



NTSE - 1 SOLUTIONS (MAT) (KARNATAKA)

1. $496 : 204 :: 329 : ?$
 $8^3 - 16 : 6^3 - 12 :: 7^3 - 14, 5^3 - 10 = 115$
2. $\frac{7}{11} : \frac{336}{110} :: ? : \frac{720}{156}$
 $7 \rightarrow 7^3 - 7 = 336 \quad 9^3 - 9 = 720$
 $11 \rightarrow 11^2 - 11 = 110 \quad 13^2 - 13 = 156$ } $\frac{9}{13}$
3. $11 \ 18 \ 32 \ 60 : 17 \ 30 \ 56 \ 108 :: 13 \ 24 \ 46 \ 90 : ?$
 $\begin{array}{cccc} 11 & 18 & 32 & 60 \\ \cup & \cup & \cup & \\ 7 & 14 & 28 & \end{array} \quad \begin{array}{cccc} 19 & 36 & 70 & 138 \\ \cup & \cup & \cup & \\ 17 & 34 & 68 & \end{array}$

4. FLOWER :: BUNCHES
 $\downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \quad 25 \text{ F } 13 \times 19 \vee 8$
 21 0 12 D 11 I

no. of letters alternatively.

5. A W S X C :: R N J O T :: ? :: U Q M R W

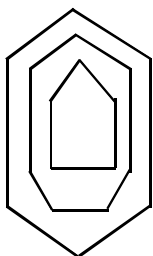
A	W	S	X	C	D	Z	V	A	F
↓	↓	↓	↓	↓					
R	N	J	O	T	U	Q	M	R	W

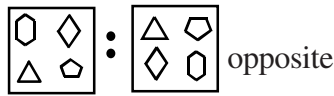
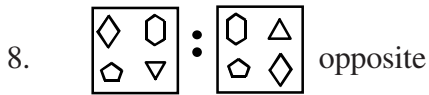
6. E H K A M : Y M W T Q :: P W O R Z : ?

E	H	K	A	M	P	W	O	R	Z
↘	↘	↘	↘	↘	↘	↘	↘	↘	↘
Y	M	W	T	Q	L	D	A	I	B

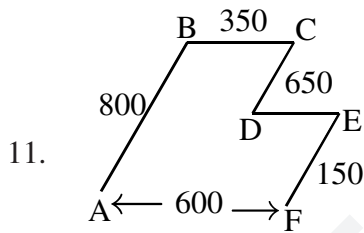
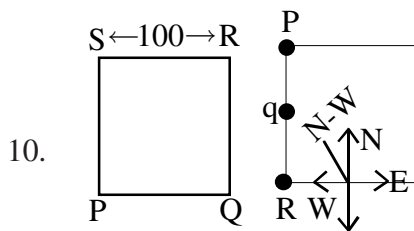
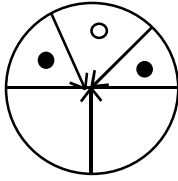
(+12) (+12)

7. By observation





9. Bt ibservation (2)



- 12. - 2 by observation
- 13. - 3 by observation
- 14. - 2 by observation
- 15. - 3 by observation
- 16. - 1 by observation
- 17. 2 by observation
- 18. 4 by observation
- 19. 1 by observation
- 20. 3 by observation
- 21. 1

B	BF	BGF
x	6x	13x
x + 6		7(x + 6)
13x + 6 = 7(x + 6)	if x = 6 = B	
13x + 6 = 7x + 42	BF age ⇒ 6 × 6 = 36	
6x = 36	BGF age ⇒ 6 × 13 = 78	
x = 6		

22. 4

$$\frac{x}{y} = \frac{5}{21}$$

$$\frac{x-4}{y-4} = \frac{3}{19}$$

$$21x = 5y$$

$$19x - 76 = 3y - 12$$

$$9 \times \frac{5y}{21} - 76 = 3y - 12$$

$$\frac{95y}{21} - 76 = 3y - 12$$

$$x = 10$$

23. 3

$$\begin{matrix} x, & 22, & 31, & 58, & 139, & 382 \\ \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} \\ 3 & 9 & 27 & 81 & 243 & x = 19 \end{matrix}$$

