TYBA COACHING CENTRE, AJMER

RMS CET CLASS VI MATHEMATICS • CHAPTER 10: PROFIT AND LOSS — ANSWER KEY & SOLUTIONS

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Q01	Q02	Q03	Q04	Q05	Q06	Q07	Q08	Q09	Q10
(A) 15%	(B) ₹1,020	(C) ₹800	(D) 20%	(A) 33(1/3) %	(B) 1% Loss	(C) ₹900	(D) 32%	(A) 20%	(B) ₹600
Q11	**Q12**	**Q13**	**Q14**	**Q15**	**Q16**	**Q17**	**Q18**	**Q19**	**Q20**
(C) 16%	(D) 25%	(A) 20%	(B) ₹800	(C) ₹360	(D) 0%	(A) 20%	(B) ₹720	(C) 33(1/3) %	(D) 15%

SECTION I: DETAILED STEP-BY-STEP SOLUTIONS (Q01 TO Q10) — Balanced Key: 5A, 5B, 5C, 5D

Solution 01: Basic Profit Percentage — Correct: (A) 15%

Profit = 460 - 400 = ₹60. `Profit % = (60 / 400) × 100 = 15%`.

व्याख्या: लाभ = 460 - 400 = ₹60। लाभ % = (60 / 400) × 100 = 15%।

Solution 02: Finding SP from CP & Loss % — Correct: (B) ₹1,020

SP = CP × (100 - 15) / 100 = 1,200 × (85 / 100) = 12 × 85 = **₹1,020**.

व्याख्या: विक्रय मूल्य = 1200 × (85/100) = 12 × 85 = ₹1,020।

Solution 03: Finding CP from SP & Profit % — Correct: (C) ₹800

115% of CP = ₹920 ⇒ CP = (920 × 100) / 115 = 8 × 100 = **₹800**.

व्याख्या: 115% का मान ₹920 है, अतः 100% (CP) = (920 × 100) / 115 = ₹800।

Solution 04: Overhead Expenses & Effective CP — Correct: (D) 20%

Effective CP = 9,200 + 800 = ₹10,000. Profit = 12,000 - 10,000 = ₹2,000. Gain % = (2000 / 10000) × 100 = **20%**.

व्याख्या: कुल क्रय मूल्य = 9200 + 800 = ₹10,000। लाभ = ₹2,000। लाभ % = (2000 / 10000) × 100 = 20%।

Solution 05: CP of x Articles = SP of y Articles — Correct: (A) 33(1/3)%

x = 16, y = 12. `Profit % = [(16 - 12) / 12] × 100` = (4 / 12) × 100 = 100/3 = **33(1/3)%**.

व्याख्या: लाभ % = [(16 - 12) / 12] × 100 = (4/12) × 100 = 33(1/3)%।

Solution 06: Same SP, Equal Gain & Loss % — Correct: (B) 1% Loss

Same SP, x = 10%. `Always Loss % = (x² / 100)%` = (10^2 / 100)% = **1% Loss**.

व्याख्या: समान विक्रय मूल्य पर x% लाभ व x% हानि होने पर सदैव (10^2/100)% = 1% की हानि होती है।

Solution 07: Marked Price & Discount — Correct: (C) ₹900

Discount = 25% of 1,200 = ₹300. SP = 1,200 - 300 = **₹900**.

व्याख्या: छूट = 1200 का 25% = ₹300। विक्रय मूल्य = 1200 - 300 = ₹900।

Solution 08: Successive Discounts — Correct: (D) 32%

`Net Discount = d1 + d2 - (d1×d2)/100` = 20 + 15 - (20 × 15)/100 = 35 - 3 = **32%**.

व्याख्या: एकल समतुल्य छूट = 20 + 15 - (300/100) = 35 - 3 = 32%।

Solution 09: Quantity Equalization (Lemons) — Correct: (A) 20%

LCM(6, 4) = 12 lemons. CP of 12 = ₹20, SP of 12 = ₹24. Profit % = (4 / 20) × 100 = **20%**.

व्याख्या: 12 नींबू का CP = ₹20 तथा SP = ₹24। लाभ % = (4 / 20) × 100 = 20%।

Solution 10: Difference in SPs (Opposite Sides) — Correct: (B) ₹600

Gap = 10% loss + 5% gain = 15% of CP = ₹90 ⇒ CP = (90 × 100) / 15 = **₹600**.

