DISCOUNT

EXERCISE

YEAR : 1999

1. Applied to a bill for ₹1,00,000 the difference between a discount of 40% and two successive discounts of 36% and 4% is :
   (a) Nil   (b) ₹ 1,440
   (c) ₹ 2,500   (d) ₹4,000

2. A tradesman marks his goods 10% above his cost price. If he allows his customers 10% discount on the marked price. how much profit or loss does he make, if any?
   (a) 1% gain   (b) 1% loss
   (c) 5% gain   (d) No gain no loss

3. A trademan marks his goods at 20% above the cost price. He allows his customers a discount of 8% on marked price. Find out his profit per cent.
   (a) 12%   (b) 10.4%
   (c) 16%   (d) 20%

4. A discount of $2\frac{1}{2}\%$ is given to the customer on the marked price of an article. A man bought the article for ₹39. The marked price of the article is:
   (a) ₹42   (b) ₹36.5
   (c) ₹40   (d) ₹41.5

5. The printed price of an article is ₹900 but the retailer gets a discount of 40%. He sells the article for ₹ 900. Retailer's gain per cent is:
   (a) 40%   (b) 60%
   (c) $66\frac{2}{3}\%$ (d) $68\frac{1}{3}\%$

6. A discount of 15% on one article is the same as discount of 20% on a second article. The costs of the two articles can be :
   (a) ₹ 85, ₹ 60   (b) ₹ 60, ₹ 40
   (c) ₹ 40, ₹ 20   (d) ₹ 80, ₹ 60

YEAR: 2000

7. The marked price of a watch was ₹ 720/-. A man bought the same for ₹ 550.80, after getting two successive discounts, the first 10%. What was the second discount rate?
   (a) 12%   (b) 14%
   (c) 15%   (d) 18%

8. A shopkeeper purchased a chair marked at ₹ 800, at two successive discounts of 10% and 15% respectively. He spent ₹ 28 on transportation and sold the chair for ₹ 800. His gain percent is:
   (a) 40%   (b) 30%
   (c) 25%   (d) 14%

9. A shopkeeper marks his goods 20% above cost price, but allows 30% discount for cash payment. His net loss is:
   (a) 8%   (b) 10%
   (c) 16%   (d) 20%

10. A retailer buys 40 pens at the marked price of 36 pens from a wholesaler. If he sells these pens giving a discount of 1% on the marked price, what is the profit percent?
    (a) 9%   (b) 10%
    (c) $10\frac{1}{9}\%$ (d) 11%

YEAR : 2002

11. The marked price of a watch is ₹1000. A retailer buys it at ₹810 after getting two successive discounts of 10% and another rate which is illegible. What is the second discount rate?
    (a) 15%   (b) 10%
    (c) 8%   (d) 6.5%

12. The equivalent single discount for two successive discounts of 15% and 10% is
    (a) 25%   (b) 20%
    (c) 23.5%   (d) 20.85%

13. A dealer offers a discount of 10% on the marked price of an article and still makes a profit of 20%. If its marked price is ₹800, then the cost price of the article is:
    (a) ₹900   (b) ₹800
    (c) ₹700   (d) ₹600

14. The marked price of an article is ₹200. A discount of $12\frac{1}{2}\%$ is allowed on the marked price and a profit of 25% is made The cost price of the article is :
    (a) ₹ 200   (b) ₹ 175
    (c) ₹ 120   (d) ₹ 140

15. A shopkeeper earns a profit of 10% after allowing a discount of 20% on the marked price. The cost price of the article whose marked price is ₹ 880, is
    (a) ₹ 704   (b) ₹ 640
    (c) ₹ 774   (d) ₹ 680

16. A fan is listed at ₹ 1,500 and a discount of 20% is offered on the list price. What additional discount must be offered to the customer now to bring the net price to ₹ 1104?
    (a) 8%   (b) 10%
    (c) 15%   (d) 12%

YEAR : 2003

17. An item is marked for ₹ 240 for sale. If two successive discounts of 10% and 5% are allowed on the selling price, the selling price of the article will be
    (a) ₹ 205.20   (b) ₹ 204
    (c) ₹ 34.80   (d) ₹ 36

18. A single discount equivalent to the successive discounts of 10%, 20% and 25% is
(a) 55%   (b) 45%
(c) 46%   (d) 60%

19. The discount series 10%, 20%, 40% is equivalent to a single discount of
(a) 50%   (b) 56.8%
(c) 60%   (d) 62.28%

20. A trader marked the selling price of an article at 10% above the cost price. At the time of selling he allows certain discount and suffers a loss of 1%. He allowed the discount of :
(a) 11%   (b) 10%
(c) 9%   (d) 10.5%

21. A shopkeeper marks his goods 30% above his cost price but allows a discount of 10% at the time of sale. His gain is
(a) 21%   (b) 20%
(c) 18%   (d) 17%

22. By giving a discount of 10% on the marked price of ₹ 1100 of a cycle, a dealer gains 10%. The cost price of the cycle is :
(a) ₹ 1100   (b) ₹ 900
(c) ₹ 1089   (d) ₹ 891

23. The marked price of an electric iron is ₹ 690. The shopkeeper allows a discount of 10% and gains 8%. If no discount is allowed, his gain per cent would be
(a) 20%   (b) 24%
(c) 25%   (d) 28%

24. A discount of 14% on the marked price of an article is allowed and then the article is sold for ₹ 387. The marked price of the article is
(a) ₹ 450   (b) ₹ 427
(c) ₹ 500   (d) ₹ 440

25. A tradesman gives 4% discount on the marked price and gives 1 article free for buying every 15 articles and thus gains 35%. The marked price is increased above the cost price by
(a) 40%   (b) 39%
(c) 50%   (d) 20%

26. A man sells a scooter priced ₹ 36,000. He gives a discount of 8% on the first ₹ 20,000 and 5% on the next ₹ 10,000. How much discount can he offer on the remaining ₹ 6,000 if he is to get as much as when 7% discount is allowed on the total ?

(a) 5%   (b) 6%
(c) 7%   (d) 8%

27. A salesman is allowed $5\frac{1}{2}\%$ commission on the total sales made by him plus a bonus of $\frac{1}{2}\%$ on sales over ₹ 10,000. If his total earnings were ₹ 1,990. his total sales (in ₹) was
(a) 30,000   (b) 32,000
(c) 34,000   (d) 35,000

28. A housewife saved ₹ 2.50 in buying a dress on sale. If she spent ₹ 25 for the dress, approximately how much percent she saved in the transaction?
(a) 8%   (b) 9%
(c) 10%   (d) 11%

YEAR : 2004

29. List price of an article at a show room is ₹ 2,000 and it is being sold at successive discounts of 20% and 10%, its net selling price will be:
(a) ₹ 1900   (b) ₹ 1700
(c) ₹ 1440   (d) ₹ 1400

30. The difference between a single discount of 30% on ₹ 550 and two successive discounts of 20% and 10% on the same amount is
(a) Nil   (b) ₹ 11
(c) ₹ 22   (d) ₹ 44

31. A trader wishes to gain 20% after allowing 10% discount on the marked price to his customers. At what per cent higher than the cost price must he mark his goods ?

(a) 30%   (b) $33\frac{1}{3}\%$

(c) $34\frac{2}{3}\%$ (d) 35%

32. In order to maintain the price line a trader allows a discount of 10% on the marked price of an article. However, he still makes a profit of 17% on the cost price. Had he sold the article at the marked price, he would have earned a profit per cent of
(a) 30%   (b) 32%
(c) 33%   (d) 35%

33. A trader marked the price of his commodity so as to include a profit of 25%. He allowed discount of 16% on the marked price. His actual profit was :
(a) 5%   (b) 9%
(c) 16%   (d) 25%

34. A shop-keeper sells a badminton racket whose marked price is ₹ 30, at a discount of 15% and gives a shuttle cock costing ₹ 1.50 free with each racket. Even then he makes a profit of 20%. His cost price, per racket is
(a) ₹ 21.00   (b) ₹ 21.25
(c) ₹ 20.00   (d) ₹ 17.75

35. A trader marked his goods at 20% above the cost price. He sold half the stock at the marked price. one quarter at a discount of 20% on the marked price and the rest at a discount of 40% on the marked price. His total gain is
(a) 2%   (b) 4.5%
(c) 13.5%   (d) 15%

YEAR : 2005

36. A person paid ₹ 17,000 for a motor-car after a single discount of 15%. If he is given successive discounts of 5% and 10% then how much he would pay ?
(a) ₹ 17,000   (b) ₹ 17,010
(c) ₹ 17,100   (d) ₹ 18,900

37. A store has an offer 'Buy 4 Get 1 Free'. What is the net percentage of discount?
(a) 25%   (b) 33.3%
(c) 20%
(d) Insufficient Data

38. To gain 8% after allowing a discount of 10%, by what per cent cost price should be hiked in the list price?
(a) 9%   (b) 11%
(c) 18%   (d) 20%

39. The cost of manufacturing an article was ₹ 900. The trader wants to gain 25% after giving a discount of 10%. The marked price must be:
(a) ₹ 1500   (b) ₹ 1250
(c) ₹ 1200   (d) ₹ 1000

40. A shopkeeper offers 10% discount on the marked price of his articles and still makes a profit of 20%. What is the actual cost of the article marked ₹ 500 for him?
(a) ₹ 440   (b) ₹ 425
(c) ₹ 400   (d) ₹ 375

41. Two people, Savita and Karan, get their sales commissions based on the number of items sold each month. Their total sales commission amounts to Rs. 56,100 in a particular month. If savita got her commission 12% higher than Karan, how much commission did Karan earn?
    (a) Rs. 26462.26
    (b) Rs. 25,500.28
    (c) Rs. 29,500
    (d) Rs. 22,805.45

YEAR : 2006

42. A shopkeeper gives two successive discounts on an article marked ₹ 450. The first discount given is 10 percent . If the customer pays ₹ 344.25 for the article, the second discount given is
    (a) 14 per cent (b) 10 per cent
    (c) 12 per cent (d) 15 per cent

43. A man sells a bicycle at marked price which is 30% higher than the cost price. If he gives some discount and sells it at Rs. 150 less than the marked price, he would still gain 20%. What is the percentage of discount offered?
    (a) 7.69%   (b) 1.83%
    (c) 7.54%   (d) 7.23%

44. A shopkeeper gives 12 per cent additional discount along with a discount of 20 percent on the marked price of a radio. If the selling price of the radio is ₹ 704, the marked price is
    (a) ₹ 844.80   (b) ₹ 929.28
    (c) ₹ 1,044.80 (d) ₹ 1,000

YEAR : 2007

45. A company offers three types of successive discounts :
    (i)   25% and 15%,
    (ii)   30% and 10%,
    (iii) 35% and 5%, Which offer is the best for a customer?
    (a) First offer
    (b) Second offer
    (c) Third offer
    (d) Any one: all are equally good

46. A dealer buys a car listed at ₹ 200000 at successive discounts of 5% and 10%. If he sells the car for ₹ 179550, then his profit is
    (a) 10%   (b) 9%
    (c) 5%   (d) 4%

47. An article listed at ₹ 800 is sold at successive discounts of 25% and 15%. The buyer desires to sell it off at a profit of 20% after allowing a 10% discount. What would be his list price ?
    (a) ₹ 620   (b) ₹ 600
    (c) ₹ 640   (d) ₹ 680

48. The difference between a discounts of 40% on ₹ 500 and two successive discount of 36% and 4% on the same amount is
    (a) zero   (b) ₹ 1.93
    (c) ₹ 2.00   (d) ₹ 7.20

49. A trader sells his goods at a discount of 20%. He still makes a profit of 25%. If he sells the goods at the marked price only. His profit will be
    (a) 56.25%   (b) 25.56%
    (c) 50.25%   (d) 54.25%

50. If a discount of 20% on the marked price of a shirt saves a man ₹ 150, how much did he pay for the shirt?
    (a) ₹ 600   (b) ₹ 650
    (c) ₹ 500   (d) ₹ 620

51. Rakesh Yadav buys an article with a discount of 25% on its marked price. He makes a profit of 10% by selling it at ₹ 660. The marked price of the article was :
    (a) ₹ 600   (b) ₹ 700
    (c) ₹ 800   (d) ₹ 685

52. A dealer buys an article marked at ₹ 25,000 with 20% and 5% off. He spends ₹ 1,000 for its repair and sells it for ₹ 25,000 what is his gain or loss percent ?
    (a) Loss of 25% (b) Gain of 25%
    (c) Gain of 10% (d) Loss of 10%

53. The marked price of a shirt and trousers are in the ratio 1 : 2. The shopkeeper gives 40% discount on the shirt. If the total discount on the shirt and trousers is 30%, the discount offered on the trousers is
    (a) 15%   (b) 20%
    (c) 25%   (d) 30%

54. A book is listed at ₹ 1,400 and the discount offered is 10%. What additional discount must be given to bring the net selling price to ₹ 1,200?
    (a) $16\frac{2}{3}\%$ (b) 5%
    (c) $4\frac{16}{21}\%$ (d) 6%

YEAR : 2008

55. Marked price of an article is 200. A dealer sells three such articles for 546 after allowing discount at a certain rate, Find the rate of discount.
    (a) 10%   (b) 9%
    (c) 11%   (d) 9.8%

