UNIFIED COUNCIL

An ISO 9001:2008 Certified Organisation

UCO Unified Cyber Olympiad

UNIFIED CYBER OLYMPIAD - UC 329

Solutions for class : 4

Mental Ability

1. **(C)** A prime number has 1 and itself as factors (i.e.,) only 2 factors

2. **(D)** Cost of 5 cookies = ₹ 33

   Cost of 1 cookie = 33/5 = ₹ 6.60

3. **(B)** On rotating a right angled triangle about its shortest side is a cone.

4. **(A)** 443 = (500 – 100) + (50 – 10) + 1 + 1 + 1
   = CDXLIII [correct]

   806 = 500 + 100 + 100 + 100 + 5 + 1

   = DCCCVI

   111 = 100 + 10 + 1 = CXI

   369 = 100 + 100 + 100 + 50 + 10 + (10 – 1)
   = CCCLXIX

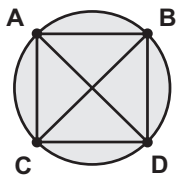
5. **(A)** Place value of 9 in 26594325 = 90000

   [9 is at ten thousand place]

   ∴ Required difference

   = 90000 - 9 = 89991

6. **(B)**



   The line segments formed are AB, BD, CD, AC, AD and CB, which are 6 in number.

7. **(A)** We have, factors of 10 are 1, 2, 5 and 10.
   Factors of 12 are 1, 2, 3, 4, 6 and 12
   Factors of 10 = 1, 2, 5, 10
   Factors of 8 = 1, 2, 4, 8
   Factors of 15 = 1, 3, 5, 15
   From above factors, it is clear that 12 has 2 more factors than 10.

   12 and 10 have 2 common factors,

   i .e., 1 and 2.

   The smallest possible value of X is 12.

8. **(A)** The length of the wood = 1m and 26 cm

   = 126 cm.

   Length of shelf = 86 cm.

   Length he needs to cut off = 126 cm – 86 cm

   = 40 cm.

   Therefore, the answer is option (A) 40 cm.

9. **(C)** Product of first 6 multiples of 4

   = 4 × 8 × 12 × 16 × 20 × 24

10. **(C)** Largest 5 - digit number made up of different odd digits = 97531

    ∴ The digit in thousands place is 7.

11. **(A)** Diameter = 2r

    Diameter after increasing its radius by 2 cm = 2(r + 2) = 2r + 4 cm

    ∴ Diameter increases by 4 cm

12. **(C)** The side of the square is twice the radius of the circle in it = 2 × 4 cm = 8 cm

    So, the perimeter of the square

    = 4 × 8 cm = 32 cm

13. **(B)** 2000 – 1750 = ₹ 250

14. **(C)** LXIV = 64, XLVI = 46

    LXVI = 66, XLIV = 44

    Ascending order : 44, 46, 64, 66

    ∴ The required ascending order is XLIV, XLVI, LXIV, LXVI.

15. **(C)** The total area of the rectangle is

    3 × 4 = 12 sq. units

    The total area of the shaded regions equals the total area of the rectangle (12) minus the area of the unshaded region.

    The unshaded region is a triangle with base of length 1 and height 4; the area of this region is $\frac{1}{2}(1)(4) = 2$ sq. units

    Therefore, the total area of the shaded regions is 12 – 2 = 10.

Reasoning

16. **(B)** The fish is rotating 45^{o} in clockwise directionin each step. And, the circle becomes two in first step and then become one in next step. So, option (B) will be in the next figure.

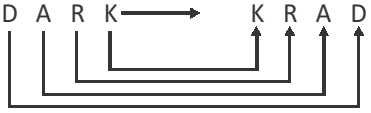
17. **(D)** A is the 26^{th} letter from the end.

M is the 14^{th} letter from the end.

K is the 16^{th} letter from the end.

similarly G is the 20^{th} letter from the end.

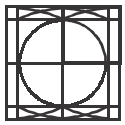
18. **(D)** As, D A R K → K R A D



Similarly, 7 6 2 9 → 9 2 6 7

19. **(D)** In all the figures except option (D), the bottom shape is same. But in option (D), it is different. So, option (D) is odd one out.

20. **(B)** The pattern can be completed as



21. **(B)** The word ENERGY cannot be formed from the letters of te given word TREATMENT. Because the letters G and Y are present in the word TREATMENT.

22. **(B)** The arrangement of students according to the marks scored by them can be shown as

Harsh > Prem > Bindu > Arush

From the above arrangement, it is clear that Harsh scored the highest marks.

[here, '>' symbol is used to show more than]

23. **(B)** The given letters when arranged will form a word GREAT and the correct combination of numbers is 24135.

24. **(B)** 2^{nd} image is a horizontal flip.

25. **(C)** $(6) \times (3) - \langle 4 \rangle \times \langle 3 \rangle = 18 - 12 = 6$;

$(6) \times (8) - \langle 6 \rangle \times \langle 7 \rangle = 48 - 42 = 6$

Similarly $(6) \times (8) - \langle 12 \rangle \times \langle 6 \rangle = 72 - 72 = 0$

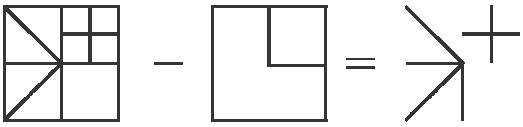
26. **(C)** Count the number of regions in each figure. The sum of the number of regions in the 1^{st} and the 2^{nd} figures equal to that in the 3^{rd} figure in the same row.

1^{st} row : 2 + 4 = 6, 2^{nd} row : 4 + 5 = 9

Hence, 3^{rd} row : 3 + 5 = 8

27. **(D)** Inner most shape moves to the outermost and the new innermost shape reduces its size and being the rotation repeats.

28. **(C)**



29. **(C)** Non-leap year or a palendrame.

30. **(A)**

1	2	3
4	5	6

Individual squares = 2, 4, 6

Squares formed by combinations

=1 + 2 + 4 + 5, 2 + 3 + 5 + 6

$\therefore$ Total number of squares = 3 + 2 = 5

Computers

31. **(C)**
32. **(A)**
33. **(D)**
34. **(B)**
35. **(A)**
36. **(B)**
37. **(D)**
38. **(C)**
39. **(A)**
40. **(A)**
41. **(D)**
42. **(B)**
43. **(D)**
44. **(B)**
45. **(A)**

English

46. **(D)**
47. **(C)**
48. **(D)**
49. **(A)**
50. **(A)**