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QUANTITATIVE ABILITY

TOP 20 QUESTIONS OF PROFIT & LOSS FOR DU JAT & IPM

1. A Shopkeeper sold an article at 25% discount at Marked price. He founds that he earn a profit on 20% on the sum of cost price and selling price instead of calculating on the cost price. If cost price of an article is 1200 then find out the marked price of an article?
    (a) 24000   (b) 2000   (c) 3000   (d) None of these

2. An article was sold at $11\frac{1}{9}$% profit. Had been it purchased at Rs. 1300 less and sold at Rs. 3000 less there would have been loss of $9\frac{1}{11}$%. Find C.P. of article?
    (a) 9000   (b) 8000   (c) 7000   (d) 6000

3. An old refinery buys oil at Rs 3600 per barrel. There is 10% wastage, if the refinery wants to earn 5% profit then it what price should it sell including 8 % tax on selling price ?
    (a) 3674   (b) 3711   (c) 4219   (d) 4536

4. A trader bought onions at a rate of Rs. 20 per Kg. He bought 2.4 quintal onions out of which $16\frac{2}{3}$% onions were rotten. To overcome this, he sold the remaining onions at a price of Rs. 30 per kg. find his overall profit/loss percentage in business.
    (a) 50%   (b) 25%   (c) 40%   (d) 20%

5. A trader marked his goods at 20% above the cost price. He sold half the stock at the marked price, one quarter at a discount of 20% on the marked price and the rest at a discount of 40% on the marked price. His total is
    (a) 2%   (b) 4.5%   (c) 13.5%   (d) 15%

6. A manufacture estimates that on inspection 12% of the articles he produces will be rejected. He accepts an order to supply 22,0000 articles at Rs. 7.50 each. He estimates the profit on his outlay including the manufacturing or rejected articles, to be 20%. Find the cost of manufacturing each article.
    (a) Rs.6   (b) Rs. 5.50   (c) Rs. 5   (d) Rs. 4.50

7. Richa calculates her profit percentage on the selling price whereas Rinku calculates his profit percentage on the cost price. They find that the difference of their profits is Rs. 275. If the selling price of both are the same and Richa gets 25% profit and Rinku gets 15% profit. Then find, their selling price.
    (a) Rs. 2100   (b) Rs. 2350   (c) Rs. 2250   (d) Rs. 2300

8. The prime cost of an article is thrice of raw material. If the cost of raw material is increased in the ratio. 5:12 and cost of manufacturing expenses is increased in the ratio 4:5 if the initial cost of Rs. 6 then find the final cost
    (a) 10.8   (b) 8.8   (c) 9.8   (d) 11.8

9. A person purchased two articles at the same price and on selling the first article he makes a profit of 12%. Selling price of second article is Rs. 90 more than the selling price of the first article. Find the cost price of one article if his overall profit percent is 15%
    (a) 1200   (b) 1500   (c) 1600   (d) 2000

10. Mitthu Bhai sells rasgulla (a famous sweet) at Rs. 15 per kg. A rasgulla is made up of flour and sugar in the ratio of 5:3. The ratio of price of sugar and flour is 7:3 (per kg). Thus he earns $66\frac{2}{3}$% profit. What is the cost price of sugar
   (a) 10 per kg   (b) 9 per kg   (c) 14 per kg   (d) 18 per kg

11. The ratio of SP of 3 article A,B and C is 8:9:5 and the ratio of % profit is 8:7:14 respectively. If profit % A is 14.28% and CP of B is Rs 400, what is the overall % gain?
    (a) 14.28%   (b) 13.75%   (c) 15.78%   (d) NOT

12. At a cost of 60 paise per earthen lamp (diyas), Ruby makes 750 earthen lamps, she puts the selling price such that if only 600 earthen lamps are sold, she would have made a profit of 40% on the whole, However, 120 earthen lamps broke and she was able to sell 360 earthen lamps at this price. Find her actual profit r loss percent as the percentage of total.
    (a) 47%   (b) 46%   (c) 45%   (d) 43%

