



# 50+ Mixture and Alligation Questions for SSC Exams

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1.If 80 litres of milk solution has 60% milk in it, then how much milk should be added to make milk 80% in the solution?

- A. 70 litres
- B. 50 litres
- C. 60 litres
- D. 80 litres

Ans. D

2.40 litres of milk are kept in a container. 4 litres of milk were removed from this container and replaced with water. This procedure was performed two more times. How much milk does the container now hold?

- A. 30 litres
- B. 34.23 litres
- C. 29.16 litres
- D. 32 litres

Ans. C

3.A 100 ml solution of  $H_2SO_4$  having concentration of 20% is mixed with a 50% concentrated x ml mixture such that the net mixture is 30% concentrated. Determine x.

- A. 60 ml
- B. 50 ml
- C. 80 ml
- D. 70 ml

Ans. B

4.A mixture contains milk and water in the ratio of 5 : 3, respectively. On adding 7 litres of water, the ratio of milk to water becomes 1 : 2. Find the quantity of milk in the mixture.

- A. 3 litres
- B. 5 litres
- C. 10 litres
- D. 7 litres

Ans. B

5.Wheat worth Rs.80 per kg and Rs.50 per kg is mixed with a third variety in the ratio 1:2:3 . If the mixture is worth Rs.75 per kg, then the price of the third variety per kg will be equal to:

- A. Rs.80
- B. Rs.95
- C. Rs.90
- D. Rs.85

Ans. C



6. A mixture of milk and water measures 60 litres. It contains 10% water. How much water should be added to it, so that the water may be 25%?

- A. 14 litres
- B. 12 litres
- C. 16 litres
- D. 18 litres

Ans. B

7. The average marks of 60 students in a class are 62. The average marks of boys and girls in that subject are 60 and 65, respectively. The number of boys in the class is:

- A. 41
- B. 36
- C. 25
- D. 31

Ans. B

8. A mixture of acid and water contains 20 percent acid. When 10 litres of water is added to the mixture, then the percentage of acid becomes 15 percent. What is the original quantity of mixture?

- A. 30 litres
- B. 25 litres
- C. 40 litres
- D. None of the above
- E. More than one of the above

Ans. A

9. A container contains 25 litres of milk. From this container, 5 litre of milk is taken out and replaced by water. This process is further repeated two times. How much milk is there in the container now?

- A. 14.8 litre
- B. 12.8 litre
- C. 13.5 litre
- D. 11.5 litre

Ans. B

10. The ratio of milk to water in a 100 litres mixture is 2 : 3. 10 litres of this mixture is withdrawn and replaced with milk. This process is repeated 2 more times. What is the percentage of milk in final mixture?

- A. 56.26 percent
- B. 54.27 percent
- C. 58.21 percent
- D. 51.24 percent.

Ans. A



11. The number of students in a class is 210, out of which  $33\frac{1}{3}\%$  are boys and the rest are girls. The average score in Science of the boys is  $66\frac{2}{3}\%$  more than that of the girls. If the average score of all the students is 66, then the average score of the girls is :

- A. 52
  - B. 54
  - C. 58
  - D. 60
- Ans. B

12. There are 4 sections A, B, C and D of class XII in a school. The average marks of students of A, B, C and D individually are 54%, 58%, 52% and 70% respectively. If the average marks of the students of sections A and B together is 55%, the average marks of the students of sections A and C together is  $53\frac{3}{7}\%$  and that of the students of C and D together is 60%. What is the ratio of the average marks of the students in three sections A, B and C to the average marks of the students in 3 sections B, C and D?

- A.  $54\frac{9}{13} : 59\frac{50}{79}$
- B.  $58\frac{5}{13} : 55\frac{28}{79}$
- C.  $54\frac{4}{13} : 59\frac{29}{79}$
- D. None of these

Ans. C

13. In a mixture of 90 liters of petrol and kerosene, 20% is kerosene. How much more kerosene must be added to the mixture so that the kerosene become 25% of the new mixture?

