

KERALA HIGH COURT
OFFICE ATTENDANT EXAM

Numerical Ability

Profit and Loss

Key Concepts • Shortcuts • 25 Practice Questions • Answer Key with Solutions

1. Key Terms

Term	Meaning
Cost Price (CP)	Price at which an article is bought
Selling Price (SP)	Price at which an article is sold
Marked Price (MP)	Listed / printed price on the article
Profit (Gain)	$SP - CP$, when SP is greater than CP
Loss	$CP - SP$, when CP is greater than SP
Discount	$MP - SP$ (always calculated on the marked price)

Remember: Profit % and Loss % are always calculated on the **Cost Price**; Discount % is calculated on the **Marked Price**.

2. Important Formulas

- **Profit % = $(\text{Profit} / \text{CP}) \times 100$; Loss % = $(\text{Loss} / \text{CP}) \times 100$.**
- **$SP = CP \times (100 + \text{Profit}\%) / 100$** (for profit); **$SP = CP \times (100 - \text{Loss}\%) / 100$** (for loss).
- **$CP = SP \times 100 / (100 + \text{Profit}\%)$** (for profit); **$CP = SP \times 100 / (100 - \text{Loss}\%)$** (for loss).
- **Discount = $MP - SP$; Discount % = $(\text{Discount} / \text{MP}) \times 100$; $SP = MP \times (100 - d\%) / 100$.**
- Two successive discounts of a% and b%: single discount = **$a + b - (ab/100)$ %**.
- If two articles are sold at the same SP, one at x% profit and the other at x% loss, there is always a **loss of $x^2/100$ %**.
- If CP of m articles = SP of n articles: Profit % = **$[(m - n) / n] \times 100$** when m is greater than n.
- Dishonest dealer (uses false weight, sells at cost price): Profit % = **$[\text{Error} / (\text{True weight} - \text{Error})] \times 100$** .
- If SP is k times the CP, Profit % = **$(k - 1) \times 100$** .

Quick tip: Take CP = 100 (or 1) and work with percentages. For example, 25% profit means SP = 125 when CP = 100.

3. Practice Questions (25)

Q1. An article bought for Rs 250 is sold for Rs 300. The profit is:

- (a) Rs 40
- (b) Rs 60
- (c) Rs 50
- (d) Rs 45

Q2. An article bought for Rs 400 is sold for Rs 460. The profit percentage is:

- (a) 20%
- (b) 25%
- (c) 15%
- (d) 10%

Q3. The cost price of a bag is Rs 600. It is sold at a loss of 10%. Selling price:

- (a) Rs 560
- (b) Rs 540
- (c) Rs 580
- (d) Rs 500

Q4. An item is sold for Rs 1150 at 15% profit. Its cost price is:

- (a) Rs 900
- (b) Rs 950
- (c) Rs 1050
- (d) Rs 1000

Q5. An article bought for Rs 800 is sold for Rs 720. Loss percentage:

- (a) 8%
- (b) 12%
- (c) 10%
- (d) 15%

Q6. The marked price of a watch is Rs 1000 and a discount of 20% is given. Selling price:

- (a) Rs 800
- (b) Rs 750
- (c) Rs 850
- (d) Rs 900

Q7. An article is sold at 25% profit for Rs 750. Its cost price is:

- (a) Rs 650
- (b) Rs 600
- (c) Rs 550
- (d) Rs 500

Q8. If the cost price of 15 articles equals the selling price of 12 articles, the profit percentage is:

- (a) 15%
- (b) 20%
- (c) 10%
- (d) 25%

Q9. At what price should an article costing Rs 450 be sold to gain 10%?

- (a) Rs 490
- (b) Rs 500
- (c) Rs 495
- (d) Rs 505

Q10. A shopkeeper marks his goods 25% above cost price and allows 20% discount. His gain or loss is:

- (a) 5% profit
- (b) 5% loss
- (c) 10% profit
- (d) No profit, no loss

Q11. 20 pens cost Rs 300. They are sold at Rs 21 each. The profit percentage is:

- (a) 30%
- (b) 35%
- (c) 40%
- (d) 45%

Q12. Two articles are each sold for Rs 990, one at 10% profit and the other at 10% loss. The overall result is:

- (a) No profit no loss
- (b) 1% gain
- (c) 1% loss
- (d) 2% loss

Q13. A cycle bought for Rs 2500 is sold for Rs 2000. The loss percentage is:

- (a) 15%
- (b) 25%
- (c) 10%
- (d) 20%

Q14. An article marked Rs 1500 is sold for Rs 1275. The discount percentage is:

- (a) 15%
- (b) 10%
- (c) 12%
- (d) 18%

Q15. An article costs Rs 1200 and the profit is 12.5%. The selling price is:

- (a) Rs 1300
- (b) Rs 1350
- (c) Rs 1400
- (d) Rs 1450

Q16. A trader sells an article for Rs 828 at an 8% loss. The cost price is:

- (a) Rs 1000
- (b) Rs 900
- (c) Rs 950
- (d) Rs 850

Q17. A profit of Rs 120 is 8% of the cost price. The cost price is:

