INTSO EDUCATION

APTITUDE TALENT SEARCH OLYMPIAD (ATSO) 2015 - 2016

	STAGE - 1	**TIME** : 60 min.
CLASS : X		**Max. Marks : 50**

Instructions:
⇨ *Fill the OMR sheet completely and carefully.*
⇨ *Each question carries one mark and has only one correct answer. No negative marks.*
⇨ *The question paper contains 50 questions to be answered in 60 minutes.*

Number Series

1. 15, 10, 45, 20, 135, 30, ____.   [   ]
   1) 205   2) 40   3) 405   4) 50

2. 25, 49, 121, 169, ____.   [   ]
   1) 196   2) 225   3) 256   4) 289

3. 5, 9, 18, 34, 59, ____.   [   ]
   1) 90   2) 95   3) 60   4) 85

4. 3, 6, 18, 90, 630, ____.   [   ]
   1) 3780   2) 5670   3) 6930   4) 6300

Number Analogy

5. 64:512 : : 81 : ____.   [   ]
   1) 500   2) 216   3) 729   4) 289

6. 20 : 401 : : 30 : ____.   [   ]
   1) 301   2) 900   3) 400   4) 901

7. 74 : 33 : : 63 : ____.   [   ]
   1) 27   2) 37   3) 47   4) 57

8. 25 : 37 : : 31 :_____ .   [   ]
   1) 47   2) 45   3) 35   4) 24

Letter Series

9. CDE, PQR, GHI, TUV, KLM, ____.   [   ]
   1) UVW   2) ABC   3) XYZ   4) WXY

10. PN, SQ, WU, BZ, _____F.   [   ]
    1) E   2) F   3) G   4) H

11. BOY, EQZ, HSA, KUB, ____.   [   ]
    1) NWC   2) MWC   3) OWC   4) NXC

12. LUDK, HQZG, DMVC, ZIRY, ____.   [   ]
    1) VMVC   2) VEOU   3) VENV   4) VENU

Letter Analogy

13. UAE : FZV : : IOU : ____.   [   ]
    1) VBF   2) TNM   3) RLF   4) LRF

14. EDC : RQP : : KJI : _____.   [   ]
   1) TUV   2) XWV   3) VWX   4) WXY

15. BDE : CHN : : KFX : _____ .   [   ]
   1) LJG   2) KLG   3) GLH   4) HGJ

Coding & decoding

16. In a certain code language, if CAMPUS is coded as SUPMAC , then EXERCISE is coded as
   1) XEREISCE   2) RXEECIRE   3) ESICREXE   4) EIRXESCE[   ]

17. In a certain code language, if Hyderabad is called Delhi, Delhi is called Chennai, Chennai is called Mumbai, then which city is the capital of India, in that language ?   [   ]
   1) Kolkata   2) Hyderabad   3) Trivandrum   4) Chennai

18. In a certain code language, if the value of PINK = 50 and RED = 27, then the what is the value of GREEN ?   [   ]
   1) 48   2) 28   3) 49   4) 25

Number game with different operations :

19. If 3 x 6 = 6, 7 x 8 = 12, then what is the value of 52×13 ?   [   ]
   1) 61   2) 62   3) 65   4) 85

20. If 6 + 7 = 55 and 9 + 3 = 39, then what is the value of 7 + 4 ?   [   ]
   1) 28   2) 11   3) 33   4) 39

21. If 6@7 = 169, 7@8 = 225, then 15@16 =   [   ]
   1) 864   2) 1061   3) 932   4) 961

22. If $A \Delta B = \sqrt{A} + \sqrt{B}$, then $36 \Delta 289 =$ [   ]
   1) 23   2) 24   3) 11   4) 25

Clocks & Calenders

23. The calendar for the year 2001 is the same as which year ?   [   ]
   1) 2007   2) 1996   3) Both (1) and (2)   4) 2008

24. If a wall clock shows 4 hrs 40 min in the mirror, what is the actual time ?   [   ]
   1) 7hrs 25 min 2) 2hrs 40min   3) 8hrs 10min   4) 7hrs 20 min

25. When the time is two 2hrs 30 min find the angle between the hands of a clock.   [   ]
   1) 105°   2) 110°   3) 115°   4) 120°

26. When the hours hand is in between 4 & 5 and the angle between the hands is 40° find the possible time   [   ]
   1) 4 hours $29\frac{1}{11}$ min   2) 4 hours $14\frac{2}{11}$ min   3) both 1 and 2   4) none

27. What day of the week was 26 January 1950.   [   ]
   1) Monday   2) Tuesday   3) Wednesday   4) Thursday

Seating arrangement and Blood Relations

28. Six buses P, Q, R, S, T and U arrive at a bus depot in the following manner.   [   ]
   i) P comes after Q and R   ii) S comes after T, but before U.
   iii) Q comes before R, T and U arrive
   Which of the following is the first bus to arrive at the bus depot ?
   1) P   2) Q   3) S   4) U

29. Six persons –A, B, C, D, E and F are sitting in a row, facing north. Three persons are sitting in between A and B. D is the only one sitting between C and F. If only one sits to the left of B then who is the person ? [   ]
    1) E 　　　　　　　2) A 　　　　　　　3) C 　　　　　　　4) Cannot be determined