- A. 5 liters
- B. 6 liters
- C. 8 liters
- D. 10 liters
- E. None of these

Ans. B

14. Solution A contains 10% acid and solution B contains 30% acid. In what ratio should solution A be mixed with Solution B to obtain a mixture with 25% acid?

- A. 1 : 2
- B. 3 : 1
- C. 1 : 3
- D. 2 : 1

Ans. C



15. Two types of tea costing 180/kg and 280/kg should be mixed in the ratio so that the mixture obtained sold at 320/kg. to earn a profit of 20% is?

- A. 4 : 13
- B. 2 : 13
- C. 3 : 13
- D. 13 : 2

Ans. B

16. The water supplied to a water filtration company has 20% of chlorine. According to the regulations, the water can contain only 2% of chlorine after filtration. How many litres of water is required from the supply to produce 30 litres of filtered water?

- A. 38.75
- B. 37.75
- C. 36.50
- D. 36.75

Ans. D

17. The ratio in which two sugar solutions of the concentrations 25% and 40% are to be mixed to get a solution of concentration 30% is:

- A. 4 : 1
- B. 3 : 2
- C. 2 : 1
- D. 9 : 8

Ans. C

18. A mixture of 40 litres of milk and water contains 10% water. How much water must be added to the mixture so that there is 20% water in the new mixture?

- A. 3 litres
- B. 4 litres
- C. 5 litres
- D. 6 litres

Ans. C

19. An alloy contains 40% of silver, 30% of copper and 30% of nickel. How much silver (in kg) should be added to 25 kg of the alloy so that the new alloy contains 50% of silver?

- A. 5
- B. 10
- C. 12
- D. 20

Ans. A



20. A solution contains petrol and kerosene in the ratio 5 : 7 respectively. If 42 liters of the solution have been replaced with petrol to create a ratio of 7 : 5. Find out the original amount of kerosene in the solution.

- A. 87.5 liters
- B. 84 liters
- C. 70 liters
- D. 85.75 liters

Ans. D

21. In an alloy, 24 grams of zinc is mixed with 72 grams of copper. X gram of total mixture is taken out and 16 gm of zinc and 24 gm of copper are added. The final mixture has 70% copper. Find the quantity of the mixture that was taken out from the alloy ?

- A. 12 gm
- B. 10 gm
- C. 16 gm
- D. 18 gm

Ans. C

22. A shopkeeper mixes three varieties of pulse costing Rs.40/kg, Rs.48/kg and Rs.60/kg and sells the mixture at a profit of 20 % at Rs.60/ kg. How many kgs of the second variety will be in the mixture if 4 kgs of the third variety is there in the mixture?

- A. 2 kg
- B. 6 kg
- C. 8 kg
- D. 20 kg

Ans. D

23. A container contained a mixture of two liquid products M and N in the ratio 3 : 2. When 20 litres of the mixture was taken out and 20 litres of liquid N was poured into the container. This ratio became 9: 16. Find the quantity of liquid M contained in the jar initially.

- A. 45 litres
- B. 16 litres
- C. 36 litres
- D. 30 litres

Ans. D

24. Tea worth of Rs. 135/kg & Rs. 126/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. 175.5
- D. Rs. 180

Ans. C



25. The ratio of weight of Krati and Manu is 6 : 7. During lockdown, due to lack of exercise, their weight increased. The weight of Krati increased by 12.5%. The total weight of Krati and Manu increased by 15% or 15.6 kg. Find the percentage change in the weight of Manu (approximately)?

- A. 17%
- B. 16%
- C. 19%
- D. 20%

Ans. A

26. Average run per wicket of a bowler is 14.5. In his next innings, he took 6 wickets and conceded 66 runs, thereby reducing his average by 0.5. Find the total no. of wickets taken by the bowler till now?

- A. 42
- B. 36
- C. 30
- D. 48

Ans. A

27. The total number of students of 10<sup>th</sup> class in school A and school B is 120. The number of students in school A is 30 more than that of school B. The average score of the students in school B, in an exam, is 22.22% less than that of students in A. If average score of all the students of class 10<sup>th</sup> of school A and B is 66, then what is the average score of the students of class 10<sup>th</sup> in school B

- A. 55
- B. 56
- C. 57
- D. 58

Ans. B

28. 500 grams of salt solution has 20% salt in it. How much salt should be added in the solution so that salt concentration becomes 50%?

