MAT 2025 Memory Based Question Paper

1. Six years ago, the age of Ashok was 9 times that of his son. Four years ago, Ashok's age was 6 $\frac{1}{3}$ times that of his son. How many times the age of Ashok would be of his son's age after 6 years?

(A) 1 time

(B) 2.5 times

(C) 3 times

(D) 3.5 times

2. An aeroplane starts from New Delhi to reach its destination, Kanyakumari, 2,280 km in 3 hours. But due to turbulent weather, its speed had to be reduced. Thus, it reached its destination 40 minutes late. By how much was its speed reduced?

(A) 132 kmph

(B) 125 kmph

(C) 121 kmph

(D) 114 kmph

3. Two pipes X and Y are used to fill a tank. Pipe X is three times faster than Pipe Y and takes 36 minutes less than Pipe Y to fill a tank. Find the time taken to fill the tank if both pipes are opened together.

(A) 13 (1/2) min

(B) 16 min

(C) 18 min

(D) 12 min

4. A sum of 1,75,000 was distributed among 4 employees, such that B gets 17.5% more than A while C gets an amount equal to $\frac{1}{3}$ of the sum of what A and B get. If D gets 42,760, what is the difference in the amounts received by B and C?

(A) 20,520
(B) 21,020
(C) 22,250
(D) 23,440

5. A jug was full with juice. A person drew out $\frac{1}{6}$ of juice from the jug and replaced it with water. He repeated the process 3 times and thus there was only 1,250 ml of juice left in the jug, the rest part of the jug was filled with water. What was the initial quantity of juice in the jug?

(A) 2.675 ltr

(B) 2.465 ltr

(C) 2.230 ltr

(D) 2.160 ltr

6. The probability of selecting a red ball at random from a jar that contains red, blue, and orange balls is $\frac{1}{7}$. The probability of selecting a blue ball at random from the same jar is $\frac{1}{6}$. If the jar contains 29 orange balls, find the total number of balls in the jar.

(A) 39 balls

- (B) 40 balls
- (C) 42 balls
- (D) 44 balls

7. In a class test, the average for the entire class was 69.7 marks. If 13% of the students scored 79 marks and 15% scored 89 marks, what are the average marks of the remaining students of the class?

- (A) 66 marks
- (B) 64 marks
- (C) 70 marks
- (D) 72 marks

8. Gaurav sells his goods 20% cheaper than Vicky's goods and 20% costlier than

Dinesh. How much percentage are Dinesh's goods cheaper than Vicky's goods?

(A) 30%

(B) 33 (1/3)%

(C) 36%

(D) 40.5%

9. Akshay sold an article at 22.5% profit. Yogesh sold the same article at 20% profit. The profit made by Yogesh was 108 more than the profit made by Akshay. Find the cost price of the article.

(A) 6,000

(B) 5,000

(C) 5,650

(D) 5,400

10. In an election, a voter may vote for any number of the seven candidates but not greater than the number to be chosen. There are seven candidates, and four are to be chosen. In how many possible ways can a person vote?

(A) 78 ways

(B) 89 ways

- (C) 98 ways
- (D) 107 ways

11. The vertices of a triangle PQR are (5,3), (-5,-2), and (3,-8) respectively. What is the area of the triangle and the measure of the altitude?

(A) Area = 56 cm², Altitude = 16 cm

(B) Area = 54 cm², Altitude = 14 cm

(C) Area = 50 cm^2 , Altitude = 10 cm

(D) Area = 52 cm^2 , Altitude = 12 cm

12. Tickets numbered 51 to 80 are mixed, and then a ticket is drawn at random. What is the probability that the ticket drawn has a number which is a multiple of 3 or 5?

(A) $\frac{1}{2}$ (B) $\frac{3}{10}$ (C) $\frac{7}{15}$ (D) $\frac{8}{19}$

13. The area of a right-angled triangle is 210 cm². The difference between the sides containing the right angle of the triangle is 23 cm. What is the perimeter of the triangle?

