Profit and Loss, Discount Questions for SSC CGL Set-3 PDF
Instructions
For the following questions answer them individually

Question 1
Marked price of an item is Rs 900. On purchase of 2 items discount is 16%, on purchase of 5 items discount is 44%. Raksha buys 7 items, what is the effective discount?

A 10 percent  
B 16 percent  
C 36 percent  
D 9.6 percent  

Answer: C

Explanation:
Marked price of item = Rs. 900
=> Marked price of 2 items = \(2 \times 900 = Rs. 1800\)

Amount saved on buying 2 items = \(\frac{16}{100} \times 1800 = Rs.288\)

Marked price of 5 items = \(5 \times 900 = Rs. 4500\)

Amount saved on buying 5 items = \(\frac{44}{100} \times 4500 = Rs.1980\)

Thus, on buying 7 items, total amount saved = 288 + 1980 = Rs. 2268

Total marked price of 7 items = \(7 \times 900 = Rs. 6300\)

\[\therefore \text{Effective discount} = \frac{2268}{6300} \times 100 = 36\%\]

=> Ans - (C)

Question 2
When a discount of 20% is given on a pizza, the profit is 32%. If the discount is 18%, then the profit is

A 50 percent  
B 64.7 percent  
C 35.3 percent  
D 20.6 percent  

Answer: C

Explanation:
Let Marked Price = Rs.100x

When discount is 20%, Selling price = \(\frac{100-20}{100} \times 100x = Rs.80x\)

Let Cost price = Rs.y

Profit % = \(\frac{80x-y}{y} \times 100 = 32\)

\[\Rightarrow \frac{80x-y}{y} = \frac{32}{100} = 8\]

\[\Rightarrow 2000x - 25y = 8y \]

\[\Rightarrow 25y + 8y = 2000x\]
Question 3

Marked price of an item is Rs 100. On purchase of 2 items discount is 25%, on purchase of 4 items discount is 43%. Rajasi buys 6 items, what is the effective discount?

A 37 percent  
B 26.25 percent  
C 9.6 percent  
D 24.6 percent

Answer: A

Explanation:
Marked price of item = Rs. 100

=> Marked price of 2 items = 2 × 100 = Rs. 200
Amount saved on buying 2 items = \(\frac{25}{100} \times 200 = Rs.50\)
Marked price of 4 items = 4 × 100 = Rs. 400
Amount saved on buying 4 items = \(\frac{43}{100} \times 400 = Rs.172\)
Thus, on buying 6 items, total amount saved = 50 + 172 = Rs. 222
Total marked price of 6 items = 6 × 100 = Rs. 600
∴ Effective discount = \(\frac{222}{600} \times 100\)
= \(\frac{222}{6}\) = 37%
=> Ans - (A)

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Question 4

A dishonest milkman buys milk at Rs 25 per litre and adds 1/5 of water to it and sells the mixture at Rs 29 per litre. His gain is

A 16 percent  
B 39.2 percent  
C 24 percent  
D 32 percent

Answer: B

Explanation:
The milkman adds \(\frac{1}{5}\)th of water, thus total mixture = \(1 + \frac{1}{5} = \frac{6}{5}\)
Cost price per litre of the mixture = \( \frac{25}{5} = 5 \times \frac{5}{6} = Rs. 20.83 \)

Selling price per litre = Rs. 29

\[ \therefore \text{Profit} \% = \frac{29 - 20.83}{20.83} \times 100 \approx 39.2\% \]

\[ \Rightarrow \text{Ans} - (B) \]

**Question 5**

Raghuram sells a machine for Rs 43 lakhs at a loss. Had he sold it for Rs 53 lakh, his gain would have been 7 times the former loss. Find the cost price of the machine.

A  Rs 51.75 lakhs
B  Rs 59.14 lakhs
C  Rs 36.75 lakhs
D  Rs 44.25 lakhs

**Answer:** D

**Explanation:**

Let cost price of the machine = Rs. \( x \) lakhs

When selling price = Rs. 43 lakhs

\[ \Rightarrow \text{Loss} = \text{Rs.} \ (x - 43) \text{ lakhs} \]

If selling price = Rs. 53 lakhs

\[ \Rightarrow \text{Profit} = \text{Rs.} \ (53 - x) \text{ lakhs} \]

According to ques, Profit = 7 \times \text{loss}

\[ \Rightarrow (53 - x) = 7 \times (x - 43) \]

\[ \Rightarrow 53 - x = 7x - 301 \]

\[ \Rightarrow 7x + x = 301 + 53 = 354 \]

\[ \Rightarrow x = \frac{354}{8} = \text{Rs.} \ 44.25 \text{ lakhs} \]

\[ \Rightarrow \text{Ans} - (D) \]

**Question 6**

Marked price of an item is Rs 200. On purchase of 1 item discount is 5%, on purchase of 2 items discount is 14%. Rajeshri buys 3 items, what is the effective discount?