24. 4

$$\begin{matrix} 12, & 9, & 27, & 23, & 92, & 87, & ?, & ? \\ \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} \\ -3 & -4 & -5 & & & & & \end{matrix}$$

25. 2

$$\begin{matrix} & \times 4 & \times 6 & \times 8 & \times 10 \\ & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} \\ 47, & 7, & 69, & 28, & \text{---}, & \text{---}, & 125, & 1344, & 159, & 13440 \\ \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} \\ 22 & 26 & 30 & 34 & & & & & & \end{matrix}$$

26. 1

$$\frac{5}{11}, \frac{25}{30}, \frac{105}{87}, ?, \frac{1705}{771}$$

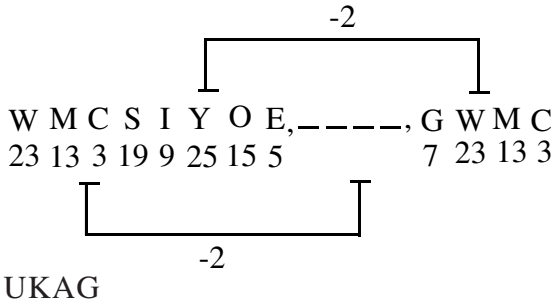
$$\begin{matrix} 5, & 25, & 105, & ?, & 1705 \\ \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} \\ 1 & \times 4+5 & \times 4+5 & \times 4+5 & \times 4+5 \end{matrix}$$

$$\begin{matrix} 11, & 30, & 87, & ?, & 771 \\ \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} \\ \times 3-3 & \times 3-3 & \times 3-3 & \times 3-3 & \end{matrix}$$

27. 4

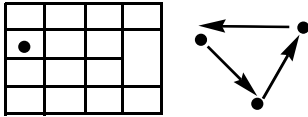
$$\begin{matrix} m - m - n - m - - nn - \\ mnmmnmmmmnnn \end{matrix}$$

28. 3

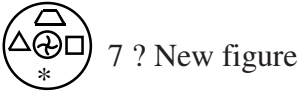


29. 4 by observation

30. 3



31. 2

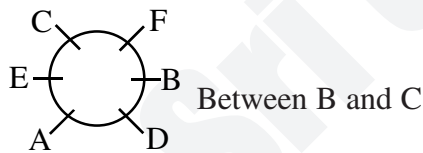


32. 1

$\left. \begin{array}{l} 3, 4, 5, 6 \\ 4, 5, 6, 3 \\ 5, 6, 3, 4 \\ 6, 3, 4, 5 \end{array} \right\}$ sides of the figure.



33. 3



34. 2

T > U > R > S > P > Q

35. 1

i) $6^3 - 6 \times 1$ ii) $3^3 + (3 \times 2)$ iii) $4^3 + (4 \times 2)$ iv) $3^3 + (3 \times 2)$

36. 4

not a prime number.

37. 2

i) $(12)^2 + 12 = 156$ ii) $(14)^2 - 14 = 182$ iii) $(16)^2 + 16 = 272$ iv) $(18)^2 + 18 = 342$

38. 1

1) $1, 4 \Rightarrow 1^3 + 1$ 2) $2, 12 \Rightarrow 2^3 + 4$
 3) $3, 36 \Rightarrow 3^3 + 9 = 36$ 4) $4, 80 \Rightarrow 4^3 + 16 = 80$