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(A) 84 cm (B) 88 cm

(C) 92 cm

(D) 96 cm

14. Varun invested a sum of 6,40,000 on simple interest at the rate of 4.15% for 3 years and 9 months. At what rate of compound interest should he have invested the same amount for 2 years to get the same interest?

(A) 6.5%

(B) 7%

(C) 7.5%

(D) 8%

15. In a festive season, a shopkeeper, with a view to increasing his earnings, gives a 9.5% discount on frocks. As a result, the volume of his sale of frocks jumps by 30%. How much increase is there in his earnings?

(A) 15.25%

(B) 16.75%

(C) 18.5%

(D) 17.65%

16. In the given figure, $\triangle PQR$ is a right-angled triangle with PQ = 35 cm and PR = 12 cm. A circle with center 'O' has been inscribed in the triangle. Find the value

of r, the radius of the inscribed circle.

(A) 6 cm

(B) 5 cm

- (C) 4 cm
- (D) 3 cm

17. A shopkeeper gives a discount of 25% on the market price of an electronic gadget and gains a profit of 27.5% only. Now, they want to make more profit and therefore, reduce the discount to 20%. Find how much profit does he earn now?

(A) 28%

(B) 30%

(C) 24%

(D) 36%

18. The angle of elevation of an aeroplane from a point on the ground is 60°. After a flight of 25 seconds, the angle of elevation becomes 30°. If the aeroplane is flying at a constant height of $3200\sqrt{3}$ m, find the speed of the aeroplane.

(A) 256 m/s

- (B) 255 m/s
- (C) 254 m/s
- (D) 252 m/s

19. In a sports stadium, the seats are arranged in rows. The number of seats in the stadium form the terms of an arithmetic series. The fifth row has 22 seats and the tenth row has 37 seats. The theatre has 26 rows in total. Find the number of seats in the stadium.

- (A) 1,130 seats
- (B) 1,184 seats
- (C) 1,235 seats
- (D) 1,325 seats

20. Soap solution A and B of purity 35% and 60% respectively are mixed to obtain 60L of soap solution with purity 45%. Find the quantity of soap solution A and B required to be mixed to form the mixture.

(A) A = 24.5L, B = 35.5L
(B) A = 33.2L, B = 27L
(C) A = 3.6L, B = 24L

(D) A = 27.5L, B = 27.5L

21. If A gives 42 plastic rings to B, B now has $4\frac{2}{9}$ times the plastic rings that A has. If A gives 31 plastic rings to B, B together will have 3 times the plastic rings that A has. How many plastic rings are with A and B together?

(A) 169

(B) 175

- (C) 181
- (D) 188

22. Paresh standing on the bank of a river observed that the angle of elevation of the point on the opposite bank is 60°. When he moves 30 m away from the bank, the angle of elevation becomes 30°. Find the height and the width of the river. ($\sqrt{3} = 1.732$)

(A) 22.54 m (approx), 18 m
(B) 23.85 m (approx), 17 m
(C) 24.82 m (approx), 16 m
(D) 25.98 m (approx), 15 m

23. A, B, and C enter into a partnership in the ratio 7/6 : 9/7 : 11/9. After 7 months, A withdraws 40% of his share of investment, while after 8 months, B withdraws 25% of his investment. If at the end of the year, the total profit was 3,18,750, then, what is A's share in the profit?

- (A) 88,460
- (B) 89,150
- (C) 90,335

24 . Find the outer and inner radii of a 42 cm long cylindrical metallic pipe when the difference between its external and internal surface areas is 396 cm² and the pipe is made up of 2,079 cm³ of metal.

(A) 5 cm, 3.5 cm(B) 5.5 cm, 4 cm

- (C) 6 cm, 4.5 cm
- (D) 6.5 cm, 5 cm

25. In an examination, the number of candidates who passed and the number of those who failed in the ratio 5:1. Had 21 more candidates appeared and 11 less passed, the ratio of pass candidates to the failed candidates would have been 7:2. Find the number of candidates who appeared in the examination.

- (A) 467
- (B) 475
- (C) 481
- (D) 492