13. A merchant buys 4000 kg of wheat, one-fifth of which he sells at again of 5 per cent, one-fourth at a gain of 10%, one-half at again of 12 percent, and the remainder at a gain of 16 percent. If he had sold the whole at a gain of 11 percent, he would have made Rs. 72.80 more. What was the cost price of the crop per kg?
    (a) Rs. 2   (b) Rs. 2.60   (c) Rs. 2.50   (d) Rs. 2.80

14. An auto driver earns profits of 20% in every trip when he carry 3 passengers and the price of petrol is Rs 30/L. fin the % of profit for the same journey if he carry 4 passengers and the revenue per passenger is the same in both cases and the price of petrol is now reduced to 24 Rs./L?
    (a) 80%   (b) 100%   (c) 120%   (d) 150%

15. An article was sold at 20% profit. Had it purchased sat Rs. 20 less and sold at Rs. 10 more there would have been profit of 30%. Find C.P of article?
    (a) 900   (b) 700   (c) 360   (d) 500

16. Traders A and B buy two goods for Rs. 1000 and Rs. 2000 respectively. Trader A marks his goods up by x% while trader B marks his goods up by 2 x% and offers a discount of x%. If both make the same non-zero profit. Find X.
    (a) 10%   (b) 12.5%   (c) 20%   (d) 25%

17. After Selling 10 candles a men earn a profit of sp of 3 pens. While selling 10 pens a man losses of sp of 4 candles. Numerically value of P% and L% is equal and the cp of candle is half the cp of pen.
    Find the ratio of Sp of candle to pen.
    (a) 2/3   (b) 2/5   (c) 3/2   (d) 5/2

18. A shopkeeper marked up the watch price by 60% above Cost Price. He gave two successive discount of 10% and 12.5%. He found that if he give a single discount of X% then he will earn 100% More than Previous. Find the Value of X%
    (a) 8%   (b) 5%   (c) 10%   (d) 15%

19. Cost price of 4 pens is equals to selling price of 5 pencils and cost price of 8 pencils is equal to selling price of 3 pens then find the profit percentage on selling one pen and one pencils together if the ratio of cost price of a pen to a pencil is 5:3
    (a) $33\frac{1}{3}$%   (b) 50%   (c) $66\frac{2}{3}$%   (d) 75%

20. A shopkeeper give $14\frac{2}{7}$% discount on MP & also gives 1 article free on purchasing every 21 article, although he gets 8% profit then MP is increased by CP by What %
    (a) 24%   (b) 25%   (c) $27\frac{1}{2}$%   (d) 32%

1. **(d)** $\text{Disc} = 25\% = \frac{1 \to Disc}{4 \to M.P}$

   MP : SP
   4 : 3 ......(1)

   Profit = 20% or $\frac{1 \to \text{profit(on sum of cp+sp)}}{5 \to CP+SP}$

   $Cp + sp = 5$
   $Cp + cp + p = 5$
   $2cp + P = 5$
   $2cp + 1 = 5$
   $CP = 2$

   SP : CP
   3 : 2 ......(2)

   From (1) & (2)
   M.P : S.P : CP
   4 : 3 : 2
   $600 \times \downarrow$ $600 \times \downarrow$
   2400   1200

2. **(a)** $11\frac{1}{9}\% = \frac{1}{9}$ & $9\frac{1}{11}\% = \frac{1}{11}$

   CP : SP
   9 : 10
   11 : 10
   1300 : 3000
   20 = 20,000
   1 = 1000
   9 = 9000

3. **(d)**

Quantity	Price/barrek	desured profit
10%wastage $\begin{bmatrix} 1 \\ 0.9 \end{bmatrix}$	3600	180

   $(4000 + 200 = 4200)$
   This is the price per barrel at which we gain 180/-
   as a profit.
   But , here we calculate the sp (including 8% Tax)
   So, required Price
   = 4200+ 8% of 4200
   = $4200 \times \frac{108}{100}$
   = 4536 ans.