39. 2

1, 3, 4 → adjective
 2 → Noun

40. RHYTHEM

41. 4

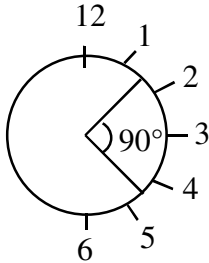
$$R = 7, E = 4, L = 3, I = 6, C = 5$$

$$A = 2, N = 9, T = 0, H = 1, M = 8$$

$$M E R C A N T I L E = 8 4 7 5 2 9 0 6 3 4$$

42. 2

Clock is rotated by 90° in clock wise direction



Before rotation hour hand was pointing north-east

Time = 1 : 30 hr

Time after 3 hours = 3 + 1 : 30 = 4 : 30 hrs

43. 4

$$15 \div 3 \times 5 + 16 = 41$$

44. 3

$$13 \times 4 + 5 > 12 \div 6$$

$$\Rightarrow 57 > 2$$

which is true

45. 2

$$80 = 60 - 20 \div 3 + 80 \Rightarrow 80 = 80$$

46. 4

$$(20 \times 3) + 6 \times 8 - 32 = 76$$

$$\Rightarrow 76 = 76$$

47. 2

$$48 + 12 \times 16 > 80 - 32 + 24$$

$$240 > 72$$

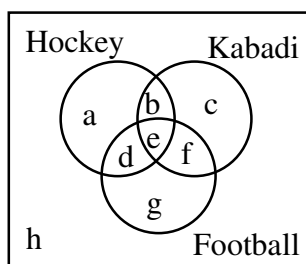
48. 4

by observation

49. 3

By observation

50. 4



$$\begin{aligned}
 b + e &= 20 \quad \dots\dots (i) \\
 d + e &= 25 \quad \dots\dots (ii) \\
 e + f &= 15 \quad \dots\dots (iii) \\
 g &= 20 \\
 h &= a \\
 h + (a + b + c + d + e + f + g) &= 120
 \end{aligned}$$

$$a = \frac{g}{2} = \frac{20}{2} = 10$$

$$2 \times 10 + b + c + d + e + f + 20 = 120$$

$$b + c + d + e + f = 80 \quad \dots\dots (iv)$$

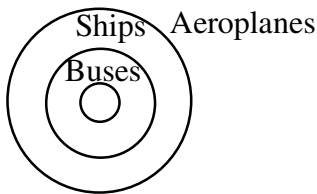
∴ from eq.s (i), (ii), (iii) and (iv)

$$40 + 4e + c = 80$$

$$4e + c = 20$$

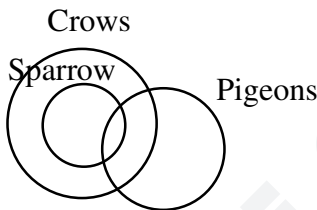
51. $h = 10.$

52.



So option 3 follows

53.



So option (1) follows

54. By observation option (3) follows

55. By observation (4) follows

56. 35, 220, 1050, 4200

$$5 \times 7 = 35$$

$$35 \times 210$$

$$210 \times 5 = 1050$$

$$1050 \times 4 = 4200$$

57. 256, 343, 64, 49, 16, 7, ②, 1

Alternate seqies : 256, 64, 16, 2

So option b follows

58. Option (1) follows

YWTPZ, VTQMW, SQNJT, PNLIQ, MKHDN

252320 222017103, 191714, 161412, 13118

Diffition between corosponding better of two consecutive words is '3' except PNLIQ

59. $x - y = 6$

$$\frac{x^2 + y^2}{2} = 234$$

$$(x - y)^2 = x^2 + y^2 - 2xy$$

$$36 = 468 - 2xy$$

$$2xy = 432$$

$$(x + y)^2 = x^2 + y^2 + 2xy$$

$$(x + y) = 30$$

$$\frac{x + y}{2} = 15$$

60. $\frac{10}{2} \times 12 \times 2 = 29$

$$\frac{22}{2} + 8 \times 2 = 27$$

$$\frac{32}{2} + 14 \times 2 = 44$$

61. $\frac{76 + 58}{2} + 7 = 74$

62. $63 + x - 36 = 42$

$$x = 42 - 27 = 15$$

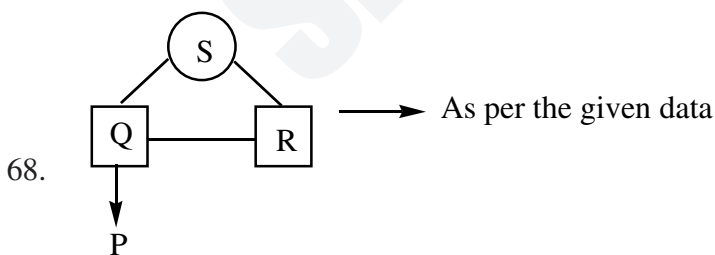
63. Column I \times 3 + Column II \times 2 = Column III

