

10. The cobweb model will convergent when the slope of:
- Demand curve is more than supply curve
 - Supply curve is more than demand curve
 - Supply curve is equal to demand curve
 - None of the above

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(Descriptive)

Time : 1 Hr. 15 Mins.

Marks : 25

[Answer question no.1 & any two (2) from the rest]

- If the demand function is $P=85-2x-x^2$, Find the Consumer Surplus if quantity demanded $x=3$. 5
- Find $\int (4x^2 + x^3) dx$ 5+5=10
 - Find $\int_2^4 10x^3 dx$
- There is a small manufacturer who produces two products x and y on two different machines, A and B. Product x requires 3 hours on machine A and 2 hours on machine B, whereas product y requires 3 hours on machine A and 4 hours on machine B. Machine A can be operated for 18 hours a day while machine B can be operated for 16 hours a day. The producer earn a profit of Rs.30 for product x and Rs.40 for product y . How many units of each product should be manufacture per day so as to have the maximum profit? Solve it through Linear Programming method. 10
- Given the market model as: 5+5= 10

$$D = 100-5p$$

$$S = - 10+ 2(P-t)$$

$$D=S$$

Where D , S , P and t are the demand, supply, price and tax rate respectively. Evaluate whether an increase in tax rate (t) will increase the total tax yield (T).

Given the production function:

$$Q=f(L)=-\frac{2}{3}L^3 + 10L^2$$

where L is the labour employed, show that diminishing marginal product of labour operates when employment of labour is 6 units or more.
- Given the national income model as 10

$$Y= C+I+G$$

$$C= \alpha+ \beta(Y-T) \quad (\alpha>0; \quad 0<\beta<1)$$

$$T= \gamma + \delta Y \quad (\gamma>0, \quad 0<\delta<1)$$

Calculate the equilibrium values of Y, C and T , and the effect of change to equilibrium value of Y if $I, G, \alpha, \beta, \gamma$ and δ change.

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