Centre for Excellence

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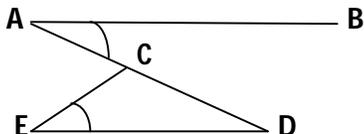
ALL INDIA

MATHS SCIENCE TALENT EXAMINATION
CLASS IX

Total Marks: 25   **Time Allowed: 30 Minutes**

1. F L O : M O C : : R D P : ?
    (A) M G P   (B) M P G
    (C) N G O   (D) G M P

2. Select the correct combination of mathematical signs to replace * in the equation : **16 * 4 * 5 * 9 * 1**
    (A) + ÷ = ×   (B) ÷ + = ×
    (C) × = + −   (D) + × = ÷

3. Kalyani is mother-in-law of Veena, who is sister-in-law of Ashok. Dheeraj is father of Sandeep, the only brother of Ashok. How is Kalyani related to Ashok?
    (A) Mother-in-law   (B) Mother
    (C) Aunt   (D) none of these

4. In a chess tournament each of six players will play with every other player only once. How many rounds will be played during the tournament?
    (A) 12   (B) 15   (C) 30   (D) 36

5. A 3 cm cube has been painted red on all its sides. It is cut into 1 cm cubes. How many cubes will be there with only one side painted red?
    (A) 4   (B) 6   (C) 9   (D) 3

6. What is the least number of complete years in which a sum of money put out at 20% compound interest will be more than double?
    (A) 4 years   (B) 6 years
    (C) 8 years   (D) none of these

7. Which of the following is a rational number?
    (A) $\sqrt{6}$ (B) $\sqrt{8}$
    (C) $\sqrt{9}$ (D) none of these

8. Points (2, 1) and (1, -2) are equidistant from point (x, y) then:
    (A) x = y   (B) x = − 4y
    (C) x + 3y = 0   (D) x + y = 0

9. In the figure shown, AB II DE; $\angle A = 40^0$, $\angle E = 60^0$. The value of $\angle DCE$ will be:

(A) 90^0 (B) 50^0 (C) 80^0 (D) 45^0

10. In a right angled triangle, the square of the hypotenuse is equal to twice the product of the other two sides. One of the acute angle of the triangle is:
(A) 60^0 (B) 30^0
(C) 45^0 (D) none of these

11. Ratio of areas of two squares is 4 : 9. The ratio of their perimeter will be:
(A) 4 : 9   (B) 3 : 2
(C) 2 : 3   (D) none of these

12. A chord of length 24 cm is at a distance of 5 cm from the centre of circle. Calculate radius of the circle.
(A) 45 cm   (B) 13 cm
(C) 26 cm   (D) none of these

13. If two coins are tossed, the probability of getting no head is:
(A) $\dfrac{1}{3}$ (B) $\dfrac{1}{4}$ (C) $\dfrac{1}{2}$ (D) none of these

14. The diameter of a sphere is 6 cm. It is beaten & drawn into a wire of diameter 0.2 cm. The length of the wire is _____.
(A) 900 cm   (B) 3600 cm
(C) 36 cm   (D) none of these

15. $\sqrt{2\sqrt{2\sqrt{2\sqrt{2\sqrt{2}}}}}$ = ?
(A) 0   (B) 1
(C) $2^{31/32}$ (D) none of these

16. Which of the following is not a unit of pressure?
(A) Pascal   (B) mm of mercury
(C) Newton   (D) atmosphere

17. When a graph between two physical quantities is a straight line, the two quantitities are:
(A) both constant
(B) inversely proportional
(C) directly proportional
(D) independent of each other

18. A car of mass 1000 kg travelling at a speed of 40 m/s crashes into a wall and comes to rest in 0.5 sec. Calculate the average force exerted by the wall on the car.
(A) $- 4 \times 10^4$ N   (B) $- 8 \times 10^4$ N
(C) 4×10^4 N   (D) 8×10^4 N

19. The correct order of size among Br, Br^+ and Br^- is _____.
(A) $Br^- < Br < Br^+$ (B) $Br^- > Br > Br^+$
(C) $Br^- < Br^+ < Br$ (D) none of these

20. Sulphite is _____.

(A) SO_4^{2-} (B) SO_3^{2-}

(C) S^{2-} (D) both B and C

21. Sulphur has a mass number of 32 and atomic number of 16. State the no. of protons present in the nucleus of Sulphur.
(A) 32   (B) 8
(C) 16   (D) 48

22. An element has 3 valence electrons. It is _____.
(A) a non metal   (B) an ion
(C) an noble gas   (D) a metal

23. In a plant cell, _____ provides turgidity and rigidity to the cell.
(A) cell wall   (B) nucleus
(C) plasma membrane
(D) vacuoles

24. Under weight, protruding belly, stunted growth and oedema are symptoms of _____ disease.
(A) rickets   (B) xerophthalmia
(C) marasmus   (D) kwashiorkor

25. All are membrane bound cell organelles except_____.
(A) Ribosome   (B) Nucleus
(C) Spherosome   (D) Chloroplast

ANSWERS

1	C	6	A	11	C	16	C	21	C
2	B	7	C	12	B	17	C	22	D
3	B	8	C	13	B	18	B	23	D
4	B	9	C	14	B	19	B	24	D
5	B	10	C	15	C	20	B	25	A