2021

ECONOMICS

Paper : ECON - 101

[Microeconomics-I]

(CBCS)

Full Marks : 40 Time : Two Hours

The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.

Group - A

Answer any *three* questions : 10×3=30

1. Define indirect utility function. Derive the demand function from an indirect utility function. 3+7

2. (a) Define production possibility set and input requirement set.

   (b) When is an input requirement set monotonic and convex ?

   (c) Determine whether the input requirement set $V(y) = \{x_1, x_2 : x_1(1-y) \geq a, x_2(1-y) \geq b\}$ is monotonic and convex. Assume that the parameters a and b and the output levels are strictly positive. 2+3+5

3. (a) What is Shepherd Lemma ?

   (b) Whether the cost function $C = y^{\frac{1}{2}}(w_1 w_2)^{1/2}$ is homogeneous of degree one, monotonic and concave ?

(c) Derive the production function associated with the cost function given in 3(b). 2+3+5

4. (a) Define profit function, input demand function and supply function.

   (b) Given the production function $f(x) = x^a$, find out the input demand function, supply function and the profit function. Assume $\alpha > 0$.

   (c) What restriction must α satisfy ? 3+5+2

5. What is Social welfare function ? Derive the grand utility possibility frontier curve. Define the point of bliss. 1+7+2

6. Discuss the Pareto optimality criterion of welfare. Explain the conditions of Pareto optimality regarding efficient distribution of goods between individuals. 3+7

Group - B

Answer any *two* questions : 5×2=10

7. Let $y = f(x_1, x_2)$ be a CRS production function. Show that if the average product of x_1 is rising, the marginal product of x_2 is negative.

8. Find out the cost function corresponding to the two inputs Cobb-Douglas production function with constant return to scale.

9. Show that if profit is ever positive with constant return to scale production technology there is no profit maximising production plan.

10. Explain the Walrasian stability of an equilibrium.