6 Profit and Loss

EXERCISE 6A

For SSC GD & MTS Exams

1. The cost price of 30 articles is the same as the selling price of 24 articles. If the profit is x%, then the value of x is:? **SSC MTS 22/10/2021 (Shift-3)**

(a) 18 (b) 30

(c) 25 (d) 24

2. Three articles are bought at ₹ 180 each. One of them is sold at a loss of 10%. If the other two articles are sold so as to gain 20% on the whole transaction, then what is the gain percentage on the two articles?

SSC MTS 22/10/2021 (Shift-3)

(a) 45% (b) 35%

(c) 37.5% (d) 42.5%

3. A man sells apples, bananas and oranges at 20%, 25% and 30% profit, respectively. If the ratio of the cost of the fruits is 2 : 3 : 5, and the fruits are sold in the ratio 5 : 4 : 2, then his profit percentage is

SSC MTS 22/10/2021 (Shift-2)

(a) 18% (b) 30%

(c) 20% (d) 25%

4. P sold a mobile phone to Q at 25% profit. However, Q sold it to R at a loss of 10%. If R paid ₹ 3,240 for the mobile phone, what was the price (in ₹) paid by P for it?

[SSC MTS 22/10/2021 (Shift-1)]

(a) 3,000 (b) 2,880

(c) 3,600 (d) 2,580

5. The cost price of an article is 25% less than its selling price. What is the profit or loss percentage?

SSC MTS 22/10/2021 (Shift-1)

(a) 33.33%, loss (b) 66.67%, profit

(c) 33.33%, profit (d) 66.67%, loss

6. John sold a watch to Sue at a gain of 20%, and Sue sold it to Rima at a profit of 10%. If Rima paid ₹ 2,178 for it, how much did John pay (in ₹) for the watch? **SSC MTS 20/10/2021 (Shift-3)**

(a) 1,650 (b) 1,780

(c) 1,478 (d) 1,200

7. On selling a bat for ₹ 954, a man gains 6%. What should be its selling price (in ₹) to gain 8%?

SSC MTS 20/10/2021 (Shift-3)

(a) 958 (b) 1,080

(c) 972 (d) 1,054

8. A sells an article to B at 12% profit. B sells it to C at 9% loss. If C pays ₹ 15,288 for it, then at what price (in ₹) is the article purchased by A?

SSC MTS 20/10/2021 (Shift-2)

(a) 15,000 (b) 16,000

(c) 16,000 (d) 14,250

9. A shopkeeper sells 6 cardigans for ₹ 3,000 with 20% profit and 10 trousers for ₹ 6,380 with 16% profit. What is the total profit per cent?

SSC MTS 20/10/2021 (Shift-1)

(a) 17.25% (b) 11.33%

(c) 18% (d) 8%

10. In case of a particular transaction the profit earned is $14\frac{2}{7}\%$. What fraction is the cost price of the selling price? **SSC MTS 18/10/2021 (Shift-3)**

(a) $\frac{1}{7}$ (b) $\frac{8}{7}$

(c) $\frac{7}{8}$ (d) $\frac{1}{8}$

11. A shopkeeper sells an article at 14% discount on its marked price and still gains 20%. If the cost price of the article is 184.90, then what is it marked price?

SSC MTS 18/10/2021 (Shift-3)

(a) ₹ 264 (b) ₹ 278

(c) ₹ 272 (d) ₹ 258

12. The selling price of a chair is $\frac{33}{20}$ times its cost price. What is the gain or loss percentage in the transaction?

SSC MTS 18/10/2021 (Shift-2)

(a) Loss, 35% (b) Loss, 65%

(c) Gain, 35% (d) Gain, 65%

13. 52 Oranges are bought for ₹ 119.60 and sold at the rate of ₹ 41,40 per dozen. The profit percentage is:

SSC MTS 18/10/2021 (Shift-1)

(a) 60% (b) 45%

(c) 50% (d) 40%

14. A man sold two TV sets for ₹ 7,200 each, neither incurring a gain nor a loss. If he sold one TV set at a profit of $12\frac{1}{2}\%$, then the other TV set is sold at a loss of:

SSC MTS 18/10/2021 (Shift-1)

(a) 8.5% (b) 9%
(c) 8% (d) 10%

15. The marked price of an item is ₹ 5,800. If Ravi earns a profit of 25% after allowing a discount of 20%, then the cost price of an item is:

SSC MTS 18/10/2021 (Shift-1)

(a) ₹ 3,625 (b) 3,724
(c) ₹ 3,720 (d) ₹ 3,712

16. A shopkeeper bought an article at $\frac{4}{5}$ of its marked price and sold it at 16% more than the marked price. His gain percentage is:

SSC MTS 14/10/2021 (Shift-3)

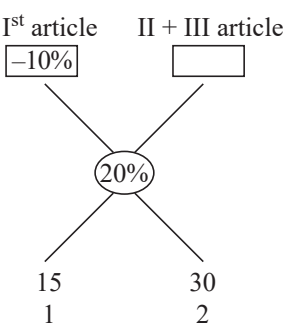
(a) 42% (b) 48%
(c) 40% (d) 45%

SOLUTIONS 6A

1. (c) Trick:

$$\text{Profit\%} = \frac{30-24}{24}\times 100 = 25\%$$

2. (b) By Allegation Method



Gain% (II + III article) sold = 20 + 15 = 35%

3. (d) According to question

		Apple	:	Banana	:	Orange
CP	→	2	:	3	:	5 = Total CP = 32
Fruit	→	5	:	4	:	2
CP	→	10	:	12	:	10
		↓ +20% ↓				↓

$$\text{Profit \%} = \frac{8}{32}\times 100 = 25\%$$

4. (c) Let P bought a mobile be ₹ x

According to question

$$x\times\frac{5}{4}\times\frac{90}{10} = ₹\ 3240$$

$$x = \frac{3240\times 4\times 10}{5\times 9} = ₹\ 2880$$

5. (c) Trick

$$\frac{25}{100} = \frac{3}{4} - \text{CP}$$

$$\text{Profit \%} = \frac{1}{3}\times 100 = 33.33\%$$

6. (a) Let John bought a watch be x

According to the question,

$$x\times\frac{6}{5}\times\frac{11}{10} = 2178$$

$$x = \frac{2178\times 5\times 10}{6\times 11} = ₹\ 1650$$

7. (c) CP of bat = $954\times\frac{100}{106} = ₹\ 900$

New SP of bat = $900\times\frac{108}{100} = ₹\ 972$

8. (a) Let A purchased an article be x

According to the question,

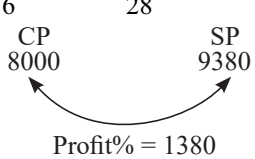
$$x\times\frac{28}{25}\times\frac{91}{100} = 15288$$

$$x = \frac{15288\times 25\times 100}{28\times 91}$$

$$= ₹\ 15000$$

9. (a) Total CP

$$3000\times\frac{5}{6} + 6380\times\frac{25}{28} = 2500 + 5500 = 8000$$



$$\text{Profit\%} = \frac{1380}{8000}\times 100 = 17.25\%$$

10. (c) Trick:

$$14\frac{2}{7}\% = \frac{100}{7\times 100} = \frac{1}{7} = \frac{8\to \text{SP}}{7\to \text{CP}}$$

$$\text{Fraction} = \frac{7}{8}$$

11. (d) Trick

$$\frac{\text{SP}}{\text{MRP}}\to\frac{14}{100} = \frac{7}{50} = \frac{43}{50}$$

$$\frac{\text{SP}}{\text{CP}}\to\frac{20}{100} = \frac{6}{5}$$

MRP		SP		CP
50	:	43	:	43
6	:	6	:	5
300	:	258	:	215

Now, $\text{MRP} = \frac{184.90}{215} \times 300$

$= 258$

12. (d) $\frac{\text{S.P.}}{\text{C.A.}} = \frac{33}{20}$ gain $= 13$

$\therefore \quad \text{gain\%} = \frac{13}{20} \times 100 = 65\%$

13. (c) Cost price of 52 oranges = ₹ 119.60

$\text{Selling Price} = \frac{119.60}{52} = ₹\ 2.3$

Cost price of 12 oranges = ₹ 41.4

$\text{Selling Price} = \frac{41.4}{12} = ₹\ 3.45$

$\therefore \quad \text{Profit \%} = \frac{(3.45 - 2.30)}{2.30} \times 100$

$= 50\%$

14. (d) Trick

$12\frac{1}{2}\% = \frac{1}{8} = \frac{9}{8}$ $\begin{matrix}\text{SP}\\ \text{CP}\end{matrix}$

CP	SP
8	9
10	9

$\text{loss\%} = \frac{1}{10} \times 100 = 10\%$

15. (d) Trick

$\text{SP} \rightarrow \frac{125}{100}$, $\text{CP} \rightarrow \frac{100}{100} = \frac{5}{4}$

$\text{SP} \rightarrow \frac{80}{100}$, $\text{MRP} \rightarrow \frac{100}{100} = \frac{4}{5}$

CP		SP		MRP
4	:	5	:	5
4	:	4	:	5
16	:	20	:	25 = ₹ 5800
				1 = ₹ 232

CP = ₹3712

16. (d) Let the MRP = 100

According to question,

CP of article $= 100 \times \frac{4}{5} = 80$

Solid it at 16% more than MRP

SP = 100 + 16 = 116

$\text{Gain\%} = \frac{(116 - 80)}{80} \times 100 = 45\%$

EXERCISE 5B

For SSC CHSL Exam

1. A dealer had 120 kg of wheat. A part of it was sold by him at 10% gain and the rest at 25% gain. Overall, he had a gain of 15%. How much of the wheat was sold at 10% gain?

