

(65) Given regression equation is

$$\ln y = -3.56 + 0.31 \ln X_1 - 0.05 \ln X_2 + 0.53 \ln X_3 + 0.37 \ln X_4$$

Taking out log from both sides we get,

$$y = (-3.56) + X_1^{0.31} X_2^{-0.05} X_3^{0.53} X_4^{0.37}$$

clearly, we can see that we have found a homogeneous function.

To find degree of homogeneity, we add the powers of each variables

$$\text{i.e., } 0.31 - 0.05 + 0.53 + 0.37$$

$$= 0.26 + 0.53 + 0.37$$

$$= 0.79 + 0.37 = 1.16$$

$\therefore$  the sum is greater than 1

$\therefore$  here exists increasing returns to scale.

Hence, option c is correct.