NTSE STAGE – II
MAT PAPER
SOLUTIONS

1. **(2)**

N O V A : O V O N

Similarly

O Z O N : Z O Z O

2. **(2)**

$B \xrightarrow{-1} A$ $F \xrightarrow{-1} E$

$E \xrightarrow{-2} C$ $I \xrightarrow{-2} G$

$J \xrightarrow{-3} G$ Similarly $N \xrightarrow{-3} K$

$Q \xrightarrow{-4} M$ $U \xrightarrow{-4} Q$

$Q \xrightarrow{+4} U$ $U \xrightarrow{+4} Y$

3. **(3)**

B	D	G	K		K	M	P	T
+13	+7	+1	−5	Similarly	+13	+7	+1	−5
15	K	H	F		X	T	Q	O

4. **(1)**

B	E	F	C		V	Y	Z	W
+3	−1	−4	+3	Similarly	+3	−1	−4	+3
E	D	B	F		Y	X	V	Z

5. **(2)**

$3^2 = 9$, $7^2 = 49$, $(0.12)^2 = 0.0144$

6. **(3)**

$4 \times 5 \times 4 = 80$

$5 \times 6 \times 5 = 150$

$8 \times X \times 8 = 448$

$X = \dfrac{448}{64} = 7$

7. **(4)**

$3 \times 2 + 1 = 7$

$7 \times 2 + 1 = 15$

$15 \times 2 + 1 = 31$

Similarly   9

$9 \times 2 + 1 = 19$

$19 \times 2 + 1 = 39$

$39 \times 2 + 1 = 79$

So,   9, 19, 39, 79

8.   **(1)**

$$90 = 9 \times 10 \quad \text{and} \quad 81 = 9^2$$

Similarly $\quad 120 = 12 \times 10 \quad \text{and} \quad (12)^2 = 144$

9.   **(4)**

$3^4 : 3^1 : 3^3 \quad$ similarly $\quad 5^4 : 5^1 : 5^3$

i.e.   625, 5.

10.   **(4)**

11.   **(3)**
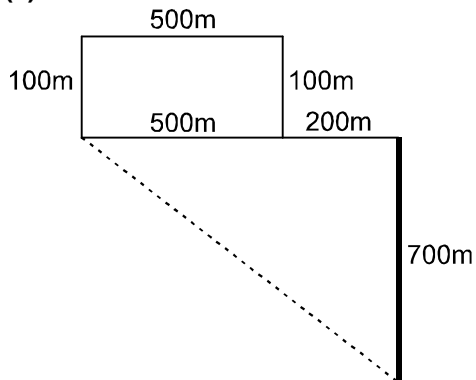
i.e.   700 + 700 = 1400 m

12.   **(4)**

Option (1) $5 \times 5 = 25$

$3 \times 17 = 51$

$6 \times 15 = 96$

$25 \times 5 \neq 75$

13.   **(2)**

By observation option (2) is different from other.

14.   **(3)**

Move clockwise all figure.

Hence option (3) will be odd one out.

15.   **(1)**
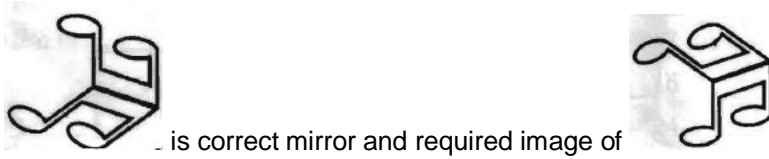
(5, 1), (7, 3), (5, 1), (7, 3), (5, 1), (5, 1)

16.   **(2)**

(2, 8, 6) (2, 8, 6) (2, 8)

17.   **(4)**
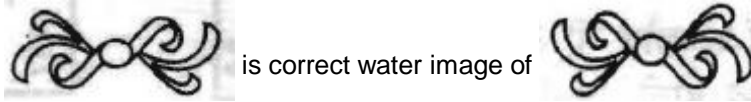
(6, 8, 4), (6, 8, 7), (6, 8, 3), (6, 8)

18.   **(3)**

(3, 9), (6, 36), (8, 64), (5, 25), (2, 4), (4, 16)

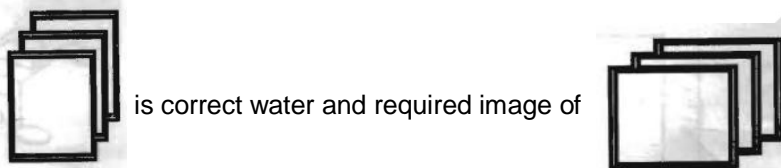**19.**   **(2)**

Option (2) is correct mirror image of given figure.