A  37 percent
B  26.25 percent
C  11 percent
D  30.2 percent

**Answer:** C

**Explanation:**

Marked price of item = Rs. 200

Amount saved on buying 1 item = \( \frac{5}{100} \times 200 = Rs.10 \)

Marked price of 2 items = \( 2 \times 200 = Rs. \ 400 \)
Amount saved on buying 2 items = \( \frac{14}{100} \times 400 = \text{Rs.} 56 \)
Thus, on buying 3 items, total amount saved = 10 + 56 = \text{Rs.} 66
Total marked price of 3 items = \( 3 \times 200 = \text{Rs.} 600 \)
\( \therefore \) Effective discount = \( \frac{66}{600} \times 100 \)
\( = \frac{66}{6} = 11\% \)
\( \Rightarrow \) Ans - (C)

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**Question 7**
A rice trader buys 8 quintals of rice for \( \text{Rs.} 3600 \). 10\% rice is lost in transportation. At what rate should he sell to earn 15\% profit?

A  Rs 352.1 per quintal  
B  Rs 517.5 per quintal  
C  Rs 575 per quintal  
D  Rs 582.3 per quintal

**Answer:** C

**Explanation:**
Cost price = \( \text{Rs.} 3600 \) for 8 quintals
Quantity of rice with the trader after transportation lost = \( \frac{100-10}{100} \times 8 \)
\( = \frac{36}{5} = 7.2 \) quintals
To have 15\% profit, total selling price of the trader should be = \( \frac{115}{100} \times 3600 \)
\( = \text{Rs.} 4140 \)
\( \therefore \) Selling price per quintal = \( \frac{4140}{7.2} = \text{Rs.} 575 \)
\( \Rightarrow \) Ans - (C)

**Question 8**
A wholesaler sells a watch to a retailer at a profit of 33\% and the retailer sells it to a customer at a loss of 20\%. If the customer pays \( \text{Rs.} 2181.2 \), what had it cost the wholesaler?

A  Rs 2050  
B  Rs 2320  
C  Rs 2712  
D  Rs 1780

**Answer:** A

**Explanation:**
For the wholesaler,
Let the cost price = \( \text{Rs.} 100x \)
With profit of 33\%, Selling price = \( \frac{133}{100} \times 100x = \text{Rs.} 133x \)
For the retailer,
Cost price = Rs. 133x

With a loss of 20%, Selling price = \( \frac{80}{100} \times 133x = Rs.106.4x \)

For the customer,
Cost price = 106.4x = 2181.2

\[ => x = \frac{2181.2}{106.4} = 20.5 \]

\[ \therefore \text{Cost price for retailer} = 100 \times 20.5 = Rs.2050 \]

\[ => \text{Ans} - (A) \]

**Question 9**

A shopkeeper by selling 21 Nike shoes, earns a profit equal to the selling price of 5 Nike shoes. His profit percentage is

A 31.25 percent
B 23.8 percent
C 47.6 percent
D 16.35 percent

**Answer: A**

**Explanation:**
Let cost price of a shoe = Rs.x

Selling price of a shoe = Rs.y

\[ => \text{Selling price of 5 shoes} = Rs.5y \]

According to ques, \[ => 21(y - x) = 5y \]

\[ => 16y = 21x \]

\[ => \frac{x}{y} = \frac{16}{21} \]

Let Cost price, \( x = 16 \) and selling price, \( y = 21 \)

\[ \therefore \text{Profit} \% = \frac{y-x}{x} \times 100 \]

\[ = \frac{21-16}{16} \times 100 \]

\[ = \frac{125}{4} = 31.25\% \]

\[ => \text{Ans} - (A) \]

**Question 10**

Ramesh purchases 75 articles for ₹10800 and sells them at a loss equal to the selling price of 5 articles. What will be the selling price of one article?

A ₹156
B ₹135
C ₹144
D ₹132
Answer: B

Explanation:
Given that the Cost Price of 75 articles = Rs.10800
Let the Selling Price of each article = Rs.x
Then, Selling Price of 75 articles = Rs.75x
Selling Price of 5 articles = Rs.5x
=> 10800 - 75x = 5x
=> 80x = 10800
=> x = 135
Therefore, Selling Price of each article = Rs.135