SSC CHSL 03/06/2022 (Shift-2)

(a) 80 kg (b) 60 kg
(c) 40 kg (d) 50 kg

2. A seller combines 26 kg of rice priced at ₹ 20 per kg with 30 kg of rice priced at ₹ 36 per kg and sells the mixture for ₹ 30 per kg. What is the percentage of profit he makes? **SSC CHSL 03/06/2022 (Shift-2)**

(a) 8 (b) 5
(c) 7 (d) 3

3. A woman sold her earphone for ₹ 2,000 and got a percentage profit equal to the numerical value of cost price. The cost price of the earphone is:

SSC CHSL 03/06/2022 (Shift-1)

(a) ₹ 500 (b) ₹ 200
(c) ₹ 600 (d) ₹ 400

4. Raghuvir purchased some perishable items for sale but 36% of those items could not be sold and went bad. However, Raghuvir managed to sell the rest of the items at a price that helped him earn an overall profit of 28%. At what percentage above the cost price of each item did Raguvir sell each of the items that did not go bad?

SSC CHSL 02/06/2022 (Shift-3)

(a) 100% (b) 55.75%
(c) 63% (d) 120%

5. A man sold a radio set and gained one-eight of its cost price. What is the profit percent?

SSC CHSL 02/06/2022 (Shift-2)

(a) 20% (b) 12.5%
(c) 15.5% (d) 18%

6. Giri bought an old machine for ₹ 2,000 and spent ₹ 500 on its repair. He sold it for ₹ 4,000. His profit percentage is:

SSC CHSL 01/06/2022 (Shift-3)

(a) 30% (b) 60%
(c) 40% (d) 20%

7. The profit triples if the selling price is doubled. The profit percentage is:

SSC CHSL 01/06/2022 (Shift-1)

(a) 110 (b) 50
(c) 100 (d) 28

8. A sells an article to B at 10% profit. B sells it to C at 25% profit. If C pays ₹ 6,875 for it, then the price at which A bought it is:

SSC CHSL 02/06/2022 (Shift-1)

(a) ₹ 4,665 (b) ₹ 4,850
(c) ₹ 5,000 (d) ₹ 5,500

9. A fruit seller purchased 300 bananas at the rate of ₹ 18 per dozen and sold 200 bananas at the rate of ₹ 24 per dozen and the remaining bananas at the rate of ₹ 21 per dozen. What is his net profit percentage?

SSC CHSL 31/05/2022 (Shift-3)

(a) 28% (b) 26%
(c) 27% (d) $27\frac{7}{9}\%$

10. By selling a fridge for ₹ 18,200, Anu loses 15%. Find the cost price of the fridge. (Consider integral part only) **SSC CHSL 31/05/2022 (Shift-2)**

(a) ₹ 21,820 (b) ₹ 21,411
(c) ₹ 19,680 (d) ₹ 19,41

11. Rahul bought 20 dozen toys at a cost of ₹ 375 each dozen. He sold each of them for ₹ 33. The profit percentage is:

SSC CHSL 30/05/2022 (Shift-1)

(a) 5.6 (b) 6
(c) 4.7 (d) 5

12. A pen was sold for ₹ 28.75 at a profit of 15%. If it was sold for ₹ 25.75, then what would have been the percentage of profit?

SSC CHSL 31/05/2022 (Shift-1)

(a) 2% (b) 3%
(c) 4% (d) 1%

13. A man bought a piece of land for ₹ 48,000. He sold two-fifth of it at a loss of 10%. At what gain percentage (rounded off to 1 decimal place) should he sell the remaining land to earn an overall profit of 42%? **SSC CHSL 30/05/2022 (Shift-3)**

(a) 76.7% (b) 84.3%
(c) 79.5% (d) 89.8%

14. If a tradesman marks his goods 25% above the cost price and allows his customers a 12% reduction on their bill, then the percentage profit he makes is ..... . **SSC CHSL 27/05/2022 (Shift-3)**

(a) 30% (b) 20%
(c) 40% (d) 10%

15. A shopkeeper normally makes a profit of 20% in a certain transaction, he weighs 900 g instead of 1 kg due to an issue with the weighing machine. If he charges 10% less than what he normally charges, what is his actual profit or loss percentage?

