

Practice Exercise

Level - I

- A mixture of certain quantity of milk with 16 litres of water is worth 90 P per litre. If pure milk be worth ₹ 1.08 per litre, how much milk is there in the mixture?
(a) 60 (b) 70
(c) 80 (d) 90
- In my pocket there are ₹25 consisting of only the denominations of 20 paise and 50 paise. Thus there are total 80 coins in my pocket. The no. of coins of the denomination of 50 paise is
(a) 30 (b) 70
(c) 50 (d) 25
- There are some shepherds and their sheep in a grazing field. The no. of total heads are 60 and total legs are 168 including both men and sheep. The no. of sheep is
(a) 18 (b) 26
(c) 24 (d) 36
- If 5 kg of salt costing ₹ 5/kg and 3 kg of salt costing ₹ 4/kg are mixed, find the average cost of the mixture per kilogram.
(a) ₹ 4.5 (b) ₹ 4.625
(c) ₹ 4.75 (d) ₹ 4.125
- In what ratio should two qualities of coffee powder having rates of ₹ 47 per kg and ₹ 32 per kg be mixed in order to get a mixture that would have a rate of ₹ 37 per kg?
(a) 1 : 2 (b) 2 : 1
(c) 1 : 3 (d) 3 : 1
- In what ratio should milk and water be mixed so that after selling the mixture at the cost price a profit of $16\frac{2}{3}\%$ is made?
(a) 1 : 2 (b) 1 : 6
(c) 2 : 3 (d) 2 : 5
- Gold is 19 times as heavy as water and copper 9 times. In what ratio should these metals be mixed so that the mixture may be 15 times as heavy as water?
(a) 1 : 2 (b) 3 : 2
(c) 2 : 3 (d) 4 : 5
- In a mixture of 60 litres, the ratio of milk to water is 2 : 1. If the ratio of milk to water is to be 1 : 2, then amount of water to be further added is _____.
(a) 20 (b) 40
(c) 60 (d) 80
- In a mixture of 45 litres, the ratio of milk and water is 4 : 1. How much water must be added to make the mixture ratio 3 : 2 ?
(a) 72 litres (b) 24 litres
(c) 15 litres (d) 1.5 litres
- In a class of 30 students, the average weight of boys is 20 kg and the average weight of the girls is 25 kg. The fraction of boys out of the total students of the class is
(a) $\frac{4}{5}$ (b) $\frac{5}{6}$
(c) $\frac{3}{4}$ (d) Data insufficient
- Milk and water are mixed in a vessel A in the proportion 5 : 2, and in vessel B in the proportion 8 : 5. In what proportion should quantities be taken from the two vessels so as to form a mixture in which milk and water will be in the proportion of 9 : 4?
(a) 4 : 5 (b) 5 : 7
(c) 7 : 2 (d) 7 : 9
- A container has a capacity of 20 gallons and is full of spirit. 4 gallons of spirit is drawn out and the container is again filled with water. This process is repeated 5 times. Find out how much spirit is left in the resulting mixture finally?
(a) $6\frac{257}{525}$ gallons (b) $6\frac{346}{625}$ gallons
(c) 6.5 gallons (d) 6.25 gallons
- A jar full of whisky contains 40% 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) $\frac{1}{3}$ (b) $\frac{2}{3}$
(c) $\frac{2}{5}$ (d) $\frac{3}{5}$
- A dishonest grocer professes to sell pure butter at cost price, but he mixes it with adulterated fat and thereby gains 25%. Find the percentage of adulterated fat in the mixture assuming that adulterated fat is freely available.
(a) 20% (b) 25%
(c) 33.33% (d) 40%

