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BSF SI, ASI, Constable Model **Paper-Quantitative Aptitude**

Q1. In a recent survey 40% houses contained two or more persons. Of those houses containing only one person, 25% were having only a male while remaining were having one female only. What is the percentage of all houses, which contain exactly one female and no males?

- (a) 75%
- (b) 40%
- (c) 15%
- (d) 45%
- (e) None of these

Ans-d

Q2. In a 120 litre mixture of milk and water, water is only 25%. The milkman sold 20 litres of this mixture and then he added 16.2 litres of pure milk and 3.8 litres of pure water in the remaining mixture. What is the percentage of water in the final mixture?

- (a) 22
- (b) 21
- (c) 24
- (d) 25

(e) 20

Ans-c

Q3. In a 90 litre mixture of milk and water, percentage of water is only 30%. The milkman gave 18 litres of this mixture to a customer and then added 18 litres of water to the remaining mixture. What is the percentage of milk in the final mixture?

(a) 64

(b) 48

(c) 52

(d) 68

(e) 56

Ans-e

Q4. The cost price of 20 articles is the same as the selling price of x articles. If the profit is 25%, then the value of x is

(a) 25

(b) 18

(c) 16

(d) 15

(e) None of these

Ans-c

Q5. The cost price of article A is Rs. 100 more than the cost price of article B. Article A was sold at 40% profit and article B was sold at 40% loss. If the overall profit earned after selling both the articles is 5%, what is the cost price of article B?

(a) Rs. 300

- (b) Rs. 400
- (c) Rs. 250
- (d) Rs. 350
- (e) Rs. 850

Ans-d

Q6. 15 years ago the average age of a family of four members was 40 years. Two children were born in the span of 15 years. The present average age of the family remained unchanged. Among the two children who were born in between the 15 years, if the older child at present is 8 years more than the younger one, what is the respective ratio between the present age of the older child and the present age of the younger child?

- (a) 9 : 4
- (b) 7 : 3
- (c) 7 : 6
- (d) 7 : 4
- (e) 9 : 5

Ans-b

Q7. At present, the respective ratio between the ages of A and B is 3 : 4 and that between A and C is 1 : 2. Six years hence, the sum of ages of A, B and C will be 96 years. What is the present age of A?

- (a) 12 years
- (b) 21 years
- (c) 18 years
- (d) 15 years
- (e) 9 years

Ans-c

Q8. When one litre of water is added to a mixture of acid and water, the new mixture contains 20% acid. When one litre of acid is added to the new mixture, then the resulting mixture contains $\frac{100}{3}\%$ acid. The percentage of acid in the original mixture was

- (a) 20%
- (b) 22%
- (c) 24%
- (d) 25%
- (e) None of these

Ans-d

Q9. 2 men can complete a piece of work in 6 days. 2 women can complete the same piece of work in 9 days, whereas 3 children can complete the same piece of work in 8 days. 3 women and 4 children worked together for 1 day. If only men were to finish the remaining work in day, how many total men would be required?

- (a) 4
- (b) 8
- (c) 6
- (d) can't be determined
- (e) None of these

Ans-b

Q10. 24 workers working 13 hours daily make a wall of dimensions $224\text{ m} \times 16\text{ m} \times 52\text{ m}$ in 32 days. In how many days will 36 workers working 18 hours daily make a wall of dimensions $432\text{ m} \times 21\text{ m} \times 64\text{ m}$?

- (a) 58 days

- (b) 42 days
(c) 48 days
(d) 60 days
(e) None of these

Ans-c

Directions (Q.11-15): Study the table carefully to answer the following questions.

Percentage profit or loss for following dry fruits is based on the sum of cost price and transportation cost.

Name of Product	CP (in Rs)	SP (in Rs)	Cost of transportation (in Rs)	Profit (in Rs)	Loss (in Rs)	Profit or loss % (on total c.p.)
Pista	900		300			
Prune		800	0		300	
Groundnut	2000		500	250		
Apricot		5000	0			5% loss
Raisins	6000		400			7% Profit

Q11. The percentage profit on Pista is 5%. What will be its selling price(in rupees)?

- (a) 1000
(b) 1250
(c) 1260
(d) 1200
(e) 1160

Ans-c

Q12. The selling price of Groundnut is what percent of the cost price of Prune?