56. The marked price of watch was ₹ 820. A man bought the watch for ₹ 570.72 after getting two successive discounts, of which the first was 20%. The second discount was
    (a) 18%   (b) 15%
    (c) 13%   (d) 11%

57. A bicycle, marked at ₹ 2,000 is sold with two successive discount of 20% and 10%. An additional discount of 5% is offered for cash payment. The selling price of the bicycle at cash payment is
    (a) ₹ 1,368   (b) ₹ 1,468
    (c) ₹ 1,568   (d) ₹ 1,668

58. An article is sold at a discount of 20% and an additional discount of 30% is allowed on cash payment. If Vidya purchased the article by paying ₹ 2240 in cash, the marked price of the article was
    (a) ₹ 4000   (b) ₹ 4368
    (c) ₹ 4400   (d) ₹ 4480

59. While selling a cooler, a shopkeeper gives a discount of 10% on the marked price. If he gives a discount of 12% he earns ₹ 35 less as profit. The marked price of the cooler is
    (a) ₹ 1,650   (b) ₹ 1,625
    (c) ₹ 1,725   (d) ₹ 1,750

60. A shopkeeper allows 4% discount on his marked price. If the cost price of an article is ₹ 100 and he has to make a profit of 20%, then his marked price must be
    (a) ₹ 96   (b) ₹ 120
    (c) ₹ 125   (d) ₹130

61. When a shopkeeper gives 10% discount on the list price of a toy, his gain is 20%. If he had given a discount of 20%, his percentage of gain would have been

(a) $6\frac{2}{3}\%$ (b) $8\frac{1}{3}\%$

(c) 10%   (d) 15%

62. A retailer purchases a grinder at a discount of 15% of the wholeseller and sells it for ₹1955 at a profit of 15%. The amount of discount received by the retailer from the wholeseller was

(a) ₹ 720   (b) ₹ 290

(c) ₹ 300   (d) ₹ 330

YEAR : 2009

63. The marked price of a T.V. is ₹16,000. After two successive discounts it is sold for ₹11,400. If the first discount is 5%, then the rate of second discount is

(a) 15%   (b) 20%

(c) 30%   (d) 25%

64. The difference between a discount of 30% on ₹2,000 and two successive discounts of 25% and 5% on the same amount is

(a) ₹ 30   (b) ₹ 35

(c) ₹ 25   (d) ₹ 40

65. A dozen pair of socks quoted at ₹ 80 are available at a discount of 10%. How many pairs of socks can be bought for ₹ 24 ?

(a) 4   (b) 5

(c) 3   (d) 6

YEAR : 2010

66. If on a marked price the difference of selling prices with a discount of 30% and two successive discounts of 20% and 10% is 72, then the marked price (in rupees) is

(a) 3,600   (b) 3,000

(c) 2,500   (d) 2,400

67. Ramesh marks his goods 30% above cost price. If he sells the item for ₹ 910 after allowing of 15% discount. Find his cost price.

(a) ₹ 823.5   (b) ₹ 758

(c) ₹ 814.2   (d) ₹ 856.5

(SSC CPO(Re) 05-06-2016, Morning)

68. A discount series of 15%, 20% and 30% is equal to a single discount of:

(a) 50%   (b) 47.6%

(c) 52.8%   (d) 52.4%

69. The single discount equivalent to two successive discount of 20% and 5% is

(a) 24%   (b) 25%

(c) 22%   (d) 23%

70. A shopkeeper marks the price of an item keeping 20% profit. If he offers a discount of $12\frac{1}{2}\%$ on the marked price, his gain percent will be

(a) 4.5%   (b) 5%

(c) 7.5%   (d) 8%

71. A seller marks his goods 30% above their cost price but allows 15% discount for cash payment. His percentage of profit when sold in cash is

(a) 10.5%   (b) 15%

(c) 9%   (d) 8.5%

72. What price should a shopkeeper marks on an article costing him ₹ 200 to gain 35% after allowing a discount of 25%?

(a) ₹ 270   (b) ₹ 300

(c) ₹ 330   (d) ₹ 360

73. If a person purchases a shirt, he gets 6% discount. However, if he purchases two shirts, he gets 5% on the first and 8 % on the second. If the price paid by the person for two shirts is ₹ 925, then what will be the marked price of each shirt?

(a) ₹ 494   (b) ₹ 550

(c) ₹ 528   (d) ₹ 500

74. In a shop shirts are usually sold at 40% above the cost price. During a sale, the shopkeeper offers a discount of 10% off the usual selling price. If he manages to sell 72 shirts for ₹ 13,608 then his cost price per shirt, (in ₹) is

(a) 210   (b) 150

(c) 149   (d) 125

75. A manufacturer marked an article at ₹ 50 and sold it allowing 20% discount. If his profit was 25%, then the cost price of the article was

(a) ₹ 40   (b) ₹ 35

(c) ₹ 32   (d) ₹ 30

76. A shopkeeper earns a profit of 12% on selling a book at 10% discount on the printed price. The ratio of the cost price and the printed price of the book is

(a) 45 : 56   (b) 45 : 51

(c) 47 : 56   (d) 47 : 51

77. The selling price of an article is ₹ 1,920 and the discount given is 4%. The marked price of the article is

(a) ₹ 2,400   (b) ₹ 2,000

(c) ₹ 1,600   (d) ₹ 1,200

78. A shopkeeper sells his goods at 15% discount. The marked price of an article whose selling price is ₹ 629 is:

(a) ₹ 740   (b) ₹ 704

(c) ₹ 700   (d) ₹ 614

79. If an electricity bill is paid before due date, one gets a reduction of 4% on the amount of the bill. By paying the bill before due date a person got a reduction of ₹ 13. The amount of his electricity bill was

(a) ₹ 125   (b) ₹ 225

(c) ₹ 325   (d) ₹ 425

YEAR : 2011

80. If in sale, the discount given on a saree is equal to one-fourth the marked price and the loss due to this discount is 15%, then the ratio of the cost price to the selling price is

(a) 3 : 4   (b) 4 : 3

(c) 10 : 17   (d) 20 : 17

81. The single discount equal to three consecutive discounts of 10%, 12% and 5% ?

(a) 35%   (b) 32%

(c) 24.76%   (d) 30%

82. The difference between discount of 35% and two successive discount of 20% on a certain bill was 22, the amount of the bill is:

(a) ₹ 200   (b) ₹ 220

(c) ₹ 1,100   (d) ₹ 2,200

83. The marked price of a watch is ₹ 1,600. The shopkeeper gives successive discount of 10% and x% to the customer. If the cutomer pays ₹ 1,224 for the watch, the value of x is
    (a) 5%   (b) 10%
    (c) 15%   (d) 20%

84. A single discount equivalent to discount series 20%, 20% and 10% is
    (a) 50%   (b) 48.4%
    (c) 42.4%   (d) 40.4%

85. X purchased an item at a discount of 10% and sold it to Y at 10% profit. The marked price and the price for which y purchased the item are in ratio
    (a) 1 : 1   (b) 10 : 99
    (c) 20 : 99   (d) 100 : 99

86. The single discount equivalent to the discount series of 20%, 10% and 5% is :
    (a) 11.66%   (b) 31.6%
    (c) 35.66%   (d) 32%

87. Successive discounts of p% and q% on the catalogue price of an article is equivalent to a single discount of:
    (a) $\left(p - q - \dfrac{pq}{100} \right)\%$
    (b) $\left(p + q - \dfrac{pq}{100} \right)\%$
    (c) $\left(p - q + \dfrac{pq}{100} \right)\%$
    (d) $\left(p + q + \dfrac{pq}{100} \right)\%$

88. In a shop, shirts are usually sold at 40% above the cost price. During a sale, the shopkeeper offers a discount of 10% off the usual selling price. If he manages to sell 216 shirts for ₹ 13,608, then his cost price per shirt, (in ₹) is
    (a) 210   (b) 50
    (c) 149   (d) 125

89. If a shopkeeper marks the price of goods 50% more than their cost price and allows a discount of 40%, what is his gain or loss percent?
    (a) Gain of 10% (b) Loss of 10%
    (c) Gain of 20%(d) Loss of 20%

90. A dealer marks his goods at 40% above the cost price and allows discount of 20% on the marked price. The dealer has a
    (a) Loss of 20% (b) gain of 25%
    (c) loss of 12% (d) gain of 12%

91. A shopkeeper listed the price of goods at 30% above the cost price. He sells half of the stock at listed price, one fourth of the stock at a discount of 15% and the remaining at 30% discount. His overall profit is
    (a) $15\dfrac{3}{8}\%$ (b) 15%
    (c) $15\dfrac{3}{5}\%$ (d) $15\dfrac{2}{3}\%$

92. Maha Bazaar offers 20% discount on bags which have been marked 50% above the cost price Amarnath pays ₹ 840 for a bag. Then the cost price of the bag is
    (a) ₹ 672   (b) ₹ 700
    (c) ₹ 790   (d) ₹ 810

93. The marked price of a radio is ₹ 480. The shopkeeper allows a discount of 10% and gains 8%. If no discount is allowed, his gain percent would be
    (a) 18%   (b) 18.5%
    (c) 20.5%   (d) 20%

94. After allowing a discount of 16% there was still a gain of 5%. Then the percentage of marked price over the cost price is
    (a) 15%   (b) 18%
    (c) 21%   (d) 25%

95. An article of cost price ₹ 8,000 is marked at ₹ 11,200, After allowing a discount of x percent a profit of 12% is made. the value of x is
    (a) 21%   (b) 20%
    (c) 22%   (d) 23%

96. While selling a watch, a shopkeeper gives a discount of 5%. If he gives a discount of 6%, he earns ₹ 15 less as profit, What is the marked price of the watch ?
    (a) ₹ 1,250   (b) ₹ 1,400
    (c) ₹ 1,500   (d) ₹ 750

97. Rahim bought a T. V. with 20% discount on list price. Had he bought it with 25% discount he would have saved ₹ 500. At what price did he buy the T. V?
    (a) ₹ 16,000   (b) ₹ 12,000
    (c) ₹ 10,000   (d) ₹ 8,000

98. A shopkeeper gains ₹ 56 on a toy after allowing 23% discount on its marked price. If his gain is 10%, then the marked price of the toy is:
    (a) ₹ 810   (b) ₹ 800
    (c) ₹ 560   (d) ₹ 740

99. A shopkeeper list the price of an article as ₹ 500. But he gives a certain discount which allows the buyer to pay ₹ 500 for the article including 10% sales tax. The rate of discount is
    (a) 10%   (b) $10\dfrac{1}{11}\%$
    (c) $9\dfrac{1}{11}\%$ (d) 11%

YEAR : 2012

100. The list price of shirt is ₹ 440 and a customer pays ₹ 396 for it. The discount rate is
    (a) 10%   (b) $10\dfrac{1}{2}\%$
    (c) 20%   (d) 12%

101. A trader allows two successive discounts of 30% and 15% on selling an article. If he gets ₹ 476 for that article, find its marked price.
    (a) ₹ 700   (b) ₹ 400
    (c) ₹ 900   (d) ₹ 800

102. The marked price of a table is ₹ 800. A retailer bought it after two successive discounts of 10% and 15%. He spent ₹ 13 on transportation and sold it for ₹ 875. His profit was
    (a) 40%   (b) 37%
    (c) 28%   (d) 25%

103. To attract more visitors, zoo authority announces 20% discount on every ticket which costs 25 paise. For this reason, sale of ticket increase by 28%. Find the percentage of increase in the number of visitors.
    (a) 40%   (b) 50%
    (c) 60%   (d) No charge

104. A sofa-set listed at ₹ 800 is sold to a retailer at successive discounts of 25% and 15% by the wholesaler. Then the cost price of the sofa-set for retailer is
(a) ₹ 500 (b) ₹ 510
(c) ₹ 550 (d) ₹ 560
(SSC Delhi Police SI 21.10.2012)

105. A merchant marks his goods 40% above the cost price and sells them at a discount of 15%. Find his gain %.
(a) 25% (b) 22%
(c) 19% (d) 20%
(SSC Const. & Rifleman 22.04.2012)

106. The marked price of an item is twice the cost price. For a gain of 15%, the discount should be
(a) 7.5% (b) 20.5%
(c) 32.5% (d) 42.5%

107. The marked price is 20% higher than cost price. A discount of 20% is given on the marked price . By this type of sale, there is
(a) 4% loss
(b) 2% loss
(c) no loss no gain
(d) 4% gain
(SSC DEO Exam 02.08.09 & SSC CHSL DEO & LDC 21.10.2012)

108. How much percent above the cost price should a shopkeeper mark his goods so as to earn a profit of 32% after allowing a discount of 12% on the marked price?
(a) 50% (b) 40%
(c) 60% (d) 45%
(SSC CGL 11.11.2012)

109. The price that Akbar should marks on a pair of shoes which costs him ₹ 1,200 to gain 12% after allowing a discount of 16% (in rupees) is
(a) 1,344 (b) 1,433
(c) 1,600 (d) 1,500
(FCI Assistant-III 25.02.2012)

