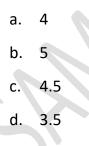# IIM KOZHIKODE BMS AT 2025

SAMPLE QUESTIONS – QUANTITATIVE APTITUDE

1. An elevator has a weight limit of 630 kg. It is carrying a group of people of whom the heaviest weighs 57 kg and the lightest weighs 53 kg. What is the maximum possible number of people in the group?

    a) 11

    b) 12

    c) 10

    d) 9

2. In a market, the price of medium-quality mangoes is half that of high-quality mangoes. A shopkeeper purchases 80 kg of high-quality mangoes and 40 kg of medium-quality mangoes. He then sells all of them at a uniform price that is 10% lower than the price he paid for the high-quality ones. What is his total profit?

    a. 6%

    b. 8%

    c. 10%

    d. 12%

3. If a and b are integers of opposite signs such that $(a + 3)^2 : b^2 = 9 : 1$ and $(a - 1)^2 : (b - 1)^2 = 4 : 1$, then the ratio of $a^2 : b^2$ is:

    a. 9 : 4

    b. 81 : 4

    c. 1 : 4

    d. 25 : 4

4. Let a1, a2, … , a52 be positive integers such that a1 $<$ a2 $<$ … $<$ a52. Suppose, their arithmetic mean is one less than the arithmetic mean of a2, a3, …, a52. If a52 = 100, then the largest possible value of a1 is

    a. 48

    b. 20

    c. 45

    d. 23

5. From a rectangle ABCD of area 768 sq. cm, a semi-circular part with diameter AB and area 72π sq. cm is removed. The perimeter of the leftover portion, in cm, is

    a. 88 + 12π

    b. 80 + 16π

    c. 86 + 8π

    d. 82 + 24π

6. If (5.55)x = (0.555)y = 1000, then the value of 1/x – 1/y is

    a. 1

    b. 1313

    c. 2323

    d. 3

7. A club has 256 members of whom 144 can play football, 123 can play tennis, and 132 can play cricket. Moreover, 58 members can play both football and tennis, 25 can play both cricket and tennis, while 63 can play both football and cricket. If every member can play at least one game, then the number of members who can play only tennis is

    a. 32

    b. 43

    c. 38

    d. 45

8. Meena scores 40% in an examination and after review, even though her score is increased by 50%, she fails by 35 marks. If her post-review score is increased by 20%, she will have 7 marks more than the passing score. The percentage score needed for passing the examination is

    a. 75

    b. 80

    c. 60

    d. 70

9. The product of two positive numbers is 616. If the ratio of the difference of their cubes to the cube of their difference is 157 : 3, then the sum of the two numbers is

    a. 50

    b. 85

    c. 95

    d. 58

10. The average of 30 integers is 5. Among these 30 integers, there are exactly 20 which do not exceed 5. What is the highest possible value of the average of these 20 integers?

    a. 4

    b. 5

    c. 4.5

    d. 3.5

11. In a triangle ABC, medians AD and BE are perpendicular to each other, and have lengths 12 cm and 9 cm, respectively. Then, the area of triangle ABC, in sq cm, is

    a. 80

    b. 68

    c. 72

    d. 78

12. Bottle 1 contains a mixture of milk and water in 7 : 2 ratio and Bottle 2 contains a mixture of milk and water in 9 : 4 ratio. In what ratio of volumes should the liquids in Bottle 1 and Bottle 2 be combined to obtain a mixture of milk and water in 3 : 1 ratio?

    a. 27 : 14

    b. 27 : 13

    c. 27 : 16

    d. 27 : 18

13. Out of the shirts produced in a factory, 15% are defective, while 20% of the rest are sold in the domestic market. If the remaining 8840 shirts are left for export, then the number of shirts produced in the factory is

    a. 13600

    b. 13000

    c. 13400

    d. 14000

14. The manufacturer of a table sells it to a wholesale dealer at a profit of 10%. The wholesale dealer sells the table to a retailer at a profit of 30%. Finally, the retailer sells it to a customer at a profit of 50%. If the customer pays Rs 4290 for the table, then its manufacturing cost (in Rs) is

    a. 1500

    b. 2000

    c. 2500

    d. 3000

15. If a, b, c are three positive integers such that a and b are in the ratio 3 : 4 while b and c are in the ratio 2 : 1, then which one of the following is a possible value of (a + b + c)?

       a.   201

       b.   205

       c.   207

       d.   210