20.   (1)

 is correct mirror and required image of

21.   (1)

 is correct water image of

22.   (2)

 is correct water and required image of

23.   (4)

 is correct mirror image of

24.   (3)

 is correct water image of

25.   (2)
Let   Gopal = x years and Govind = y years
                       x + 16 = 3x
i.e.   x = 8 years

26.   (3)
16th June → Friday
23th June → Friday
30th June → Friday
7th July → Friday

27.   (1)

 is embedded in

28. **(2,3)**
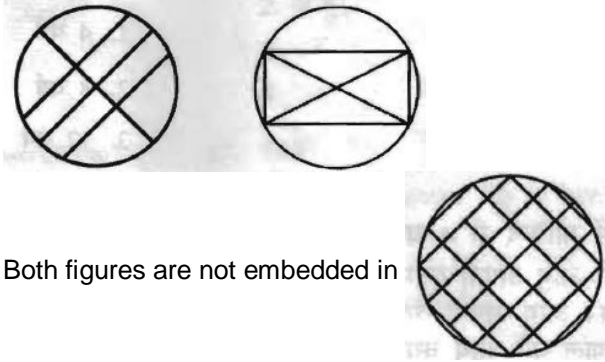
Both figures are not embedded in

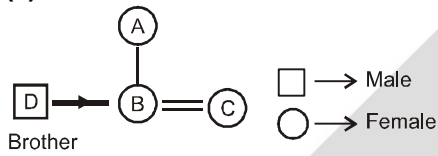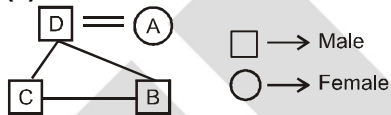**29.** **(3)**

When mukesh ? suresh interchange their position, suresh becams 16th from the left

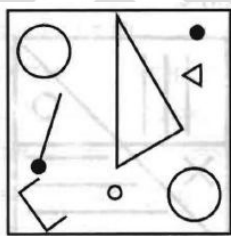Then total Boys = 8+ 16 −1

$\Rightarrow$ 24−1 = 23

30. **(2)**
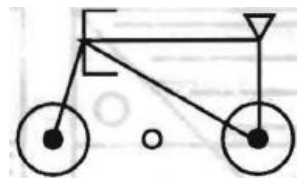

$\square \rightarrow$ Male
$\bigcirc \rightarrow$ Female

Brother

31. **(4)**

$\square \rightarrow$ Male
$\bigcirc \rightarrow$ Female
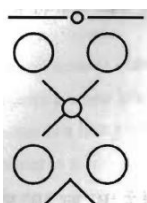
i.e. A is wife of D

32. **(3)**

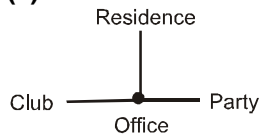of all components found in

33. **(4)**

of all components found in
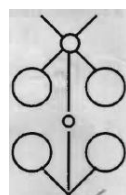
34. **(1)**

 is required form of
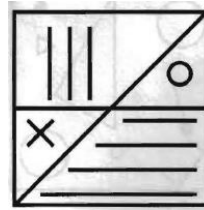
35. **(2)**

36. **(2)**
If P manes one and half quarter clockwise then P an'll be in North – West.

37. **(4)**

 is folded pattern of

38 – 40.		Science	Maths	Cricket	Tennis	Music
	A	✓	✓	✓		
	B		✓	✓	✓	
	C	✓	✓		✓	
	D	✓		✓	✓	✓
	E			✓		✓

38. **(1)**
A is in good in cricket, Maths and Science.

39. **(2)**
C is in good in Science, Tennis and Maths.

40. **(2)**
B is not good in both Science and Music.

41. **(2)**

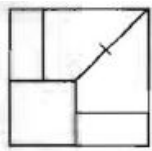 Only shows family relationship.

42. **(1)**
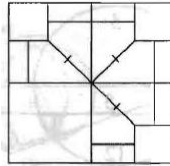3 Teachers are both player and artists.

43. **(1)**

4 represents uneducated unemployed youth in village.

44. **(3)**
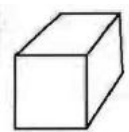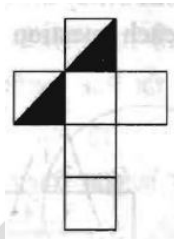
7 represents employed educated youth in a village.

45. **(3)**

 will complete the pattern of

46. **(2)**

 look like unfolded as

47. **(4)**

Then is no code define for letter D.

48 **(2)**

A is coded A, R is coded R,

49. **(1)**

FIGURE will be coded as EHJQRF.

50. **(1)**

W → D		B → Y
H → S		L → O
I → R	similar	A → Z
T → G		C → X
E → V		K → P

51. **(4)**

There are only 5 alphabet have not been used as codes for each other.