- (a) Rs 1200
- (b) Rs 1600
- (c) Rs 1500
- (d) Rs 1800

Q18. A man buys oranges at 4 for Rs 10 and sells them at 5 for Rs 15. His profit percentage is:

- (a) 15%
- (b) 25%
- (c) 20%
- (d) 30%

Q19. Successive discounts of 10% and 20% are equal to a single discount of:

- (a) 30%
- (b) 28%
- (c) 25%
- (d) 27%

Q20. If the selling price is $\frac{3}{2}$ of the cost price, the profit percentage is:

- (a) 40%
- (b) 60%
- (c) 45%
- (d) 50%

Q21. A dishonest shopkeeper sells at cost price but uses a 900 g weight for 1 kg. His profit percentage is:

- (a) 10%
- (b) 12%
- (c) 9%
- (d) $11\frac{1}{9}\%$

Q22. An article sold at 10% loss fetches Rs 540. At what price should it be sold to gain 10%?

- (a) Rs 650
- (b) Rs 670
- (c) Rs 660
- (d) Rs 700

Q23. A fruit seller buys 10 kg at Rs 40 per kg. 2 kg spoil, and the rest is sold at Rs 60 per kg. His profit is:

- (a) Rs 60
- (b) Rs 80
- (c) Rs 100
- (d) Rs 120

Q24. The cost price of an item is Rs 250 and profit is 40%. The selling price is:

- (a) Rs 325
- (b) Rs 375
- (c) Rs 350
- (d) Rs 400

Q25. A marked price is Rs 600. Successive discounts of 10% and 5% are allowed. The selling price is:

- (a) Rs 510
- (b) Rs 513
- (c) Rs 516
- (d) Rs 520

4. Answer Key

1-c | 2-c | 3-b | 4-d | 5-c | 6-a | 7-b | 8-d | 9-c | 10-d | 11-c | 12-c | 13-d | 14-a | 15-b | 16-b | 17-c | 18-c | 19-b | 20-d | 21-d | 22-c | 23-b | 24-c | 25-b

5. Solutions

- Q1. (c) Rs 50** - Profit = SP - CP = 300 - 250 = Rs 50.
- Q2. (c) 15%** - Profit = 60. $60/400 \times 100 = 15\%$.
- Q3. (b) Rs 540** - Loss = 10% of 600 = 60. SP = 600 - 60 = Rs 540.
- Q4. (d) Rs 1000** - CP = $1150 \times 100 / 115 = \text{Rs } 1000$.
- Q5. (c) 10%** - Loss = 80. $80/800 \times 100 = 10\%$.
- Q6. (a) Rs 800** - Discount = 200. SP = 1000 - 200 = Rs 800.
- Q7. (b) Rs 600** - CP = $750 \times 100 / 125 = \text{Rs } 600$.
- Q8. (d) 25%** - Profit % = $(15 - 12)/12 \times 100 = 25\%$.
- Q9. (c) Rs 495** - SP = $450 \times 110 / 100 = \text{Rs } 495$.
- Q10. (d) No profit, no loss** - Take CP = 100. MP = 125. SP = 80% of 125 = 100. SP = CP, so no profit no loss.
- Q11. (c) 40%** - CP each = 15. Profit each = 6. $6/15 \times 100 = 40\%$.
- Q12. (c) 1% loss** - Same SP, same percent: loss = $10^2/100 = 1\%$. (CPs: 900 + 1100 = 2000; SP total 1980.)
- Q13. (d) 20%** - Loss = 500. $500/2500 \times 100 = 20\%$.
- Q14. (a) 15%** - Discount = 225. $225/1500 \times 100 = 15\%$.
- Q15. (b) Rs 1350** - Profit = 12.5% of 1200 = 150. SP = Rs 1350.
- Q16. (b) Rs 900** - CP = $828 \times 100 / 92 = \text{Rs } 900$.
- Q17. (c) Rs 1500** - CP = $120 \times 100 / 8 = \text{Rs } 1500$.
- Q18. (c) 20%** - CP each = 2.5; SP each = 3. Profit = 0.5. $0.5/2.5 \times 100 = 20\%$.
- Q19. (b) 28%** - $10 + 20 - (10 \times 20)/100 = 28\%$.
- Q20. (d) 50%** - SP = 1.5 CP, so profit = 0.5 CP = 50%.
- Q21. (d) 11 1/9 %** - Error = 100 g. Profit % = $100/900 \times 100 = 11 \frac{1}{9} \%$.
- Q22. (c) Rs 660** - CP = $540 \times 100 / 90 = 600$. SP for 10% gain = $600 \times 1.1 = \text{Rs } 660$.
- Q23. (b) Rs 80** - CP = 400. Sales = $8 \times 60 = 480$. Profit = Rs 80.
- Q24. (c) Rs 350** - SP = $250 \times 140 / 100 = \text{Rs } 350$.
- Q25. (b) Rs 513** - $600 \times 0.90 \times 0.95 = \text{Rs } 513$.