4. **(b)** Cost price
   $= 20 \times 2.4 \times 100$
   $= 4800/-$
   $16\frac{2}{3}\%$ OR 1/6 of onion were rother. So we have 200
   kgs of onion.
   $\left[\because 240 - \frac{1}{6} \times 240 = 200kgs \right]$
   $S.P = 30 \times 200 = 6000/-$
   Overall profit $= 1200/4800 \times 100 = 25\%$
   Aliter
   CP   SP
   20×240 : 30×200
   4 : 5 = 1 Profit
   $P\% = \frac{1}{4} \times 100 = 25\%$

5. **(a)** CP = 100   MP=120
   $\frac{1}{2} \times 120 = \begin{matrix} SP \\ 60 \end{matrix}$
   $\frac{1}{4} \times 120 \times \frac{80}{100} = 24$
   $\frac{1}{4} \times 120 \times \frac{60}{100} = \frac{18}{102}$
   CP : SP
   $100 : 102$ = 2
   $\frac{2}{100} \times 100 = 2\%$

6. **(b)** $12\% = \frac{12}{100} = \frac{3}{25}$

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   25    $\xrightarrow{-3}$ 22
   ↓   ↓× 1000
   25000   22000
   Let cost price of one article be x
   Total CP $= (2500)x$
   Total SP $= 22000 \times 7.5$
   20% = profit = 1/5 (1 is profit and 5 is cp)
   $\frac{CP}{SP} = \frac{5}{6} = \frac{(25000)x}{22000 \times 7.5}$
   By solving we get
   $x = 5.5$ans.

7. **(d)** Richa = 25% (calculate profit on s.p)
   Rinku = 15% (calculate profit on c.p)
   Rinku $\begin{matrix} CP & SP & Profit \\ 100 & 115 & 15 \end{matrix}$
   Richa   115 $\underset{\underline{13.75}}{28.75}$ (diff or sp)
   13.75 = 275
   1 = 20
   $\therefore SP = 115 \times 20 = 2300$

8. **(c)** Let prime cost = raw material + Manufacturing
   expenses
   $\because$ Prime cost =6, raw material cost $= \frac{6}{3} = 2$
   $\therefore$ Manufacturing expenses $= 6 - 2 = 4$
   Cost of raw material increased in the ratio $= 5:12$
   New raw material $= 2 \times \frac{12}{5}$
   $= \frac{24}{5} = 4.8$
   Cost of manufacturing is increased in the ratio $= 4:5$
   New wages $= 4 \times \frac{5}{4} = 5$
   $\therefore$ New cp $= 4.8 + 5 = 9.8$ ans.

9. **(b)**
	CP	SP
I	100	112]6
II	100	118]6
	200	230

   $(\because 100$ diff $112 = +12\%)$
   $(\because 200$ Diff $230 = +15\%)$
   6 = 90
   1 = 15
   C.P = 100 =1500.

10. **(c)**
    Rasgulla
	flour	sugar
Quantity	5 :	3
Price	3 :	7

    $(15 + 21) = 36$ = total cost
    Profit % $= 66\frac{2}{3}\% = 2/3$ (2 is profit and 3 is cp)
    CP :   SP
    3 :   5
    $3 \times \downarrow$ $\downarrow \times 3$
    9 perkg   15 perkg
    So initial cost $= (5 + 3) \times 9 = 8 \times 9 = 72/-$
    $36 = 72$
    $1 = 2$
    C.P. of sugar $7 = 7 \times 2 = 14$ per kg ans.

11. **(c)**
	A :	B :	C
CP	7	8	4
SP	8 :	9 :	5
profit	1	1	1 = 3
	8 :	7 :	14
Profit%	$\frac{1}{7}$	$\frac{1}{8}$	$\frac{1}{4}$

Overall profit % = $3/19 \times 100 = 300/19\%$

= 15.78% ans.

