

# MISCELLANEOUS :- (1)

1. A and B are centres of two circles of radii 11 cm and 6 cm respectively. PQ is a direct common tangent to the circle. If  $AB = 13$  cm, then length of PQ will be

- (a) 15 cm (b) 12 cm (c) 17 cm (d) 3.5 cm

2. If  $\tan A = n \tan B$  and  $\sin A = m \sin B$ ; then the value of  $\cos^2 A$  is:

- (a)  $\frac{m-1}{n-1}$  (b)  $\frac{m+1}{n+1}$  (c)  $\frac{m-1}{n+1}$  (d)  $\frac{m+1}{n-1}$

3. ABC is a triangle. AM is perpendicular to BC; if  $\angle B = \tan^{-1} \frac{3}{4}$  and  $\angle C = \tan^{-1} \frac{5}{12}$  and  $BC = 56$  cm. Then find the area of the triangle ABC?

- (a) 180 cm<sup>2</sup> (b) 150 cm<sup>2</sup> (c) 420 cm<sup>2</sup> (d) 270 cm<sup>2</sup>

4. A and B can do a given work in 8 days; B and C can do the same work in 12 days and A, B, C complete it in 6 days. Number of days required to finish the work by A and C is:

- (a) 8 (b) 12 (c) 15 (d) 13

5. A bag contains 5 red balls, 6 blue balls, 2 green balls and 7 white balls; if 2 balls are picked up at random; find the probability that both are white balls.

- (a)  $\frac{22}{191}$  (b)  $\frac{21}{190}$  (c)  $\frac{26}{191}$  (d)  $\frac{33}{190}$

## (1) MISCELLANEOUS QUESTIONS :- (2)

6. A man sells an article at 20% above the cost price. If he had bought it at 20% less and sold it at ₹5 less, he would have gained 25%. The cost price of the article is :  
(a) ₹100 (b) ₹75 (c) ₹50 (d) ₹25

7. A car covers four successive 7 km distance at speeds of 10 km/hr, 20 km/hr, 30 km/hr and 60 km/hr respectively. Find its average speed?  
(a) 30 km/hr (b) 20 km/hr (c) 60 km/hr (d) 35 km/hr

8. In a trapezium ABCD,  $AB \parallel CD$  and  $AB = 2CD$ . Its diagonals intersect at O. If the area of  $\triangle AOB = 84 \text{ cm}^2$ , then the area of  $\triangle COD$  is equal to  
(a)  $72 \text{ cm}^2$  (b)  $42 \text{ cm}^2$  (c)  $26 \text{ cm}^2$  (d)  $21 \text{ cm}^2$

9. A quadrilateral ABCD is circumscribed about a circle. If the lengths of AB, BC, CD are 7 cm, 8.5 cm, 9.2 cm respectively, then the length of DA is :  
(a) 7.7 cm (b) 8.7 cm (c) 5.4 cm (d) 5.2 cm

10. O is Circumcentre of a triangle ABC lying inside the triangle; the sum of  $\angle OBC$  and  $\angle BAC$  is equal to :-  
(a)  $90^\circ$  (b)  $58^\circ$  (c)  $180^\circ$  (d)  $95^\circ$



# (10) MISCELLANEOUS QUESTIONS (5)

11. The greatest number among  $3^{50}$ ,  $4^{40}$ ,  $5^{30}$  and  $6^{20}$

- (a)  $3^{50}$  (b)  $4^{40}$  (c)  $5^{30}$  (d)  $6^{20}$

12. Two blends of tea costing ₹ 35/kg and ₹ 46/kg are mixed in a ratio 2:3 by weight. If one-fifth of the mixture is sold at ₹ 46/kg then the remaining at ₹ 55/kg; the profit percent is

- (a) 45% (b) 52% (c) 10% (d) 35%

13. Two places P and Q are 162 km apart. A train leaves P for Q and simultaneously another train leaves Q for P. They meet at the end of 6 hrs. If the former train travels 8 km/hr faster than the other, the speed of train Q is

- (a)  $9\frac{1}{2}$  km/h (b)  $12\frac{1}{2}$  km/h (c)  $13\frac{1}{3}$  km/h (d)  $15\frac{2}{3}$  km/h

14. The perimeter of a rhombus is 60 cm and one of its diagonal 24 cm. Area of rhombus is:

- (a) 226 sq. cm (b) 216 sq. cm (c) 324 sq. cm (d) 334 sq. cm

15.  $7 \sin \theta + 3 \cos \theta = 4$ ; then find the value of  $\tan \theta$

- (a)  $\sqrt{3}$  (b)  $\frac{1}{\sqrt{3}}$  (c) 1 (d)  $\infty$

## MISCELLANEOUS QUESTIONS :- (4)

16. In an office, 40% of the staff is female. 70% of the female staff and 50% of the male staff are married. The percentage of the unmarried people is:

- (a) 60 (b) 64 (c) 54 (d) 42

17. A certain number of books were purchased for ₹ 300. 5 more books could have been purchased in the same amount; if each book was cheaper by ₹ 10. The no. of books purchased was:

- (a) 25 (b) 10 (c) 40 (d) 15

18. Find the maximum value of  $24 \sin \theta + 7 \cos \theta$ .

- (a)  $\sqrt{25}$  (b) 25 (c) 1 (d) 24

19. In a regular polygon, the exterior angle and interior angles are in the ratio 1:4. The number of sides of the polygon is.

- (a) 10 (b) 20 (c) 30 (d) 12

20. The numerical values of the Volume and the area of the lateral surface of a right circular cone be  $h$  and radius  $r$ ; the value of

$$\frac{1}{h^2} + \frac{1}{r^2} \text{ is}$$

- (a)  $\frac{1}{8}$  (b)  $\frac{1}{9}$  (c)  $\frac{1}{7}$  (d)  $\frac{1}{6}$



## MISCELLANEOUS QUESTIONS <5>

21. AD is perpendicular to the internal bisector of  $\angle ABC$  of the triangle ABC. DE is drawn through D and parallel to BC to meet AC at E. If the length of AC is 12 cm; then the length of AE is:

- (a) 10 cm (b) 6 cm (c) 12 cm (d) 8 cm

22. If  $3(a^2 + b^2 + c^2) = (a + b + c)^2$ ; then the relation between a, b and c is:

- (a)  $a = b = c$  (b)  $a \neq b = c$  (c)  $a = b \neq c$  (d)  $a \neq b \neq c$

23. The value of  $\cot 41^\circ \cot 42^\circ \dots \cot 49^\circ$  is:

- (a) 1 (b)  $\frac{1}{\sqrt{2}}$  (c)  $\sqrt{2}$  (d) 0

24. If  $x = 11$ ; then the value of  $x^5 - 12x^4 + 12x^3 - 12x^2 + 12x - 1$  is:

- (a) 10 (b) 12 (c) 13 (d) 14

25. The successive discount of 10% and 30% are equivalent to a single discount of

- (a) 40% (b) 35% (c) 38% (d) 37%