

Capgemini Aptitude Paper

Capgemini Numerical Reasoning Questions: 25, 1 mark for correct answer, -0.25 mark for incorrect answer

1. A rectangular tank can hold k liters of water. How many liters of water can a tank with all its dimensions doubled hold?
 A. $2k$ liters
 B. 23 liters
 C. $4k$ liters
 D. $6k$ liters

2. A triangle has sides of lengths 10, 24 and n , where n is a positive integer. The number of values of n for which the triangle has three acute angles is
 A. 1
 B. 2
 C. 3
 D. 4

3. In the rectangle ABCD, the perpendicular bisector of AC divides the longer side AB in a ratio 2: 1. Then the area of the rectangle is
 A. $30\sqrt{5}$
 B. $45\sqrt{5}$
 C. $60\sqrt{5}$
 D. $90\sqrt{5}$

4. A sphere of 10.5 cm radius is melted and cast into a cuboid of maximum volume. The total surface area of the cuboid is
 A. 1720
 B. 1650
 C. 1810
 D. 1932

5. Consider a right angle triangle where the length of the shorter leg is one third of the length of its hypotenuse. If the hypotenuse is 7 cm, then calculate the area of the triangle in square cm.
 A. $7 \times \sqrt{2}$
 B. $49 \times \sqrt{2}$
 C. $14 \times \sqrt{2}$
 D. 49

6. Suppose that a train journey is being charged as below:
 -- Minimum ticket cost is Rs. 100, which entitles the ticket holder to travel up to a distance of 10 miles
 --For every additional mile traveled, the charge is Rs. 10
 --A minimum luggage weight of 10 kg is not charged, after which it is charged at Rs. 1 per kg.
 During a specific journey, suppose you carry a weight of ' n ' kg, and a distance of ' m ' miles is traveled, which equation gives the total charge to be paid by you?

A. $100 + (10 * (m-10)) + n$
 B. $100 - (10 * m) + (n-10)$
 C. $100 + (10 * (m-10)) + (n-10)$
 D. $100 - (10 * (m+10)) + (n-10)$

7. There are two queues at a supermarket billing counter. In the first queue there are m_1 customers all with n_1 items in their baskets. In the second queue there are m_2 customers all with n_2 items in their baskets. It takes t seconds to process each customer.

person to pay. A customer wishes to know which queue to join. Which one of these options gives the condition better queue to join?

- A. $m_1(p+n_1t) = m_2(p+n_2t)$
- B. $m_1(p+n_1t) < m_2(p+n_2t)$
- C. $m_2(p+n_2t) = m_1(p+n_1t)$
- D. $m_1(p+n_1t) = m_2(p+n_2t)$

8. Take a bicycle with following specifications:

- The front de-railer is on the 52 tooth gear and the rear de-railer is on the 14 tooth gear
- The rear gear has 14 teeth
- The diameter of the rear wheel is 27"

If a bicyclist pedals at 75 revolutions per minute, then what will be the speed achieved?

- A. 22.38
- B. 26.85
- C. 25
- D. 30

9. Suppose Mr. X works for company A. The company grants 1000 shares to Mr. X in 2008. At that point each share he decides to sell his entire stake and at that point, the value is Rs. 120 per share. The government declares the entire profit. Due to the inflation, the value of a rupee in 2010 is equivalent to 0.8 of a rupee in 2008. In the model indicates the actual tax to be paid by the investor?

- A. 120 Rs at 2010 value " 100 Rs at 2008 value
- B. 120 Rs at 2010 value " 100 Rs at 2008 value * (1 Re at 2010 value / 0.8 Re at 2008 value)
- C. 120 Rs at 2008 value " 100 Rs at 2010 value * (1 Re at 2008 value / 0.9 Re at 2010 value)
- D. 100 Rs at 2010 value " 120 Rs at 2008 value * (1 Re at 2010 value / 0.8 Re at 2008 value)

10. The ratio of cost price to the marked price of an article is 4 : 5. If the ratio of the profit percentage on sell allowed on it is 5 : 4, what is the profit percentage?