- (a) 200%
- (b) 250%
- (c) 280%
- (d) 255%
- (e) 240%

Ans-b

Q13. What is the ratio of the loss on Apricot to that on Prune?

- (a) 49 : 58
- (b) 50 : 57
- (c) 50 : 59
- (d) 40 : 47
- (e) None of these

Ans-b

Q14. What is the difference between the selling price of Raisins and that of Groundnut?

- (a) 4098
- (b) 4100
- (c) 4000
- (d) 4198
- (e) 3998

Ans-a

Q15. If the loss on Pista is 10% then its selling price is what percentage less than the selling price of Raisins?

- (a) 89%
- (b) 92%
- (c) 94%
- (d) 84%
- (e) 88%

Ans-d

Q16. A vessel has 30 L of wine and 10 L of water mixture. 4L of mixture is taken out from vessel and 4 L of water is added. This process is repeated one more time. The ratio of quantity of wine is left and initial quantity of wine is

- (a) 80 : 92
- (b) 81 : 100
- (c) 45 : 47
- (d) 89 : 91
- (e) None of these

Ans-b

Q17. There are two vessels A and B. Vessel A is containing 40L of pure milk and vessel B is containing 22L of pure water. From vessel A, 8L of milk is taken out and poured into vessel B. Then, 6L of mixture (milk and water) is taken out from vessel B and poured into vessel A. What is the ratio of the quantity of pure milk in vessel A to the quantity of pure water in vessel B?

- (a) 14 : 9
- (b) 21 : 11
- (c) 24 : 13
- (d) 14 : 5
- (e) 21 : 13

Ans-b

Q18. In two vessels A and B, there is mixture of milk and water. The ratio of milk and water in these vessels is 5 : 2 and 8 : 5, respectively. In what ratio these mixtures be mixed together, so that the ratio of milk and water in the new mixture becomes 9 : 4?

- (a) 7 : 2
- (b) 2 : 7
- (c) 3 : 5
- (d) 5 : 3
- (e) 7 : 9

Ans-a

Q19. A and B are two alloys of gold and copper prepared by mixing metals in the ratio 7 : 2 and 7 : 11, respectively. If equal quantities of the alloys are melted to form a third alloy C, the ratio of gold and copper in C will be

- (a) 5 : 7
- (b) 5 : 9
- (c) 7 : 5
- (d) 9 : 5
- (e) None of these

Ans-c

Q20. When one litre of water is added to a mixture of acid and water, the new mixture contains 20% acid. When one litre of acid is added to the new mixture, then the resulting mixture contains 100/3% acid. The percentage of acid in the original mixture was

- (a) 20%
- (b) 22%
- (c) 24%
- (d) 25%
- (e) None of these

Ans-d

Q21. Two barrels contain a mixture of ethanol and gasoline. The content of the ethanol is 60% in the first barrel and 30% in the second barrel. In what ratio must be mixtures from the first and the second barrels be taken, to form a mixture containing 50% ethanol?

- (a) 1 : 2
- (b) 2 : 1
- (c) 2 : 3
- (d) 3 : 2
- (e) None of these

Ans-b

Q22. In a mixture of milk and water, the proportion of water by weight was 75%. If in the 60 gm mixture, 15 gm water was added, what would be the percentage of what in the new mixture?

- (a) 75%
- (b) 88%

- (c) 90%
- (d) 100%
- (e) None of these

Ans-e

Q23. The wheat sold by a grocer contained 10% low quality wheat. What quantity of good quality wheat should be added to 150 kg of wheat, so that the percentage of low quality wheat becomes 5%?

- (a) 150 kg
- (b) 135 kg
- (c) 50 kg
- (d) 85 kg
- (e) None of these

Ans-a

Q24. In 1 kg mixture of sand and iron, 20% is iron. How much sand should be added, so that the proportion of iron becomes 5%?

- (a) 3 kg
- (b) 4 gm
- (c) 5 gm
- (d) 6 kg
- (e) None of these

Ans-a

Q25. A man purchased 35 kg of rice at the rate of Rs. 9.50 per kg and 30 kg at the rate of Rs. 10.50 per kg. He mixed the two. Approximately, at what price (in Rupees) per kg should he sell the mixture to make 35% profit in the transaction?