110. A trader allows a trade discount of 20% and a cash discount of $6\frac{1}{4}$% on the marked price of the goods and gets a net gain of 20% of the cost . By how much above the cost should the goods be marked for the sale ?
(a) 40% (b) 50%
(c) 60% (d) 70%
(SSC CGL Tier-II 16.09.2012)

111. A tradesman marks his goods at such a price that after allowing a discount of 15%, he makes a profit of 20%. What is the marked price of an article whose cost price is ₹ 170?
(a) ₹ 240 (b) ₹ 260
(c) ₹ 220 (d) ₹ 200
(SSC CHSL DEO LDC 21.10.2012)

112. How much percent above the cost price should a shopkeeper mark his goods so as to earn a profit of 10% after allowing a discount of 12% on the marked price?
(a) 50% (b) 25%
(c) 60% (d) 45%
(SSC CGL Tier-I 11.11.2012)

113. A discount of 16% on the marked price of a book enables a man to buy a pen that costs ₹ 80. How much did he pay for the book?
(a) ₹ 810 (b) ₹ 800
(c) ₹ 420 (d) ₹ 740
(SSC Const. & Rifle. 22.04.12)

114. Mr. A bought a refrigerator with $16\frac{2}{3}$% discount on the labelled price. Had he bought it with 25% discount, he would have saved ₹ 600. At what price did he buy the refrigerator ?
(a) ₹ 6000 (b) ₹ 7200
(c) ₹ 7500 (d) ₹ 5000
(SSC CHSL DEO LDC 28.10.2012)

115. A fan is listed at ₹ 150 and a discount of 20% is given. Then the selling price is
(a) ₹ 180 (b) ₹ 150
(c) ₹ 120 (d) ₹ 110
(SSC CHSL DEO LDC 28.10.2012)

116. If a table with marked price ₹ 6,000 was sold to a customer for ₹ 5,500, then the rate of discount allowed on the table is
(a) 10% (b) 8%
(c) $8\frac{1}{3}$% (d) 9%
(SSC CGL Tier-I 11.11.2012)

117. A washing machine is sold at a discount of 30%. If a man buys it for ₹ 6,580, its list price is
(a) ₹ 7,500 (b) ₹ 8,600
(c) ₹ 9,400 (d) ₹ 6,990
(SSC Delhi police S.I 19.08.2012)

118. The marked price of a saree is ₹ 200. After allowing a discount of 20% on the marked price, the shopkeeper makes a profit of ₹ 16. Find the gain percent ?
(a) $11\frac{1}{9}$% (b) $9\frac{1}{11}$%
(c) 11% (d) 8%

119. During month-long annual sale, a shopkeeper sells his goods at a discount of 50%. But in the last week, he offers an additional discount of 40%. If the original price of a shirt is ₹ x, then the price(in rupees) during the last week of the sale will be
(a) 90% of x (b) 70% of x
(c) 30% of x (d) 10% of x
(SSC CHSL DEO LDC 28.10.2012)

120. Ramesh bought 10 cycles for ₹ 500 each. He spent ₹ 2,000 on them and sold five of them for ₹ 750 each and the remaining for ₹ 550 each. Then the total gain or loss % is
(a) Gain of $8\frac{1}{3}$%
(b) Loss of $8\frac{1}{3}$%
(c) Gain of $7\frac{2}{3}$%
(d) Loss of $7\frac{1}{7}$%
(SSC CGL Tier-I 11.11.2012)

121. The Banker's discount on a bill due 6 months hence at 16% per annum is ₹ 216. The true discount is :
(a) ₹ 212 (b) ₹ 180
(c) ₹ 210 (d) ₹ 200
(SSC CHSL DEO LDC 04.11.2012)

122. The cost of manufacturing of a tape recorder is ₹ 1,500. The manufacturer fixes the marked price 20% above the cost of manufacture and allows a discount in such a way as to get a profit of 8%. The rate of discount is
(a) 12% (b) 8%
(c) 20% (d) 10%
(SSC CGL Tier-I 11.11.2012)

123. For a certain article. If discount is 25% the profit is 25%. If the discount is 10%, then the profit is
(a) 50% (b) 40%
(c) 30% (d) $33\frac{1}{3}$%
(FCI Assistant Grade-III 25.02.12)

124. A toy train is marked at ₹ 400 and sold at a discount of 8% during Ganesh puja. A shopkeeper announces a discount of 8% more. The amount he will lose if he announces a single discount of 16% is
(a) ₹ 2.56   (b) ₹ 3.84
(c) ₹ 4.16   (d) ₹ 5.78

YEAR : 2013

125. A single discount of 50% on an article costing ₹ 10000 is better than two successive discounts of 40% and 10% by
(a) ₹ 400   (b) ₹ 1000
(c) ₹ 500   (d) ₹ 600

126. A purchased a dining table marked at ₹ 3,000 at a successive discounts of 10% and 15% respectively. He gave ₹ 105 as transportion charge and sold it at ₹ 3,200. What is his gain percentage ?
(a) $22\frac{1}{3}\%$ (b) 25%
(c) $33\frac{1}{3}\%$ (d) $37\frac{17}{24}\%$

127. A dealer buys a table listed at ₹ 1,500 and gets successive discounts of 20% and 10%. He spends ₹ 20 on transportation and sells at a profit of 20%. Find the selling price of the table (in rupee).
(a) 1320   (b) 1080
(c) 1200   (d) 1230

128. A shopkeeper marks the price of an article at ₹ 80. What will be the selling price, if he allows two successive discounts at 5% each?
(a) ₹ 72.2   (b) ₹ 72
(c) ₹ 85   (d) ₹ 7.2

129. Which of the following successive discounts is better to a customer ?
(1) 20%, 15%, 10%
(2) 25%,12%,8%
(a) (1) is better
(b) (2) is better
(c) (1) or (2) (both are same)
(d) None of these

130. The marked price of an article is ₹ 100. A discount series of 5%, 10% successively reduces the price of an article by
(a) ₹ 4.5   (b) ₹ 14.5
(c) ₹ 24.5   (d) None of these

131. An article is marked at ₹ 5,000. The shopkeeper allows successive discounts of x%, y%, z% on it. The net selling price is
(a) ₹ $\dfrac{(100-x)(100+y)(100+z)}{200}$
(b) ₹ $\dfrac{(100+x)(100+y)(100-z)}{200}$
(c) ₹ $\dfrac{(100-x)(100-y)(100-z)}{200}$
(d) ₹ $\dfrac{(100-x)(100+y)(100-z)}{200}$

132. A shopkeeper purchased a chair marked at ₹ 600 at two successive discounts of 15% and 20% respectively. he spent ₹ 28 on transportation and sold the chair for ₹ 545. His gain percent was
(a) 25%   (b) 30%
(c) 35%   (d) 20%

133. Two successive discounts of 10% and 5%, in this order, are given on a bill of ₹ 110. Find the net amount of money payable to clear the bill (answer to the nearest rupee)
(a) ₹ 94   (b) ₹ 95
(c) ₹ 96   (d) ₹ 97

134. A merchant allows a discount of 10% on marked price for the cash payment. To make a profit of 17%, he must mark his goods higher than their cost price by
(a) 33%   (b) 40%
(c) 27%   (d) 30%

135. If the discount is equal to one fifth of the marked price and the loss is half the discount, then the percentage of loss is
(a) $10\frac{1}{9}\%$ (b) $11\frac{1}{9}\%$
(c) $12\frac{1}{9}\%$ (d) $13\frac{1}{9}\%$

136. After allowing a discount of 12% on the marked price, a shopkeeper still gains 21%. The marked price is above the cost price by
(a) 25%   (b) 30%
(c) 37.5%   (d) 42.5%

137. A profit of 10% is made after giving a discount of 5% on a T. V. If the marked price of the TV is ₹ 2640.00, the cost price of the TV was:
(a) ₹ 2280   (b) ₹ 2296
(c) ₹ 2380   (d) ₹ 2396

138. How much percent more than the cost price should a shopkeeper mark his goods so that after allowing a discount of 25% on the marked price, he gains 20% ?
(a) 70%   (b) 50%
(c) 60%   (d) 55%

139. A shopkeeper marks his goods 20% above his cost price and gives 15% discount on the marked price. His gain percent is
(a) 5%   (b) 4%
(c) 2%   (d) 1%

140. A shopkeeper sold an item for ₹ 1,510 after giving a discount of $24\frac{1}{2}\%$ and there by incurred a loss of 10%. Had he sold the item without discount his net profit would have been
(a) ₹ 641   (b) ₹ $322\frac{1}{9}$
(c) ₹ $422\frac{2}{9}$ (d) ₹ $322\frac{2}{9}$

141. Discount on a pair of shoes marked at ₹ 475 and discounted at 15% is
(a) ₹ 70   (b) ₹ 72
(c) ₹ 71.25   (d) ₹ 75.25

142. A machine is marked at ₹ 6,800 and available at a discount of 10%. The shopkeeper gives another off season discount to the buyer and sells the machine for ₹ 5,202. Find the off season discount.
(a) 10%   (b) 12%
(c) 15%   (d) 18%

143. A shopkeeper offers 10% discount on every purchase of an article. It also offers an additional discount of 12%, if the payment is made in cash. If the original price of an item is ₹ 250, how much a customer will pay. if he wants to pay the price in cash?
(a) ₹ 180   (b) ₹ 192
(c) ₹ 198   (d) ₹ 195
(SSC MTS 24.03.2013)

144. With a 5% discount on the cost of sugar, a buyer could purchase 2 kg. more sugar for ₹ 608. Original selling price of sugar is.
(a) ₹ 15.50   (b) ₹ 15
(c) ₹ 16.50   (d) ₹ 16
(SSC CHSL DEO LDC 28.11.2010)
27.10.2013)

145. A reduction of 20% in the price of rice enables a customer to purchase 12.5 kg more for ₹ 800. The original price of rice (per kg) is
(a) ₹ 14   (b) ₹ 16
(c) ₹ 12   (d) ₹ 15
(SSC CHSL DEO LDC 10.11.2013)

146. The marked price of a toy ₹ 60 and at a discount that was sold for ₹ 45. then rate of discount is.
(a) 30%   (b) 35%
(c) 20%   (d) 25%
(SSC MTS 17.03.2013)

147. A man saves ₹ 25 on the purchase of an article on which a discount of 20% is allowed. how much did the man pay?
(a) ₹ 75   (b) ₹ 150
(c) ₹ 100   (d) ₹ 125
(SSC CGL Tier-II (2013)
27.04.2014)

YEAR : 2014

148. A double bed is marked at ₹ 7,5000. The shopkeeper allows successive discounts of 8%, 5% and 2% on it. What is the net selling price ?
(a) ₹ 6,500   (b) ₹ 6,000
(c) ₹ 6,4239   (d) ₹ 6,500.50
(SSC CHSL DEO LDC 16.11.2014)

149. Anand marks up the price of an article by 50% and then allows a discount of 20% and sells it to Balaji who sells it for ₹ 20 more than what he purchased for, this S.P is 30% more then the original C.P of the article. Then Balaji's profit % is
(a) 7.5%   (b) 6.66%
(c) 8.33%   (d) 9%
(SSC CGL Tier-I (2013) 27.04.2014)

150. The marked price of an article is ₹ 500. A shopkeeper gives a discount of 5% and still makes a profit of 25%. The cost price of the article is.
(a) ₹ 384   (b) ₹ 380
(c) ₹ 300   (d) ₹ 376
(SSC CGL Tier-I (2013) 27.04.2014)

151. A shopkeeper allows a discount of 10% on the marked price of an item but charges a sales tax of 8% on the discounted price. If the customer pays ₹ 3,402 as the price including the sales tax, then the marked price is
(a) ₹ 3,400   (b) ₹ 3,500
(c) ₹ 3,600   (d) ₹ 3,800
(SSC CGL Tier-I 19.10.2014)

152. The cost price of a table is ₹ 3,200. A merchant wants to make 25% profit by selling it. At the time of sale he declares a discount of 20% on the marked price. The marked price (in ₹) is
(a) 5,000   (b) 6,000
(c) 4,000   (d) 4,500
(SSC CGL Tier-I 26.10.14)

153. A shopkeeper allows a discount of 12.5% on the marked price of a certain article and makes a profit of 20%. If the article costs the shopkeeper ₹ 210, then the marked price of the article will be
(a) ₹ 387   (b) ₹ 350
(c) ₹ 386   (d) ₹ 288
(SSC CGL Tier-I 26.10.2014)

154. Charging 30% above its production cost a radio maker puts a label of ₹ 286 on a radio as is price. But at the time of selling it, he allows 10% discount on the labelled price. What will his gain be ?
(a) ₹ 257.40   (b) ₹ 254.40
(c) ₹ 198   (d) ₹ 37.40
(SSC CGL Tier-I 26.10.2014)

155. A cycle dealer offers a discount of 10% and still makes a profit of 26%. What does he pay for a cycle whose marked price is ₹ 840 ?
(a) ₹ 600   (b) ₹ 650
(c) ₹ 700   (d) ₹ 750
(SSC CGL Tier-II 21.09.2014)

156. The marked price of an article is 10% higher than the cost price. A discount of 10% is given on the marked price. In this kind of sale, the seller bears.
(a) No loss, no gain
(b) a loss of 5%
(c) a gain of 1%
(d) a loss of 1%
(SSC CHSL DEO LDC 02.11.2014)

