18/9/19

Profit and Loss

(300 - 250)

Rs 110 (MRP)

+10% markup

Rs 100 (CP)

-5% discount → Rs 104.5 (SP)

Profit of 4.5%

250

320

$\frac{320}{250}$ → 70

$\frac{70}{250} \times 100 = \frac{200}{7}$

320 MP → SP 300

$\frac{20}{300} \times 100$

$\frac{20}{300} \times 100$

6.6

$\frac{MRP - SP}{MRP}$

$\frac{320}{250}$ → 070

$\frac{70}{250} \times 100$

$\frac{320}{250}$ → 50

$\frac{50}{250} \times 100$

$\frac{20}{320} \times 100$ = $\frac{25}{4}$ = 6.25

Table

(3).

SP → 770

Mark up% → 25%

Discount → 21.42% → $\frac{3}{14}$

MP → 14

SP → 11

$\therefore \frac{770}{MP} = \frac{11}{14}$

$\therefore$ MP = 980

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Mark up % → 25% → $\frac{1}{4}$

CP → 4   of CP → 4

MP → 5   MP → 5

$\frac{MP}{CP}$ $\frac{980}{CP} = \frac{5}{4}$

$CP = \frac{980 \times 4}{5}$

= 784 (Ans)

Type I.

(i) 3 article → 5   5 → 8

1 → $\frac{5}{3}$ (C.P)   1 → $\frac{8}{5}$ (SP)

$\frac{\frac{9}{5}}{\frac{5}{3}} \times 100$ $\frac{8}{5} - \frac{5}{3}$ = $\frac{24-15}{15}$

$= \frac{9}{5} \times \frac{3}{5}$

$\frac{27}{5} \times 20$ $\frac{3}{5} \times 100$

$\frac{\frac{1}{15}}{\frac{5}{3}} \times 100$ $\frac{8}{5} - \frac{5}{3} = \frac{24-25}{15} = \frac{1}{15}$ → loss

$\frac{1}{15} \times \frac{3}{5} \times 100$ $\frac{1}{15}$ = 4

(i) 3 → S
1 → $\frac{5}{3}$ (C.P)

S → 8
1 → $\frac{8}{5}$ (S.P)

$\frac{8}{5} - \frac{5}{3} = -\frac{1}{15}$ (loss)

Loss% → $\frac{\frac{1}{15}}{\frac{5}{3}} \times 100 = -4\%$.

(ii) @ 30 articles → Rs. 1 → $\frac{1}{30}$

@ x article → Rs. 1 → $\frac{1}{x}$

20% profit → $\frac{1}{5}$

$\frac{S.P}{C.P} = \frac{6}{5}$

$\frac{\frac{1}{x}}{\frac{1}{30}} = \frac{6}{5}$ $x = 25$

(iii) 8 → 34 $\frac{34}{8}$ → C.P

12 → 57 $\frac{57}{12}$ → S.P

$\frac{57}{12} - \frac{34}{8} = \frac{114-102}{24}$

$P = \frac{1}{2}$

2 → 1
48 → 90

Type 2 (i) CP of 40 articles = SP of 50 articles.

$CP \times 40 = SP \times 50$

$\frac{SP}{CP} = \frac{40}{50} = \frac{4}{5}$

If CP = 5
SP = 4

Loss $\frac{1}{5} \times 100$
$= 20\%$ loss

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Profit and loss

Type 2

(ii) Ek apple ka CP → x (let)

SP → y

SP = CP + Profit

30y = 30x + 6y

Find $\frac{y}{x}$

5y = 5x + y

4y = 5x

$\frac{y}{x} = \frac{5}{4}$ → 4 Rupay ka saman aap 5 rupay mein bech rhe ho.

∴ Profit percentage = $\frac{1}{4}$ = 25%.

* Discount hamesha MP par hota hai

(iii) ~~12x~~ SP = CP + Profit

9y = 12x + Profit

$\frac{y}{x} = \frac{12}{9} = \frac{4}{3}$ = 33.3%.

let CP SP

↓ ↓

3 4

Discount on 10 oranges = Profit on 5 oranges

= 5 (Ek orange par Re.1 ka discount, so 5 oranges mein Rs. 5 ka discount)

SP of 10 → 40

MP of 10 → 45

$\frac{5}{45} \times 100 = 11.11\%$.

(discount %)

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$\therefore$ Diff = 33.33% - 11.11% = ~~22.22%~~ 22.22%

Q Cost price of two articles are equal. on selling 1 article, I get a profit of 10% while selling the other, there is loss of 10%. Find the profit or loss %.

→ 0%

Now, while selling the two articles at same price, one gets a profit of 20% on 1 article and loss of 20% on the other. Find the profit or loss %

~~20~~ (20) $\frac{400}{100}$ → 4% (By the formula) $\frac{x^2}{100}$ %.