- A. 160 gm
- B. 250 gm
- C. 300 gm
- D. 400 gm

Ans. C

29. A 400 litres solution of milk and water contains 30% milk. How much pure milk should be added to this solution so that the resultant solution contains 60% milk?

- A. 300 L
- B. 400 L
- C. 350 L
- D. 420 L

Ans. A





30. A man pays Rs. 6.40 per liter of milk. He adds water and sells the mixture at Rs. 8 per liter, thereby making 37.5% profit. The proportion of water to milk received by the customers is -

- A. 1:10
- B. 10:1
- C. 9:11
- D. 11:9

Ans. A

31. In what proportion must a grocer mix sugar at Rs.12/kg and Rs.7/kg so as to make a mixture worth Rs.8/kg?

- A. 7 : 12
- B. 1 : 4
- C. 2 : 3
- D. 12 : 7

Ans. B

32. A vessel is filled with liquid containing a mixture of 5 part water and 7 part syrup. What percentage of the liquid must be drawn off and replaced with water so that mixture may be half water & half syrup.

- A. 14%
- B.  $16\frac{2}{3}\%$
- C. 14.28%
- D. 11%

Ans. C

33. Vessel A of capacity 12 liters has 16.66% alcohol and vessel B of capacity 9 liters has 33.33% of alcohol. Total liquid of 21 liters were poured into vessel C whose capacity was 30 liters and the remaining part was filled with the water. Find the new concentration of alcohol in vessel C .

- A. 22.22%
- B. 16.66%
- C. 33.33%
- D. 25%

Ans. B

34. A mixture of two liquids X and Y in the ratio 1:6 is present in a tank. When 16L of the mixture is taken out and 16L of liquid X is poured in the tank, this ratio becomes 3:2. Find the final quantity of liquid X contained in the tank.

- A. 18L
- B. 12L
- C. 8L
- D. 30L

Ans. A





35. Two liquids X and Y are mixed in can A in the ratio of 6:1 and in can B in the ratio of 8:3. In what ratio should liquids be taken from the two cans so as to form a mixture in which liquids A and B will be in the ratio of 9:2?

- A. 7 : 11
  - B. 7 : 1
  - C. 3 : 5
  - D. 7 : 3
  - E. None of the above/More than one of the above
- Ans. D

36. In a class, average weight of boys is 54 kg. While average weight of girls is 38 kg and average weight of whole the class is 49 kg. If no. of boys in the class is 55, then find the number of girls.

- A. 45
  - B. 25
  - C. 80
  - D. 121
- Ans. B

37. Milk and water are mixed in vessel A in the ratio of 5:7 and in vessel B in the ratio 2 : 1. Now, a new mixture of 18 litre is made by mixing quantities of vessel A & B such that milk and water ratio in new mixture becomes 5:4. Find quantity of vessel B in new mixture.

- A. 12 litres
  - B. 15 litres
  - C. 11 litres
  - D. 10 litres
- Ans. D

38. If 100 ml of an aqueous solution contains x grams of solute, then the strength of the aqueous solution is x%. Suppose there are three solutes M, N, R are mixed in the proportion 2 : 3 : 1, then the resulting solution has strength 20%. But if the proportion is 1 : 3 : 2, then the 30% will be the strength of the resulting solution. P, the fourth solution is produced by mixing M and N in the ratio 4 : 3. Find the ratio of strength of solution P to that of solution R.

- A. 2/7
  - B. 1/7
  - C. 7/1
  - D. 2/5
- Ans. B



39. A bus agency has 4830 buses. He sold some buses at 11% profit, some other buses at 9% loss and rest at 19% profit. Thus, he gains 3% on the sale of the first two types and 7% on the last two types. What is the number of buses sold of the third type?

