



Sahi Prep Hai Toh Life Set Hai

PERCENTAGE

Part-3

Agenda

Elections \rightarrow (16-18)

Commission \rightarrow (22-24)

Price \uparrow Consumption \downarrow , \rightarrow (10-12)

Income Tax \rightarrow (10-12)

Fresh Fruits / Dry Fruits (8-10)

QUESTION BASED ON ELECTION

How many are eligible
How many casted
Invalid
$$\text{Valid} = \text{Casted} - \text{Invalid}$$
Winner
$$\text{Loser} = \text{Valid} - \text{Winner}$$

I

56% of X

II

44% of X

$$12\% \text{ of } X = 600$$

$$X = 5000$$

Eg. In an election between two candidates, one candidate got 56% votes and won the election by 600 votes. Find the total numbers of voters in the list.

Ans. 5,000

Eg $I^{st} \rightarrow 43\%$ of the total votes
20% votes were declared invalid
 I^{st} candidate wins by 300 votes

Find the total no. of votes casted

$I^{st} \rightarrow 43\%$ $II \rightarrow 37\%$

$$6\% \text{ of } x = 300$$

$$x = 5000$$

Ist

IInd

Invalid

46% of x

44% of x

10% of x

$$2\% \text{ of } x = 600$$

$$x = 30000$$

Eg. In an election between two candidates, one candidate got 46% votes and won the election by 600 votes. If 10% of the total votes were declared invalid. Find the total numbers of voters in the list.

Ans. 30,000

75% cast
2% invalid

(9261) \rightarrow 75% valid

Total no. of voters enrolled
= X

$$\frac{75}{100} \left[\frac{98}{100} \left[\frac{75 \cdot X}{100} \right] \right] = 9261$$

$$X = 16800$$

Eg. In an election between two candidates, 75% of the voters cast their votes out of which 2% of votes were declared invalid. A candidate got 9261 votes which were 75% of the valid votes. Find the total number of voters enrolled in that election.

A. 16000

B. 16400

C. 16800

D. 18000

Ans. (C)

$$\text{Total voters} = X$$

$$\text{Casted} = 90\% \text{ of } X$$

$$\text{Invalid} = 300$$

$$\text{Valid} = 90\% \text{ of } X - 300$$

$$\text{Winner} = 60\% \text{ of } X$$

$$\begin{aligned} \text{Loser} &= (90\% \text{ of } X - 300) - 60\% \text{ of } X \\ &= 30\% \text{ of } X - 300 \end{aligned}$$

Eg. In an election 2 candidates participated. 10% of the voters didn't vote. 300 votes were declared invalid and the winner got 60% of the voting list and won by 900 votes. Find the number of valid votes?

A. 1800

B. 2000

C. 1200

☒ D. 1500

$$60\% \text{ of } X - (30\% \text{ of } X - 300) = 900$$

$$\underline{\underline{X = 2000}}$$

Ans. (D)

QUESTION BASED ON COMMISSION

on sales

Agent \rightarrow 50000 ₱ (sales)