- (a) 12
- (b) 12.50
- (c) 13
- (d) 13.50
- (e) 11

Ans-d

Q26. A grocer purchased 2 kg of rice at the rate of Rs. 15 per kg and 3 kg of rice at the rate of Rs. 13 per kg. At what price per kg should he sell the mixture to earn 100/3% profit on the cost price?

- (a) Rs. 28.00
- (b) Rs. 20.00
- (c) Rs. 18.40
- (d) Rs. 17.40
- (e) None of these

Ans-c

Q27. A container has 30 L of water. If 3L of water is replaced by 3L of spirit and this operation is repeated twice. What will be the quantity of water in the new mixture?

- (a) 24L
- (b) 23L
- (c) 24.3L
- (d) 23.3L

(e) None of these

Ans-c

Q28. Three container A, B and C have the mixture of alcohol and water in the ratio 5 : 7, 7 : 2 and 3 : 5, respectively. If all mixture of all three vessels poured into a single vessel, then ratio of total quantity of alcohol and water will be

(a) 107 : 105

(b) 103 : 105

(c) 111 : 113

(d) 113 : 103

(e) None of these

Ans-d

Q29. Two bottles each capacity has 5L have mixture of milk and water in the ratio 2 : 1 and 3 : 1, respectively. If both bottles are emptied into a bigger vessel, then the ratio of milk to water in bigger vessel is

(a) 17 : 5

(b) 17 : 7

(c) 15 : 17

(d) 18 : 7

(e) None of these

Ans-b

Q30. In a 140L of mixture of milk and water percentage of water is only 30%. This milkman gave 20L of this mixture to a customer. Then, the added equal quantities of pure milk and water to the remaining mixture. As a result the respective ratio of milk and water in the mixture become 2 : 1. What was the quantity of milk added?

- (a) 12L
- (b) 16L
- (c) 18L
- (d) 8L
- (e) 10L

Ans-a

Q31. The difference between 20% of a number and $\frac{4}{5}$ th of same number is 2499. What is $\frac{2}{7}$ th of that number?

- (a) 2156
- (b) 1190
- (c) 1090
- (d) 1465
- (e) None of these

Ans-b

Q32. Prithvi spent Rs. 89745 on his college fees, Rs. 51291 on personality development classes and the remaining 27% of the total amount he had as cash with him. What was the total amount?

- (a) Rs. 185400
- (b) Rs. 189600
- (c) Rs. 191800
- (d) Rs. 193200
- (e) None of these

Ans-d

Q33. Vaishali spent Rs. 31897 on the air conditioner for the home, Rs. 38789 on buying plasma television and the remaining 23% of the total amount she had as cash with her. What was the total amount?

- (a) Rs. 74625
- (b) Rs. 86750
- (c) Rs. 91800
- (d) Cannot be determined
- (e) None of the above

Ans-c

Q34. Beena spend Rs. 44668 on her air tickets, Rs. 56732 on buying gifts for the family members and the remaining 22% of the total amount she had as cash with her. What was the total amount?

- (a) Rs. 286000
- (b) Rs. 130000
- (c) Rs. 101400
- (d) Rs. 338000
- (e) None of these

Ans-b

Q35. A sum of Rs. 731 is divided among A, B and C, such that A receive 25% more than B and B receives 25% less than C. What is C's share in the amount?

- (a) Rs. 172
- (b) Rs. 200
- (c) Rs. 262
- (d) Rs. 258

(e) None of these

Ans-e

Q36. Mr Giridhar spends 50% of his monthly income on household items and out of the remaining, he spends 50% on transport, 25% on entertainment, 10% on sports and remaining amount of Rs. 900 is saved. What is Mr Giridhar's monthly income?

(a) Rs. 6000

(b) Rs. 12000

(c) Rs. 9000

(d) Cannot be determined

(e) None of these

Ans-b

Q37. Mr X spends 20% of his monthly income on household expenditure. Out of the remaining 25% he spends on children's education, 15% on transport, 15% on medicine and 10% on entertainment. He is left with Rs. 9800 after incurring all these expenditures. What is his monthly income?