12. **(a)**

No. of lamps	SP
600 lamps	= 140%
30 lamps	= $\frac{7\%}{147\%}$

CP : SP
$$\underbrace{100 : 147}_{47}$$

P% = $\frac{47}{100} \times 100 = 47\%$

13. **(b)** Case -1

Overall profit = $\frac{1}{5} \times 5\% + \frac{1}{4} \times 10\% + \frac{1}{2} \times 12\% + \frac{1}{20} \times 16\%$

= $(1 + 2.5 + 6 + 0.8)\%$

= 10.3%

Case – 2

He sold at 11% profit & gain is Rs. 72.80 more than earlier

$(11\% - 10.3\%) = 72.80$

= 0.7% = 72.80

4000kg = 100% = 10400

1kg = $\frac{10400}{4000} = 2.6$

= 2.6 per kg

14. **(b)** Case – I

No. of passenger = 3

Price of petrol = $Rs.$ 30 per litre

Profit = 20%

Total Fare = $30 \times \frac{120}{100} = 36$

Fare per person = $\frac{36}{3} = 12$

Case – II

No. of Person = 4

Price of Petrol = $Rs.$ 24 per litre

Fare per person = 12

Total Fare = $12 \times 4 = 48$

Profit = $48 - 24 = 24$

Profit % = $\frac{24}{24} \times 100 = 100\%$

15. **(c)** Let CP = $100x$

Profit = 20%

Then S.P = $120x$

According to question

$(120x - 10) = \frac{130}{100}(100x - 20)$

$1200x - 100 = 1300x - 260$

$CP = 100x = 360$

Alter

             CP : SP

$20\% = \frac{1}{5} \Rightarrow 5 : 6$

$30\% = \frac{3}{10} \Rightarrow 10 : 13$

$$\underline{20 - 10}$$

= CP = 5 unit = 360

16. **(d)** Net profit Of trader A = $1000(1 + x) - 1000$

= $1000x$

Net profit of trader B = $2000(1 + 2x)(1 - x) - 2000$

= $2000x - 4000x^2$

According to question

$1000x = 2000x - 4000x^2$

$4000x^2 = 100x$

$4x^2 = x$

$4x^2 - x = 0$

$x(4x - 1) = 0$

$x = 0$ or $x = \frac{1}{4}$ or 25%

∴ Profit = $x\% = 25\% [\because x \neq 0]$

17. **(c)**

	Candle	Pen
CP	x	2x
SP	a	b

According to first condition

Profit % = $\frac{3b}{10x} \times 100$

According to second condition

Loss % = $\frac{4a}{20x} \times 100$

According to question

P% = L%

∴ $\frac{3b}{10x} \times 100 = \frac{4a}{20x} \times 100$

$\frac{a}{b} = \frac{3}{2}$

18. **(b)** Let CP = 100

Then M.P = 160

Case – I

$160 \times \frac{90}{100} \times \frac{7}{8} = 126 = SP$

Profit = $SP - CP = 126 - 100$

= 26

Case – II

Profit = 52(100% more than earlier)

& CP = 100

Then $SP = 152$

MP : CP

160 : 150

Difference = 8 Discount

$D\% = \frac{Disc}{MP} \times 100 = \frac{8}{160} \times 100$

$Discount\% = 5\%$

19. **(b)** $4CP_{Pens} = 5SP_{Pencils}$

$\frac{CP_{Pen}}{SP_{pencil}} = \frac{5}{4}$

$8CP_{pencils} = 3SP_{pens}$

$\frac{CP_{pencil}}{SP_{Pens}} = \frac{3}{8}$

	Pen		Pencil	
CP	5	:	3	= 8
SP	8	:	4	= 12

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

20. **(d)** $D_1 = 14\frac{2}{7}\%$ or $\frac{1}{7}$

$D_2 = \frac{1}{22}$

MP : SP

7 : 6

22 : 21

$$\underline{11 : 9}$$

Overall Discount = $\frac{2}{11} \times 100$

= 18.18%

Also, Profit = 8%

CP	MP	SP
100		108
	(11 : 9) × 12	

$$\underline{100 \quad 132 : 108}$$

$M.P\% = \frac{32}{100} \times 100$

= 32%