INTSO EDUCATION

APTITUDE TALENT SEARCH OLYMPIAD (ATSO) 2016 - 2017

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. ¼ (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. 0, 4, 18, 48, ?   [   ]
   1) 100   2) 150   3) 90   4) 110

2. 1, 4, 27, 64, ?   [   ]
   1) 3815   2) 3025   3) 3024   4) 3125

3. 17, 29, 46, 49, 54, 103, 117, 125, ?   [   ]
   1) 256   2) 242   3) 264   4) 278

4. 2, 10, 26, 82, ?   [   ]
   1) 243   2) 244   3) 242   4) 256

NUMBER ANALOGY :

5. 7 : 42 : : 12 : ?   [   ]
   1) 144   2) 132   3) 156   4) 128

6. 24 : 564 : : 28 : ?   [   ]
   1) 740   2) 750   3) 770   4) 740

7. 59 : 104 : : 76 : ?   [   ]
   1) 118   2) 128   3) 136   4) 146

8. 53 : 88 : : 47 : ?   [   ]
   1) 100   2) 125   3) 121   4) 169

LETTER SERIES :

9. PXJQ, MUGN, JRDK, GOAH, ?   [   ]
   1) DLXE   2) DOYF   3) DMWE   4) DLYE

10. BDG, PST, DFI, SVW, FHK, ?   [   ]
    1) VWY   2) VYY   3) VYZ   4) VYA

11. QT, UX, YB, CF, ?   [   ]
    1) GI   2) HJ   3) HK   4) GJ

12. ERO, FSP, HUR, KXU, ?   [   ]
    1) OEJ   2) OEJ   3) OBY   4) OEI

LETTER ANALOGY :

13. MSR : NHI : : BJU : ? [   ]
    1) YPE   2) YPF   3) YQE   4) YQF

14. CMH : DOK : : VQS : ? [   ]
    1) WSV   2) WRQ   3) WPV   4) WSX

15. KEN : XRA : : BSV : ? [   ]
    1) OEJ   2) OEI   3) OFI   4) OFJ

CODING AND DECODING :

16. In a certain code language, if MASTRO is coded as SAMORT. Then, how PUBLIC is written in that code ? [   ]
    1) BUPLIC   2) BUPICL   3) BUPCIL   4) BUPILC

17. In a certain code language, If APEX = 23 and MENB = 17, then what is the value of FOUR ?
    1) 25   2) 30   3) 35   4) 40   [   ]

18. If CAT is coded as BYQ. Then how is WOR is written in that code ? [   ]
    1) VAO   2) VNO   3) VRO   4) VMO

NUMBER GAME WITH DIFFERENT OPERATIONS :

19. If $A \Delta B = \sqrt[3]{A} + \sqrt[3]{B}$. Then $729 \Delta 1728 = ?$ [   ]
    1) 21   2) 19   3) 23   4) 25

20. If $9@14 = 529$, $7@18 = 625$. Then $13@17 = ?$ [   ]
    1) 961   2) 800   3) 900   4) 1600

21. If $5 + 7 = 47$ and $9 + 6 = 69$. Then $4 + 12 = ?$ [   ]
    1) 60   2) 64   3) 68   4) 72

22. If $6 \times 4 = 52$ and $7 \times 8 = 113$. Then [   ]
    1) 220   2) 250   3) 270   4) 290

CLOCKS AND CALENDAR :

23. The next same calendar for the year 2017 is [   ]
    1) 2022   2) 2023   3) 2028   4) 2025

24. Which day falls on November 14th, 1956 ? [   ]
    1) Monday   2) Tuesday   3) Wednesday   4) Thursday

25. If a clock shows 3 hrs 25 min in the mirror, what is the actual time ? [   ]
    1) 8 : 35   2) 7 : 35   3) 9 : 35   4) 6 : 35

26. At what time between 6 and 7'O clock the two hands of the clock forms 90º ? [   ]
    1) $6hr, 51\frac{2}{11} min$ 2) $6hr, 49\frac{1}{11} min$ 3) $6hr, 16\frac{4}{11} min$ 4) Both 2 and 3

27. Find the angle between two hands of a clock at 4 : 45 ? [   ]
    1) $112\frac{1}{2}°$ 2) $127\frac{1}{2}°$ 3) $125\frac{1}{2}°$ 4) $117\frac{1}{2}°$

SEATING ARRANGEMENT AND BLOOD RELATIONS :

28. Six friends A, B, C, D, E and F are sitting in a row facing towards north. C is sitting between A and E. D is not at the end. B is sitting immediate right to E. F is not at the right end. Then, who is sitting immediate left of C ?   [   ]
    1) A   2) E   3) Either E or A   4) Can not be determined