व्याख्या: 10% हानि से 5% लाभ का अंतर = 15%। अतः 15% = ₹90 ⇒ 100% (CP) = ₹600।

SECTION II: DETAILED SOLUTIONS (Q11 TO Q20) & NARAYAN SIR'S EXAM HACKS	Score Analysis & Speed Optimization

Solution 11: Basic Loss Percentage — **Correct: (C) 16%**

Loss = 250 - 210 = ₹40. `Loss % = (40 / 250) × 100` = 400 / 25 = **16%**.
व्याख्या: हानि = 250 - 210 = ₹40। हानि % = (40 / 250) × 100 = 16%।

Solution 12: Dishonest Dealer (False Weight) — **Correct: (D) 25%**

Error = 1000 - 800 = 200 g. Weight used = 800 g. Gain % = (200 / 800) × 100 = **25%**.
व्याख्या: 200 ग्राम की बचत 800 ग्राम तौलने पर होती है। लाभ % = (200 / 800) × 100 = 25%।

Solution 13: Markup % and Discount % — **Correct: (A) 20%**

Let CP = ₹100 ⇒ MP = ₹150. Discount = 20% of 150 = ₹30. SP = 150 - 30 = ₹120. Profit = **20%**.
व्याख्या: माना CP = ₹100, MP = ₹150। 20% छूट (₹30) घटाने पर SP = ₹120। अतः लाभ = 20%।

Solution 14: Finding MP from SP & Discount % — **Correct: (B) ₹800**

85% of MP = ₹680 ⇒ MP = (680 × 100) / 85 = 8 × 100 = **₹800**.
व्याख्या: 15% छूट के बाद 85% = ₹680। अतः 100% (MP) = (680 × 100) / 85 = ₹800।

Solution 15: Finding Profit Amount — **Correct: (C) ₹360**

Profit = 24% of 1,500 = (24 / 100) × 1,500 = 24 × 15 = **₹360**.
व्याख्या: लाभ राशि = 1500 × (24 / 100) = 24 × 15 = ₹360।

Solution 16: Same Cost Price (CP) Trap — **Correct: (D) No profit, no loss (0%)**

Both cycles have the **same CP** (₹1,000 each). Profit = +₹100, Loss = -₹100. Net = **0%**!
व्याख्या: जब क्रय मूल्य (CP) समान हो, तो +10% और -10% आपस में कट जाते हैं, अतः न लाभ न हानि (0%)।

Solution 17: Fractional Ratio of SP to CP — **Correct: (A) 20%**

Let CP = ₹5, then SP = ₹4. Loss = ₹1. Loss % = (1 / 5) × 100 = **20%**.
व्याख्या: माना CP = ₹5 और SP = ₹4। हानि = ₹1। हानि % = (1 / 5) × 100 = 20%।

Solution 18: Two-Step SP Conversion — **Correct: (B) ₹720**

90% = ₹540 ⇒ 1% = ₹6. For 20% gain, 120% = 120 × 6 = **₹720**.
व्याख्या: 90% = ₹540, अतः 120% = (540 / 90) × 120 = 6 × 120 = ₹720।

Solution 19: Toffees Unit Rate Method — **Correct: (C) 33(1/3)%**

CP of 1 toffee = 15/10 = ₹1.50. SP of 1 toffee = 30/15 = ₹2.00. Profit % = (0.50 / 1.50) × 100 = **33(1/3)%**.
व्याख्या: 1 टॉफी का CP = ₹1.50, SP = ₹2.00। लाभ % = (0.50 / 1.50) × 100 = 33(1/3)%।

Solution 20: Finding Discount Percentage — **Correct: (D) 15%**

Discount = 2,000 - 1,700 = ₹300. Discount % = (300 / 2,000) × 100 = **15%**.
व्याख्या: छूट = 2000 - 1700 = ₹300। छूट % = (300 / 2000) × 100 = 15%।

NARAYAN SIR'S 5 GOLDEN HACKS FOR PROFIT & LOSS (नारायण सर के 5 स्वर्णिम सूत्र):
1. **Base Rule:** Profit/Loss % is ALWAYS on CP; Discount % is ALWAYS on MP.
2. **Same SP vs Same CP:** Same SP (+x%, -x%) = **$(x^2/100)$% Loss**; Same CP (+x%, -x%) = **0% Net**.
3. **100-Method:** Whenever CP or MP is missing in percentage questions, assume it as ₹100.
4. **Direct Ratio Jump:** From 10% loss (90%) to 20% gain (120%), directly multiply SP by **120/90**.
5. **Overhead Check:** Never forget to add repair, freight, or packing charges to CP first!