CHANCHAL COLLEGE

HOME ASSIGNMNET(2021)

Part-II (Honours)

Economics- Third paper

Answer Script Submission E-mail Id- eco.dept.chanchal@gmail.com

Full marks-100

Group – A

Objective Type questions(compulsory): 2×10=20

1. a. The utility function of a individual is given by:

u=(q'+2) (q"+2)

Find the maginal utility of the first commodity when 3 units of each commodity are consumed.

b. Show that for the demand curve d = a, where a is constant, the elasticity is zero.

c. Given the total cost function;

C=4Q-Q

Show that AC=MC when AC is minimum.

d. Given MPC = 0.75, find the increase in national income resulting from an increase in autonomous expenditure by Rs. 500 crores, assume that there is no indiced investment.

e. what is CES production function ?

f. Let the consumption function be C = 3+0.8Y

i. What are the MPC and APC /

ii. Does it reflect a proportional relation between consumption and income ?

g. Let MR = m. Find the total revenue function when it is known that for zero production total revenue is zero.

h. Consider the utility function

U = x/y, (x, y > 0)

i. Both commodities X and Y are good,
ii. Commodity X is good while Y is bad,
iii. Commodity X is bad while Y is good,
iv. Commodity X is good while Y is neutral,

Choose the correct alternative explaining the reason.

i. For an economy the consumption function is C = 60 + 0.75Y. If investment in a year is Rs. 35 crore, what will be the equilibrium level of income and output ?

j. Consider the game with the following pay-off matrix

$$\begin{bmatrix} 2 & 6 \\ -2 & a \end{bmatrix}$$

Show that the game is strickly determinable whatever 'a' may be.

Group – B

*Answer any **four** questions:* 20×4=80

2. (a) Prove that the Eulars theorem is satisfied by the CES production function.

(b) Prove that AC is minimum when AC=MC.

3. If the demand and supply functions are P = 20-5x and P = 4+3x.

Find the consumers and producers surplus if the output and prices are determined in a perfectly competitive market.

4. Consider the following production function :

Q = $\frac{2HLK-AL-BK}{CL+DK}$

Show that

i. The production function is homogeneous.

ii. $\frac{AP}{}$

5. Assume that the demand and cost functions of duopolists are given by

Demand function :

Supply function :

What will be the profit and output of each firm under

i. The Cournot Model

ii. The Collusion Model

Make a comparison of the above result.

6. Given the following final demand bill and input coefficient matrix.

A = $\begin{bmatrix} 0.4 & 0.1 \\ 0.7 & 0.6 \end{bmatrix}$ F = $\begin{pmatrix} 50 \\ 100 \end{pmatrix}$

Obtain

(i) Gross output of the industry.

(ii) Total labour requirements. (assuming 15 and 20 man-days are required to produce 1 unit of industry 1 and 2 respectively).

(iii) Equilibrium prices. (assuming, wage rate = Rs. 20/man-day)

(iv) Gross value added by the system.