (4) 50