52. **(3)**

HINTED can be coded successfully using the given pattern.

53. **(2)**

L = 12 + 8 = 20, R = 18 + 8 = 26, E = 5 + 8 = 13, D = 4 + 8 = 12
i.e. RED = 26 + 13 + 12 = 51
B = 2 + 8 = 10, L = 12 + 8 = 20, U = 21 + 8 = 29, E = 5 + 18 = 13
    BLUE = 10 + 20 + 29 + 13 = 72

54. **(4)**

GO = 7 × 15 = 105
SO = 19 × 15 = 285
RAT = 18 × 1 × 20 = 360

55. **(3)**

S U G A R $\xrightarrow{\text{Coded}}$

56. **(1)**

S P I C E $\xrightarrow{\text{Coded}}$ ⟨• •⟩ ∏ ∟ ⌐

57. **(2)**

P A T C H $\xrightarrow{\text{Coded}}$ ⟨• ⌐ ⊓ ∟ ⟨

58. **(1)**

$$\begin{array}{cccc} & T & A & R \\ + R & A & T & E \\ \hline 4 & 4 & 4 & 4 \end{array} \qquad \begin{array}{cccc} & 1 & 3 & 4 \\ + 4 & 3 & 1 & 0 \\ \hline 4 & 4 & 4 & 4 \end{array}$$

59. **(2)**

From statement 2 and 3 Good is coded as 4.

60. **(2)**

Amit's code = 8
Wants code = 3
Precious code = 9
Scooter code = 6
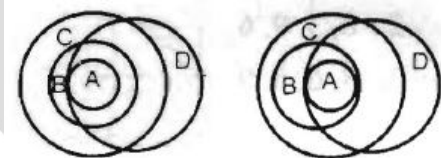Amit wants precious scooter will be coded as 8 3 9 6.

61. **(2)**

$$\begin{array}{ccc} A & B & C \\ \times \quad D & E \\ \hline A \, C \, F & B \\ E \, A \, G & \times \\ \hline F \, H \, F & B \end{array} \qquad \begin{array}{ccc} 1 & 6 & 2 \\ \times \quad 5 & 8 \\ \hline 1 \, 2 \, 9 & 6 \\ 8 \, 1 \, 0 & \times \\ \hline 9 \, 3 \, 9 & 6 \end{array}$$

Ans. F – D = 9 – 5

62. **(2)**

First and third figure follows the all statements.
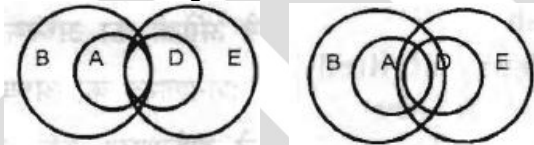
63. **(1)**

Both first and second figure follows the all statements.
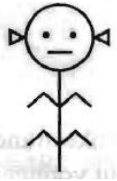

64. **(2)**

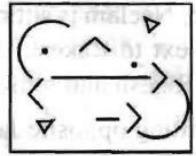   Correct relationship.
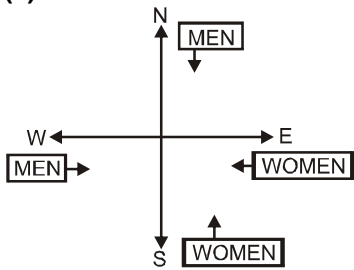
65. **(3)**

 Correct relationship.
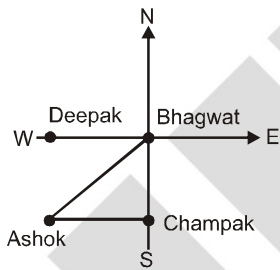
66. **(3)**
Diagram '3' has all the components

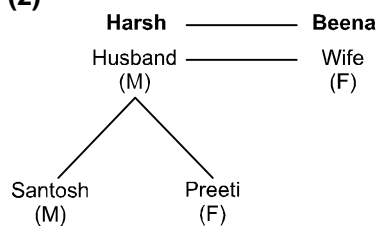 has all components of

67. **(4)**

68. **(4)**

69. **(3)**
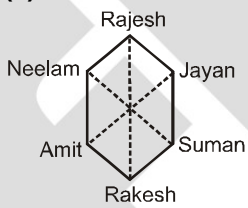
70. **(2)**
Sudha = Srikant > Mukesh & Jagdish > Priyanka > Manju
So,   Srikant > Manju

71. **(2)**

72. **(2)**

After interchanging the position
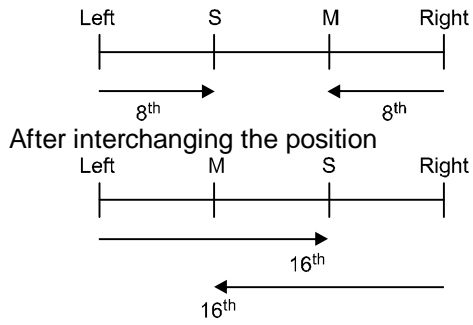
73. **(4)**
Data is unsufficient to draw conclusion.

