



# INTSO EDUCATION

## APTITUDE TALENT SEARCH OLYMPIAD (ATSO) 2015 - 2016

STAGE - 2

TIME : 60 min.

CLASS : VI

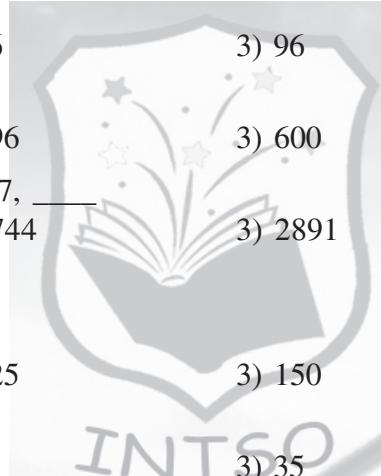
Max. Marks : 50

### Instructions:

- ⇒ Fill the OMR sheet completely and carefully.
- ⇒ Each question carries one mark and has only one correct answer.  $\frac{1}{4}$  (one fourth) marks will be deducted for indicating incorrect response of each question.
- ⇒ The question paper contains 50 questions to be answered in 60 minutes.

### NUMBER SERIES :

- |    |                                    |         |         |         |         |     |
|----|------------------------------------|---------|---------|---------|---------|-----|
| 1. | 27, 32, 38, 45, _____              | 1) 50   | 2) 53   | 3) 62   | 4) 70   | [ ] |
| 2. | 31, 38, 45, 52, _____              | 1) 54   | 2) 56   | 3) 57   | 4) 59   | [ ] |
| 3. | 4, 4, 8, 24, _____                 | 1) 52   | 2) 86   | 3) 96   | 4) 104  | [ ] |
| 4. | 441, 484, 529, 576, _____          | 1) 585  | 2) 596  | 3) 600  | 4) 625  | [ ] |
| 5. | 729, 1000, 1331, 1728, 2197, _____ | 1) 2325 | 2) 2744 | 3) 2891 | 4) 2966 | [ ] |



### NUMBER ANALOGY :

- |     |                          |        |        |        |        |     |
|-----|--------------------------|--------|--------|--------|--------|-----|
| 6.  | 4 : 64 :: 5 : _____      | 1) 100 | 2) 125 | 3) 150 | 4) 625 | [ ] |
| 7.  | 23 : 28 :: 28 : _____    | 1) 30  | 2) 31  | 3) 35  | 4) 38  | [ ] |
| 8.  | 225 : 289 :: 441 : _____ | 1) 484 | 2) 500 | 3) 525 | 4) 529 | [ ] |
| 9.  | 61 : 67 :: 71 : _____    | 1) 72  | 2) 73  | 3) 75  | 4) 79  | [ ] |
| 10. | 16 : 64 :: 36 : _____    | 1) 643 | 2) 216 | 3) 100 | 4) 84  | [ ] |

### LETTER SERIES :

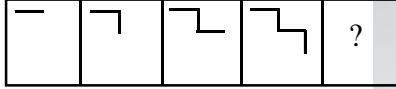
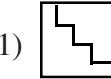
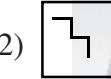
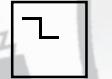
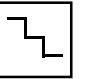
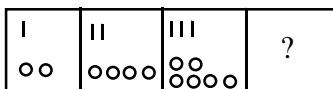
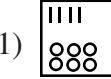
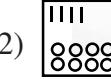
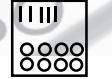
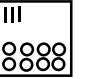
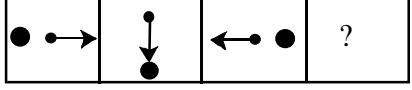
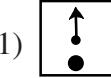
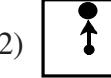
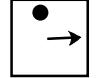
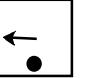
- |     |                           |        |        |        |        |     |
|-----|---------------------------|--------|--------|--------|--------|-----|
| 11. | F, K, P, U, _____         | 1) X   | 2) Y   | 3) Z   | 4) A   | [ ] |
| 12. | BL, FN, JP, NR, _____     | 1) PR  | 2) RP  | 3) TR  | 4) RT  | [ ] |
| 13. | CTE, DSJ, FQO, INT, _____ | 1) MJY | 2) OJY | 3) MJP | 4) JMP | [ ] |
| 14. | JAF, LEI, OIL, TOO, _____ | 1) AUP | 2) AUR | 3) ZUR | 4) ZUP | [ ] |

15. BFA, CHE, DJI, FLO, GNU, HPA, \_\_\_\_\_ [ ]  
 1) UUT                    2) OUT                    3) RJE                    4) JRE

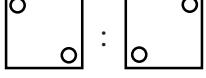
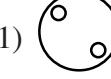
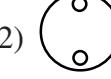
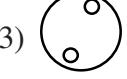
**LETTER ANALOGY :**

