ALLIGATION & MIXTURE

1. In what ratio must wheat A at Rs. 10.50 per kg be mixed with wheat B at Rs. 12.30 per kg, so that the mixture be worth of Rs. 11 per kg**?(INDO MIM 2016)**

a. 13 : 5

b. 18 : 3

c. 17 : 5

d. 11 : 5

2. In what ratio must a shopkeeper mix Peas and Soybean of Rs. 16 and Rs. 25 per kg respectively, so as to obtain a mixture of Rs. 19.50 ?

a. 9 : 5

b. 7 : 5

c. 11 : 7

d. 12 : 8

3. A mixture of 150 liters of wine and water contains 20% water. How much more water should be added so that water becomes 25% of the new mixture? **(SAMUDRA SHIPPING 2016)**

A. 7 liters

B. 15 liters

C. 10 liters

D. 9 liters

4. A vessel contains 20 liters of a mixture of milk and water in the ratio 3:2. 10 liters of the mixture are removed and replaced with an equal quantity of pure milk. If the process is repeated once more, find the ratio of milk and water in the final mixture obtained? **(ARABOL LUBRICANT 2016)**

A. 9:1

B. 4:7

C. 7:1

D. 2:5

5. In what ratio should two varieties of sugar of Rs.18 per kg and Rs.24 kg be mixed together to get a mixture whose cost is Rs.20 per kg?

A. 1:3

B. 3:1

C. 1:2

D. 2:1

6. Two varieties of wheat - A and B costing Rs. 9 per kg and Rs. 15 per kg were mixed in the ratio 3 : 7. If 5 kg of the mixture is sold at 25% profit, find the profit made**? (CVENT 2016)**

A. Rs. 13.50

B. Rs. 14.50

C. Rs. 15.50

D. Rs. 16.50

7. In a mixture of milk and water, the proportion of milk by weight was 80%. If, in a 180 gm mixture, 36 gms of pure milk is added, what would be the percentage of milk in the mixture formed? **(ASAHI GLASS PVT LTD 2016)**

A. 80%

B. 100%

C. 84%

D. 83.3%

8. In a can, there is a mixture of milk and water in the ratio 4 : 5. If it is filled with an additional 8 litres of milk the can would be full and ratio of milk and water would become 6 : 5. Find the capacity of the can?

A. 40

B. 44

C. 48

D. 52

9. In what ratio should a variety of rice costing Rs. 6 per kg be mixed with another variety of rice costing Rs. 8.75 per kg to obtain a mixture costing Rs. 7.50 per kg?

A. 5 : 6

B. 3 : 4

C. 7 : 8

D. 8 : 9

10. A mixture of 70 litres of milk and water contains 10% water. How many litres of water should be added to the mixture so that the mixture contains 12 1/2% water? **(UNISYS 2016**)

A. 2

B. 8

C. 4

D. 5

11. All the water in container A which was filled to its brim was poured into two containers B and C. The quantity of water in container B was 62.5% less than the capacity of container A. If 148 liters was now transferred from C to B, then both the containers would have equal quantities of water. What was the initial quantity of water in container A?

A. 648

B. 888

C. 928

D. 1184

12. Two vessels P and Q contain 62.5% and 87.5% of alcohol respectively. If 2 litres from vessel P is mixed with 4 litres from vessel Q, the ratio of alcohol and water in the resulting mixture is? **(ICONMA 2016)**

A. 16 : 5

B. 14 : 5

C. 16 : 7

D. 19 : 5

13. A vessel of capacity 90 litres is fully filled with pure milk. Nine litres of milk is removed from the vessel and replaced with water. Nine litres of the solution thus formed is removed and replaced with water. Find the quantity of pure milk in the final milk solution?