Commission \rightarrow 4% of 50000

\rightarrow 2000 ₱

Company Acc \rightarrow 48000

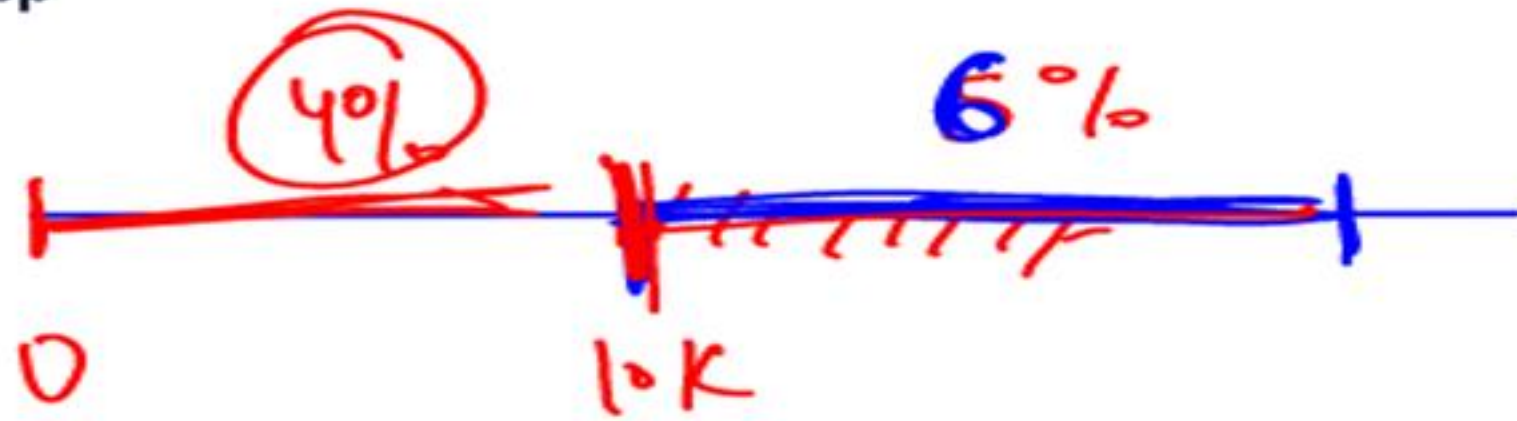
$$95\% \text{ of } X = 57000$$

$$X = \frac{57000 \times 100}{95}$$

$$= \underline{\underline{60000 \text{ Rs}}}$$

Eg. If a sales agent gets 5% commission on his sales and rest he deposits to the company account. If he deposited Rs.57000 in company account. Find his sales amount.

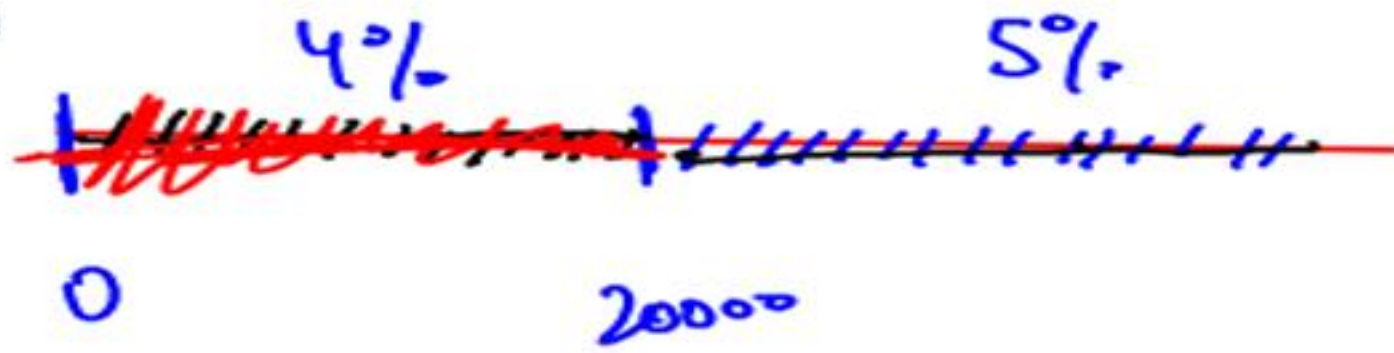
Ans. 60,000



Eg. If a sales agent gets a commission of 4% on sales of first 10000 and a commission of 6% on the sales above 10000. If he has done a total sale of Rs. 27000. Find his commission.

$$\begin{aligned}
 \text{Commission} &= 4\% \text{ of } 10000 + 6\% (17000) \\
 &= 400 + 1020 \\
 &= \underline{\underline{1420}} \text{ Rs} \quad \checkmark \checkmark
 \end{aligned}$$