Type 3

A1 12.5% → $\frac{1}{8}$

A2 16.66% → $\frac{1}{6}$

	A1	A2
SP	9	5
CP	8	6

(i)

SP	9	5	→ 27 + 20 → 47
CP	8	6	24 + 24 → 48
	X3	X4	

loss

$\frac{1}{48} \times 100$

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A₁ A₁

(ii) SP. 9×5 5×9 → 45 + 45 → 90

CP. 8×5 6×9 → 40 + 54 → 94

Loss

$\frac{4}{94} \times 100$

(iii)

(iv)

Type 9 (i) ~~20% profit~~

300 loss

10% loss

SP again 25%

300 − 120 = 180

CP SP₁ SP₂

100 120 180 90

CP = 100

30 → 300

1 → 10

CP SP₁ (20% profit) SP₂ (10% loss)

100x (let) 120x 90x

30x

30x = 300

x = 10

∴ CP = 1000 ∴ SP → 1250

Cost 55.55 Page No.
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I.I M Ahmedabad
IIM Bangalore
IIM Calcutta

(ii) SP = CP + Profit

$y = 250 + x$

$y + 100 = 200 + 2x$

$250 + x + 100 = 200 + 2x$

$350 + x = 200 + 2x$

$150 = x$

(ii) SP = CP + Profit

$SP = 250 + \frac{250x}{100}$

$SP = 250 + 2.5x$

$SP' = 200 + \frac{200(2x)}{100}$

$SP' = SP + 100$

$SP' = 200 + 4x$

$250 + 2.5x + 100 = 200 + 4x$

$150 = 1.5x$

$x = 100$

Type 5

$\frac{1}{10}$ → discount

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MP ∴ SP CP

↓ ↓ ↓

10 9 $\frac{9}{120} \times 100 = \frac{15}{2}$

↓ ↓ ↓

20 18 (15) (Multiplying by 2)

20% discount ~~20% discount~~

↓ ↓

4 16 (20-4)

∴ profit percentage

$= \frac{1}{15} = 6.66\%$

3.14

Soft skills

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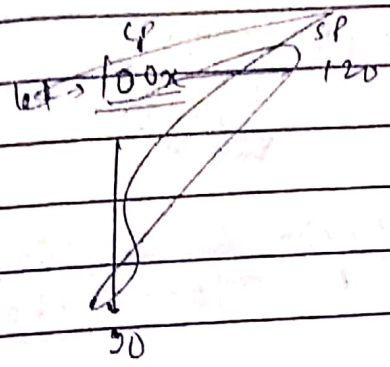
Profit and Loss

Type 4 (iv) ~~P=20%~~



Let $CP_1 \to 100x$; $CP_2 \to 90x$

$\therefore SP_1 \to 120x$ (↓ x% profit) ; (↓ 40% profit) $\therefore SP_2 \to 126x$

$SP_2 = SP_1 + 18$

$126x = 120x + 18$

$6x = 18$

$x = 3$

$\therefore CP = 100 \times 3 = 300$ Rs. (Ans)

Type 5 (ii) ~~MRP~~ CP / MRP

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

MRP → 100x ↓ 10% → 90x

$CP \to 100x$

$SP \to 112x$

$MRP \to 90x$

$\frac{CP}{SP} = \frac{100x}{112x}$

$\frac{MP}{SP} \times \frac{SP}{CP} = \frac{100}{90} \times \frac{112}{100}$

$\frac{CP}{MP} = \frac{90}{112} = \frac{45}{56}$

$\frac{100}{11}$

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(iii) MRP = 690

D → $\frac{690}{11}$

$\frac{MRP}{SP} = \frac{690}{680}$

Profit → 11.11%
Discount

$\frac{CP}{SP}$

680
11.0
~~79.0~~

$\frac{MRP}{SP} = \frac{x}{790} = \frac{690}{680}$

Gain Profit →

$x = \frac{690}{680} = \frac{1}{801}$

790 =

MP → 690

9.09 → $\frac{1}{11}$

Profit% → 11.11% → $\frac{1}{9}$

MP	SP	SP	CP
↓	↓	↓	↓
11	10	10	9
↓	↓		↓
690	$\frac{690}{11} \times 10$		$\frac{690}{11} \times 9$

(OR)

9.09 → $\frac{1}{11}$

Profit% → 11.11% → $\frac{1}{9}$

MP	SP	CP	SP
↓	↓	↓	↓
11	10	9	10

Since there is no discount therefore MP = SP = 11

$\therefore \frac{11-9}{9} = \frac{2}{9} \rightarrow 22.22\%$

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(iv) $16.66\% \rightarrow \frac{1}{15}$ $\quad 25\% \rightarrow \frac{1}{4}$