157. A shopkeeper sold an item at 10% loss after giving a discount equal to half the marked price. Then the cost price is
(a) $\frac{1}{9}$ th of marked price
(b) $\frac{4}{9}$ th of marked price
(c) $\frac{5}{9}$ th of marked price
(d) $\frac{7}{9}$ th of marked price
(SSC CGL Tier-II 21.09.14)

158. Successive discounts of 20% and 40% equal a single discount of -
(a) 60%   (b) 20%
(c) 52%   (d) 48%
(SSC CGL 26.10.2014)

159. After allowing 10% discount dealer wishes to sell a machine for ₹ 2,700. At what price must the machine be marked ?
(a) ₹ 270   (b) ₹ 3,000
(c) ₹ 2,970   (d) ₹ 2,430
(SSC DELHI POLICE EXAM 22.06.2014)
(SSC CHSL DEO LDC 09.11.2014

160. A shopkeeper offers 15% discount on all plastic toys. He offers a further discount of 4% on the reduced a piece to those customers who pay cash. What does a customer have to pay (₹ in) in case for a toys of ₹ 200?
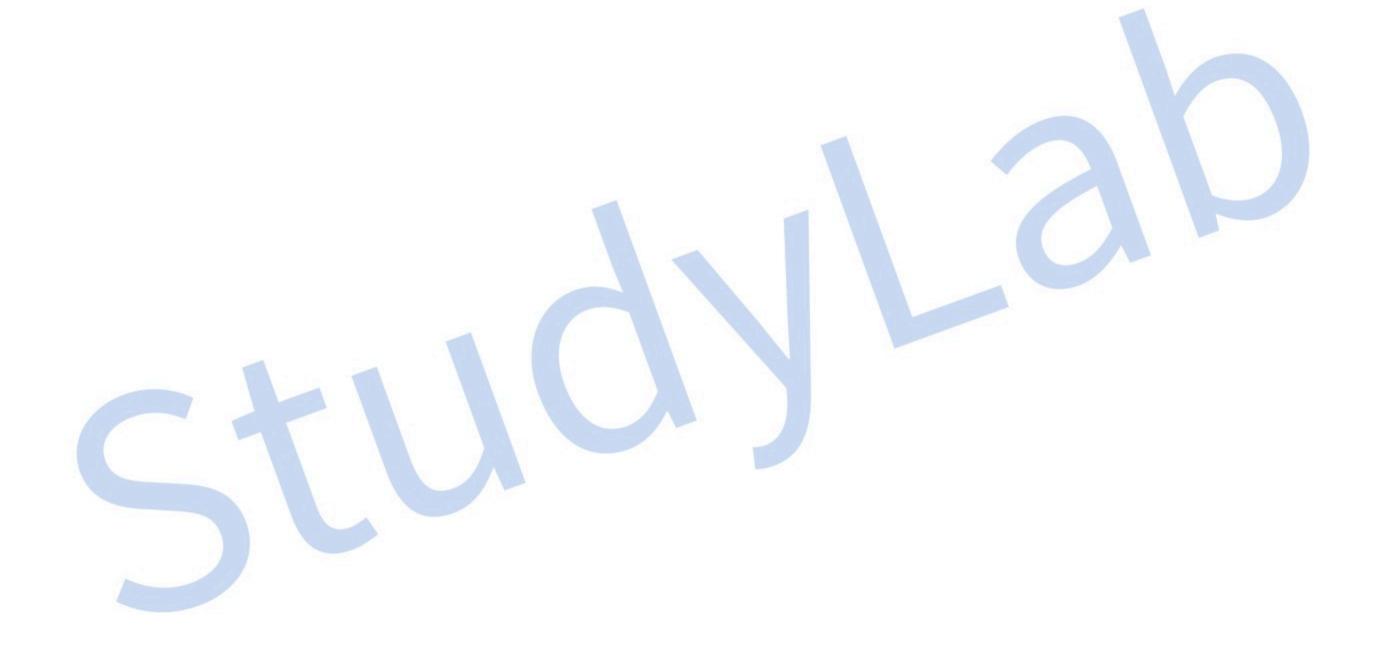(a) 133.7   (b) 129.8
(c) 163.2   (d) 153.2
(SSC CGL Mains Exam- 2016)

ANSWER KEY

1.	(b)	17.	(a)	33.	(a)	49.	(a)	65.	(a)	81.	(c)	97.	(d)	113.	(c)	129.	(b)	145.	(b)
2.	(b)	18.	(c)	34.	(c)	50.	(a)	66.	(a)	82.	(d)	98.	(b)	114.	(a)	130.	(b)	146.	(d)
3.	(b)	19.	(b)	35.	(a)	51.	(c)	67.	(a)	83.	(c)	99.	(c)	115.	(c)	131.	(c)	147.	(c)
4.	(c)	20.	(b)	36.	(c)	52.	(b)	68.	(d)	84.	(c)	100.	(a)	116.	(c)	132.	(a)	148.	(c)
5.	(c)	21.	(d)	37.	(c)	53.	(c)	69.	(a)	85.	(d)	101.	(d)	117.	(c)	133.	(a)	149.	(c)
6.	(d)	22.	(b)	38.	(d)	54.	(c)	70.	(b)	86.	(b)	102.	(a)	118.	(a)	134.	(d)	150.	(b)
7.	(c)	23.	(a)	39.	(b)	55.	(b)	71.	(a)	87.	(c)	103.	(c)	119.	(c)	135.	(b)	151.	(b)
8.	(c)	24.	(a)	40.	(d)	56.	(c)	72.	(d)	88.	(b)	104.	(b)	120.	(d)	136.	(c)	152.	(a)
9.	(c)	25.	(c)	41.	(a)	57.	(a)	73.	(a)	89.	(b)	105.	(c)	121.	(d)	137.	(a)	153.	(d)
10.	(b)	26.	(c)	42.	(d)	58.	(a)	74.	(b)	90.	(d)	106.	(d)	122.	(d)	138.	(c)	154.	(d)
11.	(b)	27.	(c)	43.	(a)	59.	(d)	75.	(c)	91.	(a)	107.	(a)	123.	(a)	139.	(c)	155.	(a)
12.	(c)	28.	(b)	44.	(d)	60.	(c)	76.	(a)	92.	(b)	108.	(a)	124.	(a)	140.	(d)	156.	(d)
13.	(d)	29.	(c)	45.	(c)	61.	(a)	77.	(b)	93.	(d)	109.	(c)	125.	(a)	141.	(c)	157.	(c)
14.	(d)	30.	(b)	46.	(c)	62.	(c)	78.	(a)	94.	(d)	110.	(c)	126.	(c)	142.	(c)	158.	(c)
15.	(b)	31.	(b)	47.	(d)	63.	(d)	79.	(c)	95.	(b)	111.	(a)	127.	(a)	143.	(c)	159.	(b)
16.	(a)	32.	(a)	48.	(d)	64.	(c)	80.	(d)	96.	(c)	112.	(b)	128.	(a)	144.	(d)	160.	(c)

EXPLANATION

1. **(b)** Ist Discount = 40%

Next effect of two successive Discounts

$= 36 + 4 - \dfrac{36 \times 4}{100} = 40 - 1.44$

Percentage Difference

= 40 – 40 + 1.44

Difference between Discount

= 1.44% of 1,00,000

$= \dfrac{144}{100} \times \dfrac{1}{100} \times 1{,}00{,}000$

= ₹1440

2. **(b)** Let C.P of goods = ₹100

M.P of goods

$= 110\% \text{ of } 100 = \dfrac{110}{100} \times 100$

$= ₹110$

After Discount S.P. of goods

= 90% of 110

$= \dfrac{90}{100} \times 110 = ₹99$

Loss = 100 – 99 = ₹1

Loss % $= \dfrac{1}{100} \times 100 = 1\%$

Alternate

Loss % $= \dfrac{x \times y}{100}\%$

Loss % $= \dfrac{10 \times 10}{100} = 1\%$

3. **(b)** Let the C.P. of goods = ₹100

M.P. of goods = 120% of 100

= (100 +20)% of

$= \dfrac{120}{100} \times 100 = ₹120$

After Discount S.P. of goods

= 92% of 120

$= \dfrac{92}{100} \times 120 = ₹110.4$

Profit = 110.4 – 100 = ₹10.4

Profit % $= \dfrac{10.4}{100} \times 100 = 10.4\%$

4. **(c)** Discount = 2.5%

$= \dfrac{2.5}{100} = \dfrac{1}{40}$ → Discount → M.P

M.P. = ₹40

Discount = ₹1

C.P = 40 – 1 = ₹39

39 → 39 Actual CP

40 → ₹ **40**

5. **(c)** C.P. of Article = 60% of 900

$= \dfrac{60}{100} \times 900 = ₹540$

S.P. of Article = ₹ 900

Profit = 900 – 540 = ₹ 360

Profit % $= \dfrac{360}{540} \times 100$

$= \dfrac{200}{3}\% = \mathbf{66\dfrac{2}{3}\%}$

Alternate

C.P. of Article

= 60% of 100 = ₹ 60

S.P. of Article = ₹ 100

Profit % $= \dfrac{40}{60} \times 100\%$

$= \dfrac{200}{3}\% = \mathbf{66\dfrac{2}{3}\%}$

6. **(d)** Let the C.P. of Ist and IInd article = ₹ x & ₹ y

According to question,

15% of x = 20% of y

$\dfrac{15}{100} \times x = \dfrac{20}{100} \times y$

$\dfrac{x}{y} = \dfrac{20}{15} = \dfrac{4}{3}$

By option only d is 4 : 3 sequence is ₹ 80 and ₹ 60

If (None of these) is given in option then it will be the correct option.

7. **(c)** M.P. of a watch = ₹ 720

After Ist Discount = 90% of 720

$= \dfrac{90}{100} \times 720 = ₹648$

C.P. of watch = ₹ 550.80

Difference = 648 – 550.80

= ₹ 97.20

IInd Discount $= \dfrac{97.20}{648} \times 100$

$= \dfrac{9720}{648} = 15\%$

8. **(c)** M.P. of chair = ₹ 800

After Discount Price of chair

$= 800 \times \dfrac{90}{100} \times \dfrac{85}{100} = ₹ 612$

After Transportation

= 612 +28 = ₹ 640

S.P of chair = ₹ 800

Profit = 800 – 640 = ₹ 160

Profit % $= \dfrac{160}{640} \times 100 = \mathbf{25\%}$

9. **(c)** Let the C.P. of goods = ₹ 100

M.P. of goods

= 120% of 100

= ₹ 120

S.P. after Discount

= 70% of 120 = ₹ 84

Loss = 100 – 84 = ₹ 16

Loss % $= \dfrac{16}{100} \times 100 = \mathbf{16\%}$

Alternate

Formula = x ± y ± $\dfrac{xy}{100}$

Loss % $= 20 - 30 - \dfrac{20 \times 30}{100}$

= – 10 – 6 = – **16% (Loss)**

10. **(b)** Let MP of 1 Pen = ₹ 1

⇒ CP of 40 pen = ₹ 36

⇒ SP of 40 pen

$= 40 \times \dfrac{99}{100} = ₹ 39.6$

⇒ Profit %

$= \dfrac{39.6 - 36}{36} \times 100 = 10\%$

11. **(b)** M.P. of watch = ₹1000

After Ist discount = 90% of 1000

$= \dfrac{90}{100} \times 1000 = ₹900$

C.P. of watch = ₹ 810

Difference = 900 – 810 = ₹90

IInd Discount%

$= \dfrac{90}{900} \times 100 = \textbf{10\%}$

12. **(c)** Equivalent to a single discount

$= 15 + 10 - \dfrac{15 \times 10}{100}$

$= 25 - 1.5 = \textbf{23.5\%}$

Alternate

M.P. = ₹100

C.P. $= 100 \times \dfrac{85}{100} \times \dfrac{90}{100} = ₹76.5$

Difference

$= 100 - 76.5 = 23.5$

Difference%

$= \dfrac{23.5}{100} \times 100 = \textbf{23.5\%}$

13. **(d)** M.P of an article = ₹ 800

After Discount

$= 90\% \text{ of } 800 = \dfrac{90}{100} \times 800 = ₹720$

Profit = 20%

C.P. of an article

$= \dfrac{720 \times 100}{120} = ₹ 600$

14. **(d)**

S.P.   M.P.
175 ⤶ 200

↑×25   ↑×25
7(8–1)   8

$12\dfrac{1}{2}\% = \dfrac{1}{8} \longrightarrow$ Discount
                   $\longrightarrow$ M.P.

∴ SP = 8 – 1 = 7

Profit
$25\% = \dfrac{1}{4} \begin{array}{l}\longrightarrow \text{Profit} \\ \longrightarrow \text{C.P.}\end{array}$

S.P. = C.P. + profit = 4+1 = 5

C.P.   S.P.
140 ⤶ 175

↑×35   ↑×35
4   5

C.P. of the article = ₹ 140

Alternate:-

M.P. of an article = ₹ 200

After Discount, S.P.