74. **(1)**

75. **(2)**

76. **(1)**

77. **(2)**

Case-I :

Case-II :

78. **(3)**

79. **(3)**
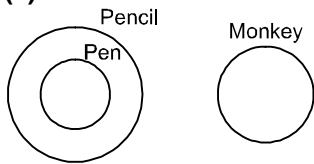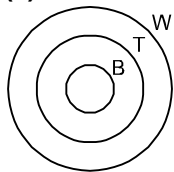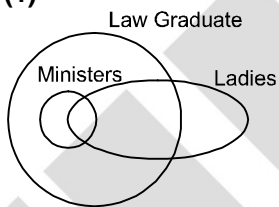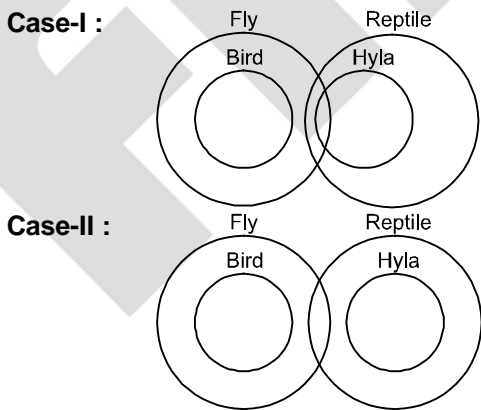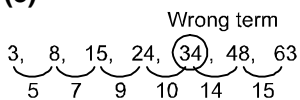
$$\underset{6 \quad 6\times3 \quad 18\times3 \quad 54\times3}{4 \quad 10 \quad 28 \quad 82 \quad 244}$$

80. **(4)**
(LCM of 4, 5, 6) + 3 = 60 + 3 = 63
When 63 ÷ 7,
No remainder left.

81. **(3)**

$$\underset{-11 \quad +8 \quad -6 \quad +5 \quad -3 \quad +1}{89, \quad 78, \quad 86, \quad 80, \quad 85, \quad 82, \quad 83}$$

82. **(1)**
4, 6, 15, 56, 280, 1644

83. **(3)**

84. **(2)**
(10 + 11 + 12) − (7 + 8 + 9) = 9
Hence (15 + 16 + 17) − (12 + 13 + 14) = 9

85. **(1)**

86-90
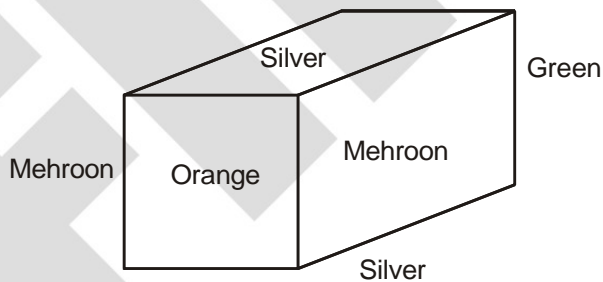
86. **(1)**
All such cubes will be at 4 corners so, 4 cubes

87. **(2)**
All such cubes will be at only two edges and each edge contains 2 such cubes. Total = 4

88. **(2)**
All such cubes will be at only two surfaces. One surface has 4 cubes so, total 8

FIITJEE

89. **(1)**
All such cubes will be at only one surface i.e. 4

90. **(2)**
Total cubes – coloured cube = 64 – 56 = 8

91. **(2)**
All such cubes will be at surface of the cube. One surface contain only '4'.
So that total 6 × 4 = 24.

92. **(2)**
From given pattern of same dice 5 is opposite to 2, 6 is opposite to 1 and 4 is opposite to 3.
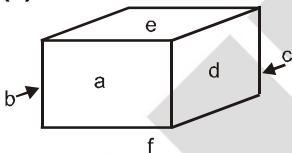
93. **(4)**
From both statements I & II we can find the longest piece of cloth.

94. **(2)**
1 2 3 4 5 …………...10……….……16
                   ↓   ↓
32……...…….……….....23…………...17

Total number of Huses are 32.

95. **(3)**

 is opposite to '——'

96. **(1)**

97. **(1)**
S = 12, H = 67, 0 = 42 , w = 56

98. **(3)**
S = 31, H = 86, I = 66, P = 44

99. **(4)**
G = 96, R = 34, O = 23, w = 68

100 **(2)**
G = 58, R = 41, I = 97, D = 88.

* * * * *