(a) Rs. 35000

(b) Rs. 28000

(c) Rs. 65333

(d) Rs. 48400

(e) None of these

Ans-a

Q38. In a class of 35 students and 6 teachers, each student got sweets that are 20% of the total number of students and each teacher got sweets that are 40% of the total number of students. How many sweets were there?

- (a) 245
- (b) 161
- (c) 406
- (d) 84
- (e) None of these

Ans-e

Q39. In a class of 80 students and 5 teachers, each student got sweets that are 15% of the total number of students and each teacher got sweets that are 25% of the total number of students. How many sweets were there?

- (a) 1030
- (b) 1040
- (c) 1050
- (d) 1060
- (e) None of these

Ans-d

Q40. 405 sweets were distributed equally among children in such a way that the number of sweets received by each child is 20% of the total number of children. How many sweets did each child receive?

- (a) 15
- (b) 45
- (c) 9
- (d) 18
- (e) None of these

Ans-c

Q41. A candidate appearing for an examination has to secure 35% marks to pass. But he secured only 40 marks and failed by 30 marks. What would be the maximum marks to test?

- (a) 280
- (b) 180
- (c) 200
- (d) 150
- (e) 210

Ans-c

Q42. In an election between two candidates, one got 52% of total valid votes. 25% of the total votes were invalid. The total number of votes were 8400. How many valid votes did the other person get?

- (a) 3276
- (b) 3196
- (c) 3024
- (d) Cannot be determined
- (e) None of these

Ans-c

Q43. The ratio of students in school A, B and C is 5 : 4 : 7 respectively. If number of students in schools are increased by 20%, 25% and 20% respectively, then what will be the ratio of students in school A, B and C respectively?

- (a) 5 : 5 : 7
- (b) 30 : 25 : 42

- (c) 30 : 20 : 49
- (d) Cannot be determined
- (e) None of these

Ans-b

Q44. Population of a country increases every year by 10%. If the population in January 2006 was 15.8 lakh, what will be the population in January 2008?

- (a) 19.11800
- (b) 18.96000
- (c) 19.11600
- (d) 18.94000
- (e) None of these

Ans-a

Q45. The price of rice decreases by 6.25% and because of this reduction, Vandana is able to buy 1 kg more for Rs. 120. Find the reduced rate of rice.

- (a) Rs. 7.50 per kg
- (b) Rs. 9 per kg
- (c) Rs. 5.50 per kg
- (d) Rs. 19 per kg
- (e) Rs. 8 per kg

Ans-a

Q46. A team of 30 men is supposed to do a work in 38 days. After 25 days, 5 more men were employed the work was finished one day earlier. How many would it have been delayed if 5 more men were not employed?

- (a) 1 day
- (b) 4 days
- (c) 3 days
- (d) 5 days
- (e) 6 days

Ans-a

Q47. Three pipes A, B and C are connected to a tank. These pipes can fill the tank separately in 5 hrs, 10 hrs and 15 hrs, respectively. When all the three pipes were opened simultaneously, it was observed that pipes A and B were supplying water at three-fourths of their normal rates for the 1st hrs after which they supplied water at the normal rate. Pipe C supplied water at two-thirds of its normal rate for first 2 hrs, after which it supplied at its normal rate. In how much time, tank would be filled?

- (a) 1.05 hrs
- (b) 2.05 hrs
- (c) 3.05 hrs
- (d) 4.05 hrs
- (e) 2.55 hrs

Ans-c

Q48. A pump can be used to either fill or drain a tank. The capacity of the tank is 3600 m³. The draining capacity of the pump is 10 m³/minute higher than its filling capacity. What is the draining capacity of the pump if it takes 12 minutes more to fill the tank than to drain it?

- (a) 50 m³/minute

- (b) 60 m³/minute
- (c) 45 m³/minute
- (d) 90 m³/minute
- (e) 95 m³/minute

Ans-b

Q50. Two trains A and B, 100 m long are moving on parallel tracks at speeds of 20 m/s and 30 m/s respectively. They are travelling in opposite direction.

The driver of train A sees the driver of train B when he is closest to high. He throws a ball at a speed of 2 m/s which hits the tail of train B. What is the distance between the two trains?

- (a) 0 m
- (b) 10 m
- (c) 4 m
- (d) 8 m
- (e) 5 m

Ans-c

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