30. How is A's mother's brother's wife's mother-in-law's only daughter related to A ? [   ]
    1) Sister 　　　　　2) Mother-in-law 　　3) Daughter in law 　4) Mother

Arithmetical Ability

31. If p and q are natural numbers, p:q = 3½:4¼, then which of the following values cannot be equal to (p + q) ? [   ]
    1) 93 　　　　　　　2) 217 　　　　　　　3) 123 　　　　　　　4) 279

32. If the compound ratio of a:3 and 5:6 is equal to 35 : 36, then what is the value of 2a ? [   ]
    1) 7 　　　　　　　　2) 9 　　　　　　　　3) 18 　　　　　　　4) 3.5

33. $\sqrt[3]{105} \times \sqrt[3]{147}$ = [   ]
    1) $7\sqrt[3]{15}$ 　　　2) $7\sqrt[3]{45}$ 　　　3) $7\sqrt{135}$ 　　　4) $7\sqrt{45}$

34. The total number of prime factors of $6^{41} \times 7^{42} \times 8^{43}$ is [   ]
    1) 126 　　　　　　　2) 253 　　　　　　　3) 2 　　　　　　　　4) 3

35. What is the difference between the largest four digit number and the smallest four digit number, that are both divisible by the largest two digit number ? [   ]
    1) 8910 　　　　　　2) 9909 　　　　　　3) 8509 　　　　　　4) 9899

36. If a and b are two distinct positive integers, p and q are their LCM and HCF respectively, then which of the following in not true ? [   ]
    1) ab = pq 　　　　　　　　　　　　　2) ab is divisible by p
    3) (a+b) is divisible by p 　　　　　　4) (a+b) is divisible by q

37. The LCM of two numbers is $a^3 - b^3$ and their HCF is one. One number is a–b and the other is 37. What is the value of the a+b, if a and n (a > b) are consecutive positive integers ? [   ]
    1) 6 　　　　　　　　2) 7 　　　　　　　　3) 9 　　　　　　　　4) 8

38. If p is a prime number and q is an odd number, then always .... [   ]
    1) (p+1) is an even number 　　　　　2) pq is an odd number
    3) q(p+1) is an odd number 　　　　　4) p(q+1) is an even number.

39. Which of the following is the greatest number ? [   ]
    $\sqrt[3]{10}$; $\sqrt[4]{15}$; $\sqrt[5]{25}$; $\sqrt[6]{30}$
    1) $\sqrt[3]{10}$ 　　　　2) $\sqrt[4]{15}$ 　　　　3) $\sqrt[5]{25}$ 　　　　4) $\sqrt[6]{30}$

40. What percentage of 25 is equal to 10% of x ? [   ]
    1) $\dfrac{x}{10}$ 　　　　2) $\dfrac{x}{4}$ 　　　　3) $\dfrac{2x}{5}$ 　　　　4) $\dfrac{5x}{2}$

41. If p% of q+q% of p = x% of pq, then what is 200% of x ? [   ]
    1) pq 　　　　　　　2) 2pq 　　　　　　　3) 2 　　　　　　　　4) 4

42. A toy is marked 20% above the cost price. By selling the article after allowing a discount a profit of 10% is obtained. What is the discount percent approximately? [   ]
    1) 8% 　　　　　　　2) 9% 　　　　　　　3) 10% 　　　　　　　4) 12%

43. The cost price of article A is 20% more then the selling price of article B. On selling, there is a 100% profit on first article and 50% loss on second article. What is the profit percentage on selling both the articles ?   [   ]
    1) 50%   2) 25%   3) 12.5%   4) 6.25%

44. P started a business with Rs. 80000. Q joined P after some months by investing Rs.120000. After one year, P and Q share the profits in the ratio of 1 : 1 after how many months did Q join P ?
    1) 4   2) 6   3) 8   4) 2   [   ]

45. In a business, A invests Rs. 10000 for 9 months and B invests Rs. 7500 for one year. At the end of one year. A, the working partner, gets a share of Rs. 2500, including an annual salary of Rs. 1500. What is the total profit ? (in Rupees)   [   ]
    1) 4000   2) 5000   3) 6500   4) 3500

46. Twenty five persons can complete a work in 25days. Ten days after they start the work, ten people have left. In how many days can be remaining people complete the remaining work?   [   ]
    1) 16   2) 10   3) 25   4) 20

47. Tap A alone can fill one third of a tank in two hours. If both the taps A and B opened simultaneously, the tank can be filled in 9 hours. If tap B is opened then in how many hours it can complete it's work   [   ]
    1) 6   2) 18   3) 6½   4) 4½

48. Manohar travelled from A to B at a speed of 45 km/hr. He covers the return journey in five hours by increasing his speed by 20%. What is the total distance covered by him ? (in Km)   [   ]
    1) 270   2) 360   3) 540   4) 480

49. What is the least number which when divided by 18, 24, 30 leaves remainder 2 in each case ?
    1) 182   2) 122   3) 242   4) 362   [   ]

50. A and B worked together and earned Rs. 240. If A completed 1/6th of the work, then what is the share of B ? (in rupees)   [   ]
    1) 180   2) 200   3) 160   4) 220