16. ABC : ZYX :: EFG : \_\_\_\_\_ [ ]  
 1) VUT                    2) UVT                    3) RUT                    4) URT
17. BD : EG :: XO : \_\_\_\_\_ [ ]  
 1) RO                    2) OR                    3) QZ                    4) AR
18. Air : Atmosphere :: Water : \_\_\_\_\_ [ ]  
 1) Hydrosphere            2) Ecosphere            3) Biosphere            4) Stratosphere
19. Winter : Hibernation :: Summer : \_\_\_\_\_ [ ]  
 1) Survival                    2) Activation            3) Astivation            4) coche
20. Cool : Heat :: Wax : \_\_\_\_\_ [ ]  
 1) Enargy                    2) candle                    3) light                    4) Bee
21. Train : Passenger :: Aeroplane : \_\_\_\_\_ [ ]  
 1) Aeronaut                    2) Astronaut                    3) Pilot                    4) Air hosters

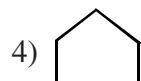
**NON VERBAL SERIES :**

22.  [ ]  
 1)                     2)                     3)                     4) 
23.  [ ]  
 1)                     2)                     3)                     4) 
24.  [ ]  
 1)                     2)                     3)                     4) 

**NON VERBAL ANALOGY :**

25.  :  ::  : ? [ ]  
 1)                     2)                     3)                     4) None

26. : :: : ? [ ]



27. : :: : ? [ ]

1)  $\alpha$

2) B

3)  $\gamma$

4)  $\delta$

#### NON VERBAL CLASIFICATION (OR) NON VERBAL ODD MANOUT:

28. [ ]

29. [ ]

30. [ ]

#### UNITS DIGITS :

31. Unit digit of  $3^n$  may not be  
 1) 3                          2) 9                          [ ]

32. Unit digit of  $6^{11} \times 9^7 \times 3^{41}$  =  
 1) 1                          2) 2                          3) 7                          4) 5                          [ ]

#### DIVISIBILITY RULES :

33. Which of the following number is not divisible by “4”  
 1) 784                          2) 12848                          3) 2187                          4) 8196                          [ ]

34. Which of the following numbers is not divisible by “6”  
 1) 23424                          2) 7218                          3) 46242                          4) 4628                          [ ]



#### LCM AND HCF

35. Find the LCM of 24, 30 and 15  
 1) 60                          2) 120                          3) 240                          4) 480                          [ ]

36. Find the HCF of 63 & 30  
 1) 1                          2) 2                          3) 3                          4) 4                          [ ]

#### MULTIPLES, FACTORS RELATED CONCEPTS :

37. The total number of factors for 124 are  
 1) 2                          2) 4                          3) 6                          4) 8                          [ ]

38. The total number of factor of 48 other than one and itself [ ]  
 1) 5                    2) 6                    3) 7                    4) 8

### EQUATIONS :

39. If sum of the ages of son and father is 60 and at present father's age is two times of his son, then what is his son's age [ ]  
 1) 10                    2) 20                    3) 30                    4) 40
40. If  $\frac{2x}{3} - \frac{1}{2} = \frac{7x}{2} + \frac{1}{3}$  then find the value of  $289x^2 + 17x =$  [ ]  
 1) 5                    2) 10                    3) 15                    4) 20
41. The cost of 2 chairs and 3 tables is 800, then what is the cost of 4 chairs and 6 tables [ ]  
 1) 400                    2) 500                    3) 1600                    4) 2000

### RATIOS :

42. If  $a : b$  is  $3 : 7$  and  $b : c$  is  $5 : 1$  then find  $a : b : c =$  [ ]  
 1)  $15 : 35 : 20$                     2)  $15 : 37 : 7$                     3)  $15 : 35 : 7$                     4)  $5 : 35 : 7$

43. If two numbers are in the ratio  $3\frac{1}{2} : 4$  and second number is 3 more than first number then the two numbers are \_\_\_\_\_ [ ]  
 1) 18, 21                    2) 21, 24                    3) 24, 27                    4) 27, 30
44. If  $15\%$  of  $x = 20\%$  of  $y$  then  $x : y$  is [ ]  
 1)  $3 : 4$                     2)  $4 : 3$                     3)  $17 : 16$                     4)  $16 : 17$
45. The mean proportional between 234 & 104 is [ ]  
 1) 12                    2) 39                    3) 154                    4) 156

### PERCENTAGES :

46. If the side of a square increases from 10 cm to 12 cm then the percentage increase in its area is [ ]  
 1) 20%                    2) 40%                    3) 22%                    4) 44%
47. If  $58\frac{1}{3}\%$  of  $24 - 20\%$  of  $40 = x$  then what is the value of  $x^3 - 2x^2 - 140$  is [ ]  
 1) 2                    2) 4                    3) 6                    4) 8

48. Marks obtained for a student in five tests are given as

Test - 1	Test - 2	Test - 3	Test - 4	Test - 5
$\frac{10}{20}$	$\frac{12}{20}$	$\frac{14}{20}$	$\frac{16}{20}$	$\frac{18}{20}$

In which test does max percentage increase than previous marks [ ]

- 1) Test - 2                    2) Test - 3                    3) Test - 4                    4) Test - 5
49. In a class the number of boys and girls are in the ratio  $4 : 3$ . If  $x$  indicates the number of boys more than the number of girls then  $x$  is what percent of total number of boys. [ ]  
 1) 15%                    2) 20%                    3) 25%                    4) 30%
50. A number is increased from 20 to 25 then the increase percentage in the number is [ ]  
 1) 15%                    2) 20%                    3) 25%                    4) 30%

