

MISCELLANEOUS QUESTIONS - (1)

1. A train covers a pole in 6 sec and 100 mts long tunnel in 10 sec; find the length of the train (mts)
(a) 200 (b) 180 (c) 150 (d) 240

2. A right prism has a triangular base whose sides are 13 cm, 20 cm and 21 cm respectively. If the altitude of the prism is 9 cm; then find its Volume.
(a) 1413 cm³ (b) 1134 cm³ (c) 1314 cm³ (d) 1143 cm³

3. A and B can do a piece of work in 35 days and 45 days respectively. They started together, but after 7 days A leaves the job and the remaining done by B; then the work be completed in how many days.
(a) 27 days (b) 30 days (c) 29 days (d) 34 days

4. ABCDE is a regular polygon and AD its diagonal. Then find the ratio between $\angle ADE$: $\angle ADC$ is:
(a) 3:2 (b) 1:2 (c) 2:3 (d) 2:1

5. Find the value of: $\pi \cot \frac{\pi}{20} \cdot \cot \frac{3\pi}{20} \cdot \cot \frac{5\pi}{20} \cdot \cot \frac{7\pi}{20} \cdot \cot \frac{9\pi}{20}$
(a) π (b) 1 (c) $\frac{\pi}{2}$ (d) $\frac{\pi}{4}$

6. If $a = \sqrt[3]{28}$ and $b = \sqrt[3]{27}$; then find the value of $a+b - \frac{1}{(a^2+ab+b^2)}$ = ?
(a) 2 (b) 6 (c) 4 (d) 1

(1) MISCELLANEOUS QUESTIONS :- (2)

7. If a shopkeeper wants to give 20% discount on a toy, he has to sell it for ₹ 300. If he sells it at ₹ 405, then his gain percentage is :-

- (a) 5% (b) 8% (c) 4% (d) 6%

8. If $x - \sqrt{3} - \sqrt{2} = 0$ and $y - \sqrt{3} + \sqrt{2} = 0$; then find the value of $(x^3 - 20\sqrt{2}) - (y^3 + 2\sqrt{2})$.

- (a) 0 (b) 2 (c) 1 (d) 3

9. Population of a country is 35000. If population of male is increased by 6% and that of the female increased by 4%; as a result the population becomes to 36,750. Then what was the population of female?

- (a) 17,500 (b) 19,750 (c) 20,250 (d) 10,000

10. If $\tilde{x} + \tilde{y} + \tilde{z} = (xy + yz + zx)$; then find the value of $\frac{3\tilde{x}^2 + 7\tilde{y}^2 + 5\tilde{z}^2}{5\tilde{x}\tilde{y} + 7\tilde{y}\tilde{z} + 3\tilde{z}\tilde{x}}$.

- (a) 2 (b) 1 (c) 0 (d) 4

11. The diameter of each wheel of a car is 70 cm. If each wheel rotates 400 times per minute; then find the speed of the car. (Take $\pi = \frac{22}{7}$).

- (a) 5.28 km/hr (b) 0.528 km/hr (c) 52.8 km/h (d) 528 km/h

(9) - MISCELLANEOUS QUESTIONS :- (3)

12. The radii of two solid iron spheres are 1 cm and 6 cm respectively. A hollow sphere is made by melting the two spheres. If the external radius of the hollow sphere is 9 cm; then its thickness is -

- (a) 1.5 cm (b) 2 cm (c) 1 cm (d) 0.5 cm

13. Two circles with respective radii 25 cm and 9 cm are touch each other externally. Find the length of direct common tangent.

- (a) 22 cm (b) 30 cm (c) 17 cm (d) 18.5 cm

14. A sum of money placed at compound interest doubles itself in 5 years. In how many years it will amount to 8 times of it self at the same rate of interest.

- (a) 10 years (b) 12 years (c) 20 years (d) 15 years

15. If 64 buckets of water are removed from a cubical shaped water tank completely filled with water; $\frac{1}{3}$ rd of the tank remains filled with water. The length of each side of the tank is 12 m. Assuming that all buckets are of the same measure; then find the volume of water contained by each bucket.

- (a) 15 litres (b) 16 litres (c) 18 litres (d) 12 litres

(Q) - MISCELLANEOUS QUESTIONS :- (7)

16. In a triangle ABC; $DE \parallel BC$; Where D is a point on AB and E is a point on AC. DE divides the area of $\triangle ABC$ into two equal parts; then $DB : AB$ is equal to -

- (a) $\sqrt{2} : (\sqrt{2}+1)$ (b) $(\sqrt{2}+1) : \sqrt{2}$ (c) $\sqrt{2} : (\sqrt{2}-1)$

17. Let x be the smallest number, which when added to 2000 makes the resulting number divisible by 12, 16, 18 and 21. The sum of the digits of x is -

- (a) 5 (b) 6 (c) 7 (d) 9

18. Given that the ratio of altitudes of two triangles is 4:5 and ratio of their areas is 3:2. Find the ratio of their corresponding bases.

- (a) 5:8 (b) 8:15 (c) 15:8 (d) 8:5

19. A plane divides a right circular cone into two parts of equal volume. If the plane is parallel to the base, then the ratio, in which the height of the cone is divided is -

- (a) $1 : (\sqrt[3]{2}-1)$ (b) $1 : (\sqrt[3]{2}+1)$ (c) $1 : \sqrt[3]{2}$ (d) $1 : \sqrt{2}$

20. There is a wooden sphere of radius $6\sqrt{3}$ cm. The surface area of the largest possible cube cut out from the sphere will be -

- (a) $464\sqrt{3} \text{ cm}^2$ (b) 864 cm^2 (c) $646\sqrt{3} \text{ cm}^2$ (d) 462 cm^2

(*) MISCELLANEOUS QUESTIONS (5)

21. The interior angle of a regular polygon exceeds its exterior angle by 150° . Find the number of sides of the polygon.

- (a) 24 (b) 12 (c) 10 (d) 20

22. A manufacture fixes his selling price at 33% over the cost of production. If cost of production goes up by 12% and manufacture raises his selling price by 10%, find his profit percentage.

- (a) $21\frac{3}{8}\%$ (b) $36\frac{2}{9}\%$ (c) $30\frac{5}{8}\%$ (d) 35%

23. A dealer fixed the price of an article 40% above the cost price. While selling it he allows a discount of 20% and make a profit of ₹48. The cost of production of the article is:-

- (a) ₹420 (b) ₹400 (c) ₹320 (d) ₹360

24. If $(x^2 - y^2) : (x - y) = 7:1$; then the ratio of $2x : 3y = ?$

- (a) 4:3 (b) 3:2 (c) 4:1 (d) 2:3

25. A man purchases some Oranges at the rate of 3 for ₹1 and same quantity at 5 for ₹1.

If he sells all the Oranges at the rate of 4 for ₹1.

Find his gain or loss percent (to the nearest integer).

- (a) 12.5% loss (b) 6.25% loss (c) 12.5% profit (d) 6.25% profit