$= 87\dfrac{1}{2}\% \text{ of } 200$

$= \dfrac{87.5}{100} \times 200 = ₹ 175$

Profit = 25%

C.P. of the Article

$= \dfrac{S.P \times 100}{100 + Profit\%}$

$= \dfrac{175 \times 100}{100 + 25}$

$= \dfrac{175 \times 100}{125} = ₹ \textbf{140}$

15. **(b)**

C.P.   gain   S.P.   M.P.
100 ⤳ 10% ⤳ 110
              Discount
          80 ⤶ 20% ⤶ 100
800   880   1100
1100 ⟶ 880
800 ⟶ $\dfrac{880 \times 800}{1100} = ₹ 640$

Alternate:-

M.P. of the Article = ₹ 880

After Discount S.P. of the Article

$= \dfrac{880 \times 80}{100} = ₹ 704$

C.P. of the Article

$= \dfrac{704 \times 100}{110} = ₹ \textbf{640}$

16. **(a)** L.P. of fan = ₹ 1500

After Discount, L.P

= 80% of 1500

$= \dfrac{80}{100} \times 1500 = ₹ 1200$

Net Price of fan = 1104

Difference

= 1200 – 1104 = ₹ 96

Additional discount

$= \dfrac{96}{1200} \times 100 = \textbf{8\%}$

17. **(a)** M.P. of the article

= ₹ 240

After Discount, S.P. of the article

$= 240 \times \dfrac{90}{100} \times \dfrac{95}{100} = ₹ 205.20$

18. **(c)** Let the price is = ₹100

After discount Price

$= 100 \times \dfrac{90}{100} \times \dfrac{80}{100} \times \dfrac{75}{100}$

$= ₹54$

Difference = 100 – 54 = 46

So, 46 is a single discount percent of this series

Alternate

Successive Discount of 10% of 20%

$= 10 + 20 - \dfrac{10 \times 20}{100} = 28\%$

Then, successive Discount of 28% and 25%

$= 28 + 25 - \dfrac{28 \times 25}{100} = \textbf{46\%}$

19. **(b)** Let the price is = ₹100

After Discount Price

$= 100 \times \dfrac{90}{100} \times \dfrac{80}{100} \times \dfrac{60}{100}$

$= ₹ 43.2$

Difference = 100 – 43.2 = 56.8

So, 56.8% is a single discount percent of this series

Alternate

Successive Discounts of 10% and 20%

$= 10 + 20 - \dfrac{10 \times 20}{100} = 28\%$

then, successive Discounts of 28% and 40%

$= 28 + 40 - \dfrac{28 \times 40}{100} = \textbf{56.8\%}$

20. **(b)** let the C.P. of an article = ₹100

M.P. of an article

= ₹ 110 (10% above)

S.P. of an article

= ₹ 99 (10% discount)

Difference = 110 – 99 = ₹ 11

Discount $= \dfrac{11}{110} \times 100 = \textbf{10\%}$

Alternate

C.P.   gain   M.P.   S.P.
100 ⤳ 10% ⤳ 110 ⤳ 99
                10%
              Discount

Discount $= \dfrac{110 - 99}{110} \times 100 = 10\%$

21. (d) Let C.P. of goods = ₹100

M.P. of goods

= ₹130 (30% above)

S.P. of goods

= 90% of 130 = ₹117

gain = 117 − 100 = ₹17

gain % = $\dfrac{17}{100} \times 100 = 17\%$

Alternate:-

$$\begin{array}{ccc} \text{C.P.} & \xrightarrow[30\%]{\text{gain}} & \text{M.P.} & \xrightarrow[\substack{-10\% \\ \text{Discount}}]{} & \text{S.P.} \\ 100 & & 130 & & 117 \end{array}$$

gain %= $\dfrac{17}{100} \times 100 =$ **17%**

22. (b) M.P. of cycle = ₹1100

After Discount S.P. = 90% of 1100 = ₹990

gain = 10%

C.P. = $\dfrac{990 \times 100}{100+10}$

= $\dfrac{990 \times 100}{110}$ = ₹ 900

Alternate

$$\begin{array}{ccc} \text{C.P.} & & \text{S.P.} & & \text{M.P.} \\ \dfrac{990 \times 10}{11} = 900 & \xleftarrow{\frac{11}{10}} & 990 & \xleftarrow{-10\%} & 1100 \end{array}$$

C.P. = ₹900

23. (a) M.P. of an electric Iron

= ₹690

After Discount, S.P. = 90% of 690 = ₹621

Gain = 8%

C.P. of an electric Iron

= $\dfrac{621 \times 100}{100+8} = \dfrac{621 \times 100}{108}$ = ₹575

No Discount, gain of Iron

= 690 − 575 = ₹115

gain % = $\dfrac{115}{575} \times 100 = 20\%$

Alternate:-

$$\begin{array}{cccc} \text{C.P.} & \xrightarrow[8\%]{\text{Gain}} & \text{S.P.} & \xleftarrow{-10\%} & \text{M.P.} \\ 100 & & 108 & & 120 \end{array}$$

Gain % = $\dfrac{20}{100} \times 100\% = 20\%$

24. (a) S.P. of Article = ₹387

M.P. of Article = $\dfrac{387 \times 100}{86}$

= ₹ 450

25. (c) Let the MP of 1 article = ₹ 1

MP of 15 article = ₹ 15

SP of (15 + 1) article (15 + 1)

= $15 \times \dfrac{96}{100}$ = ₹ 14.40

CP of 16 article

= $\dfrac{14.40}{135} \times 100$ = ₹ $\dfrac{32}{3}$

CP of 1 article

= $\dfrac{32}{3 \times 16}$ = ₹ $\dfrac{2}{3}$

Required % = $\dfrac{1 - \dfrac{2}{3}}{\dfrac{2}{3}} \times 100$

= $\dfrac{1}{3} \times \dfrac{3}{2} \times 100 = 50\%$

26. (c) M.P. of scooter = ₹ 36,000

According to question,

$20{,}000 \times \dfrac{8}{100} + 10{,}000 \times \dfrac{5}{100}$

$+ 6{,}000 \times \dfrac{x}{100}$

$= 36{,}000 \times \dfrac{7}{100}$

$1600 + 500 + 60x = 2520$

$60x = 420$

$x = \dfrac{420}{60}$ = **7%**

27 (c) Let the total sale = ₹ x

According to question,

$10{,}000 \times \dfrac{5.5}{100} + (x - 10{,}000)$

$\times \dfrac{6}{100} = 1990$

$550 + \dfrac{6}{100}x - 600 = 1990$

$\dfrac{6}{100}x = 2040$

x = **₹ 34,000**

28. (b) House wife spends ₹ 25 on dress and saves ₹ 2.50

Total Transaction

= 25 + 2.50 = ₹ 27.50

Save% = $\dfrac{2.50}{27.50} \times 100 = \dfrac{100}{11}\%$

= **9% (approx)**

29. (c) L.P. of an article = ₹2,000

After Discount, S.P.

= $2{,}000 \times \dfrac{80}{100} \times \dfrac{90}{100}$ = **₹1440**

30. (b) Ist Discount = 30%

Net two successive Discount

= $20 + 10 - \dfrac{20 \times 10}{100}$

Difference = 30 − 28 = 2%

Difference Amount = 2% of 550

= $\dfrac{2}{100} \times 550 =$ **₹11**

31. (b) Let the C.P. of goods = ₹ 100

S.P. of goods

= 120% of 100 = 120

M.P. of goods = $120 \times \dfrac{100}{90} = \dfrac{400}{3}$

Difference of M.P and C.P

= $\dfrac{400}{3} - 100$

Difference %

= $\dfrac{\dfrac{100}{3}}{100} \times 100 = \dfrac{100}{3}\% = 33\dfrac{1}{3}\%$

Alternate

$$\begin{array}{ccc} \text{C.P} & \text{S.P} & \text{M.P} \\ 5 & 6 & \\ & 9 & 10 \end{array}$$

Profit = 20% = $\dfrac{1}{5}\begin{array}{l}\longrightarrow \text{Profit} \\ \longrightarrow \text{C.P.}\end{array}$

Discount = 10% = $\dfrac{1}{10}\begin{array}{l}\longrightarrow \text{Discount} \\ \longrightarrow \text{M.P.}\end{array}$

$$\begin{array}{ccc} \text{C.P} & \text{S.P} & \text{M.P} \\ 45 & 54 & 60 \end{array}$$

Difference% = $\dfrac{60 - 45}{45} \times 100$

= $\dfrac{15}{45} \times 100$

= $33\dfrac{1}{3}\%$

32. (a)
$$\begin{array}{ccc} \text{CP} & \text{SP} & \text{MP} \\ 100_{\times 10} & 117_{\times 10} & \\ & 90_{\times 13} & 100_{\times 13} \\ 1000 & 1170 & 1300 \end{array}$$

∴ L.C.M of 117 and 90

Profit = 1300 − 1000 = ₹ 300

Profit% = $\dfrac{300}{1000} \times 100 =$ **30%**

33. **(a)** Let the C.P = ₹ 100
M.P. = 125% of 100 = ₹ 125
S.P. = 84% of 125

$$= \frac{84}{100} \times 125 = ₹ 105$$

gain = 105 – 100 = ₹ 5

$$\text{gain\%} = \frac{5}{100} \times 100 = \mathbf{5\%}$$

34. **(c)** M.P of racket = ₹ 30
After Discount S.P. = 85% of 30

$$= \frac{85}{100} \times 30 = ₹ 25.50$$

S.P. of racket
= 25.50 – 1.50 = ₹ 24

$$\text{C.P. of racket} = 24 \times \frac{100}{120}$$

$$= \mathbf{₹\ 20}$$

35. **(a)** Suppose 80 goods in = ₹ 80 in C.P
M.P. = 120% of 80 = ₹ 96

$$\text{Half stock sold at M.P.} = \frac{96}{2} = ₹ 48$$

One quarter sold at 20% discount

$$= \frac{80}{100} \times 24 = ₹ 19.20$$

One quarter sold at 40% discount

$$= \frac{60}{100} \times 24 = ₹ 14.40$$

Total sale
= 48 + 19.20 + 14.40
= ₹ 81.60
gain = 81.60 – 80 = ₹ 1.60

$$\text{gain\%} = \frac{1.60}{80} \times 100 = \mathbf{2\%}$$

36. **(c)** C.P. of motor car = ₹ 17,000
M.P. of motor car

$$= ₹ 17,000 \times \frac{100}{85} = ₹ 20,000$$

After successive Discount, C.P.

$$= 20,000 \times \frac{95}{100} \times \frac{90}{100}$$

$$= \mathbf{₹\ 17,100}$$

37. **(c)** Let Marked price of one thing is 100

S.P	Discount	M.P
400	100	500

$$D\% = \frac{100}{500} \times 100 = 20\%$$

38. **(d)**

	C.P.		S.P.		M.P.
	100	8%	108^(12×9)		
			10%		100
			90^(10×9)		
	(100 × 10)	(12 × 9× 10)		(100 × 12)	
	1000	1080		1200	

List Price% above the cost Price

$$= \frac{1200 - 1000}{1000} \times 100$$

$$= \frac{200}{1000} \times 100 = \mathbf{20\%}$$

39. **(b)**

	C.P.		S.P.		M.P.
	100	25%	125_(25×5)		
			10%		100
			90_(18×5)		
	(100 × 18)	(25×5×18)		(25×100)	
	1800	2250		2500	

1800 → 900

$$2500 \to \frac{900 \times 2500}{1800} = \mathbf{₹\ 1250}$$

Alternate:
C.P. of article = ₹ 900
S.P. of article = 125% of 900

$$= \frac{125}{100} \times 900 = 1125$$

M.P. of article

$$= 1125 \times \frac{100}{90} = \mathbf{₹\ 1250}$$

40. **(d)**

	C.P.		S.P.		M.P.
	10	20%	12		
			10%		10
	90	108^9		120	

120 → 500

$$90 \to \frac{500 \times 90}{120} = \mathbf{₹375}$$

Alternate:
M.P. of article = ₹500
S.P. of article = 90% of 500

$$= \frac{90}{100} \times 500 = 450$$

C.P. of article

$$= 450 \times \frac{100}{120} = \mathbf{₹375}$$

41. **(a)** $12\% = \dfrac{3}{25}$

Savita	Karan
28	25

53 ⟶ 56100
1 ⟶ 1058.49057

Commission of Karan → 25×1058.49057
= 26462.2642

42. **(d)** M.P. of an article = ₹ 450
After Ist discount

$$= 450 \times \frac{90}{100} = ₹ 405$$

C.P. of an article = ₹ 344.25
Difference = 405 – 344.25
= ₹ 60.75
IInd Discount

$$= \frac{60.75}{405} \times 100 = \mathbf{15\%}$$

43. **(a)**

gain
$30\% = \dfrac{3}{10}$ — mp = 13
cp
profit
$20\% = \dfrac{1}{5}$ — 6 sp
cp

cp	sp	mp
10		13

5×2   6×2
10 unit 12 13 unit
discount = 1

$$\text{discount\%} = \frac{1}{13} \times 100 = 7.69\%$$

44. **(d)** S.P. of the radio = ₹ 704
M.P. of the radio

$$= 704 \times \frac{100}{80} \times \frac{100}{88} = \mathbf{₹\ 1,000}$$

45. **(c)** (i) 25% and 15%

$$= 25 + 15 - \frac{25 \times 15}{100} = 36.25\%$$

(ii) 30% and 10%

$$= 30 + 10 - \frac{30 \times 10}{100} = 37\%$$

(iii) 35% and 5%

$$= 35 + 5 - \frac{35 \times 5}{100} = 38.25\%$$

3rd offer is the best for customer

46. **(c)** L.P. of a car

= ₹ 200000

After successive Discounts

$$= 200000 \times \frac{95}{100} \times \frac{90}{100}$$

= ₹ 171000

S.P of a car

= ₹ 179550

Profit = 179550 − 171000

= ₹8550

Profit% = $\frac{8550}{171000} \times 100$

= 5%

47. **(d)** L.P of article = ₹ 800

After successive Discount, C.P.

$$= 800 \times \frac{75}{100} \times \frac{85}{100} = ₹ 510$$

Let new list price = ₹ x

According to question

120% of 510 = 90% of x

120 × 510 = 90 × x

x = ₹ 680

48. **(d)** Single discount = 40%

Two successive discount 36% and 4%

= 36 + 4 − 1.44 = 38.56%

Difference amount

= 1.44% on 500

$$= \frac{1.44}{100} \times 500 = ₹ 7.20$$

49. **(a)** Profit 25% = $\frac{1}{4}$ → Profit → C.P.