SSC CHSL 27/05/2022 (Shift-1)

(a) 20% (b) 28%
(c) 25% (d) 30%

16. A mobile is marked at a price 25% above its cost price. At what discount percentage should it be sold to make a 10% profit?

SSC CHSL 27/05/2022 (Shift-1)

(a) 10% (b) 11%
(c) 12% (d) 13%

17. Subir claimed to sell his items at only 5% above the cost of production, but used a weight that had 1 kg written on it, though it actually weighed 960 grams what was the actual profit percentage earned by Subir?

SSC CHSL 27/05/2022 (Shift-2)

(a) 9.125% (b) 9.375%
(c) 9.25% (d) 9.5%

18. The marked price of 42 items was equal to the cost price of 70 items. The selling price of 25 items was equal to the marked price of 21 items. Calculate the percentage profit or loss from the sale of each item.

SSC CHSL 01/06/2022 (Shift-2)

(a) 42% profit (b) 29% profit
(c) 29% loss (d) 40% profit

19. By selling a car for ₹ 6,32,500 showroom owner makes a profit of 15%. If he sold the car at ₹ 8,10,000, then what would be the profit percentage (correct to one decimal place)

SSC CHSL 10/08/2021 (Shift-3)

(a) 47.3% (b) 44.8%
(c) 41.5% (d) 51.4%

20. Gaurav bought some articles at for ₹ 6 and sold them at 10 for ₹ 11 His loss percentage is:

(a) $8\frac{1}{3}\%$ (b) $8\frac{2}{3}\%$
(c) $7\frac{1}{3}\%$ (d) $7\frac{2}{3}\%$

21. An article is sold at a certain price. If it is sold at $33\frac{1}{3}\%$ of this price, there is a loss of $33\frac{1}{3}\%$. What is the percentage profit when it is sold at 60% of the original selling price?

SSC CHSL 04/08/2019 (Shift-3)

(a) 20 (b) $33\frac{1}{3}$
(c) $17\frac{1}{3}$ (d) 1

22. Suresh purchased a computer table for ₹ 9000 and a centre table for ₹ 4000. He sold the computer table with 8% profit. With what profit percentage should he sell the centre table so as to gain 10% on the whole transaction?

SSC CHSL 09/08/2021 (Shift-2)

(a) 15 (b) 12
(c) 14 (d) 14.5

23. X sells an article to Y at a 12% loss. Y sells it to Z at 9% Profit. If Z pays ₹ 21,582 for it then at what price (in ₹) was the article purchased by X?

SSC CHSL 09/08/2021 (Shift-1)

(a) 19,800 (b) 23,275
(c) 22,500 (d) 21,000

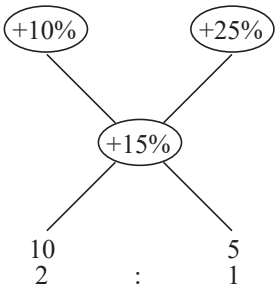
24. By selling a pen for ₹ 26, a man loses one-fourteenth of what it costs him. The cost price of the pen is:

SSC CHSL 06/08/2021 (Shift-2)

(a) ₹ 27 (b) ₹ 39
(c) ₹ 38 (d) ₹ 28

SOLUTIONS 6B

1. (a) By Alligation



3 unit = 120
1 unit = 40
2 unit = 2 × 40 = 80 kg

2. (b) Total cost of 26 kg rice/20 kg
= 26 × 20 = ₹ 520
Total cost of 30 kg rice/₹ 36
= 30 × 36 = ₹ 1080
Total CP = 1600
Total SP = 56 × 30 = 1680

$\therefore$ Profit % = $\frac{80}{1600} \times 100 = 5\%$

3. (d) Option *d* = 400
According to the question

CP	Profit	SP
400	400%	2000

$400 \times \frac{500}{100}$

SP = 2000
Therefore option *d* is correct.

4. (a) Let the cost of 100 items = ₹ 100
CP = ₹ 100
(item) Lost = ₹ 36
Left item = ₹ 64
Now. SP of 64 items = ₹ 128

Profit% = $\frac{64}{64} \times 100 = 100$

5. (b) Trick $\frac{1}{8}$ Profit / CP

Profit% = $\frac{1}{8} \times 100 = 12.5\%$

6. (b) Girl bought a machine = ₹ 2000
According to the question,
Spent money repair = ₹ 500
Total CP = 2000 + 500 = ₹ 2500
SP = ₹ 4000

$$\text{Profit\%} = \frac{(4000-2500)}{2500}\times 100$$

$$= 60\%$$

7. (c) According to the question

CP	SP	P
1	2	1
1	4	3

$$\text{Profit\%} = \frac{1}{1}\times 100 = 100\%$$

8. (c) Let A bought an item = x

According to the question,

$$x\times\frac{11}{10}\times\frac{5}{4} = ₹\ 6875$$

$$x = \frac{6875\times 10\times 4}{11\times 5} = ₹\ 5000$$

9. (d) According to the question,

CP		SP
$300\times\frac{18}{12}$	:	$200\times\frac{24}{12}+100\times\frac{21}{12}$
18	:	23

