[9] MISCELLANEOUS QUESTIONS <1>

1. A number when divided by 6 leaves remainder 3. When the square of the same number is divided by 6; the remainder is:

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

2. If two numbers are respectively 20% and 50% of a third number; what is the ratio between the two number?

(a) 5:2 (b) 2:5 (c) 1:5 (d) 1:2

3. In an examination; a student was asked to find $\frac{3}{14}$ of a certain number; by mistake; he found $\frac{3}{4}$ of it. His answer was 150 more than the correct answer. The given number is:

(a) 500 (b) 280 (c) 240 (d) 260

4. A rectangular block measuring 18 cm × 15 cm × 12 cm is cut into exact number of cubes; the least possible number of cubes will be.

(a) 150 (b) 120 (c) 60 (d) 90

5. A man bought pencils at the rate of 6 for ₹4 and sell them at the rate of 4 for ₹6. His gain in transaction.

(a) 75% (b) 125% (c) 85% (d) 25%

[9] MISCELLANEOUS QUESTIONS

6. A man travels 35 km partly at 4 km/hr and 5 km/hr. If he covers former distance at 5 km/hr and the next is 4 km/hr; he could cover 2 km more in the same time. The time taken to cover the whole distance at original rate is

(a) 7 h (b) 8 h (c) 11 h (d) 5 h

7. Three women started a business by sharing equal amount of the total investment. After some calculation they found that if they got two more equal investment; each will have to pay ₹ 15000 less. What was the total investment.

(a) ₹ 1,30,500 (b) ₹ 1,12,500 (c) ₹ 2,25,00.
(d) ₹ 15,0000

8. A sum of ₹ 1500 is lent out in two parts in such a way that the simple interest on one part at 10% p.a for 5 years is equal to that on another part at 12.5% p.a for 4 years. The sum lent out at 12.5% is:

(a) ₹ 850 (b) ₹ 750 (c) ₹ 1250 (d) ₹ 1500

9. If $x+y+z=0$; then find the value of

$$\frac{x^2}{yz} + \frac{y^2}{zx} + \frac{z^2}{xy}$$:

(a) 0 (b) 1 (c) 3 (d) xyz

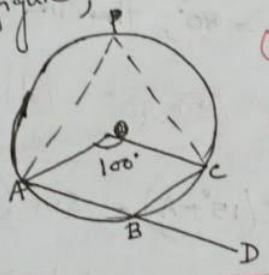
10. The Volume of a Cuboid Whose Side are in the ratio of 1:2:4 is same as that of a cube. What is the ratio of length of diagonal of cuboid to that cube?

(a) $2:\sqrt{7}$ (b) $\sqrt{7}:2$ (c) $3:\sqrt{5}$ (d) $\sqrt{3}:\sqrt{2}$

11. A right angle ABC With sides 5cm, 12 cm and 13 cm is revolved about the Side 12 cm. What is the Volume of solid so obtained?

(a) $150\pi\ cm^3$ (b) $50\pi\ cm^3$ (c) $100\pi\ cm^3$ (d) $75\pi\ cm^3$

12. In the given figure, O is the centre of the circle. Find $\angle CBD$.



(a) 140° (b) 50°
(c) 40° (d) 130°

13. In $\triangle ABC$, $\angle B$ is a right angle; AC = 6cm and D is the mid point of AC. Find the length of BD.

(a) 4 cm (b) $\sqrt{6}$ cm (c) 3 cm (d) 4.5 cm

14. A trader's marked price is 30% above the cost price. He allows his customer 10% discount on the marked price. What profit does he makes.

(a) 17% (b) 16% (c) 13% (d) 20%

{9} MISCELLANEOUS QUESTIONS <3>

15. A hollow cylindrical tube 20 cm long; is made of iron and it's internal and external diameters are 6 cm and 8 cm respectively. The Volume of iron used in making the tube is:
(a) 880 cm^3 (b) 440 cm^3 (c) 1260 cm^3 (d) 550 cm^3

16. ABC is a triangle in which AB = AC. Let BC be produced to D; from a point E on line AC. Let EF be a straight line such that EF is parallel to AB. Consider the quadrilateral ECDF thus formed; If $\angle ABC = 65^\circ$; $\angle EFD = 80^\circ$; then the Value of $\angle FDC$ = ?
(a) 45° (b) 35° (c) 50° (d) 37°

17. The Value of $\sin^2(15^\circ + A) - \sin^2(15^\circ - A)$ is equal to
(a) $\frac{1}{2}\cos 2A$ (b) $\frac{1}{2}\sin 2A$ (c) $\frac{1}{2}\tan 2A$
(d) $\cot 2A$

18. 27 drops of Water form a big drop of Water. If the radious of the each small drop is 0·2 cm; then the radious of the bigger drop?
(a) 0·6 cm (b) 0·4 cm (c) 0·3 cm (d) 0·75 cm

19. From a point A on the ground the angle of elevation of the top of a 20m tall building is 45°. A flag is hosted at the top of the building and the angle of elevation of the top of the flagstaff from A is 60°. Find the length of the flag staff and distance of building from point A.

(a) 20m; 15m (b) 20m; 14.64m (c) 25m; 15m
(d) 20m; 19m

20. If $\cos x + \cos^2 x = 1$; then the numerical value of $(\sin^{12} x + 3\sin^{10} x + 3\sin^8 x + \sin^6 x - 1)$ is

(a) 0 (b) 1 (c) −1 (d) 2

21. From the Circumcentre I of the $\triangle ABC$; a perpendicular ID is drawn on BC. If $\angle BAC = 60°$; then the value of $\angle BID$ is

(a) 30° (b) 45° (c) 60° (d) 110°

22. An amount is invested in a bank at compound interest. The total amount including interest; after first and third year is ₹1200 and ₹1587; respectively. What is the rate of interest?

(a) 12% (b) 15% (c) 12.5% (d) 8%

(9) MISCELLANEOUS QUESTIONS : (5)

23. A shop-keeper sells a transister at 15% above it's cost price. If he had bought it at 5% more than what he paid for it and sold it for ₹ 6 more; he would have gained 10%. The cost price of transister?

(a) ₹ 1100 (b) ₹ 1200 (c) ₹ 1400 (d) ₹ 1360

24. If $3.245 \times 10^K = 0.0003245$; then the value of K is.

(a) 4 (b) −4 (c) 3 (d) 5

25. Two trains 130m and 110m in length are running towards eachother on parallel tracks one at the rate of 32 km/hr and another at 40km/hr. respectively in what time will they be clear each other from the moment they meet?

(a) 12 (b) 13 (c) 14 (d) 12.5