

UGC NET Paper 1 2011 dec

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Previous Years Solved Questions - UGC NET Paper 1 for July 2018

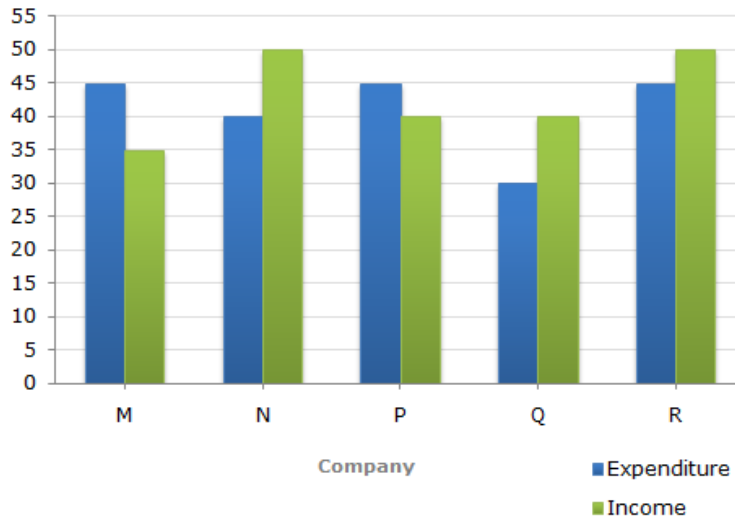
DI (Hindi/Eng)-38 with ANS

The following bar graph shows the Income and Expenditures (in million US \$) of five companies in the year 2001.

The percent profit or loss of a company is given by

$$\% \text{ Profit/Loss} = \frac{\text{Income} - \text{Expenditure}}{\text{Expenditure}} \times 100$$

Income and Expenditure (in million US \$) of five companies in the year 2001.



The companies M and N together had a percentage of profit/loss of? कंपनियों M और N को मिलाकर कितने प्रतिशत लाभ/हानि हुई?

- [A.](#) 12% loss
- [B.](#) 10% loss
- [C.](#) 10% profit
- [D.](#) There was no loss or profit

Answer: Option D

Explanation:

Total income of Companies M and N together

$$= (35 + 50) \text{ million US \$}$$

$$= 85 \text{ million US \$}$$

Total expenditure of Companies M and N together

$$= (45 + 40) \text{ million US \$}$$

$$= 85 \text{ million US \$}.$$

∴ Percent Profit/Loss of companies M and N together

$$\% \text{ Profit/Loss} = \left(\frac{85 - 85}{85} \times 100 \right) = 0\%.$$

Thus, there was neither loss nor profit for companies M and N together.

In 2001, what was the approximate percentage of profit/loss of all the five Companies taken together? 2001 में, सभी पांच कंपनियों के एक साथ लाभ/हानि का अनुमानित प्रतिशत कितना था?

- [A.](#) 5% profit
- [B.](#) 6.5% profit
- [C.](#) 4% loss
- [D.](#) 7% loss

Answer: Option A

Explanation:

Total income of all five companies

$$= (35 + 50 + 40 + 40 + 50) \text{ million US \$}$$

$$= 215 \text{ million US \$}.$$

Total expenditure of all five companies

$$= (45 + 40 + 45 + 30 + 45) \text{ million US \$}$$

$$= 205 \text{ million US \$}.$$

$$\therefore \% \text{ Profit} = \left[\frac{(215 - 205)}{205} \times 100 \right] \% = 4.88\% \approx 5\%.$$

Which company earned the maximum percentage profit in the year 2001? वर्ष 2001 में किस कंपनी ने अधिकतम प्रतिशत लाभ अर्जित किया?

- [A.](#) M

B. N

C. P

D. Q

Answer: Option D

Explanation:

The percentage profit/loss in the year 2001 for various companies are:

$$\begin{aligned} \text{For M} &= \left[\frac{(35 - 45)}{45} \times 100 \right] \% = -22.22\% \text{ i.e., Loss} = 22.22\%. \\ \text{For N} &= \left[\frac{(50 - 40)}{40} \times 100 \right] \% = 25\% \text{ i.e., Profit} = 25\%. \\ \text{For P} &= \left[\frac{(40 - 45)}{45} \times 100 \right] \% = -11.11\% \text{ i.e., Loss} = 11.11\%. \\ \text{For Q} &= \left[\frac{(40 - 30)}{30} \times 100 \right] \% = 33.33\% \text{ i.e., Profit} = 33.33\%. \\ \text{For R} &= \left[\frac{(50 - 45)}{45} \times 100 \right] \% = 11.11\% \text{ i.e., Profit} = 11.11\%. \end{aligned}$$

Clearly, the Company Q earned the maximum profit in 2001.

For Company R, if the expenditure had increased by 20% in year 2001 from year 2000 and the company had earned profit of 10% in 2000, what was the Company's income in 2000 (in million US \$)? कंपनी R के लिए, यदि वर्ष २००१ में वर्ष २००० से व्यय में २०% की वृद्धि हुई थी और कंपनी ने २००० में 10% का लाभ अर्जित किया था, तो २००० में कंपनी की आय (मिलियन यूएस डॉलर में) क्या थी?

A. 35.75

B. 37.25

C. 38.5

D. 41.25

Answer: Option D

Explanation:

Let the expenditure of Company R in 2000 be x million US \$.

Then, expenditure of Company R in 2001 = $\left(\frac{120}{100} \times x \right)$ million US \$.

$$\therefore \frac{120x}{100} = 45 \Rightarrow x = 37.5.$$

i.e., expenditure of Company R in 2000 = 37.5 million US \$.

Let the income of Company R in 2000 be I million US \$.

$$\text{Then, } 10 = \frac{(I - 37.5)}{37.5} \times 100 \quad [\because \% \text{Profit in 2000} = 10\%]$$

$$\Rightarrow I - 37.5 = 3.75$$

$$\Rightarrow I = 41.25$$

i.e., Income of Company R in 2000 = 41.25 million US \$.

If the income of Company Q in 2001 was 10% more than its income in 2000 and the Company had earned a profit of 20% in 2000, then its expenditure in 2000 (in million US \$) was?

A. 28.28

B. 30.30

C. 32.32

D. 34.34

Answer: Option **B**

Explanation:

Let the income of Company Q in 2001 = x million US \$.

Then, income of Company in 2001 = $\left(\frac{110}{100} \times x\right)$ million US \$.

$$\therefore \frac{110x}{100} = 40 \Rightarrow x = \left(\frac{400}{11}\right).$$

i.e., income of Company Q in 2000 = $\left(\frac{400}{11}\right)$ million US \$.

Let the expenditure of Company Q in 2000 be E million US \$.

$$\text{Then, } 20 = \frac{[(400/11) - E]}{E} \times 100 \quad [\because \% \text{Profit} = 20\%]$$

$$\Rightarrow 20 = \left[\left(\frac{400}{11E} \right) - 1 \right] \times 100$$

$$\Rightarrow E = \frac{400}{11} \times \frac{100}{120} = 30.30.$$

\therefore Expenditure of Company Q in 2000 = 30.30 million US \$.