29. A, B, C, D, E and F are sitting around a round table. A is in between E and F, E is opposite to D, and C is not in either of the neighbouring seats of E. Who is opposite to B ?   [   ]
    1) C   2) D   3) F   4) None

30. Anil has a brother deepak. Anil is the son of prem. Bimal is prem's father. How is deepak related to bimal ?   [   ]
    1) Son   2) Grand son   3) Brother   4) Grand father

ARITHMETICAL ABILITY :

31. If p and q are natural numbers, p : q = $2\dfrac{1}{2} : 5\dfrac{1}{2}$, then which of the following values cannot be equal to (p + q) ?   [   ]
    1) 48   2) 80   3) 75   4) 96

32. If the compound ratio of a : 2 and 4 : 9 is equal to 2 : 5, then what is the value of 3a ?   [   ]
    1) 4.2   2) 5.4   3) 4.8   4) 5.2

33. $\sqrt[3]{45} \times \sqrt[3]{25}$ = ?   [   ]
    1) $5\sqrt[3]{9}$ 2) $5\sqrt[3]{3}$ 3) $5\sqrt[3]{6}$ 4) $5\sqrt[3]{4}$

34. The total number of prime factors of $55^{28} \times 10^9 \times 6^8$ is ?   [   ]
    1) 90   2) 80   3) 100   4) 110

35. What is the difference between the largest 3 digit and the smallest 3 digit number, that are both divisible by the largest two digit number ?   [   ]
    1) 899   2) 900   3) 792   4) 846

36. If the product of two numbers is 108 and LCM is 36 then find their HCF ?   [   ]
    1) 3   2) 2   3) 6   4) 8

37. Two numbers are in the ratio 3 : 5 and their LCM is 60. Then, find their HCF ?   [   ]
    1) 6   2) 8   3) 4   4) 2

38. Find the largest among $\sqrt[4]{6}, \sqrt{2}$ and $\sqrt[3]{4}$?   [   ]
    1) $\sqrt[3]{4}$ 2) $\sqrt[4]{6}$ 3) $\sqrt{2}$ 4) Can not be determined

39. What percentage of 40 is equal to 20% of x ?   [   ]
    1) $\dfrac{x}{3}$ 2) $\dfrac{x}{4}$ 3) $\dfrac{x}{2}$ 4) $\dfrac{x}{5}$

40. If $4^a = 1024$, then the value of $4^{(a-2)}$ is ?   [   ]
    1) 16   2) 64   3) 256   4) 512

41. If x% of y + y% of x = p% of xy, then what is 150% of p ?   [   ]
    1) 2   2) 3   3) 4   4) 5

42. An article is marked 40% above the cost price. By selling the article after allowing a discount a profit of 12% is obtained. What is the discount percent ?   [   ]
    1) 20%   2) 40%   3) 30%   4) 25%

43. If p% of q is equal to r, what percent of r is p ?   [   ]

    1) $\dfrac{q^2}{100}$ 2) $\dfrac{100}{q}$ 3) $\dfrac{q}{100}$ 4) $\dfrac{10000}{q}$

44. P started a business with Rs. 30, 000. Q joined P after some months by investing Rs. 45, 000. After one year, P and Q share the profits in the ratio 4 : 3 after how many months did Q join P ?
    1) 4   2) 5   3) 6   4) 8   [   ]

45. In a business. A invests Rs. 8,000 for 6 months and B invests Rs. 6000 for one year. At the end of one year A, the working partner, gets a share of Rs. 2000, including an annual salary of Rs. 1200. What is the total profit ?   [   ]
    1) 6000   2) 4000   3) 2000   4) 5000

46. 40 persons can complete a work in 40 days. 25 days after they start the work, 20 people have left. In how many days the remaining people can complete the remaining work ?   [   ]
    1) 25   2) 30   3) 20   4) 35

47. Tap A lone can fill one - fourth of a tank in 3 hours. If both the taps A and B opened simultaneously, the tank can be filled in 4 hours. If tap B alone is opened then in how many hours it can fill the tank ?   [   ]
    1) 8   2) 5   3) 7   4) 6

48. A man travelled from A to B with a speed of 24 km/hr. He covers the return journey in 6 hours by increasing his speed by 25%. What is the total distance covered by him ? (in km)   [   ]
    1) 360 km   2) 180 km   3) 240 km   4) 120 km

49. What is the least number which divides by 12, 18, 20 and leaves remainder 3 in each case ?
    1) 173   2) 183   3) 163   4) 193   [   ]

50. A and B worked together and earned Rs. 630. If A completed $\dfrac{2}{5}^{th}$ of the work, then what is the share of B ? (in rupees)   [   ]
    1) 360   2) 378   3) 342   4) 372