Ans. 1,420



extra $\rightarrow 1\%$ (20000)
 \rightarrow 200 Rs \uparrow

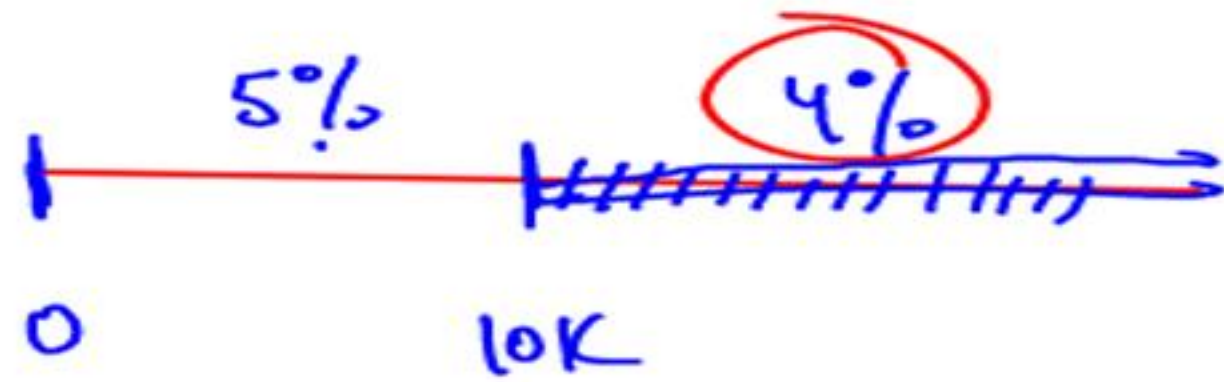
$$95\% \text{ of } x = \underline{57000 \text{ Rs}}$$

$$x = \underline{\underline{60000}} \quad \checkmark$$

Eg. If a sales agent gets a commission of 4% on sales of first 20000 and a commission of 5% on the sales above 20000. After deducting his commission, the rest amount is deposited in company account. If the amount deposited in company account is Rs.57200. Find his sales amount.

V. Imp

Ans. 60,000



$$\frac{1\% \text{ less } (10K)}{\rightarrow} \underline{\underline{100B \downarrow}}$$

$$96\% x = 31200$$

$$x = \frac{31200 \times 100}{96} = 32500$$

Eg. A company gives 5% commission to his salesman upto the sale of 10,000 and a commission of 4% on the sales above 10,000. If the salesman deposited Rs. 31,100 in the company after deducting his commission then, find total sales.

A. 31200

☒ B. 32500

C. 34000

D. None of these

Ans. (B)

Price
↓ 20%
 $\frac{1}{5}$

Qty
↑ 12

Exp
360
Same

Price
Rs. 5

Qty
48

Exp
360

Price
Rs. 4

Qty
60

Exp
360

Eg. If the price of mangoes is decreased by 20% because of which a person is able to purchase 12 mangoes more in Rs.360. Find:

- new price of one mango. 6 Rs
- original price of one mango 7.5 Rs
- new quantity which he can purchase in Rs.360. 60 kg
- original quantity which he was able to purchase in Rs.360. 48 kg