Profit = 5

$$\text{Profit\%} = \frac{5}{18}\times 100 = 27\frac{7}{9}\%$$

10. (b) Trick:

$$\frac{\text{SP}}{\text{CP}}\ \frac{85}{100} = \frac{17}{20}$$

CP	SP
20	17 = ₹ 18200

$$20 \text{ unit} = \frac{18200\times 20}{17} = ₹\ 21411$$

11. (a) Trick

CP	SP
$\frac{375}{12} = 31.25$	33

Profit = 1.75

$$\text{Profit \%} = \frac{1.75\times 100}{31.25} = 5.6\ \%$$

12. (b) $\frac{\text{SP}}{\text{CP}} \to \frac{15}{100} = \frac{23}{20}$

CP	SP
20	23 = 28.75

$$1 = \frac{28.75}{23} = 1.25$$

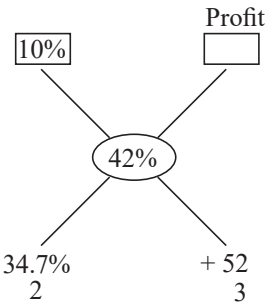
$$\therefore \quad \text{CP} = 20\times 1.25 = 25$$

CP	New SP
25	25.75

Profit% = 0.75

$$\text{Profit\%} = \frac{0.75}{25}\times 100 = 3$$

13. (a) By Alligation



Profit% for remaining

$$\text{Land} = 34.7 + 42$$

$$= 76.7\%$$

14. (d) Trick

$$\frac{\text{MRP}\to 125}{\text{CP}\to 100} = \frac{5}{4}$$

$$\frac{\text{SP}}{\text{MRP}} \to \frac{88}{100} = \frac{22}{25}$$

CP		MRP		SP
4	:	5	:	5
25	:	25	:	22
100	:	125	:	110

Profit% = 10%

15. (a) Let the CP of 1 kg goods = ₹ 100

So, SP of 1 kg goods = 100 + 20 = ₹ 120

CP of 900 gram goods = ₹ 90

ATQ, Shopkeeper charges 10% less,

So, $\text{New SP} = 120\times\frac{90}{100} = ₹\ 108$

$$\text{Profit\%} = \frac{108-90}{90}\times 100 = 20\%$$

16. (c) Trick

$$\text{Profit\%} = a - b - \frac{ab}{100}$$

$$10 = 25 - b - \frac{25 \times b}{100}$$

discount b = –12%

17. (b) Trick:

Let CP = 100

SP = 105

CP : SP = 100 × 960 : 105 × 1000

= 32 : 35

Profit % = 3

$$\text{Profit\%} = \frac{3}{32} \times 100 = 9.375\%$$

18. (d) According to the question

$$42 \times \text{MRP} = 70 \times \text{CP}$$

$$25 \times \text{SP} = 21 \times \text{MRP}$$

$$\frac{\text{MRP}}{\text{CP}} = \frac{70}{42} = \frac{5}{3}$$

and $\frac{\text{SP}}{\text{MRP}} = \frac{21}{25}$

CP : SP : MRP

30 : 42 : 52

$$\text{Profit\%} = \frac{12}{30} \times 100 = 40\%$$

19. (a) CP : 20 ⟶ × 27500 → 550000

SP : 23 × 27500 → 632500

New SP → 810,000

$$\text{Profit\%} = \frac{810000 - 550000}{550000} \times 100$$

= 47.3%

20. (a) CP of articles = $\frac{6}{5}$

SP or articles = $\frac{11}{10}$

$$\text{Loss} = \frac{6}{5} - \frac{11}{10} = \frac{1}{10}$$

$$\text{Loss\%} = \frac{\frac{1}{10}}{\frac{6}{5}} \times 100 = \frac{50}{6} = 8\frac{1}{3}$$

21. (a) Let CP of article = 3a

$$\text{SP or article} = 3a \times \frac{2}{3} = 2$$

So, original SP of article = $\frac{60}{100} \times 6 = 3.6$

$$\text{Profit\%} = \frac{(3.6 - 3)}{3} \times 100 = 20\%$$

22. (d) According to question

CP	Com. Table		Cen. Table		Total
	9000		4000		13000
		+8%		+8%	10%
SP	9720		4580		14300

$$\text{Table} = \frac{4580 - 4000}{4000} \times 100$$

= 14.5%

23. (c) Let x purchased an article = ₹ a

According to question,

$$a \times \frac{22}{25} \times \frac{109}{100} = 21582$$

$$a = 22500$$

24. (d)

CP	SP
14	13 = 26
	1 = 2

CP of Pen = 14 × 2 = ₹ 28

EXERCISE 6C

For SSC CGL & CPO Exams

1. A shopkeeper bought a table for ₹ 4,600 and a chair for ₹ 1,800. He sells the table with 10% gain and the chair with 6% gain. Find the overall gain percentage.