- A. 10%
- B. 12%
- C. 12.5%
- D. 15%

11. Krishna bought some wheat at Rs. 10 per kilogram. He buys 2 kg wheat from a ration shop at the rate of Rs and sells at Rs. 11 per kilogram. He makes 25% profit. What is the ratio of non-ration to ration wheat?

- A. 1:4
- B. 1:5
- C. 5:1
- D. None of the above

12. In a typical bike rally, every bike has to reach a speed of 20 m/min within a minute and it increase its speed 1600 m/min. Four minutes later, a new biker started running in the race. After another two minutes, the biker stopped due to injuries and again two new bikers started running in the race. What is the current average speed?

- A. 260 m/min
- B. 220 m/min
- C. 280 m/min
- D. 290 m/min

13. A river runs at 4 km/hr. if the time taken by a man to row a boat upstream is 3 times as the time taken by him to speed of the boat in still water.

- A. 16 km/hr
- B. 8km/hr
- C. 6km/hr

D. 28km/hr

14. A, B, C are running in the same direction around a circular track. The track is marked with numbers from 1 to 12. Numbers are uniformly spaced along the track. A overtakes B once at 5 and then the next time again at 9. A overtakes C the next time again at 4. What is the ratio of B's speed to C's speed?

- A. 7:4
- B. 2:1
- C. 3:2
- D. 5:4

15. Manu working alone on a job takes 12 days more than what he would have taken if Bhanu had worked along with him. Bhanu working alone on the same job takes 27 days more than what he would have taken if Manu had worked along with him. How many days would they working together would take to do the job.

- A. 10
- B. 12
- C. 16
- D. 18

16. Ram and Shyam are quizmasters. The time taken by Ram to make a question is double of that taken by Shyam. Shyam makes 3 questions less each minute and Ram makes 3 questions more each minute, to make x questions, the time taken by Shyam is equal to that taken by Ram. If Shyam takes y minutes to make x questions, find the number of questions that Shyam can make in 1 minute.

- A. 12
- B. 9
- C. 8
- D. 6

17. Radha bought a watch for Rs. 144 and got a percentage of profit equal to the cost price of the watch. What was the cost price of the watch?

- A. Rs. 72
- B. Rs. 78
- C. Rs. 80
- D. Rs. 90

18. The price of raw materials has gone up by 15%, labour cost has also increased from 25% of the cost of raw materials to 30% of the cost of raw material. By how much percentage should there be a reduction in the usage of raw materials so as to keep the total cost the same?

- A. 17%
- B. 24%
- C. 28%
- D. 25%

19. Rani's weight is 25% of Meena's weight and 40% of Tara's weight. What percentage of Tara's weight is Meena's weight?

- A. 10%
- B. 100%
- C. 150%
- D. 160%

20. Three years ago a friend offered me a used typewriter for Rs. 1024. A year later he offered me the same typewriter for Rs. 400 and now he is willing to sell it to me for Rs. 250. But I have decided to buy it when he reduces the price by 20%. Reducing its price, at what price will he offer the typewriter to me next?

- A. Rs.150.45
- B. Rs. 156.25
- C. Rs. 211.25
- D. Rs. 206.75

21. A number is divisible by both 3 and 5, but when it is divided by 8 it gives a remainder 3. The number is:

- A. 45
- B. 60
- C. 75
- D. 90

22. Given a quadratic equation, $ax^2+bx+c=0$ If the ratio of the sum of the roots and the product of roots is $2:7$ and $c?$

- A. $b=2,c=7$
- B. $b=7,c=2$
- C. $b=-2,c=-7$
- D. $b=-2,c=7$

23. A sum of money becomes 2.5 times itself at 12.5% simple interest p.a. The period of investment is:

- A. 6 years
- B. 8 years
- C. 12 years
- D. 20 years

24. The mean of 100 items was found to be 30. If at the time of calculation two items were wrongly taken as 31. What is the correct mean?

- A. 29.9
- B. 30.5
- C. 34.9
- D. None of these

25. 200 pepsi bottles are stacked in such a way that there are 20 bottles in the bottom, 19 in the next row, 18 in the next row, how many rows will 200 pepsi bottles be placed?

- A. 25 rows
- B. 16 rows
- C. 10 rows
- D. 5 rows

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