1 → 12

eg

Price

Qty

Expenditure

$\frac{1}{5}$ $\uparrow 20\%$

8 Kg \downarrow

1200 Rs

Find

30 (i) New Price

40 (ii) New Qty

25 (iii) old Price

48 (iv) old Qty

25 Rs 5

30 Rs 6

6 \rightarrow 48 Kg

1200

5 \rightarrow 40 Kg

1200 Rs

1 \rightarrow 8 Kg

QUESTION ON INCOME TAX

$$\text{INCOME} - \text{INCOME TAX} = \text{Net Income}$$

↓ 50000

Constant

10000

12000 ↑ 2000

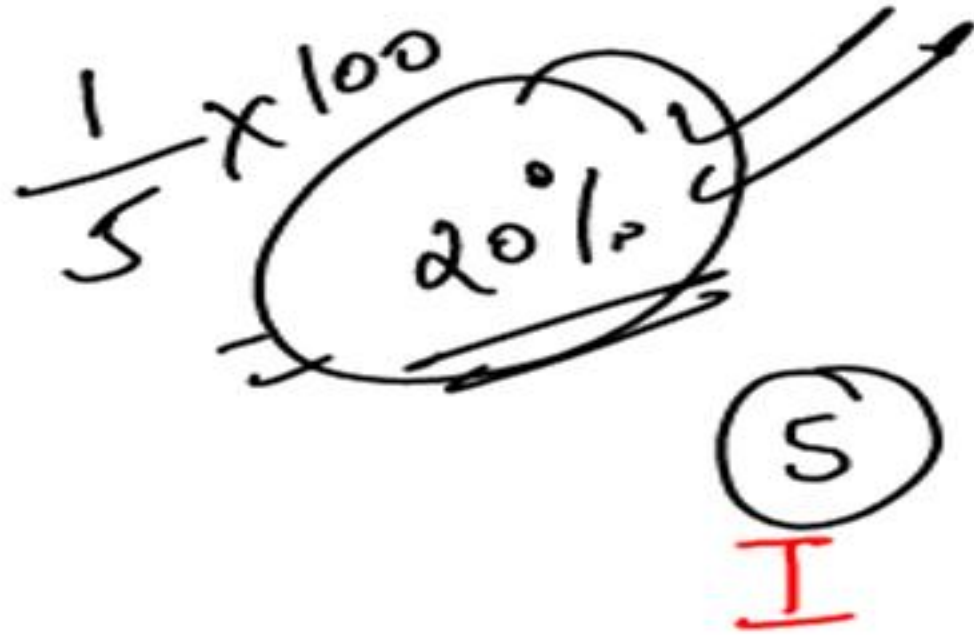
↑ X%

40000

38000 ↓ 2000

↓ Y%

$$X\% \text{ of Income Tax} = Y\% \text{ Net Income}$$



Eg. If the rate of Income Tax is increased by 12% then the net income of a person is reduced by 3% . Find the rate of Income Tax.

(PYQ of SSC)

$\textcircled{1}$
 \underline{IT}

$\uparrow 12\%$

$\textcircled{4}$
 \underline{NI}

$\downarrow 3\%$

$$4 \times 12\% \text{ of } IT = 1 \times 3\% \text{ of } NI$$

$$\boxed{\frac{IT}{NI} = \frac{1}{4}}$$

Income Tax

Net Income

↑ 12%

↓ 3%

$$\text{Rate of Income Tax} = \frac{3}{15.5} \times 100$$

$$= \underline{\underline{20\%}}$$

If the rate of income tax is increased by a% because of which the net income is reduced by b%. Then rate of income tax :