A. 72

B. 72.9

C. 73.8

D. 74.7

14. 10 gallons are drawn from a container full of alcohol and filled with water again. 10 gallons of mixture are again drawn and the container is filled with water again. If the ratio of alcohol and water left in the container is 49 : 32, then find how much quantity does the container hold? **(COGNIZANT 2016**)

a. 35 gallons

b. 45 gallons

c. 55 gallons

d. 60 gallons

15. A container is filled with a mixture of water and milk in the ratio of 3 : 5. Find the quantity of mixture to be drawn off and replaced with water, in order to get the mixture as half milk and half water.

a. 2 : 3

b. 1 : 1

c. 1 : 5

d. 1 : 4

16. Find in what ratio must water be mixed with alcohol to gain 10% profit by selling the mixture at cost price. **(VOLTAS 2016)**

a. 1 : 5

b. 1 : 10

c. 1 : 15

d. 1 : 20

17. A shopkeeper has 100 kg of salt. He sells part of the total quantity A at 7% profit and the rest B at 17 % profit. If he gains 10 % profit on the whole quantity, then find how much is sold at 7 % profit? (**ELEATION 2015)**

a. 30 kg

b. 35 kg

c. 40 kg

d. 45 kg

18. Sugar A worth Rs. 130/kg and B of Rs. 120/kg are mixed with a third variety C in the ratio of 1 : 1 : 2. If the mixture is worth Rs. 160, then find the price of third variety of sugar.

a. Rs. 195

b. Rs. 200

c. Rs. 225

d. Rs. 230

19. Two containers P and Q contain milk and water in the ratio of 5 : 2 and 7 : 6 respectively. Find the ratio in which these two mixtures can be mixed so that a new mixture formed in the container R is in the ratio of 8 : 5. **(HYUNDAI CONSTRUCTION 2014**)

a. 5 : 6

b. 4 : 9

c. 7 : 9

d. 9 : 7

20. Tea worth Rs. 126 per kg and Rs. 135 per kg are mixed with a third variety in the ratio 1 : 1 : 2. If the mixture is worth Rs. 153 per kg, the price of the third variety per kg will be:

A. Rs. 169.50

B. Rs. 170

C. Rs. 175.50

D. Rs. 180

21. A can contains a mixture of two liquids A and B is 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? **(ZAMIL AC 2015**)

A. 10

B. 20

C. 21

D. 25

22. 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. 4 litres, 8 litres

B. 6 litres, 6 litres

C. 5 litres, 7 litres

D. 7 litres, 5 litres

23. In what ratio must a grocer mix two varieties of pulses costing Rs. 15 and Rs. 20 per kg respectively so as to get a mixture worth Rs. 16.50 kg?

A. 3 : 7

B. 5 : 7

C. 7 : 3

D. 7 : 5

24. 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: **(AMAZON 2016)**

A. 4%

B. 6%

C. 20%

D. 25%

25. How many kilogram of sugar costing Rs. 9 per kg must be mixed with 27 kg of sugar costing Rs. 7 per kg so that there may be a gain of 10% by selling the mixture at Rs. 9.24 per kg? **(TECHNOVERT 2013**)

A. 36 kg

B. 42 kg

C. 54 kg

D. 63 kg

26. 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. 26.34 litres

B. 27.36 litres

C. 28 litres

D. 29.16 litres

27. 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 1/3

B 2/3

C 2/5

D 3/5

28. In what ratio must water be mixed with milk to gain 16% on selling the mixture at cost price?

A. 1 : 6

B. 6 : 1

C. 2 : 3

D. 4 : 3

29. Find the ratio in which rice at Rs. 7.20 a kg be mixed with rice at Rs. 5.70 a kg to produce a mixture worth Rs. 6.30 a kg.

A. 1 : 3

B. 2 : 3

C. 3 : 4

D. 4 : 5

30. In what ratio must a grocer mix two varieties of tea worth Rs. 60 a kg and Rs. 65 a kg so that by selling the mixture at Rs. 68.20 a kg he may gain 10%? **(ZEBRONICS 2016)**

A. 3 : 2

B. 3 : 4

C. 3 : 5

D. 4 : 5

31. The cost of Type 1 rice is Rs. 15 per kg and Type 2 rice is Rs. 20 per kg. If both Type 1 and Type 2 are mixed in the ratio of 2 : 3, then the price per kg of the mixed variety of rice is:

A. Rs. 18

B. Rs. 18.50

C. Rs. 19

D. Rs. 19.50

32. 8 litres 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 water is 16 : 65. How much wine did the cask hold originally?