SSC CGL 18/04/2022 (Shift-1)

(a) $7\frac{3}{4}\%$ (b) $8\frac{7}{8}\%$

(c) 8% (d) 16%

2. A shopkeeper bought 40 pieces of an article at a rate of ₹ 50 per item. He sold 35 pieces with 20% profit. The remaining 5 pieces were found to be damaged and he sold them with 10% loss. Find his overall profit percentage.

SSC CGL 13/04/2022 (Shift-3)

(a) 30% (b) 32.5%

(c) 16.25% (d) 10%

3. A shopkeeper marks an article at a price 20% higher than its cost price and allows 10% discount. Find his gain percentage:

SSC CGL 13/04/2022 (Shift-2)

(a) 9.5% (b) 8%

(c) 9% (d) 10%

4. A man bought toffees at 3 for a rupee. How many toffees for a rupee must he sell to gain 50%?

SSC CGL 13/04/2022 (Shift-2)

(a) 4 (b) 1

(c) 3 (d) 2

5. A tea seller used to make 50% of profit by selling tea at 9 per cup. When the cost of ingredients increased by 25%, he started selling tea at 10 per cup. What is his profit percentage now?

SSC CGL 13/04/2022 (Shift-1)

(a) $33\frac{2}{3}\%$ (b) 25%

(c) $33\frac{1}{3}\%$ (d) 30%

6. Aditya sells two wrist watches from his personal collection for ₹12,600 each. On the first watch he gains 26% and on the second he loses 10%. Find the overall loss or profit percentage?

SSC CHSL 12/04/2022 (Shift-3)

(a) Gain of 16% (b) Gain of 5%

(c) Loss of 5% (d) Gain of 12%

7. The cost price of two articles A and B are in the ratop 4 : 5. While selling these articles, the shopkeepers gains 10% on article A and 20% on article B and the difference in their selling price is ₹ 480. The difference in the cost price (in ₹) of article B and A is:

SSC CGL 12/04/2022 (Shift-2)

(a) 250 (b) 300

(c) 400 (d) 350

8. A shopkeeper marks his goods at a price 20% higher than their cost price and allows 10% discount on every item. Find his gain percentage.

SSC CGL 12/04/2022 (Shift-2)

(a) 10% (b) 10.5%

(c) 9% (d) 8%

9. A shopkeeper sold an article for ₹ 455 at a loss (in ₹). If he sells it for ₹ 490, then he would gain an amount four times the loss. At what price (in ₹) should he sell the article to gain 25%?

SSC CGL 24/08/2021 (Shift-3)

(a) 577.50 (b) 575

(c) 570.25 (d) 115.50

10. A shopkeeper sold an article at four-fifth of the marked price and suffered a loss of $33\frac{1}{3}\%$. Find the profit percent, if he sold the article at the marked price. (correct the nearest integer)

SSC CGL 24/08/2021 (Shift-2)

(a) 20 (b) 22

(c) 18 (d) 21

11. If selling price of 75 articles is equal to cost price of 60 articles, then the approximate loss or gain percent is:

SSC CGL 24/08/2021 (Shift-1)

(a) Loss of 20% (b) No profit no loss

(c) Profit of 5% (d) Loss of 30%

12. Radha bought a fridge and a washing machine together for 57300. She sold the fridge at a profit of 15% and washing machine at a loss of 24% and both are sold at the same price. The cost price of washing machine (in ₹) is:

SSC CGL 23/08/2021 (Shift-2)

(a) 34500 (b) 28650

(c) 22800 (d) 24500

13. A fruit merchant bought some bananas. One fifth of them got rotten and were thrown away. He sold two fifths of the bananas with him at 15% profit and the remaining bananas at 10% profit. Find his overall loss or profit percent?

SSC CGL 23/08/2021 (Shift-1)

(a) Profit, 9.6% (b) Loss, 10.4%

(c) Loss, 9.6% (d) Profit, 10.4%

14. Hari suffered a loss of 8% by selling an article. If he had sold it for Rs. 300 more, he would have made a profit of 4%. Find his CP (in Rs.)

