

LOGARITHM

1. $(0.16)^{\log_{2.5}\left(\frac{1}{3} + \frac{1}{3^2} + \frac{1}{3^3} + \dots \text{to } \infty\right)}$ का मान है _____ ।

SOLUTION

1. Official Ans. by NTA (4)

Sol. $(0.16)^{\log_{2.5}\left(\frac{1}{3} + \frac{1}{3^2} + \dots \text{to } \infty\right)}$

$$= \left(\frac{4}{25}\right)^{\log_{\left(\frac{5}{2}\right)}\left(\frac{1}{2}\right)}$$

$$= \left(\frac{1}{2}\right)^{\log_{\left(\frac{5}{2}\right)}\left(\frac{4}{25}\right)} = \left(\frac{1}{2}\right)^{-2} = 4$$