

Alligation and mixture

Q1. The ratio in which a man must mix rice at Rs. 10.20 per kg and Rs. 14.40 per kg so as to make a mixture worth Rs.12.60 per kg is:

- (a) 2 : 5 (b) 3 : 4 (c) 4 : 3 (d) 18 : 24

Q2. Two vessels A and B contain milk and water mixed in the ratio of 4 : 3 and 2 : 3. The ratio in which these mixtures be mixed to form a new mixture containing half milk and half water is:

- (a) 4 : 3 (b) 5 : 6 (c) 6 : 5 (d) 7 : 5

Q3. A solution of 25 litres contain 20% sugar, if 10 litres of the solution is evaporated, find the percentage of sugar in the final solution?

- (a) 20% (b) 25% (c) 27.5% (d) 33.33%

Q4. Two vessels A and B contain milk and water mixed in the ratio 8 : 5 and 5 : 2 respectively. The ratio in which these two mixtures be mixed to get a new mixture containing 69 (3/13)% milk is

- (a) 2 : 7 (b) 3 : 5 (c) 5 : 2 (d) 5 : 7

Q5. The ratio of milk and water in a solution is 20 : 7 and after adding 5 liters of water in it the ratio of milk and water becomes 5 : 3, then find the final amount of water in the final solution.

- (a) 10 litres (b) 12 litres (c) 20 litres (d) 24 litres

Q6. Two alloys are both made up of copper and tin. The ratio of copper and tin in the first alloy is 1 : 3 and in the second alloy is 2 : 5. In what ratio should the two alloys be mixed to obtain a new alloy in which the ratio of tin and copper be 8 : 3?

- (a) 5 : 11 (b) 4 : 7 (c) 3 : 8 (d) 3 : 5

Q7. How many liters of a 90% of concentrated acid needs to be mixed with a 75% solution of concentrated acid to get a 30-liter solution of 78% concentrated acid?

- (a) 9 (b) 8 (c) 7 (d) 6

Q8. In what proportion may three kinds of tea prices at Rs. 80, Rs. 70 and Rs. 50 per kg be mixed to produce a mixture worth Rs. 60 per kg?

- (a) 1 : 1 : 3 (b) 1 : 2 : 3 (c) 2 : 1 : 3 (d) 2 : 2 : 3

Q9. A shopkeeper mixed low-quality vegetable oil costing Rs. 40 per litre with sunflower refined oil costing Rs. 80 per litre in a ratio of 2 : 3 respectively. If he sold the mixture at Rs. 100 per litre, find his profit percentage.

- (a) 50% (b) 56.25% (c) 57.5% (d) 60%

Q10. Find the proportion in which three types of sugar at Rs. 12, Rs. 14, and Rs. 20, may be mixed so That by selling mixture at Rs. 18/kg there is a profit of 20%

- (a) 3 : 12 : 16 (b) 4 : 12 : 15 (c) 5 : 5 : 4 (d) 5 : 15 : 6

Q11. A milk vendor has 2 cans of milk. The first contains 25% water and the rest milk. The second contains 50% water. How much milk should he mix from each of the containers so as to get 12 litres of milk such that the ratio of water to milk is 3 : 5?

- (a) 5 litres, 7 litres (b) 4 litres, 8 litres (c) 6 litres, 6 litres (d) 7 litres, 4 litres

Q12. A vessel is full of Petrol. $\frac{1}{4}$ th of the Petrol is taken out and replaced with kerosene oil. If the process is repeated 3 more times, 81 litres of Petrol is finally left in the vessel. Find the capacity of the vessel.

- (a) 256 litres (b) 128 litres (c) 240 litres (d) None of these

Q13. A butler stole wine from a butt of Rony which contained 40% of spirit and he replaced what he had stolen with wine containing only 16% spirit. The butt was then 24% strength only. How much of the butt did he steal?

- (a) $\frac{1}{3}$ (b) $\frac{2}{3}$ (c) $\frac{1}{4}$ (d) $\frac{2}{5}$

Q14. Mixture of milk and water has been kept in two separate containers. ratio of milk to water in one of the containers is 5:1 and that in the other container is 7:2. in what ratio the mixtures of these two containers should be added together so that the quantity of the milk in the new mixture may become 80%?

- (a) 2 : 3 (b) 1 : 2 (c) 14:19 (d) 3:7

Q15. 8L Cold drink was added to a 20L mixture of water and alcohol such that the ratio of alcohol to that of cold drink and water is 1 : 3. Find the amount of alcohol in the solution.

- (a) 7L (b) 8L (c) 10L (d) None of these

Q16. 8litres are drawn from a cask full of wine and is then filled with water. This operation is performed three more times. The ratio of the quantity of wine now left in cask to that of the water is 16 : 65. How much wine the cask hold originally?

- (a) 18 litres (b) 24 litres (c) 32 litres (d) 42 litres

Q17. A container contains 40 litres of milk. From this container, 4 litres of milk was taken out and replaced by water. This process was repeated further two times. How much milk is now contained by the container?

- (a) 29.16 litres (b) 28 litres (c) 28.2 litres (d) 26 litres

Q18. A shopkeeper has 50 kg of rice. A part of which he sells at 10% profit and remaining at 5% loss. He gains 7% on the whole. Find the quantity sold at 10% profit.

- (a) 40 kg (b) 15 kg (c) 35 kg (d) 20 kg

Q19. In what ratio must a person mix three kinds of metal costing Rs.60/kg, Rs.75/kg and Rs.100 /kg so that the resultant alloy when sold at Rs.96/kg results in a gain of 20%?

- (a) 4:2:1 (b) 2:1:2 (c) 4:4:5 (d) 1:4:2

Q20. The ratio of milk and water in a solution is 20 : 7 and after adding 5 liters of water in it the ratio of milk and water becomes 5 : 3, then find the final amount of water in the final solution.

- (a) 10 litres (b) 12 litres (c) 20 litres (d) 24 litres

Q21. A bucket contains 64 liters of petrol. 16 liters of petrol is removed and replaced with kerosene. 16 liters of this mixture is removed and replaced with kerosene. How much kerosene (in liters) is present now?

- (a) 20 litres (b) 28 litres (c) 36 litres (d) 48 litres

Q22. Marry purchased a canning jar with juice with a capacity of 30 litres. Three litres of juice is removed from this jar and filled with water. This procedure was performed two more times. How much juice does Mary have now?

- (a) 24 (b) 21.87 (c) 26 (d) 22.56

Q23. A mixture of a certain quantity of milk with 16 litres of water is worth 90p per litre. if pure milk be worth Rs.1.08 per litre, how much milk is there in the mixture?

- (a) 60 (b) 65 (c) 75 (d) 80

Q24. From a vessel of 20 liters pure milk, 1 liter is taken out and replaced with water, so as to keep the volume constant to 20 liters. This process is repeated 5 times. Find the percentage of pure milk left in the vessel after 5 replacements.

- (a) 77.378% (b) 67.378% (c) 57.378% (d) 47.378%

Q25. 30 litres of a mixture of milk and water contains 10% of water, the water to be added, to make the water content 25% in the new mixture. Find how many litres water will be added?

- (a) 6 litres (b) 8 litres (c) 10 litres (d) 16 litres

Answer key

1	B	6	B	11	C	16	B	21	B
2	D	7	D	12	A	17	A	22	B
3	D	8	A	13	B	18	C	23	D
4	A	9	B	14	A	19	C	24	A
5	B	10	C	15	A	20	B	25	A