64. By observation option (4) follows

65. By observation on (3) follows

66. By observation of diagram, option (2) follows

67. By observation of diagram option (4) will be the answer



\therefore P is the Grandson so S

69. $= [(12 \times 16) - (15 \times 11)]^2 = 729$

Ans : 4

70. $7^3 + 8^2 + 9 = 419$

Ans : 3

$$71. \left(\frac{10}{2}\right)^2 + \left(\frac{4}{2}\right)^2 + \left(\frac{6}{2}\right)^2 + \left(\frac{8}{2}\right)^2$$

$$25 + 4 + 9 + 16 = 56$$

$$\therefore \left(\frac{16}{2}\right)^2 + \left(\frac{10}{2}\right)^2 + \left(\frac{14}{2}\right)^2 + \left(\frac{8}{2}\right)^2$$

$$= 8^2 + 5^2 + 7^2 + 4^2 = 64 + 25 + 49 + 16 = 154$$

Ans : 2

$$72. \left(\frac{168}{14}\right)^2 + \left(\frac{96}{12}\right)^2 = 12^2 + 8^2 = 208$$

Ans : 1

73. As per the observation of the given figure option (3) will be the right answer

74. As per the observation of the given figure, option (4) will be the right answer

75. Logic is sum of the digits of the give numbers

$$8 + 1 = 9 \qquad 1 + 6 + 9 = 16$$

$$1 + 4 + 4 = 9 \qquad 4 + 8 + 4 = 16$$

$$2 + 2 + 5 = 9 \qquad 5 + 2 + 9 = 16$$

\therefore option (1) will be the right answer

76. Multiples of the third number

$$32 \times 6 = 192$$

$$32 \times 9 = 288$$

\therefore option (2) will be the right answer

77. Number of days between 1st Jan to 5th Sep

$$30 + 29 + 31 + 30 + 31 + 30 + 31 + 31 + 5 = 248$$

$$\frac{248}{7}, \text{Remaindes} = 3$$

Wed + 3 = Saturday

\therefore Option (4) will be the right Answer

78. Sum of place values of the given word equal to sum of the place values of the code

\therefore JUG = MET

$$10 + 21 + 7 = 13 + 5 + 20$$

Option (2) will be the right answer.

79. This is a Matrix type coding

By the observation will get option (3)

80. By the observation, INMATE code is

$$I = 86$$

$$N = 32$$

$$M = 22$$

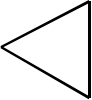
$$A = 68$$

$$T = 56$$

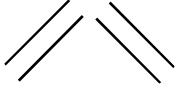
$$E = 41$$

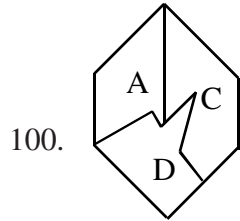
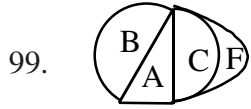
\therefore Option (4) will be the right answer.

81. By Observation we got option (2)

82. Opposite of F is A
Opposite of B is D
Opposite of E is C
83. Opposite of 5 is 6
Opposite of 4 is 2
Opposite of 3 is 1
84. 919, 236, 616, 224, 428, 177, 428, 818, 111, 122, 236, 199
Total = 12.
85. zbcycancrc cbcucgema ane yxedebveep.
86. 6 is enclosed in II & V
10 is enclosed in IV & II
9 is enclosed in I & II
7 is enclosed in II & III
87. 14 is enclosed in II, III & IV
88. 12 is inside I, II, III
89. Unseen blocks = Total = Seen block
 $= 33 - 24 = 9$
90. Both the statements are required.
91. M - a
A - k
S - l
T - i
E - x
R - n
92. S - l
O - c
L - f
U - b
T - i
E - x
93. D - s
O - c
C - m
U - b
M - a
E - x
N - y
T - i
94. By observation we got option 4.
95. By observation we got option 2.
96. In this it is in the shape of  so we got option (3)

97. In this it is in the shape of  so we got option (4)

98. This is in the shape of  so option (2)



Sri Chaitanya