SSC CGL 20/08/2021 (Shift-3)

(a) 2250 (b) 2500

(c) 2575 (d) 2400

15. A shopkeeper sold two items. The selling price of the first item equals the cost price of the second item. He sold the first item at a profit of 20%, and the second item at a loss of 10%. What is the overall profit/loss percent?

SSC CGL 20/08/2021 (Shift-2)

(a) Loss, $4\frac{6}{11}\%$ (b) Profit, $3\frac{7}{11}\%$

(c) Profit, $4\frac{7}{11}\%$ (d) Loss, $8\frac{1}{3}\%$

16. A sold an article to B at a profit of 25%. B sold it to C at a profit of 15%. The profit made by B is ₹ 40 less than the profit made by A. What is the cost price (in ₹) of the article for A?

SSC CGL 20/08/2021 (Shift-1)

(a) 546 (b) 400

(c) 640 (d) 240

17. By selling an article for ₹ 131.25 a trader gains as much percent as the number representing the cost price of the article?

SSC CGL 18/08/2021 (Shift-2)

(a) 100 (b) 140
(c) 105 (d) 75

18. A trader sells an article at 16% below its cost price. Had he sold it for ₹ 192.20 more, he would have gained 15%. The cost price (in Rs.) of the article is: **SSC CGL 18/08/2021 (Shift-1)**

(a) 720 (b) 620
(c) 640 (d) 680

19. A shopkeeper bought 20 kg sugar at ₹ 45 per kg, 25, kg of sugar at ₹ 50 per kg and 35 kg of sugar at ₹ 40 per kg. He spent a sum of ₹ 450 on transportation and other expenses. He mixed all the three types of sugar and sold all the stock at ₹ 52.50 per kg. His profit percent in the entire transaction is **SSC CGL 17/08/2021 (Shift-2)**

(a) 5% (b) 7.25%
(c) 4.25% (d) 6.5%

20. Shashi sells two articles for ₹ 5,000 each with no loss and no profit in the overall transaction. If one article is sold at $16\frac{2}{3}\%$ loss, then the other is sold at a profit of: **SSC CGL Tier-II 15/11/2020**

(a) 24% (b) 25%
(c) $16\frac{2}{3}\%$ (d) $18\frac{1}{3}\%$

21. Remi earns a profit of 20% on selling an article of a certain price. If she sells the article for ₹ 8 more, she will gain 30%. What is the original price of 16 such articles? **SSC CGL Tier-II 15/11/2020**

(a) ₹ 1,280 (b) ₹ 1,152
(c) ₹ 1,120 (d) ₹ 1, 200

SOLUTIONS 6C

1. (b) Profit of table $= \frac{4600\times10}{100} = ₹\ 460$

Profit of chair $= \frac{1800\times6}{100} = ₹\ 108$

Overall gain percentage $= \frac{568}{6400}\times100 = 8\frac{7}{8}\%$

2. (c) Profit $= 35\times50\times\frac{1}{5} = ₹\ 350$,

Loss $= 5\times50\times\frac{1}{10} = ₹\ 25$

Profit percentage $= \frac{325}{2000}\times100 = 16.25\%$

3. (b) Trick

$$20\% = \frac{1}{5} = \frac{6}{5}\begin{matrix}\rightarrow \text{MRP}\\ \rightarrow \text{CP}\end{matrix},$$

$$10\% = \frac{1}{10} = \frac{9}{10}\begin{matrix}\rightarrow \text{SP}\\ \rightarrow \text{MRP}\end{matrix}$$

CP		MRP		SP
5		6	→	6
10	→	10		9
50		60		54

Profit% $= \frac{4}{50}\times100 = 8\%$

4. (d) $50\% = \frac{1}{2} = \frac{3}{2}$

3 toffees sold $= ₹\ \frac{3}{2}$

Number of toffees $= \frac{3\times2}{3} = 2$

5. (c) $50\% = \frac{1}{2} = \frac{3}{2}\begin{matrix}\rightarrow \text{SP}\\ \rightarrow \text{CP}\end{matrix}$

$$25\% = \frac{1}{4} = \frac{5}{4}\begin{matrix}\rightarrow \text{SP}\\ \rightarrow \text{CP}\end{matrix}$$

CP	SP
2	$3 = 9 \Rightarrow 1 = 3$
4	$5 = 10 \Rightarrow 1 = 2$

Profit $= \frac{1}{3}\times100 = 33\frac{1}{3}\%$

6. (b) $26\% = \frac{13}{50} = \frac{63}{50}\begin{matrix}\rightarrow \text{SP}\\ \rightarrow \text{CP}\end{matrix}$

$$10\% = \frac{1}{10} = \frac{9}{10}\begin{matrix}\rightarrow \text{SP}\\ \rightarrow \text{CP}\end{matrix}$$

both SP are equal

CP	SP
50	53
10 × 7	9 × 7

CP	SP
50	53
10 × 7	9 × 7
120	126

Profit= $\frac{6}{120}\times100 = 5\%$

7. (c)