- A. 1680
- B. 1260
- C. 1890
- D. 1620

Ans. A

40. A milkman sells the milk at the cost price but he mixes water in it and thus he gains 9.09%. The quantity of water in the mixture of 10 litres is:

- A. 909.09 ml
- B. 990.90 ml
- C. 833.33 ml
- D. None of these

Ans. C

41. A 63 litres mixture of wine and water contains wine and water in the ratio 5: 4 respectively. A lady added another 49 litres mixture of wine and water which contains wine and water in the ratio 4: 3 respectively. Another lady added 12 litres of wine and 1 litres of water into the mixture. The final mixture is divided into three containers in the ratio 2: 2: 1 respectively. Find the difference between quantities of water in the first and third container.

- A. 10 litres
- B. 12 litres
- C. 8 litres
- D. 14 litres

Ans. A

42. The ratio of milk and water in a mixture is 13:7 respectively. The milkman added 5 litres of milk and 15 litres of water to the mixture and hence the ratio becomes 7:5 respectively. The milkman sold 50% of the new mixture and added 10 litres of milk and 8 litres of water to the remaining mixture. Find the difference between the quantities of milk and water in the final mixture:

- A. 14 litres
- B. 13 litres
- C. 10 litres
- D. 12 litres

Ans. D

43. The ratio of oil and kerosene in the container is 3 : 2. When 10 litres of the mixture is taken out and is replaced by the kerosene, then the ratio becomes 2:3. The total quantity of the mixture in the container is

- A. 25 litres
- B. 30 litres
- C. 45 litres
- D. cannot be determined

Ans. B



44. 4 L are drawn from a container full of milk and is then filled with water. This operation is performed three more times. The ratio of the quantity of milk left in the container and that of water is 16 : 65. How much milk did the container hold initially?

- A. 24L
- B. 12L
- C. 15L
- D. 25L
- E. None of these

Ans. B

45. Joey purchased two cars for a total of Rs. 80 lakhs. Later on, he sold the first car at the rate of 16% profit and the second car at a 32% profit, thereby he gained 20% overall. What is the selling price of the first car?

- A. 84lac
- B. 78lac
- C. 69.6lac
- D. 70lac

Ans. C

46. There are two mixtures A and B having milk and water in ratio 3:1 and 7:5 respectively. The milkman mixes these two mixtures in 2:3 ratio and sells the resultant mixture at the rate of 1 litre pure milk. If on selling 1 litre of mixture A for price of 1 litre of pure milk he gains Rs.14.50. Then find profit he makes on selling 1 litre of resultant mixture at the price of 1 litre pure milk.

- A. Rs. 20.3
- B. Rs. 30
- C. Rs. 15.5
- D. Rs. 16.2

Ans. A

47. In what ratio should a seller mix two qualities of oil, one of Rs.25/L and other of Rs.40/L cost price so that he gets a profit of 20% by selling 15 L of mixture for Rs.43.8 /L.

- A. 23:9
- B. 23:7
- C. 7:23
- D. 8:23

Ans. C

48. A milkman mixes 20 litres of water with 80 litres of milk. After selling one-fourth of this mixture, he adds water to replenish the quantity he has sold. What is the current proportion of water in the milk?

- A. 1:3
- B. 2:3
- C. 3:4
- D. 4:3

Ans. B



49. 80% and 90% pure acid solutions are mixed to obtain 20 litres of 87% pure acid solution. Find the quantity (in litres) of 80% pure acid solution taken to form the mixture.

- A. 4
  - B. 8
  - C. 6
  - D. 9
- Ans. C

50. From a vessel containing 100L of wine, 10L are drawn out and an equal amount of water is added. From the mixture, 10L is again drawn out and the same amount of water is added. What is the final ratio of wine and water?

- A. 91:9
  - B. 81:19
  - C. 80:20
  - D. 90:10
- Ans. B

51. A can contains a mixture of two liquids A and B in the ratio 7: 5. When 9 liters of mixture are drawn off and the can is filled with B, the ratio of A and B becomes 7: 9. How many liters of liquid A was contained by the can initially?

- A. 10
  - B. 20
  - C. 21
  - D. 25
- Ans. C



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