$$\left(\frac{b}{a+b} \right) \cdot 100$$

IT

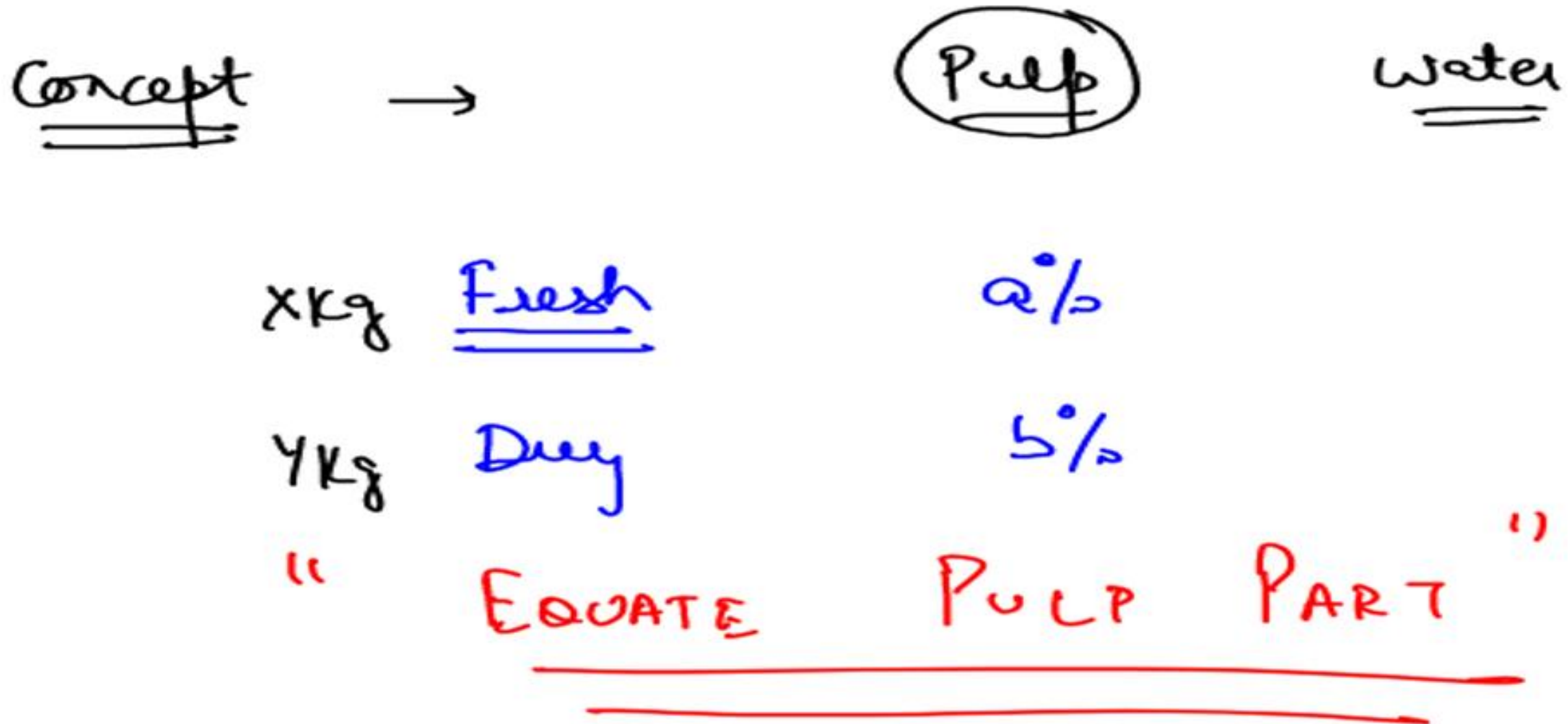
↑ a%

NI

↓ (b)%

$$\text{Rate of income tax} = \frac{b}{a+b} \cdot 100$$

QUESTIONS BASED ON FRESH FRUITS & DRY FRUITS



$$\begin{array}{r} 18 \\ 72\% \end{array} \quad \begin{array}{r} 30 \\ 69\% \end{array} = \begin{array}{r} 92\% \end{array}$$

$$x = \underline{\underline{540}}$$



Water

28%

8%

Pulp

~~72%~~ 18

~~92%~~ 23

540 kg

Eg. Fresh fruits contains 28% water and dry fruit contains 8% water. How many kgs of dry fruit can be obtained from 690 kg of fresh fruit?