	A		B	
CP	4	:	5	Difference = 1 × 400 = ₹ 400
	↓ +10%		↓ +20%	
SP	4.4		6	

1.2 = 480

$\Rightarrow$ 1 = 400

8. (d) $20\% = \frac{1}{5} = \frac{6}{5} \rightarrow$ MRP, $\rightarrow$ CP

$10\% = \frac{1}{10} = \frac{9}{10} \rightarrow$ SP, $\rightarrow$ MRP

CP		MRP		SP
5		6	→	6
10	→	10		9
50		60		54

$$\text{Profit\%} = \frac{4}{50} \times 100 = 8\%$$

9. (b) $\text{Loss} = \frac{490 - 455}{1 + 4} = 7$

CP = 455 + 7 = ₹ 462

$\text{SP} = 462 \times \frac{5}{4} = ₹\ 577.50$

10. (d) $3\frac{1}{3}\% = \frac{1}{30} = \frac{29}{30}$

MRP		SP		CP
5		4	→	4
29	→	29		30
145		116		120

$$\text{Profit\%} = \frac{25}{120} \times 100 = 20.8\% = 21\%$$

11. (a) SP of 75 articles = CP of 60 articles

$$\text{Loss\%} = \frac{15}{75} \times 100 = 20\%$$

12. (a)

	CP	SP
Fridge	20 × 19	23 × 19
Machine	25 × 23	19 × 23

	CP	SP
Fridge	380	437
Machine	575	437
	955	874

$$\text{CP of machine} = \frac{57300}{955} \times 575 = 34500$$

13. (b) Let fruit merchant bought 100 bananas in ₹100

$\text{Remaining bananas} = 100 \times \frac{4}{5} = 80$

$\text{Profit\%} = \frac{2}{5} \times 15\% + \frac{3}{5} \times 10\%$

= 12%

$\text{SP} = 80 \times \frac{112}{100} = ₹\ 89.6$

$\text{Loss\%} = \frac{10.4}{100} \times 100$ = 10.4% Loss

14. (b)

CP	SP	
25	23	3 = 300
25	26	1 = 100

↓ × 100

₹ 2500

15. (b) SP of Ist item = CP of IInd item

	CP	SP
Ist	(5	6) × 10
IInd	(10	9) × 6

	CP	SP
Ist	50	60
IInd	60	54

	CP	SP
Ist	50	60
IInd	60	54
	110	114

$$\text{Profit\%} = \frac{4}{110} \times 100 = 3\frac{7}{11}\%$$

16. (c) CP of A = 80 × 8 = ₹ 640

A		B		C
4		5	→	5
10	←	20		23
80		100		115

20 : 15 — Both SP are equal

5 = ₹ 40

1 = ₹ 8

17. (c) According to question, CP = Profit%

$$SP = CP + \frac{CP \times CP}{100} = 131.25$$

$$(CP)^2 + 100\,CP = 13125$$

$$CP = 75$$

$$\text{SP after 40\% profit} = \frac{75 \times 140}{100} = ₹\ 105$$

18. (b)

CP	SP
100	84
100	115

$$CP = 100 \times 6.20 = ₹\ 620$$

19. (b) $CP = 20 \times 45 + 25 \times 50 + 35 \times 40 + 450$

$$CP = ₹\ 4000$$

$$SP = 80 \times 52.50 = ₹\ 4200$$

$$\text{Profit\%} = \frac{200}{4000} \times 100 = 5\%$$

20. (b) $16\frac{2}{3}\% = \frac{1}{6} = \frac{5}{6} \Rightarrow SP \Rightarrow CP$

	CP	SP	
Ist	6	5 = 5000	
IInd	6000 × 1000	1 = 1000	
Ist	6000	5000	Both same
IInd	4000	5000	

$$\text{Profit} = \frac{1000}{4000} \times 100 = 25\%$$

21. (a) $20\% = \frac{2}{10} = \frac{12}{10} \rightarrow SP \rightarrow CP$

$$30\% = \frac{3}{10} = \frac{13}{10} \rightarrow SP \rightarrow CP$$

CP	SP
10	12
10	13

$\therefore \quad 1 = 8$

$\Rightarrow \quad CP = 10 \times 8 = ₹\ 80$

CP of 16 articles $= 16 \times 80 = ₹\ 1280$