Discount 20% = $\frac{1}{5}$ → Discount → M.P.

C.P.	S.P.	M.P.
4	25% → 5	

20% ←

4 ← 5

| (4×4) | (5×4) | (5×5) |
| 16 | 20 | 25 |

Sold on M.P, gain

= 25 − 16 = 9

Gain% = $\frac{9}{16} \times 100 = 56.25\%$

50. **(a)** 20% → 150

100% → 150 × 5 = ₹750

80% → $\frac{750 \times 80}{100}$ = ₹600

Thus, he pay ₹600 for the shirt

51. **(c)** S.P. of an article = ₹660

C.P. of an article

$$= 660 \times \frac{100}{110} = 600$$

M.P. of an article = 600 × $\frac{100}{75}$

= **₹800**

52. **(b)** M.P. of an article = ₹25,000

After Discount, C.P.

$$= 25,000 \times \frac{80}{100} \times \frac{95}{100}$$

= ₹19,000

After Repair, C.P.

= 19000 + 1000

= ₹20,000

S.P. of an article = ₹25,000

gain% = $\frac{25,000 - 20,000}{20,000} \times 100$

$= \frac{1}{4} \times 100 = 25\%$

53. **(c)** Let the M.P. of shirt and trousers is ₹100 and ₹200

shirt S.P. = 60% of 100 = ₹60

Total S.P. of shirt and trousers

= 70% of 300

$$= \frac{70}{100} \times 300 = ₹210$$

S.P. of trousers

= 210 − 60 = ₹150

Discount on trousers

= 200 − 150 = ₹50

% = $\frac{50}{200} \times 100 = \textbf{25\%}$

54. **(c)** L.P. = ₹1400

After Iˢᵗ Discount

$$= \frac{90}{100} \times 1400 = ₹1260$$

S.P. = ₹1200

Additional Discount%

$$= \frac{1260 - 1200}{1260} \times 100$$

$$= \frac{100}{21}\% = \textbf{4}\frac{\textbf{16}}{\textbf{21}}\%$$

55. **(b)** Marked price of 3 articles

= 200 × 3 = 600

Selling price of 3 articles

= 546

Discount% = $\frac{600 - 546}{600} \times 100$

$$= \frac{54}{600} \times 100$$

= 9%

56. **(c)** M.P. of watch = ₹820

After Iˢᵗ Discount

$$= \frac{80}{100} \times 820 = ₹656$$

man Purchased = ₹570.72

IIⁿᵈ Discount%

$$= \frac{656 - 570.72}{656} \times 100$$

$$= \frac{85.28}{656} \times 100 = \textbf{13\%}$$

57. **(a)** M.P. of bicycle = ₹2,000

After two successive Discount of 20% and 10%

$$= 2,000 \times \frac{80}{100} \times \frac{90}{100} = ₹1440$$

Additional discount 5% for cash payment

$$= 1440 \times \frac{95}{100} = \textbf{₹1368}$$

58. **(a)** M.P. of the article = ₹ x

According to question

80% of 70% of x = 2240

$$\frac{80}{100} \times \frac{70}{100} \times x = 2240$$

x = ₹ **4000**

59. **(d)** Let the M.P of cooler = ₹x

After Discount of 10%, C.P

$$= \frac{90}{100} x$$

After Discount of 12%, C.P.
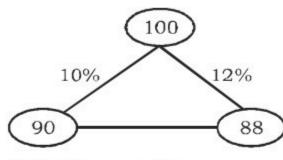
$$= \frac{88}{100} x$$

According to question

$$\frac{90}{100} x - \frac{88}{100} x = 35$$

$$\frac{2x}{100} = 35$$

$$x = \frac{35 \times 100}{2} = ₹1750$$

Alternate:

Let M.P. 100 units

2 units $\rightarrow$ 35

100 units $\rightarrow$ 35 × 50 = **₹1750**

60. **(c)** C.P. of an article = ₹100

S.P. of an article = 120% of 100

= ₹120

M.P. of an article

= 120 × $\dfrac{100}{96}$ = **₹125**

61. **(a)** Let the M.P of a toy = ₹100

S.P. of a toy

= 90% of 100 = ₹90

C.P of a toy

= 90 × $\dfrac{100}{120}$ = ₹75

If Discount is 20%, S.P.

= 80% of 100 = ₹ 80

Profit = 80 – 75 = ₹5

Profit% = $\dfrac{5}{75}$ × 100 = $\dfrac{20}{3}$ %

= $6\dfrac{2}{3}$%

62. **(c)** S.P. of grinder = ₹1955

C.P of grinder

= 1955 × $\dfrac{100}{115}$ = ₹1700

M.P. of grinder

= 1700 × $\dfrac{100}{85}$ = ₹2000

Discount by the retailer

= 2000 × $\dfrac{15}{100}$ = **₹300**

63. **(d)** M.P. of T.V = ₹16000

After Ist Discount

= 95% of 16000

= $\dfrac{95}{100}$ × 16000

= ₹15,200

S.P. of T.V. = ₹11,400

IInd discount%

= $\dfrac{15200 - 11400}{15200}$ × 100

= $\dfrac{3800}{15200}$ × 100 = 25%

64. **(c)** Ist Discount = 30%

Two successive Discount to a single Discount

= 25 + 5 – $\dfrac{25 \times 5}{100}$

= 30 – 1.25

Difference = 30 – 30 + 1.25

= 1.25%

Difference amount

= 1.25% of 2,000

= $\dfrac{1.25}{100}$ ×2,000 = ₹25

65. **(a)** M.P. of 12 Pair of socks = ₹80

S.P. of 12 Pair of socks

= 90% of 80

= $\dfrac{90}{100}$×80 = ₹72

If C.P. of 12 pair of socks is ₹ 72

C.P. of ₹24 = $\dfrac{12 \times 24}{72}$ = 4 pair

66. **(a)** Let the M.P. = ₹x

Single Discount = 30%

Two successive discount is equivalent

= (20 + 10 – $\dfrac{20 \times 100}{100}$)%

= (30 – 2) = 28%

Difference = 2%

According to question

2% of x = 72

$\dfrac{2}{100}$ ×x = 72

x = $\dfrac{72 \times 100}{2}$

x = **₹3600**

67. **(a)**

CP	SP	MP
$10×_{20}$		$13×_{20}$
	$17×_{13}$	$20×_{13}$
200 unit	221 unit	260 unit
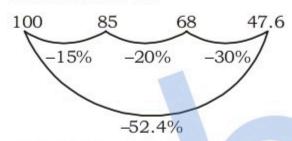
221 unit ——910

260 unit —— $\dfrac{910}{221}$×200

= ₹ 823.5

68. **(d)** 15 + 20 – $\dfrac{15 \times 20}{100}$ = 32%

32 + 30 – $\dfrac{32 \times 30}{100}$ = 52.4%

Alternative:

69. **(a)** Two successive Discounts is equivalent

= 20 + 5 – $\dfrac{20 \times 5}{100}$ = 25 – 1

= **24%**

70. **(b)** Let C.P. of Item = ₹100

M.P. of Item

= 120% of 100

= $\dfrac{120}{100}$ × 100 = ₹120

After Discount S.P.

= 87.5% of 120 = $\dfrac{87.5}{100}$ × 120

= ₹105

Profit% = $\dfrac{105 - 100}{100}$ ×100

= 5%

71. **(a)** let C.P. = ₹100

M.P. = 130% of 100

= ₹130

After Discount, S.P.

= 85% of 130

= $\dfrac{85}{100}$×130

= ₹110.50

Profit% = $\dfrac{110.50 - 100}{100}$ ×100

= **10.5%**

72. **(d)** C.P. of Article = ₹200
S.P. of Article
= 135% of 200

$= \dfrac{135}{100} \times 200 = 270$

MP of article

$= \dfrac{270}{75} \times 100$ = **₹360**

73. **(a)** Let marked price = $100x$
then by statement
$95x + 92x \rightarrow$ selling price of both
$187x$ —— 925

x —— $\dfrac{925}{187} = 4.94$

Marked price = $4.94 \times 100 = 494$

74. **(b)** Let the C.P. of 1 shirt = ₹100
M.P. of 1 shirt = 140% of 100 = ₹140
S.P. of 1 shirt

$= 90\%$ of $140 = \dfrac{90}{100} \times 140$

= ₹126
Actual S.P. of 1 shirt

$= \dfrac{13608}{72} = ₹189$

$126 \rightarrow 189$

$100 \rightarrow \dfrac{189 \times 100}{126} = ₹150$

Cost Price of per shirt is ₹150

75. **(c)** M.P. of an article = ₹50
S.P. of an article

$= 80\%$ of $50 = \dfrac{80}{100} \times 50 = ₹40$

C.P. of an article

$= 40 \times \dfrac{100}{125} = ₹32$

76. **(a)** Let the marked price = Rs. 100
SP of the book

$= Rs. 100 \times \dfrac{90}{100} = Rs. 90$

CP of the book $= 90 \times \dfrac{100}{112}$

Ratio $= \dfrac{CP}{MP} = \dfrac{90 \times \dfrac{100}{112}}{100}$

$= \dfrac{90}{112} = \dfrac{45}{56}$

$\Rightarrow$ **45 : 56**

Alternate:

$\dfrac{CP}{MP} = \dfrac{100\% - D\%}{100\% + P\%} / \dfrac{100\% - D\%}{100\% - L\%}$

Here,

$\dfrac{CP}{MP} = \dfrac{100\% - 10\%}{100\% + 12\%} = \dfrac{90}{112} = \dfrac{45}{56}$

= 45 : 56

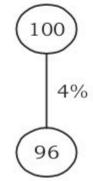**77.** **(b)** Let Market price = ₹ x
Selling price after 4% discount

$= ₹ \dfrac{96x}{100}$

$\dfrac{96x}{100} = 1920$

$\Rightarrow x = \dfrac{1920 \times 100}{96} = ₹ 2000$

Alternate

Let Market price = 100 units

100

4%

96

96 units = 1920

1 unit $= \dfrac{1920}{96} = 20$

$\Rightarrow$ 100 units = ₹ 2000

78. **(a)** Let Market price = ₹ x
Selling price after 15% dis-
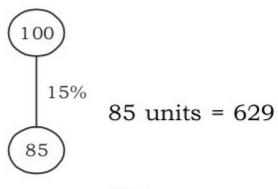
count $= ₹ \dfrac{85x}{100}$

According to question,

$\dfrac{85x}{100} = 629$

$x = \dfrac{629 \times 100}{85} = ₹ 740$

Alternate

Let market price
= 100 units

100

15%

85   85 units = 629

1 unit $= \dfrac{629}{85}$

100 units $= \dfrac{629}{85} \times 100$

= Rs. 740 Ans.

79. **(c)** Let the amount of bill = ₹ x
According to question,

$\dfrac{4x}{100} = 13$

$x = \dfrac{13 \times 100}{4} = ₹ 325$

Alternate

Let the amount of bill = 100 units
4% of 100 units = 4 units
∴   4 units   = 13

1 unit $= \dfrac{13}{4}$

100 units $= \dfrac{13}{4} \times 100$

= Rs. 325

80. **(d)** Let the MP of saree = ₹ 100
SP of saree

$= 100 \times \dfrac{3}{4} = ₹ 75$

CP of saree

$= 75 \times \dfrac{100}{85}$

$= ₹ \dfrac{1500}{17}$

CP : SP $= \dfrac{1500}{17 \times 75} = 20 : 17$

81. **(c)** Let the marked price = 100
Final SP

$= 100 \times \dfrac{90}{100} \times \dfrac{88}{100} \times \dfrac{95}{100}$

= 75.24
Net discount = (100–75.24)
= 24.76%

Alternate:

Single equivalent discount for
10% and 12%

$= \left(10 + 12 - \dfrac{10 \times 12}{100}\right) = 20.8\%$

Single equivalent discount for
20.8% and 5%

$= \left(20.8 + 5 - \dfrac{20.8 \times 5}{100}\right)\%$

= 24.76% Ans.