Ans. 540 Kg

$$\underline{C_1} \underline{V_1} = \underline{C_2} \underline{V_2}$$

Concentration $\propto \frac{1}{\text{Volume}}$

5 → 20 Fresh

4 → 16kg

Pulp
~~4%~~ 4

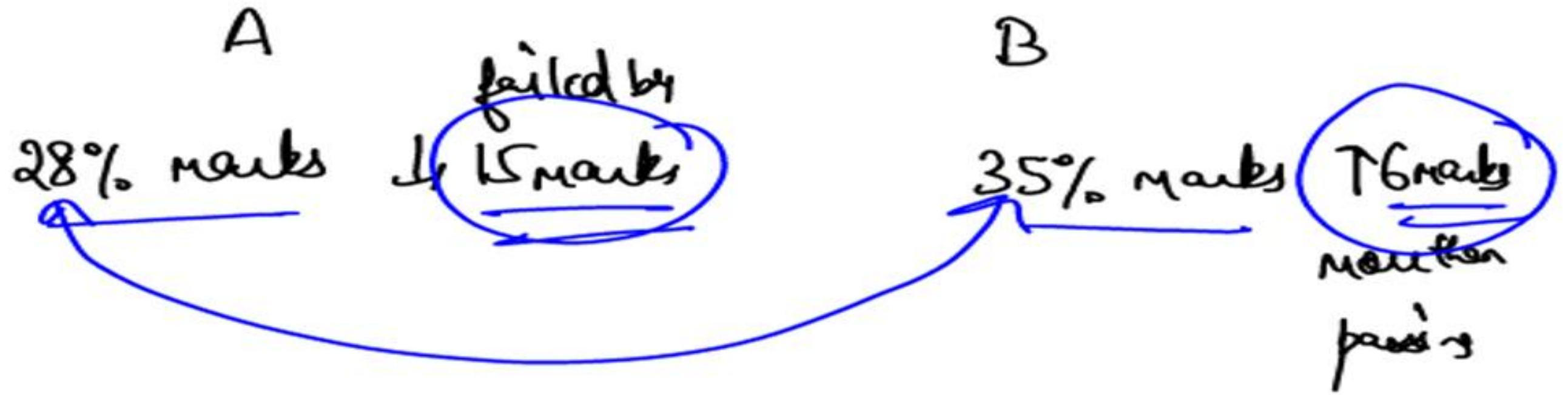
~~5%~~ 5

Eg. 20 Kg fresh watermelon contains 96% water after some time some water evaporates and percentage of water become 95%. Find the present weight of watermelon?

- ✓ A. 16
B. 19
C. 19.2
D. None of these

Ans. (a)

QUESTION BASED ON EXAMINATION



$$7\% \text{ of Max marks} = 21$$

$$\boxed{\text{Max Marks} = 300}$$

A
B

38% marks
↓ 18
49% ↑ 15 marks

11% → 33

Max → 300

$$38\% \text{ of } 300 + 18 = 132$$

$$\frac{132}{300} \times 100$$

In a certain exam A got 38 % marks and failed by 18 marks whereas B got 49 % marks and scored 15 marks more than the passing marks, then find :

(i) Maximum marks of the Exam 300

(ii) Passing Marks 132

(iii) Passing % 44%

(iv) A's marks 114

In an exam, One candidate got 24% marks & scored 20% less than the passing marks. If another candidate got 32% marks & he got 8 marks more than the passing marks. Find the Maximum marks of the exam ??

Solⁿ

A 1/5 B

24% marks (↓ 20% passing marks) { 32% marks (8 ↑ passing marks)

Let Passing marks = X

⁶
24% = $\frac{1}{5}X$

✓ X = 30%

2% of max marks = 8

Max marks = 400

A

30% (↓ 25 marks)

B

 $\frac{1}{4}$ 40% marks | 25% ↑
passing marks

Q. In a test a student got 30% marks and failed by 25 marks. In the same test another student got 40% marks and secured 25% marks more than the essential minimum pass marks. The pass marks for the test were

✓ A. 400
C. 500

B. 480
D. 580

Let Passing marks = x

$$\frac{8}{40\%} = \frac{x}{4}$$

$$x = 32\%$$

$$\begin{aligned} 2\% &\rightarrow 25 \text{ marks} \\ \rightarrow 32\% &\rightarrow 25 \cdot 16 \\ &= \underline{\underline{400}} \end{aligned}$$

Ans. (a)

Venn Diagram
2 variables
3 variables



gradeup

Sahi Prep Hai Toh Life Set Hai

Practise
topic-wise quizzes

Keep attending
live classes

