

(1) MISCELLANEOUS QUESTIONS :- (1)

1. If $(m^{2a})^a = (m^a)^2$, then which of the following is true.
(a) $a = 4$ (b) $a = 2$ (c) $a = 2^{a+1}$ (d) $2a^a = 2^{2a}$

2. A can do a work in $5\frac{1}{2}$ days. B can do the same work in $7\frac{1}{2}$ days. They started the work together but after 2 days, A leave the work. B complete the remaining work alone in how many days?
(a) $1\frac{1}{2}$ days (b) 2 days (c) 1 day (d) $2\frac{17}{22}$ days

3. Simplify:

$$\frac{7.33 \times 7.33 \times 7.33 + 3 \times 7.33 \times 4.33 - 4.33 \times 4.33 \times 4.33}{7.33 \times 7.33 - 4.33 \times 4.33}$$

(a) 10.16 (b) 11.66 (c) 3 (d) 3.33

4. A box contains 522 coins in the value ratio of 13:5:7 at the denomination of ₹1; 50paise and 20paise coins. Then find the number of 50paise coins.
(a) 100 (b) 90 (c) 60 (d) 50

5. A train covers 200 km in $2\frac{1}{2}$ hr. Next 150 km in 2 hr and remaining 50 km in half an hour. Find the average speed in (m/s).

(a) 80 (b) $22\frac{2}{9}$ (c) 22 (d) $20\frac{2}{9}$

(1) MISCELLANEOUS QUESTIONS :- (2)

6. Divide ₹ 57244 among A, B and C in the ratio of $1\frac{1}{2} : 7\frac{1}{2} : 2$. Then find the B's share.

- (a) ₹ 35030 (b) ₹ 39030 (c) ₹ 32903 (d) ₹ 52923

7. There is sufficient food for 157 men for 36 days. After 3 days 32 men joins them. Then in how many days remaining food will be sufficient for the

- remaining men. (a) 22 (b) $27\frac{26}{63}$ (c) $23\frac{2}{63}$ (d) 11

8. If $(x^2)^n = x^2$ and $y^2 = y^{2m}$; then find the value

of $(m+n)^{m+n}$ = ?

- (a) 18 (b) 27 (c) 24 (d) 25

9. Two trains of same length are running in opposite direction. Their speeds are in the ratio of 12:17. If first train covers 300km in 5hrs. Then find the time to cross each other if each length of the train is 250m.

- (a) 12 sec (b) $12\frac{12}{29}$ (c) 15 sec (d) $15\frac{12}{29}$ sec

10. A man buys 3 dozen bananas at ₹ 18/dozen. He sells 18 bananas at the rate of ₹ 12/dozen. Then he reduced to ₹ 4/dozen to sell the remaining bananas. Find his profit/loss percentage.

- (a) 50% (b) $55\frac{5}{9}$ % (c) 55% (d) $50\frac{2}{9}$ %

[10] MISCELLANEOUS QUESTIONS: <3>

11. A person distributes his pens among A, B, C, D in the ratio of $\frac{1}{3} : \frac{1}{4} : \frac{1}{5} : \frac{1}{6}$. Then the maximum number of pens that the person should have?

- (a) 114 (b) 120 (c) 285 (d) 385

12. If $\sqrt{x} + \frac{1}{\sqrt{x}} = 5$, find the value of $x + \frac{1}{x} = ?$

- (a) 527 (b) 600 (c) 613 (d) 720

13. The diameter of a right circular cylinder is $2\sqrt{3}$ cm. Its height is half of its diameter. Then find its Volume.

- (a) $44\sqrt{2}$ cm³ (b) $\frac{88}{7\sqrt{2}}$ cm³ (c) $\frac{7\sqrt{3}}{5\sqrt{2}}$ cm³ (d) $2\sqrt{2}$ cm³

14. If $5\sin\theta - 12\cos\theta = 0$; then find the value of

$$\frac{12\sin\theta + 13\cos\theta}{15\sin\theta - 2\cos\theta} = ?$$

- (a) $\frac{29}{17}$ (b) $\frac{209}{170}$ (c) $\frac{109}{17}$ (d) $\frac{100}{17}$

15. Find the Simple interest on ₹ 8800 at the rate of $16\frac{2}{3}\%$ p.a for 9 months:


- (a) ₹ 18000 (b) ₹ 11000 (c) ₹ 1350 (d) ₹ 1700

16. If $\vec{a} + \vec{b} = 2$ and $\vec{c} + \vec{d} = 1$; then the value of

$$(\vec{a} - \vec{b}) \cdot (\vec{c} + \vec{d}) + (\vec{a} + \vec{b}) \cdot (\vec{c} - \vec{d}) = ?$$

- (a) $\frac{1}{9}$ (b) $\frac{1}{2}$ (c) 1 (d) 2

{9} MISCELLANEOUS QUESTIONS I-1 <9>

17. Find the value of $0.1 \times 0.01 \times 10^7$ is 

- (a) 100 (b) $\frac{1}{10}$ (c) $\frac{1}{100}$ (d) 10

18. A circle touches the four sides of a quadrilateral ABCD. The value of $\left(\frac{AB+CD}{CB+DA}\right) = ?$

- (a) $\frac{1}{2}$ (b) 1 (c) $\frac{1}{3}$ (d) $\frac{1}{4}$

19. The number of pair of positive integers whose sum is 99 and HCF is 9 is:

- (a) 2 (b) 3 (c) 4 (d) 5

20. ABCD is a cyclic quadrilateral; AB is the diameter of circle. If $\angle ACD = 50^\circ$; the measure of $\angle BAD$ is:

- (a) 130° (b) 50° (c) 40° (d) 140°

21. Let ABC be an equilateral triangle and $AD \perp BC$. Then $AB^2 + BC^2 + CA^2 = ?$

- (a) $2AD^2$ (b) $3AD^2$ (c) $4AD^2$ (d) $5AD^2$

22. If A, B, C are the angles of a $\triangle ABC$ then

$\sin\left(\frac{B+C}{2}\right) = ?$

- (a) $\sec B/2$ (b) $\sec A/2$ (c) $\operatorname{cosec} A/2$ (d) $\cos A/2$

[Q] MISCELLANEOUS QUESTIONS :- (15)

23. Find the square root of $8 - 4\sqrt{3}$.
 (a) $2 - \sqrt{3}$ (b) $2\sqrt{3} - 1$ (c) $\sqrt{6} + \sqrt{3}$ (d) $\sqrt{6} - \sqrt{3}$

24. The numbers 2272 and 875 are divided by a 3 digit no. N; giving the same remainders. The sum of the digits of N is:
 (a) 10 (b) 11 (c) 12 (d) 13

25. If $5\frac{3}{2} \times 3\frac{1}{2} = 19 + x$; then $x = ?$
 (a) 2 (b) 5 (c) 7 (d) 9