15. A merchant purchased two qualities of pulses at the rate of ₹ 200 per quintal and ₹ 260 per quintal. In 52 quintals of the second quality, how much pulse of the first quality should be mixed so that by selling the resulting mixture at ₹ 300 per quintal, he gains a profit of 25%?
 (a) 100 quintals (b) 104 quintals
 (c) 26 quintals (d) None of these
16. There are two mixtures of honey and water, the quantity of honey in them being 25% and 75% of the mixture. If 2 gallons of the first are mixed with three gallons of the second, what will be the ratio of honey to water in the new mixture?
 (a) 11 : 2 (b) 11 : 9
 (c) 9 : 11 (d) 2 : 11
17. Two solutions of 90% and 97% purity are mixed resulting in 21 litres of mixture of 94% purity. How much is the quantity of the first solution in the resulting mixture?
 (a) 15 litres (b) 12 litres
 (c) 9 litres (d) 6 litres
18. A 20 percent gain is made by selling the mixture of two types of ghee at ₹ 480 per kg. If the type costing 610 per kg was mixed with 126 kg of the other, how many kilograms of the former was mixed ?
 (a) 138 kg (b) 34.5 kg
 (c) 69 kg (d) Cannot be determined
19. A man makes 60 articles in the 1st hour. His efficiency decreases by 25% in the 2nd hour, increases by 40% in the 3rd hour, decreases by 33% in the 4th hour and increases by 50% in the 5th hour. If he has to work for more than 1 hour, then in which hour the average number of articles produced per hour then would be minimum ?
 (a) 2nd hour (b) After 5th hour
 (c) 3rd hour (d) None of these
20. There are two solutions of Sulphuric acid (acid + water) with concentration of 50% and 80% respectively. They are mixed in a certain ratio to get a 62% sulphuric acid solution. This solution is mixed with 6 liters of water to get back 50% solution. How much of the 80% solution has been used in the entire process?
 (a) 15 liters (b) 12 liters
 (c) 10 litres (d) None of these
21. The ratio in which a man must mix rice at ₹ 10.20 per kg and ₹ 14.40 per kg so as to make a mixture worth ₹ 12.60 per kg, is
 [SSC-MT-2013]
 (a) 3 : 4 (b) 4 : 3
 (c) 2 : 5 (d) 18 : 24
22. Pure milk costs ₹ 16 per litre. After adding water the milkman sells the mixture ₹ 15 per litre and thereby makes a profit of 25%. In what respective ratio does he mix milk with water?
 [IBPS Clerk-2013]
 (a) 3 : 1 (b) 4 : 3
 (c) 3 : 2 (d) 5 : 3
 (e) 4 : 1

Level - II

1. 300 gm of sugar solution has 40% sugar in it. How much sugar should be added to make it 50% in the solution?
 (a) 40 gm (b) 50 gm
 (c) 60 gm (d) 70 gm
2. There are 65 students in a class. 39 rupees are distributed among them so that each boy gets 80 P and each girl gets 30 P. Find the number of boys and girls in that class.
 (a) 45, 20 (b) 40, 25
 (c) 39, 26 (d) 29, 36
3. How much water must be added to a cask which contains 40 litres of milk at cost price ₹ 3.5/litres so that the cost of milk reduces to ₹ 2/litre?
 (a) 20 (b) 35
 (c) 45 (d) None of these
4. A dishonest milkman professes to sell his milk at cost price but he mixes it with water and thereby gains 25%. The percentage of water in the mixture is _____.
 (a) 10% (b) 15%
 (c) 20% (d) 25%
5. Jayashree purchased 150 kg of wheat of the rate of ₹ 7 per kg. She sold 50 kg at a profit of 10%. At what rate per kg should she sell the remaining to get a profit of 20% on the total deal?
 (a) 6.50 (b) 8.75
 (c) 7.50 (d) 9.75
6. The ratio of milk and water in 55 litres of adulterated milk is 7 : 4. How much water must be added to make the mixture's ratio 7 : 6?
 (a) 5 l (b) 10 l
 (c) 15 l (d) 25 l
7. From a cask full of milk, 10 litres are taken out of 50 litres and is filled with water. This was done twice. What is the quantity of milk now left in the cask?
 (a) 20 litres (b) 32 litres
 (c) 25 litres (d) 30 litres
8. The average weight of boys in a class is 30 kg and the average weight of girls in the same class is 20 kg. If the average weight of the whole class is 23.25 kg, what could