82. (d) Ist discount = 35% Single equivalent discount of 20% each

$$= \left(20 + 20 - \frac{20 \times 20}{100}\right)\%$$

= 36%

Difference = (36% – 35%) = 1%

Let the amount of the bill Rs. x

$$\therefore \frac{1}{100}x = 22$$

x = Rs. 2200

83. (c) M.P of watch

= Rs. 1600

After Ist discount of 10%

$$= 1600 \times \frac{90}{100} = \text{Rs. } 1440$$

Customer pays (final S.P)

= Rs. 1224

$$\frac{x}{100} \times 1440$$

= (1440 – 1224) = 216

$$= \frac{216 \times 100}{1440} = 15\% \text{ Ans.}$$

84. (c) Single equivalent discount for 20% and 20%

$$= 20 + 20 - \frac{20 \times 20}{100}$$

= 40 – 4 = 36%

Single equivalent discount for 36% and 10%

$$= 36 + 10 - \frac{36 \times 10}{100}$$

= 46 – 3.6 = 42.4%

85. (d) Let MP of article = ₹ 100

$$\text{CP for X} = 100 \times \frac{90}{100} = ₹ 90$$

$$\text{CP for Y} = 90 \times \frac{110}{100} = ₹ 99$$

MP : CP for Y = 100 : 99

86. (b) Single equivalent discount for 20% and 10%

$$= 20 + 10 - \frac{20 \times 10}{100}$$

= 30 – 2 = 28%

Single equivalent discount for 28% and 5%

$$= 28 + 5 - \frac{28 \times 5}{100}$$

= 33 – 1.4 = 31.6%

87. (c) $\left(p + q - \dfrac{pq}{100}\right)\%$

88. (b) Let the C.P. of 1 shirt = ₹100

M.P. of 1 shirt = 140% of 100 = ₹140

S.P. of 1 shirt

$$= 90\% \text{ of } 140 = \frac{90}{100} \times 140$$

= ₹126

Actual S.P. of 1 shirt = $\dfrac{13608}{216}$

= ₹63

126 → 63

$$100 \to \frac{63 \times 100}{126} = ₹50$$

Cost Price of per shirt is ₹50

89. (b) Let the cost price = 100 units and the marked price = 150 units

selling price

$$= 150 \times \frac{60}{100} = 90 \text{ units}$$

$$\text{Loss \%} = \frac{10}{100} \times 100 = 10\%$$

Alternate

$$50\% = \frac{1}{2}$$

$$\frac{CP}{MP} = \frac{2}{3}$$

$$\frac{100\% - D\%}{100\% + x\%} = \frac{2}{3}$$

$$\frac{100\% - 40\%}{100 + x\%} = \frac{2}{3}$$

$$\frac{60}{100 + x} = \frac{2}{3}$$

x = –10%

(–) sign, Shows loss

90. (d)

Let the cost price = 100 units and the marked price = 140 units ⟩ 40% increase

Selling price

$$= 140 \times \frac{80}{100} = 112 \text{ units}$$

$$\text{Gain} = \frac{112 - 100}{100} \times 100 = 12\%$$

Alternate

$$40\% = \frac{2}{5}$$

$$\frac{CP}{MP} = \frac{100}{140} = \frac{5}{7}$$

$$\frac{100 - D\%}{100 + x\%} = \frac{5}{7}$$

$$\frac{100 - 20}{100 + x} = \frac{5}{7}$$
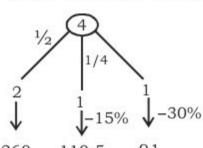
$$\frac{80}{100 + x} = \frac{5}{7}$$

500 + 5x = 560

5x = 60

x = 12% (gain)

91. (a) Let CP of article = ₹ 100

⇒ MP of each article

$$= \frac{130}{100} \times 100 = ₹130$$

Let no. of article to be sold = 4 at the rate of ₹130 each

= Total SP = 260 + 110.5 + 91

= ₹ 461.5

Total CP = 4×100 = 400

$$\text{\% profit} = \frac{461.5 - 400}{400} \times 100$$

$$= 15\frac{3}{8}\%$$

92. (b) Let the cost price of bag = 100 units

∴ Marked price of bag = 150 units

Selling price of the bag

$$= 150 \times \frac{80}{100} = 120 \text{ units}$$

120 units = Rs. 840

1 unit = 7

100 units = Rs. 700 Ans.

93. **(d)** Marked price = Rs. 480

Selling price after 10% discount

= Rs. 480 × $\dfrac{90}{100}$ = Rs. 432

Cost price = 432 × $\dfrac{100}{100 + 8\%}$

= 432 × $\dfrac{100}{108}$ = Rs. 400

If no discount then selling price
= Marked price = Rs. 480

gain percent

= $\dfrac{480 - 400}{400} \times 100 = \dfrac{80}{400} \times 100 = 20\%$

Alternate

$\therefore \dfrac{100 - D\%}{100 + P\%} = \dfrac{CP}{MP}$

$\dfrac{CP}{MP} = \dfrac{100 - 10}{100 + 8} = \dfrac{90}{108} = \dfrac{5}{6}$

If no discount then M.P = S.P
∴ CP = 5,   S.P = 6 Gain %

= $\dfrac{6 - 5}{5} \times 100$

= $\dfrac{1}{5} \times 100$ = 20%

94. **(d)** $\dfrac{CP}{MP} = \dfrac{100 - D\%}{100 + P\%} = \dfrac{100 - 16}{100 + 5}$

= $\dfrac{84}{105}$ ⟩+21

Required percentage

= $\dfrac{21}{84} \times 100$ = **25%**

[In such type of questions, use the above formula to save our valuable time]

Alternate

∵ Discount = 16% = $\dfrac{16}{100}$

= M.P = 100   S.P = 84
and profit = 5%

= $\dfrac{5}{100}$ = $\dfrac{1}{20}$ →Profit
→C.P

∴ S.P = 20 + 1 = 21

Now

MP	SP	CP
100	84	
21₍×4₎	20₍×4₎	
100	84	80

(S.P must be same in both cases, make S.P equal)

Required percentage

= $\dfrac{100 - 80}{80} \times 100$

= $\dfrac{20}{80} \times 100$ = **25%**

95. **(b)** Cost price of the article
= Rs. 8000
Profit = 12%
S.P of the article

= C.P × $\dfrac{100 + P\%}{100}$

= 8000 × $\dfrac{112}{100}$ = Rs. 8960

∴ Discount = M.P – S.P
= 11200 – 8960 = Rs. 2240
Let the discount percentage = $x\%$

∴ $\dfrac{11200 \times x}{100}$ = 2240

x = $\dfrac{2240 \times 100}{11200}$ = 20%

Alternate

$\dfrac{100 - D\%}{100 + P\%} = \dfrac{C.P}{M.P}$
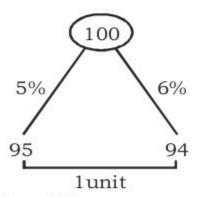
$\dfrac{100 - x}{100 + 12} = \dfrac{5}{7}$
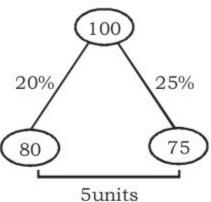
$\dfrac{100 - x}{112} = \dfrac{5}{7}$

700 – 7x = 560
7x = 700 – 560 = 140
x = 20%

96. **(c)** Let the marked price = 100 units

1 unit = 15
100 units = Rs. **1500**

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97. **(d)** Let the marked price of T.V.
= 100 units

5 units = 500
1 unit = 100
80 units= 80 × 100 = Rs. **8000**

98. **(b)** Change discount and profit % in the ratio

Discount % = 23% = $\dfrac{23}{100}$

Profit % = 10% = $\dfrac{10}{100}$ = $\dfrac{1}{10}$ → Profit
→ C.P

MP	SP	CP	SP
100	77	10	11

MP : SP : CP
1100 : 847 : 770

77 units

77 units = 56

1 unit = $\dfrac{56}{77}$

1100 units $\dfrac{56}{77} \times 1100$

= **Rs. 800**

99. **(c)** Sales tax is on SP
Let S.P = x

$\dfrac{110x}{100}$ = 500

x = $\dfrac{5000}{11}$

Discount = 500 – $\dfrac{5000}{11}$

= $\dfrac{5500 - 5000}{11}$ = $\dfrac{500}{11}$

Discount percentage

= $\dfrac{Discount}{M.P} \times 100 = \dfrac{\frac{500}{11}}{500} \times 100$

= $\dfrac{1}{11} \times 100$ = $9\dfrac{1}{11}$%

100. (a) % discount

$= \dfrac{440 - 396}{440} \times 100 = 10\%$

101. (d) Let the marked price = Rs. x

$\therefore\ x \times \dfrac{70}{100} \times \dfrac{85}{100} = 476$

$x = 476 \times \dfrac{100}{70} \times \dfrac{100}{85} = $ Rs. **800**

102. (a) Cost price for the retailer

$= 800 \times \dfrac{90}{100} \times \dfrac{85}{100} + 13$

$= 612 + 13 = $ Rs. 625

SP = 875

$\text{Profit}\% = \dfrac{875 - 625}{625} \times 100$

$= \dfrac{250}{625} \times 100 = \mathbf{40\%}$

103. (c) Let the number of visitors in the beginning = 100

= Total revenue

$= .25 \times 100 = ₹ 25$

New price $= 25 \times \dfrac{80}{100}$

$= .20$ or 20paise

New revenue $= 25 \times \dfrac{128}{100} = ₹ 32$

= Number of visitors now

$= \dfrac{32}{.20} = 160$

= % change in number of visitors

$= \dfrac{160 - 100}{100} \times 100 = 60\%$

104. (b) Cost price for the retailer

$= 800 \times \dfrac{75}{100} \times \dfrac{85}{100} = ₹ 510$

105. (c) Let the CP = 100 untis

MP = 140 units

SP $= 140 \times \dfrac{85}{100} = 119$

Profit % $= \dfrac{19}{100} \times 100 = 19\%$

106. (d) Let the CP = ₹ 100

= MP = 100×2 = ₹ 200

Now for 15% profit SP

$= 100 \times \dfrac{115}{100} = ₹ 115$

% discount

$= \dfrac{200 - 115}{200} \times 100 = 42.5\%$

107. (a) Let the CP = 100 units

$\therefore$ MP = 120 units

SP $= 120 \times \dfrac{80}{100} = 96$ units

There will be loss

$\text{Loss}\% = \dfrac{100 - 96}{100} \times 100 = 4\%$

108. (a) $\dfrac{CP}{MP} = \dfrac{100 - D\%}{100 + P\%} = \dfrac{100 - 12}{100 + 32} = \dfrac{88}{132} \Big]44$

Required % $= \dfrac{44}{88} \times 100 = 50\%$

109. (c) CP of shoes = Rs. 1200

SP of shoes

$= 1200 \times \dfrac{112}{100}$

Let MP of shoes = x

$x \times \dfrac{84}{100} = 1200 \times \dfrac{112}{100}$

$x = \dfrac{1200 \times 112}{84} = $ Rs. 1600

110. (c) Single equivalent discount

$= \left(20 + \dfrac{25}{4} - \dfrac{20 \times 25}{400} \right)\%$

$= 25\%$

Let CP of article = Rs. 100

$\therefore$ SP of article

= Rs. 120 (20% profit)

Let MP of article = Rs. x

$\therefore\ x \times \dfrac{75}{100} = 120$

$x = \dfrac{120 \times 100}{75} = $ Rs. 160

Required percentage

$= \dfrac{160 - 100}{100} \times 100 = 60\%$

111. (a) Cost price of the article

= Rs. 170

Profit = 20%

Selling price of the article

$= 170 \times \dfrac{120}{100}$

Let Marked price = Rs. x

Discount = 15%

$x \times \dfrac{85}{100} = 170 \times \dfrac{120}{100}$

$x = \dfrac{170 \times 120}{85} = $ Rs. 240

Alternate

$\dfrac{CP}{MP} = \dfrac{100 - D\%}{100 + P\%}$

$= \dfrac{100 - 15}{100 + 20} = \dfrac{85}{120}$

CP = Rs. 170

85 units = 170

1 unit $= \dfrac{170}{85} = Rs.\ 2$

120 units = Rs. 2 × 120

= **Rs. 240**

112. (b) $\dfrac{100 - D\%}{100 + P\%} = \dfrac{CP}{MP}$

$\dfrac{CP}{MP} = \dfrac{100 - 12}{100 + 10} = \dfrac{88}{110} \Big]22$

Required % $= \dfrac{22}{88} \times 100 = 25\%$

113. (c) From the discount he buys the pen

$\therefore$ If marked price of book = Rs. x

$\therefore\ \dfrac{16}{100} \times x = 80$

$x = $ Rs. 500

Now, the pay for the book

$= 500 \times \dfrac{84}{100} = $ Rs. 420

114. (a) Change the percentage in fraction.