CP	MP	MP	SP
↓	↓	↓	↓
15	16	(4	3) × 4

CP	MP	MP	SP
↓	↓	↓	↓
15	16	16	12

$\therefore \frac{15-12}{15} \times 100 = \frac{3}{15} \times 100$

$= 20\%$

Type 6 (ii) $-50-60+\frac{50\times60}{100} = -80\%$

~~Type~~ (i)

$I \xrightarrow[\downarrow \frac{1}{8}]{12.5\%} \xrightarrow[\downarrow \frac{1}{6}]{16.66\%} F = 210$

$\frac{210}{I} = \frac{8}{8} \times \frac{7}{6_2}$

$I = 160$

OR

Type 7 (i) 900 gm mein 100 gm ka fayda

$$\frac{SP}{CP} = \frac{1 \times 1000}{1 \times 900} = \frac{10}{9} \rightarrow 11.11\%$$

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a) (AX + (B x C))

b) ((AX + (B * C)) / (D - E))

c) ((A + B) + (C + E

Type 7 (ii) SP → 11 × 600

CP → 10 × 600 = 11/12

(iii) M.P → 20%

SP/CP = 120/100 (Cut) 120 × 100 → cm / 100 × 110 → cm = 12/11

Profit → 1/11 → 9.09%

(iv) SP/CP = 120 × Reading / 100 × Actual

10% profit → 1/10

∴ 11/10 = 120 × Reading / 100 × Actual

a)

11/10 = 120/100 × Reading/1000

∴ Reading = 11/12 kg = 11000/12 grams

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6) $\frac{11}{10} = \frac{6}{5} \times \frac{1000}{\text{Actual}} \rightarrow$ Actual $= \frac{6 \times 1000 \times 10}{11 \times 5} = \frac{12000}{11}$ Ans

Blood relation

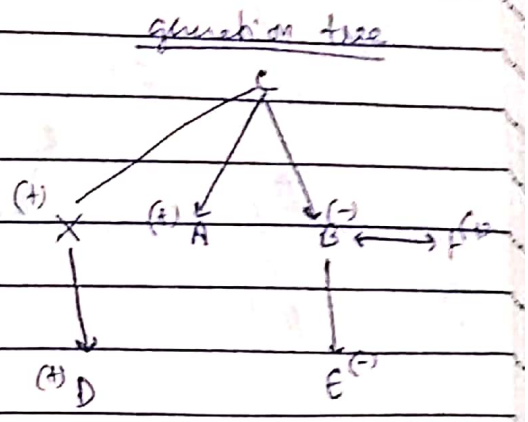
(a) A is brother of B

(b) B is only daughter of C

(c) D is the son of brother of A

(d) E is only daughter of A's sister

(e) F is husband of B



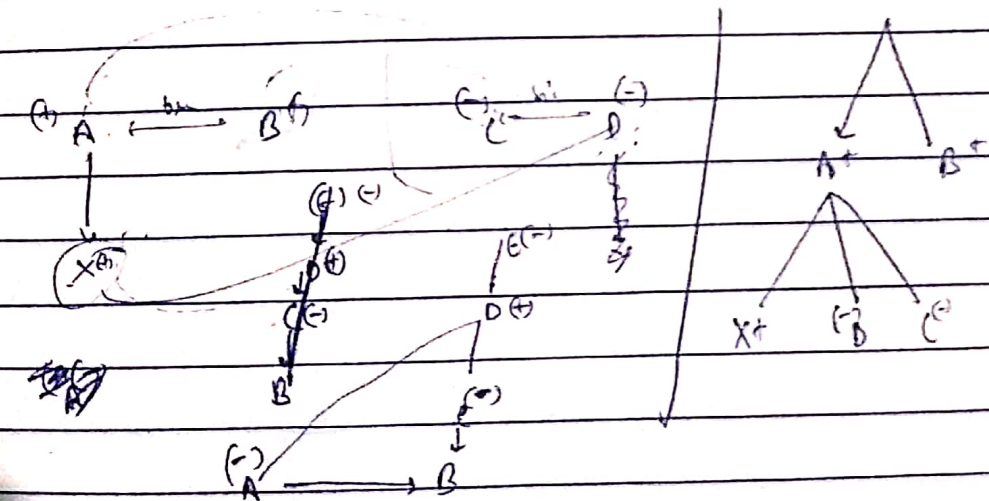
Male ko (+) se denote

Female ko (-) se denote

Name se ~~first~~ gender nhi decide karenge.