- be the possible strength of boys and girls respectively in the same class?
- (a) 14 and 26 (b) 13 and 27
(c) 17 and 27 (d) None of these
9. In what ratio should water be mixed with soda costing ₹12 per litre so as to make a profit of 25% by selling the diluted liquid at ₹13.75 per litre ?
- (a) 10 : 1 (b) 11 : 1
(c) 1 : 11 (d) 12 : 1
10. Two vessels *A* and *B* of equal capacities contain mixtures of milk and water in the ratio 4 : 1 and 3 : 1, respectively. 25% of the mixture from *A* is taken out and added to *B*. After mixing it thoroughly, an equal amount is taken out from *B* and added back to *A*. The ratio of milk to water in vessel *A* after the second operation is
- (a) 79 : 21 (b) 83 : 17
(c) 77 : 23 (d) 81 : 19
11. Two alloys composed of gold and silver together weight 20 kg. One lump contains 75% gold and 31.25 gm per kg silver. Another alloy contains 85% gold and 30 gm per kg silver. The total quantity of silver in two lumps is 617.5 gm. If the two lumps are melted and formed into one, what percentage of gold will it contain ?
- (a) 50% (b) 89%
(c) 78% (d) 67%
12. Two vessels *A* and *B* contain spirit and water mixed in the ratio 5 : 2 and 7 : 6 respectively. Find the ratio in which these mixture be mixed to obtain a new mixture in vessel *C* containing spirit and water in the ratio 8 : 5 ?
- (a) 4 : 3 (b) 3 : 4
(c) 5 : 6 (d) 7 : 9
13. 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 $69\frac{3}{13}\%$ milk, is :
- (a) $13\frac{1}{2}$: 7 (b) 3 : 5
(c) 5 : 2 (d) 5 : 7
14. A can contains a mixture of two liquids *A* and *B* in the ratio 7 : 5. When 9 litres of mixture are drawn off and the can is filled with *B*, the ratio of *A* and *B* becomes 7 : 9. How many litres of liquid *A* was contained by the can initially?
- (a) 10 (b) 20
(c) 21 (d) 25
15. Ram prepares solutions of alcohol in water according to customers' needs. This morning Ram has prepared 27 litres of a 12% alcohol solution and kept it ready in a 27 litre delivery container to be shipped to the customer. Just before delivery, he finds out that the customer had asked for 27 litres of 21% alcohol solution. To prepare what the customer wants, Ram replaces a portion of 12% solution by 39% solution. How many litres of 12% solution are replaced?
- (a) 5 (b) 9
(c) 10 (d) 12
16. *A*, *B*, *C* subscribe together ₹ 50,000 for a business. *A* subscribes ₹ 4,000 more than *B* and *B* ₹ 5,000 more than *C*. Out of a total profit of ₹ 35,000, *A* receives
- [SSC CGL-2012]
- (a) ₹ 8,500 (b) ₹ 11,998
(c) ₹ 12,600 (d) ₹ 14,700
17. A vessel full of pure acid contains 10 litres of it, of which 2 litres are withdrawn. The vessel is then filled with water. Next 2 litres of the mixture are withdrawn, and again the vessel is filled up with water. The ratio of the acid left in the vessel with that of the original quantity is
- [SSC CGL-2014]
- (a) 1 : 5 (b) 4 : 5
(c) 4 : 25 (d) 16 : 25
18. Gold is 19 times as heavy as water and copper is 9 times as heavy as water. In what ratio should these be mixed to get an alloy 15 times as heavy as water? [SSC CGL-2014]
- (a) 1 : 1 (b) 1 : 2
(c) 2 : 3 (d) 3 : 2