A. 18 litres

B. 24 litres

C. 32 litres

D. 42 litres

33. A merchant has 1000 kg of sugar, part of which he sells at 8% profit and the rest at 18% profit. He gains 14% on the whole. The quantity sold at 18% profit is:

A. 400 kg

B. 560 kg

C. 600 kg

D. 640 kg

34. The ratio of petrol and kerosene in the container is 3:2 when 10 liters of the mixture is taken out and is replaced by the kerosene, the ratio become 2:3. Then total quantity of the mixture in the container is: **(MAVEN WORKFORCE 2015)**

A) 25

B) 30

C) 45

D) cannot be determined

35. Find the ratio in which rice at Rs. 7.20 a kg be mixed with rice at Rs. 5.70 a kg to produce a mixture worth Rs. 6.30 a kg.

A) 1:3

B) 2:3

C) 3:4

D) 4:5

36. The diluted wine contains only 8 liters of wine and the rest is water. A new mixture whose concentration is 30%, is to be formed by replacing wine. How many liters of mixture shall be replaced with pure wine if there was initially 32 liters of water in the mixture?

A) 4

B) 5

C) 8

D) None of these

37. From a container, 6 liters milk was drawn out and was replaced by water. Again 6 liters of mixture was drawn out and was replaced by the water. Thus the quantity of milk and water in the container after these two operations is 9:16. The quantity of mixture is:

A) 15

B) 16

C) 25

D) 31

38. In a mixture of milk and water, there is only 26% water. After replacing the mixture with 7 liters of pure milk , the percentage of milk in the mixture become 76%. The quantity of mixture is: **(VENTURE PACT LLC 2015)**

A) 65 liters

B) 91 liters

C) 38 liters

D) None of these

39. From a container of wine, a thief has stolen 15 liters of wine and replaced it with same quantity of water.He again repeated the same process. Thus in three attempts the ratio of wine and water became 343:169. The initial amount of wine in the container was:

A) 75 liters

B) 100 liters

C) 150 liters

D) 120 liters

40. In the 75 litres of mixture of milk and water, the ratio of milk and water is 4:1. The quantity of water required to make the ratio of milk and water 3:1 is

A) 1 litre

B) 3 litres

C) 4 litres

D) 5 litres

41. In what proportion water must be added to spirit to gain 20% by selling it at the cost price ?

A) 1:5

B) 2:7

C) 7:5

D) 2:3

42. A mixture of 150 liters of wine and water contains 20% water. How much more water should be added so that water becomes 25% of the new mixture?

A) 10 liters

B) 20 liters

C) 30 liters

D) 40 liters

43. The ratio of water and alcohol in two different containers is 2:3 and 4:5. In what ratio we are required to mix the mixtures of two containers in order to get the new mixture in which the ratio of alcohol and water be 7:5? **(CVENT 2016)**

A) 7:3

B) 5:3

C) 8:5

D) 2:7

44. From a tank of petrol , which contains 200 liters of petrol, the seller replaces each time with kerosene when he sells 40 liters of petrol(or mixture). Everytime he sells out only 40 liters of petrol

(pure or impure). After replacing the petrol with kerosene 4th time, the total amount of kerosene in the mixture is

A) 81.92L

B) 96L

C) 118.08L

D) None of these

45. 4 kg of a metal contains 1/5 copper and rest in Zinc. Another 5 kg of metal contains 1/6 copper and rest in Zinc.The ratio of Copper and Zinc into the mixture of these two metals:

A) 49 : 221

B) 39:231

C) 94:181

D) None of these

46. A sum of Rs.118 was divided among 50 boys and girls such that each boy received Rs.2.60 and each girl Rs.1.80. Find the number of boys and girls ? (**BHILWARA GROUP 2015)**

A) 40,10

B) 35,15

C) 30,20

D) 18.32

47. How much pepsi at Rs.6 a litre is added to 15 litre of 'dew' at Rs. 10 a litre so that the price of the mixture be Rs.9 a litre?

