

# UGC NET Paper 1 2011 dec

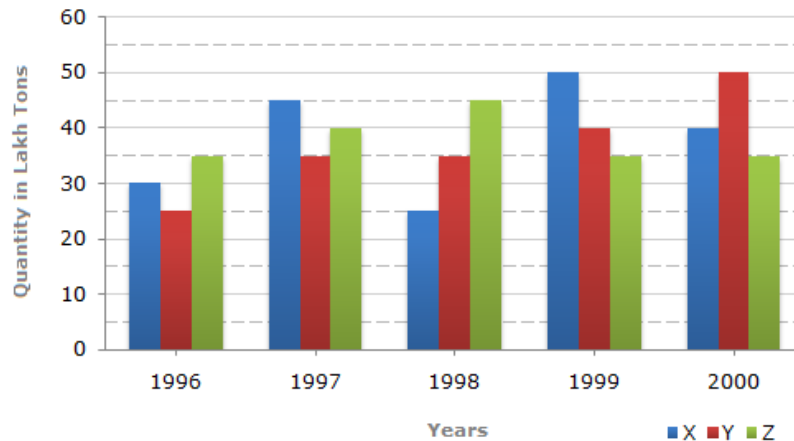
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### Previous Years Solved Questions - UGC NET Paper 1 for July 2018

### DI (Hindi/Eng)-31 with ans

The bar graph given below shows the data of the production of paper (in lakh tonnes) by three different companies X, Y and Z over the years.

Production of Paper (in lakh tonnes) by Three Companies X, Y and Z over the Years.



For which of the following years, the percentage rise/fall in production from the previous year is the maximum for Company Y? निम्नलिखित में से किस वर्ष के लिए, कंपनी Y के लिए पिछले वर्ष से उत्पादन में प्रतिशत वृद्धि/गिरावट अधिकतम है?

- A. 1997
- B. 1998
- C. 1999
- D. 2000

**Answer:** Option A

**Explanation:**

Percentage change (rise/fall) in the production of Company Y in comparison to the previous year, for different years are:

$$\text{For 1997} = \frac{(35 - 25)}{25} \times 100 \% = 40\%.$$

$$\begin{aligned} \text{For 1998} &= \left[ \frac{25}{\frac{(35 - 35)}{35} \times 100} \right] \% = 0\%. \\ \text{For 1999} &= \left[ \frac{(40 - 35)}{35} \times 100 \right] \% = 14.29\%. \\ \text{For 2000} &= \left[ \frac{(50 - 40)}{40} \times 100 \right] \% = 25\%. \end{aligned}$$

Hence, the maximum percentage rise/fall in the production of Company Y is for 1997.

What is the ratio of the average production of Company X in the period 1998-2000 to the average production of Company Y in the same period? 1998-2000 की अवधि में कंपनी X के औसत उत्पादन का समान अवधि में कंपनी Y के औसत उत्पादन से अनुपात कितना है?

- A. 1:1
- B. 15:17
- C. 23:25
- D. 27:29

**Answer:** Option C

**Explanation:**

Average production of Company X in the period 1998-2000

$$= \left[ \frac{1}{3} \times (25 + 50 + 40) \right] = \left( \frac{115}{3} \right) \text{ lakh tons.}$$

Average production of Company Y in the period 1998-2000

$$= \left[ \frac{1}{3} \times (35 + 40 + 50) \right] = \left( \frac{125}{3} \right) \text{ lakh tons.}$$

$$\therefore \text{ Required ratio} = \frac{\left( \frac{115}{3} \right)}{\left( \frac{125}{3} \right)} = \frac{115}{125} = \frac{23}{25}$$

The average production for five years was maximum for which company? पांच वर्षों का औसत उत्पादन किस कंपनी के लिए अधिकतम था?

- A. X
- B. Y
- C. Z
- D. X and Z both

**Answer:** Option D

**Explanation:**

Average production (in lakh tons) in five years for the three companies are:

$$\text{For Company X} = \left[ \frac{1}{5} \times (30 + 45 + 25 + 50 + 40) \right] = \frac{190}{5} = 38.$$

$$\text{For Company Y} = \left[ \frac{1}{5} \times (25 + 35 + 35 + 40 + 50) \right] = \frac{185}{5} = 37.$$

$$\text{For Company Z} = \left[ \frac{1}{5} \times (35 + 40 + 45 + 35 + 35) \right] = \frac{190}{5} = 38.$$

∴ Average production of five years is maximum for both the Companies X and Z.

In which year was the percentage of production of Company Z to the production of Company Y the maximum? किस वर्ष कंपनी Z के उत्पादन का कंपनी Y के उत्पादन से अधिकतम प्रतिशत था?

- A. 1996
- B. 1997
- C. 1998
- D. 1999

**Answer:** Option A

**Explanation:**

The percentages of production of Company Z to the production of Company Y for various years are:

$$\text{For 1996} = \left( \frac{35}{25} \times 100 \right) \% = 140\%.$$

$$\text{For 1997} = \left( \frac{40}{35} \times 100 \right) \% = 114.29\%.$$

$$\text{For 1998} = \left( \frac{45}{35} \times 100 \right) \% = 128.57\%.$$

$$\text{For 1999} = \left( \frac{35}{40} \times 100 \right) \% = 87.5\%.$$

$$\text{For 2000} = \left( \frac{35}{50} \times 100 \right) \% = 70\%.$$

Clearly, this percentage is highest for 1996.

What is the percentage increase in the production of Company Y from 1996 to 1999? 1996 से 1999 तक कंपनी Y के उत्पादन में प्रतिशत वृद्धि कितनी है?

- A. 30%
- B. 45%
- C. 50%
- D. 60%

**Answer:** Option D

**Explanation:**

Percentage increase in the production of Company Y from 1996 to 1999

$$\begin{aligned} &= \left[ \frac{(40 - 25)}{25} \times 100 \right] \% \\ &= \left[ \frac{15}{25} \times 100 \right] \% \\ &= 60\%. \end{aligned}$$