

$$d) \frac{S^2 f}{S_y S_X}$$

$$\rightarrow \frac{S f}{S_y} = \frac{x}{xy-1}$$

$$\frac{S^2 f}{S_y S_X} = \frac{(xy-1)(1) - x(y)}{(xy-1)^2} = \frac{-1}{(xy-1)^2}$$

(Sec 14.3): -

[12] Suppose that the joint cost function for two products is:-

$$C(x, y) = y \ln(x+1)$$

Find the marginal cost with respect to:-

a)  $x$

$$\overline{MC}_x = C_x = y \cdot \frac{1}{x+1} = \frac{y}{x+1}$$

b)  $y$

$$\overline{MC}_y = C_y = \ln(x+1)$$