Same generation, same origin → siblings

same generation, diff. origin → cousins



(3)

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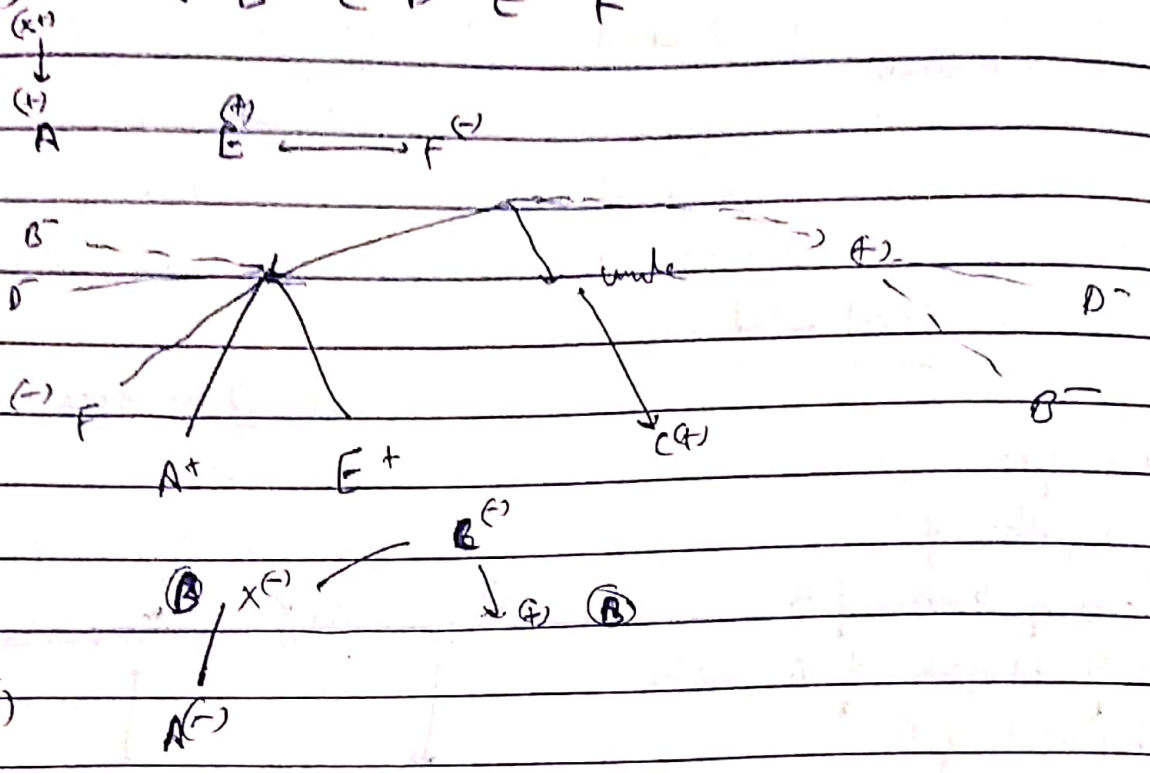
(4) A B C D E F



(5)

8) M + T $ N @ R

M * T $ R @ N

M + R $ T @ N

M * R @ T @ N

M should be a female

2 generation gap

~~10)~~

19)

Soft skills

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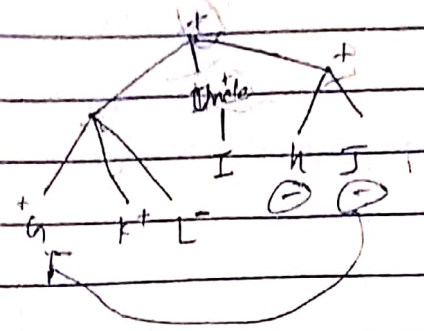
Blood relations II

1) G H I J K L



2 sisters

4) Doctor

G ⟷ N → last generation

engineer ⟷ X(-)

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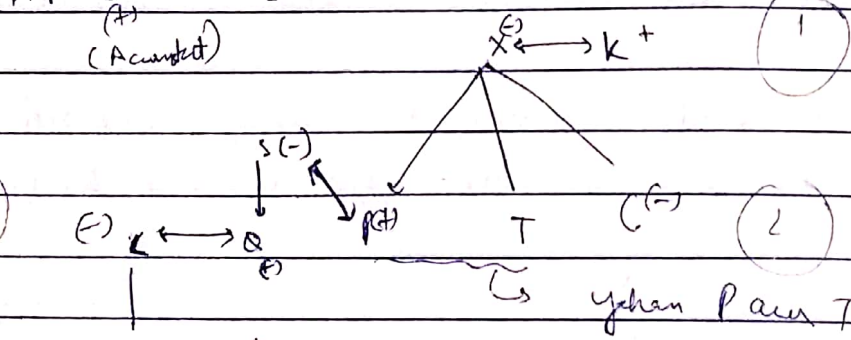
Teacher ⟷ S(-)

O → Accurate

X ⟷ O ⟷ L(-)

(+)

(Accurate)



Yahan P aur T dono ki S ke husbands ho sakte hain

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