1. If 453945 stands for DECIDE, then how 8978 is written?

    (A) BHEF   (B) CDEH   (C) GHEF   (D) HIGH

2.
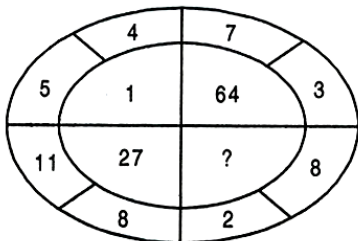
    (A) 0   (B) 8   (C) 125   (D) 216

3. In the numbers from 100 to 1000, how many times digit 1 comes at the ten's place?

    (A) 80   (B) 88   (C) 90   (D) 100

4. Praveen, Vijay, Ajit, Mayur and Neela work in the same factory. Neela joined the factory before Ajit but after Vijay. Praveen started working in the factory before Vijay but after Mayur. Who is the senior most among them?

    (A) Vijay   (B) Mayur   (C) Pravin   (D) Neela

5. How many squares are there in the following figure?
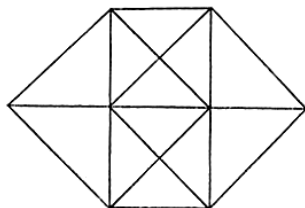
    (A) 5   (B) 6   (C) 4   (D) 3

6. 'K' and 'L' are two consecutive months in a non-leap year. In a particular year, 10th of both the months happened to be Sunday. Which month is 'L'?

    (A) March   (B) June   (C) August   (D) September

7. Number of times since mid-day to mid night such that two hands of clock are perpendicular to each other is

    (A) 10   (B) 11   (C) 12   (D) 24

8. A father is thirty times older than his son. However, 18 years later, he will be only thrice as old as the son, what is the father's present age? (Son's age need not be an integer)

    (A) 20   (B) 60   (C) 25   (D) 40

9. If a square of side 'a' is inscribed in a circle of radius 6, then the area of an equilateral triangle of side 'a' is :

    (A) $18\sqrt{2}$ (B) $18\sqrt{3}$ (C) $9\sqrt{2}$ (D) $9\sqrt{3}$

10. The number of values of x for which $(x-1)^x = (x-1)^4$ is

    (A) 1   (B) 2   (C) 3   (D) 4

11. If the length of the hypotenuse of a right angle triangle with angles 30°, 60°, 90° is H, then the radius of the circle inscribed in the triangle is :

    (A) $H(\sqrt{3}+1)$ (B) $\dfrac{H}{4}(\sqrt{3}+1)$ (C) $\dfrac{H}{2}(\sqrt{3}-1)$ (D) $\dfrac{H}{4}(\sqrt{3}-1)$

12. If the area of the larger circle is twice the area of the smaller circle, and the radius of the smaller circle is 3, then the length of the chord AB is

    (A) 6   (B) 8

    (C) 3   (D) 12
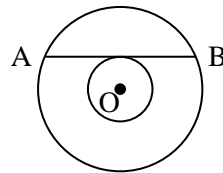
13. A wave of wavelength 0.60 cm is produced in air and it travels at a speed of 300 m/s. The frequency of the wave is

    (A) 20000 Hz   (B) 100000 Hz   (C) 50000 Hz   (D) 10000 Hz

14. When a copper ball is heated, the largest percentage increase will occur in its

    (A) diameter   (B) area   (C) volume   (D) density

15. A body floats in a liquid contained in a beaker. The whole system shown in figure is falling under gravity. The upthrust on the body due to liquid is :

    (A) zero

    (B) equal to weight of liquid displaced

    (C) equal to weight of the body in air

    (D) equal to weight of the immersed body
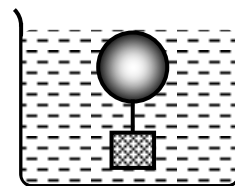
16. 10,000 small balls, each weighing 1g, strike one square cm of area per second with a velocity 100 m/s in a normal direction and rebound with the same velocity. The value of pressure on the surface will be :

    (A) 2×10^3 N/m^2 (B) 2×10^5 N/m^2 (C) 10^7 N/m^2 (D) 2×10^7 N/m^2

17. Most favourable conditions for electrovalency are

    (A) Low charge on ions, large cation and small anion.

    (B) High charge on ions, small cation and large anion.

    (C) High charge on ions, large cation and small anion.

    (D) Low charge on ions, small cation and large anion.

18. The percentage of oxygen in NaOH is,   [Na = 23, O = 16, H = 1]

    (A) 16   (B) 40   (C) 20   (D) 50

19. A certain compound has the molecular formula X_4O_6. If 10 gm of compound contains 6.06 gm of X, the atomic mass of X is.

    (A) 32 amu   (B) 37 amu   (C) 42 amu   (D) 48 amu

20. The increasing order (lowest first) for the value of e/m (charge/mass) for electron (e), proton (p), neutron (n) and alpha particle (α) is

    (A) e, p, n, α (B) n, p, e, α (C) n, p, α, e   (D) n, α, p, e

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