ASSIGNMENT MIXTURE AND ALLIGATION, SI AND CI

1. A vendor buys milk at a certain price, adds water and sells the adulterated milk at the same rate as he bought it for. He makes a 30% profit. What is the % of water he adds to the milk?

(a) 30% **(b) 15%** **(c) 20%** **(d) 60%**

2. A container having a liquid X is at a level of 4/7 its actual level. From this, if x liters are remove and the container is ¼ th full. Finally 35 liters are added to the container making it ½ full. The value of x and the capacity of the container are respectively are

(a) 45,210 **(b) 25,140** **(c) 45,140** **(d) 40,210**

3. A bottle of whisky contains ¾ of whisky and the rest water. How much of the mixture must be taken away and substituted by equal quantity of water so as to have half whisky and half water?

(a) 25% **(b)** $33\frac{1}{3}\%$ **(c) 45%** **(d) 50%**

4. In what ratio must the 1:4 mixtures of whisky and water be mixed with a 1:1 mixture to obtain a 2:3 mixture?

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

5.10 liters are removed from a cask full of wine containing 60 liters and is then filled with water. 10 liters of mixture is again withdrawn from the container. What quantity of wine is now left in the cask?

(a) $41\frac{2}{3}$ **(b) 27 3/6** **(c) 40** **(d) cannot be determined**

6. A vessel contains 12 liters of wine and another contains 4 liters of water. 3 liters are taken from each and transferred to the other. Then again, 3 liters are taken from each vessel and transferred to the other. Ratio of wine to water in the two vessels in

(a) The first vessel is higher **(b) The second vessel is higher**

(c) Both is the same **(d) None of these**

7. A milk vendor purchases 33 liters of milk containing milk and water in the ratio 12:1 he wants to make this a 11.2 solution of milk and water and sell the entire quantity at the cost price how much of water needs to be added?

(a) 3 lit **(b)** $2\frac{9}{11}$ **lit** **(c) 2.5 lit** **(d) None of these**

8. Nupur has 73 liters of wine in a drum. She replace 3.65 liters of it with water and keeps doing so till the time the concentration of wine is less than 85% the minimum number of operations that Nupur has to perform is

(a) 3 **(b) 4** **(c) 2** **(d) none of these**

9. Five liters are drawn from a cask full of wine and it is then filled with water. Five liters of the mixture are drawn and the cask is again filled with water. The quantity of wine now left in the cask to that of the water in it is in the ratio 361:39. How much does the cask hold?

(a) 400 liters (b) 250 liters (c) 100 liters (d) 75 liters

10. An alloy of zinc. Tin and copper contains 90% of copper, 7% of zinc and 3% of tin. A second alloy of copper and tin only is melted with the first, and the mixture contains 85% of copper, 5% of zinc and 10% of tin. Find the percentage of tin in the second alloy.

(a) 27.5% (b) 55% (c) 22.5% (d) 45%

11. Two metals X and Y are to be used for making two different alloys. If the ratio by weight of X.Y in the first alloy is 6:5 and that in the second is 7:13, how many kg of X metal must be melted along with 11kg of the first alloy and 20 kg of the second so as to produce a new alloy containing 40% of metal Y?

(a) 11 (b) 12 (c) 13 (d) 14

12. Two vessels contain mixtures of juice and water in the ratio of 8 to 3 and 5 to 1 respectively. In what ratio must liquid be drawn from each vessel to give a mixture in the ratio of 4 to 1?

(a) $\frac{24}{11}$ **(b)** $\frac{11}{24}$ **(c)** $\frac{23}{11}$ **(d)** $\frac{12}{23}$

13. How many of tea at Rs. 62.5 per kg must be added to 100 kg of tea at Rs. 78 per kg so that a profit of 33.33% is made by selling the mixture at Rs. 94 per kg?

(a) 93.75 kg (b) 85.75 kg (c) 78.75 kg (d) 80 kg

14. A pot contains a mixture of milk and water in the ratio of 4:3 and another pot contains a mixture of milk and water in the ratio of 3:4. How many seers of the second mixture should be added to 7 seers of the first in order that the milk and water in the resulting mixture be 6:5?

(a) $\frac{14}{9}$ **(b)** $\frac{9}{14}$ **(c)** $\frac{11}{14}$ **(d)** $\frac{14}{11}$

15. A merchant has 100 kg of sugar, part of which he sells at 7% profit and the rest at 17% profit. He gains 10% on the whole. How much is sold at 17%

(a) 28 kg. (b) 30 kg (c) 32 kg (d) 31 kg

16. A man travelled a distance of 80 km. in 7 hours partly on foot at the rate of 8 km. per hour and partly on bicycle at 16 km. per hour and partly on bicycle at 16 km per hour. Find the distance travelled on foot

(a) 32 km (b) 31 km (c) 28 km (d) 21 km

17. A merchant borrowed Rs. 2500 from two money lenders. For one loan he paid 8% per annum and for the other 6% per annum. The total interest paid for 1 year was Rs. 180 how much did he borrow at each rate?

(a) Rs. 20 & Rs. 1000 (b) Rs. 1800 & Rs. 700

(c) Rs. 1750 & Rs. 750 (d) Rs. 1250 & Rs. 1250

18. A tea merchant buys two kinds of tea, the price of the first kind being twice that of the second. He sells the mixture at Rs. 17.50 per kg, thereby making a profit of 25%. If the ratio of first and second kinds of tea in the mixture be 2:3, find the cost price of each kind of tea

(a) Rs. 20 & Rs. 10 **(b) Rs. 12 & Rs. 17**

(c) Rs. 17 & Rs. 12 **(d) Rs. 10 & Rs. 20**

19. A cup of milk contains 3 parts pure milk and one part of water. How much of the mixture must be withdrawn and substituted by water in order that the resulting mixture may be half milk and half water.

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

20. A sum of Rs. 18.45 is made up of 90 coins which are either 10 paise coins or 25 paise coins. Find the number of each type of coins.

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

21. Rs. 100 is lent out in two parts, one at 6% simple interest and the other at 8% simple interest. The yearly income is Rs.75. the sum lent at 8% is

(a) Rs. 250 **(b) Rs. 500** **(c) Rs. 750** **(d) Rs. 600**

22. A jar full of which contains 40% of alcohol. A part of this whisky is replaced by another containing 19% alcohol and now the percentage of alcohol was found to be 26. The quantity of whisky replaced is

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

23. The ratio of milk and water in 66 kg of adulterated milk is 5:1. Water is added to it to make to ratio 5:3. The quantity of water added is

(a) 22 kg **(b) 24.75 kg** **(c) 16.50 kg** **(d) 20 kg**

24. Some amount out of Rs. 7000 was lent at 6% p.a. and the remaining at 4% p.a. if the total simple interest from both the fractions in 5 years was Rs. 1600, the sum lent at 6% p.a. was

(a) Rs. 2000 **(b) Rs. 5000** **(c) Rs. 3500** **(d) none of these**