A) 5

B) 8

C) 10

D) None of these

48. From the 50 liters of milk, 5 liters of milk is taken out and after it 5 liters of water is added to the rest amount of milk. Again 5 liters of milk and water is drawn out and it was replaced by 5 liters of water. If this process is continued similarly for the third time, the amount of milk left after the third replacement: **(TECH MAHINDRA 2016)**

A) 45L

B) 36.45L

C) 40.5L

D) 42.5L

49. How many liters of oil at Rs.40 per liter should be mixed with 240 liters of a second variety of oil at Rs.60 per liter so as to get a maximum whose cost is Rs.52 per liter ?

A) 180

B)170

C)160

D) 165

50. In what ratio should two varieties of sugar at Rs.18 per kg and Rs.24 Kg be mixed together to get a mixture whose cost is Rs.20 per kg ?

A) 2:1

B) 1:2

C) 3:2

D) 2:3

51. From a container of wine, a thief has stolen 15 litres of wine and replaced it with same quantity of water. He again repeated the same process. Thus, in three attempts the ratio of wine and water became 343 : 169. The initial amount of wine in the container was: **(APEAL GROUP 2014)**

A) 75 litres

B) 100 litres

C) 150 litres

D) 120 litres

52. 640 ml of a mixture contains milk and water in ratio 6:2. How much of the water is to be added to get a new mixture containing half milk and half water ?

A) 360 ml

B) 320 ml

C) 310 ml

D) 330 ml

53. Equal quantities of three mixtures of milk and water are mixed in the ratio 1:2, 2:3 and 3:4. The ratio of water and milk in the mixture is ? **(EDUCATION CULTURE PVT LTD 2016**)

A) 193 : 122

B) 97 : 102

C) 115 : 201

D) 147 : 185

54. One type of liquid contains 25 % of benzene, the other contains 30% of benzene. A can is filled with 6 parts of the first liquid and 4 parts of the second liquid. Find the percentage of benzene in the new mixture.

A) 27 %

B) 26 %

C) 29 %

D) 21 %

55. The amount of water (in ml) that should be added to reduce 9 ml lotion, containing 50% alcohol, to a lotion containing 30% alcohol is ?

A) 6 ml

B) 11 ml

C) 15 ml

D) 9 ml

56. In a mixture of milk and water the proportion of water by weight was 75%. If in 60 gm of mixture 15 gm water was added, what would be the percentage of water ? (Weight in gm) (**STEEL STRIPS PVT LTD 2015**)

A) 80%

B) 70%

C) 75%

D) 62%

57. If a man buys 1 lt of milk for Rs.12 and mixes it with 20% water and sells it for Rs.15, then what is the percentage of gain ?

A) 25%

B) 30%

C) 17%

D) 19%

58. A mixture of 150 liters of wine and water contains 20% water. How much more water should be added so that water becomes 25% of the new mixture ? **(DI MEDIA HOUSE PVT LTD 2016**)

A) 5 lit

B) 10 lit

C) 15 lit

D) 20 lit

59. A jar was full with honey. A person used to draw out 20% of the honey from the jar and replaced it with sugar solution. He has repeated the same process 4 times and thus there was only 512 gm of honey left in the jar, the rest part of the jar was filled with the sugar solution. The initial amount of honey in the jar was:

A) 1.25 kg

B) 1 kg

C) 1.5 kg

D) None of these

60.In a mixture of 75 litres ratio of milk to water is 2:1. The amount of water to be added to the mixture to make the ratio 1:2 will be**(TIMES INTERNET 2016)**

A)45 ltrs

B)60 ltrs

C) 70 ltrs

D)80 ltrs