1. M.P. of water cooler = Rs. 4650

   Discount = 18%

   S.P. of water cooler = $\left(\frac{100-D\%}{100}\right) \times M.P. = \left(\frac{100-18}{100}\right) \times 4650 = \frac{82}{100} \times 4650 = Rs. 3813$

2. M.P. of sweater = Rs. 960

   S.P. of sweater = Rs. 816

   Discount = M.P. − S.P. = 960 − 816 = Rs. 144

   Discount% = $\frac{D}{M.P.} \times 100 = \frac{144}{960} \times 100 = 15\%$

3. Selling price of shirt = Rs. 1092

   Discount = Rs. 208

   M.P. of shirt = S.P. + Discount = 1092 + 208 = Rs. 1300

   Discount% = $\frac{D}{M.P.} \times 100 = \frac{208}{1300} \times 100 = 16\%$

4. S.P. of toy = Rs. 216.20

   Let M.P. of toy = Rs. 100

   Discount = 8% of Rs. 100 = Rs. 8

   S.P. of toy = 100 − 8 = Rs. 92

   If the S.P. of toy is Rs. 92, M.P. = Rs. 100

   If the S.P. of toy is Re. 1, M.P. = Rs. $\frac{100}{92}$

   If the S.P. of the toy is Rs. 216.20 = $\frac{100}{92} \times 216.20 = Rs. 235$

5. S.P. of tea set = Rs. 528

   Let M.P. of tea set = Rs. 100

   Discount = 12% of Rs. 100 = $\frac{12}{100} \times 100 = Rs. 12$

   S.P. of tea set = M.P. − D = 100 − 12 = Rs. 88

If the S.P. of tea set is Rs. 88, M.P. = Rs. 100

If the S.P. of tea set is Re. 1, M.P. = Rs. $\frac{100}{88}$

If the S.P. of tea set is Rs. 528, M.P. = $\frac{100}{88} \times 528 = Rs.\,600$

6. Let the C.P. of goods be Rs. 100

   M.P. of goods = 100 + 35% of Rs. 100 = 100 + 35 = $Rs.\,135$

   S.P. of goods = $\left(\frac{100-D\%}{100}\right) \times M.P. = \left(\frac{100-20}{100}\right) \times 135 = \frac{80}{100} \times 135 = Rs.\,108$

   S.P. > C.P.

   Profit = S.P. – C.P. = 108 – 100 = Rs. 8

   Profit% = $\frac{P}{C.P.} \times 100 = \frac{8}{100} \times 100 = 8\%$

7. Let the C.P. of cell phone = Rs. 100

   M.P. of cell phone = 100 + 40% of Rs. 100 = 100 + 40 = Rs. 140

   S.P. of cell phone = $\left(\frac{100-D\%}{100}\right) \times M.P. = \left(\frac{100-30}{100}\right) \times 140 = \frac{70}{100} \times 140 = Rs.\,98$

   C.P. > S.P.

   Loss = C.P. – S.P. = 100 – 92 = Rs. 2

   Loss% = $\frac{l}{C.P.} \times 100 = \frac{2}{100} \times 100 = 2\%$

8. C.P. of fan = Rs. 1080

   Gain = 25%

   S.P. of fan = $\left(\frac{100+P\%}{100}\right) \times C.P. = \left(\frac{100+25}{100}\right) \times 1080 = \frac{125}{100} \times 1080 = Rs.\,1350$

   Let M.P. of fan = Rs. 100

   Discount = 25%

   S.P. of fan = $\left(\frac{100-D\%}{100}\right) \times M.P. = \left(\frac{100-25}{100}\right) \times 100 = \frac{75}{100} \times 100 = Rs.\,75$

   If the S.P. is Rs. 75, M.P. = Rs. 100

   If the S.P. is Re. 1, M.P. = $Rs.\frac{100}{75}$

   If the S.P. is Rs. 1350, M.P. = $\frac{100}{75} \times 1350 = Rs.\,1800$

9. C.P. of refrigerator = Rs. 11515

Gain = 20%

S.P. of fan $= \left(\frac{100+P\%}{100}\right) \times C.P. = \left(\frac{100+20}{100}\right) \times 11515 = \frac{120}{100} \times 11515 = Rs.\,13818$

Let M.P. of refrigerator = Rs. 100

Discount = 16%

S.P. of fan $= \left(\frac{100-D\%}{100}\right) \times M.P. = \left(\frac{100-16}{100}\right) \times 100 = \frac{84}{100} \times 100 = Rs.\,84$

If the S.P. is Rs. 84, M.P. = Rs. 100

If the S.P. is Re. 1, M.P. $= Rs.\,\frac{100}{84}$

If the S.P. is Rs. 13818, M.P. $= \frac{100}{84} \times 13818 = Rs.\,16450$

10. C.P. of ring = Rs. 1190

Gain = 20%

S.P. of ring $= \left(\frac{100+P\%}{100}\right) \times C.P. = \left(\frac{100+20}{100}\right) \times 1190 = \frac{120}{100} \times 1190 = Rs.\,1428$

Let the marked price be Rs. 100

Discount = 16%

S.P. of ring $= \left(\frac{100-D\%}{100}\right) \times M.P. = \left(\frac{100-16}{100}\right) \times 100 = Rs.\,84$

If the S.P. of ring is Rs. 84, M.P. = Rs. 100

If the S.P. of ring is Re. 1, M.P. = Rs. $\frac{100}{84}$

If the S.P. of ring is Rs. 1428, M.P. $= \frac{100}{84} \times 1428 = Rs.\,1700$

11. Let the C.P. be Rs. 100

Gain = 20%

S.P. $= \left(\frac{100+P\%}{100}\right) \times C.P. = \left(\frac{100+17}{100}\right) \times 100 = Rs.\,117$

Let the marked price be = Rs. x

Discount = 10%

S.P. $= \left(\frac{100-D\%}{100}\right) \times M.P. = \left(\frac{100-10}{100}\right) \times x = Rs.\,\frac{90x}{100}$

$\frac{90x}{100} = 117$

$$x = \frac{117}{90} \times 100$$
$$x = 130$$
M.P. = Rs. 130
Difference in M.P. and C.P. = 130 – 100 = Rs. 30
Required percentage $= \frac{30}{100} \times 100 = 30\%$

12. Let the C.P. be Rs. 100
Gain = 8%
S.P. $= \left(\frac{100+P\%}{100}\right) \times C.P. = \left(\frac{100+8}{100}\right) \times 100 = Rs. 108$
Let the M.P. be Rs. x
Discount = 10%
S.P. $= \left(\frac{100-D\%}{100}\right) \times M.P. = \left(\frac{100-10}{100}\right) \times x = \frac{90x}{100} = Rs. \frac{9x}{10}$
$$\frac{9x}{10} = 108$$
$$x = \frac{108}{9} \times 10$$
$$x = 120$$
Difference in M.P. and C.P. = 120 – 100 = Rs. 20
Required percentage $= \frac{20}{100} \times 100 = 20\%$

13. M.P. of TV = Rs. 18500
S.P. of TV $= 18500 \left(1 - \frac{20}{100}\right)\left(1 - \frac{5}{100}\right) = 18500 \times \frac{80}{100} \times \frac{95}{100} = Rs. 14060$

14. Let the M.P. be Rs. 100
S.P. $= 100 \left(1 - \frac{20}{100}\right)\left(1 - \frac{5}{100}\right) = 100 \times \frac{80}{100} \times \frac{95}{100} = Rs. 76$
Single discount = (100 – 76)% = 24%