$16\dfrac{2}{3}\% = \dfrac{1}{6} \longrightarrow$ Discount $\longrightarrow$ MP

SP = 5

$25\% = \dfrac{1}{4} \longrightarrow$ Discount $\longrightarrow$ MP

SP =　3

MP　　　　SP

$6_{\times 2}$　　$5_{\times 2}$　=　10 ⎤
$4_{\times 3}$　　$3_{\times 3}$　=　9　⎦ 1 unit

1 unit　= 600
10 units = Rs. 600 × 10
　　　　= Rs. 6000

115. (c) SP = $150 \times \dfrac{80}{100}$ = **₹120**

116. (c) Discount = 6000 – 5500
= Rs. 500

Discount% = $\dfrac{500}{6000} \times 100$

= $\dfrac{50}{6}$ = $\dfrac{25}{3}$ ⇒ $8\dfrac{1}{3}$%

117. (c) MP × $\dfrac{70}{100}$ = Rs. 6580

MP = $\dfrac{6580 \times 100}{70}$ = **Rs. 9400**

118. (a) SP of the saree

= $200 \times \dfrac{80}{100}$ = ₹160

CP of saree = 160–16 = ₹ 144

% of profit = $\dfrac{16}{144} \times 100$ = $11\dfrac{1}{9}$%

119. (c) Single equivalent discount

= $\left(50 + 40 - \dfrac{50 \times 40}{100}\right)$% = 70%

∴ Required price of shirt
= (100 – 70)% of x = 30% of x

120. (d) Total CP = 500×10 + 2000
= Rs. 7000
Total SP = Rs. (5 × 750 + 5 × 550) = Rs. 6500

Loss% = $\dfrac{7000 - 6500}{7000} \times 100$

= $\dfrac{500}{7000} \times 100$

= $\dfrac{50}{7}$ = $7\dfrac{1}{7}$%

121. (d) True Discount

= $\dfrac{\text{Banker's Discount} \times 100}{100 + \text{rate} \times \text{time}}$

True Discount

= $\dfrac{216 \times 100}{100 + 16 \times \dfrac{6}{12}}$

= $\dfrac{21600}{108}$ = ₹200

122. (d) C.P. of tape recorder
= ₹1500
M.P. of tape recorder
= 120% of 1500

= $\dfrac{120}{100} \times 1500$ = ₹1800

S.P. of tape recorder
= 108% of 1500

= $\dfrac{108}{100} \times 1500$ = ₹1620

Rate of Discount

= $\dfrac{1800 - 1620}{1800} \times 100$%

= $\dfrac{180}{1800} \times 100$% = 10%

123. (a)

C.P.　　　　S.P.　　　　M.P.
4 ——25%—→ 5
　　　　　　　　——25%—→
　　　　　　　3　　　　　4
　　　　　　(5×3)　　　(5×4)
(4×3)　　　　15　　　　20
12

If discount is 10%

SP　　　　　MP
9　　　　　　10
↓×2　　　　↓×2
18　　　　　20
　　[M.P. is same]

Profit% = $\dfrac{18 - 12}{12} \times 100$

= $\dfrac{6}{12} \times 100$ = **50%**

124. (a) Single Discount = 16%
Two Successive Discount

= $8 + 8 - \dfrac{8 \times 8}{100}$

= 16 – 0.64
Difference　= 16 – 16 + 0.64
　　　　　　= 0.64%
Difference amount
= 0.64% of 400 = **₹2.56**

125. (a) Single Discount = 50%
Two successive Discount

= $40 + 10 - \dfrac{40 \times 10}{100}$

= 50 – 4
Difference　= 50 – 50 + 4
　　　　　　= 4%
Difference amount
= 4% of 10000

= $\dfrac{4}{100} \times 10000$

= ₹400

126. (c) M.P. of Dining table = ₹3000
After Discount, C.P.

= $3000 \times \dfrac{90}{100} \times \dfrac{85}{100}$

= ₹2295
After Transport charges
= 2295 + 105
C.P.　= ₹2400
S.P.　= ₹3,200

Profit = $\dfrac{3200 - 2400}{2400} \times 100$

= $\dfrac{800 \times 100}{2400}$ = $33\dfrac{1}{3}$%

127. (a) L.P. of table = ₹1500
After Discount C.P.

= $1500 \times \dfrac{80}{100} \times \dfrac{90}{100}$ = ₹1080

After transportation charges
= 1080 + 20 =C.P. = ₹1100
S.P. of Table

= 120% of 1100 = $\dfrac{120}{100} \times 1100$

= ₹1320

128. (a) M.P. of article = ₹80
Two successive discount

= $5 + 5 - \dfrac{5 \times 5}{100}$ = 10 – 0.25

= 9.75%
Discount of article
= 9.75% of 80

= $\dfrac{9.75}{100} \times 80$

= ₹7.80
S.P. of article = 80 – 7.80
= ₹72.20

129. (b) (i) 20%, 15%,10%
Successive Discount of 20% and 15%

= $20 + 15 - \dfrac{20 \times 15}{100}$

= 35 – 3 = 32%
Successive Discount of 32% and 10%

= $32 + 10 - \dfrac{32 \times 10}{100}$

= 42 – 3.2 = 38.8%

(ii) 25%, 12% and 8%

$$= 25 + 12 - \frac{25 \times 12}{100}$$

$= 37 - 3 = 34\%$

Successive Discount of 34% and 8%

$$= 34 + 8 - \frac{34 \times 8}{100}$$

$= 42 - 2.72 = 39.28\%$

IInd case is better for the customer

130. (b) Two successive Discount of 5% and 10%

$$= 5 + 10 - \frac{5 \times 10}{100}$$

$= 15 - 0.5 = 14.5\%$

After Discount M.P. decreases
$= 14.5\%$ of 100 $= ₹14.5$

131. (c) After three successive Discount, S.P. of an Article

$$= 5000 \times \frac{100 - x}{100} \times \frac{100 - y}{100} \times \frac{100 - z}{100}$$

$$= \frac{(100 - x)(100 - y)(100 - z)}{200}$$

132. (a) M.P. of chair = ₹600
After Discount C.P.

$$= 600 \times \frac{85}{100} \times \frac{80}{100} = ₹408$$

After Transportation charges
CP = 408 + 28 = ₹436

$$Gain\% = \frac{545 - 436}{436} \times 100\%$$

$$= \frac{109}{436} \times 100\% = 25\%$$

133. (a) Bill amount = ₹110
After Discount Net Amount of Bill 90% of 95% of 110

$$= \frac{90}{100} \times \frac{95}{100} \times 110$$

$= ₹94$ (approx)

134. (d) Let the C.P. = ₹100
S.P. = 117 % of 100 = ₹117

$$M.P. = 117 \times \frac{100}{90} = ₹130$$

M.P. above%

$$= \frac{130 - 100}{100} \times 100\% = 30\%$$

135. (b) let the M.P. = ₹100

$$Discount = \frac{1}{5} \times 100 = ₹20$$

$$Loss = \frac{1}{2} \times 20 = ₹10$$

C.P. = 100 - 20 + 10 = ₹90

$$Loss\% = \frac{10}{90} \times 100 = \frac{100}{9} \%$$

$$= 11\frac{1}{9}\%$$

136. (c) let the C.P. = ₹100
S.P. = 121% of 100 = ₹121

$$M.P. = 121 \times \frac{100}{88} = ₹137.5$$

$$M.P. Above\% = \frac{137.5 - 100}{100} \times 100$$

$= 37.5\%$

137. (a) M.P. of T.V. = ₹2640

$$S.P. \text{ of } T.V = \frac{95}{100} \times 2640$$

$= ₹2508$

$$C.P. \text{ of } T.V = 2508 \times \frac{100}{110}$$

$= ₹2280$

138. (c) Let the C.P. = ₹100
S.P. = 120% of 100
= ₹120

$$M.P. = 120 \times \frac{100}{75} = ₹160$$

$$Above\% = \frac{160 - 100}{100} \times 100$$

$= 60\%$

139. (c) Let the C.P. = ₹100
M.P. = 120% of 100
= ₹120
S.P. = 85% of 120

$$= \frac{85}{100} \times 120$$

$= ₹102$

$$Gain\% = \frac{102 - 100}{100} \times 100$$

$= 2\%$

140. (d) Let the M.P. of an item = ₹ x

S.P. of an item = $(100 - 24\frac{1}{2})\%$ of x

$$1510 = \frac{151}{2} \times \frac{1}{100} \times x$$

$x = ₹ 2000$

C.P. of article

$$= 1510 \times \frac{100}{90} = ₹\frac{15100}{9}$$

Without Discount, gain

$$= 2000 - \frac{15100}{9}$$

$$= \frac{18000 - 15100}{9}$$

$$= \frac{2900}{9} = ₹322\frac{2}{9}$$

141. (c) M.P. of shoes = ₹475

$$Discount = \frac{15}{100} \times 475$$

$$= ₹\frac{285}{4}$$

$$= ₹71.25$$

142. (c) M.P. of machine = ₹6800
After Ist Discount

$$= \frac{90}{100} \times 6800 = ₹6120$$

S.P. of machine = ₹5,202

$$Discount\% = \frac{6120 - 5202}{6120} \times 100$$

$$= \frac{918}{6120} \times 100 = 15\%$$

143. (c) M.P. of an item = ₹250
Cash Price of an item

$$= \frac{88}{100} \times \frac{90}{100} \times 250 = ₹198$$

144. (d) 5% → 2kg
100% → 2 × 20 = 40kg
New quantity = 40 kg
original Quantity
= 40 - 2 = 38 kg

$$Original\ Price = \frac{608}{38}$$

= ₹16 per kg

145. (b) let the original price of rice
= ₹x/kg

New price = $\dfrac{4x}{5}$ /kg

According to question

$\dfrac{800}{\frac{4}{5}x} - \dfrac{800}{x} = 12.5$

$\dfrac{1000}{x} - \dfrac{800}{x} = 12.5$

$200 = 12.5x$

$x = $ **₹16/kg**

Alternate

$20\% \to 12.5$ kg

$100\% \to 12.5 \times 5 = 62.5$ kg

New Quantity of
rice = 62.5

Original Quantity of rice
= 62.5 – 12.5 = **50 kg**

Original price = $\dfrac{800}{50} = $ ₹16/kg

146. (d) M.P. of a toy = ₹60
S.P. of a toy = ₹45

Discount% = $\dfrac{60-45}{60} \times 100$

= $\dfrac{15}{60} \times 100 = $ **25%**

147. (c) $20\% \to $ ₹25

$100\% \to 25 \times 5 = $ ₹125

He pay $80\% \to 25 \times 4 = $ **₹100**

148. (c) Net selling price

= $\dfrac{92}{100} \times \dfrac{95}{100} \times \dfrac{98}{100} \times 75000$

= ₹ 64239

149. (c) Let original CP = 100 units
CP of Balaji

= $100 \times \dfrac{150}{100} \times \dfrac{80}{100} = 120$ units

SP of Balaji

= $\dfrac{130}{100} \times 100 = 130$ units

Profit of Balaji
= 130 – 120 = 10 units

Profit percent = $\dfrac{10}{120} \times 100$

= 8.33%

Note : There is no use of ₹ 20
given in the question

150. (b) CP of the article

= $500 \times \dfrac{95}{100} \times \dfrac{100}{125} = $ ₹ 380

151. (b) MP of the item

= $3402 \times \dfrac{100}{108} \times \dfrac{100}{90} = $ ₹ 3500

Alternate:

let marked price = 100

$100 \xrightarrow[\text{Discount}]{10\%} 90 \xrightarrow[\text{Tax}]{8\%} \overset{\text{S.P(including tax)}}{97.2}$

97. 2 units = ₹ 3402

1 unit = $\dfrac{3402}{97.2}$

100 units = $\dfrac{3402}{97.2} \times 100$

= ₹ 3500

152. (a) MP of the table

= $3200 \times \dfrac{125}{100} \times \dfrac{100}{80} = $ ₹ 5000

153. (d) MP of the article

= $210 \times \dfrac{120}{100} \times \dfrac{100}{87.5} = $ ₹288

154. (d) CP of radio = $\dfrac{286}{130} \times 100$

= ₹ 220

SP of radio = $286 \times \dfrac{90}{100}$

= ₹ 257.4

= Profit = 257.4 – 220 = ₹ 37.4

155. (a) CP of the cycle

= $840 \times \dfrac{90}{100} \times \dfrac{100}{126} = $ ₹ 600

156. (d) Let CP of article = ₹100
= SP of article

= $100 \times \dfrac{110}{100} \times \dfrac{90}{100} = $ ₹ 99

= Loss % = $\dfrac{100-99}{100} \times 100 = 1\%$

157. (c) Let the CP = ₹ 100
= SP = ₹ 90
= MP = $90 \times 2 = $ ₹ 180
($\therefore$ SP will be half of the MP
as the discount is also equal
to half the MP)

= $\dfrac{\text{CP}}{\text{MP}} = \dfrac{100}{180} = \dfrac{5}{9}$

= CP = $\dfrac{5}{9}$ of MP

158. (c) Single discount

= $20 + 40 - \dfrac{20 \times 40}{100}$

= 52%

159. (b) MP of the machine

= $2700 \times \dfrac{100}{90} = $ ₹ 3000

160. (c) According to questions
200 (Marked Price)

$\downarrow$ 15%D

170

$\downarrow$ 4% disscount

163.2