MAKE UP EXAMINATION-2020

SUBJECT- ENGINEERING ECONOMICS

4TH SEMESTER B.TECH.

BRANCH--

[CODE -HS2002]

Full Marks: 20   **Time: 1.5 Hours**

Answer any FOUR questions including question No.1 which is compulsory.
The figures in the margin indicate full marks.
All parts of a question should be answered at one place

1. **Answer the following questions.**   [1×5]

   (a) Trendz produces Jeans and Shirts. How will an increase in price of jeans affect the supply curve of shirts?

   (b) Why Market demand curve is flatter than individual demand curve?

   (c) Are iphones elastic or inelastic?
   (d) Graphically explain why two indiffirence curves cannot intersect eachother?

   (e) Distinguish between Gross Domestic Product at Factor Cost (GDP_{FC}) and Net National Product at Market Price (GNP_{MP}).

2. Suppose that MG Ronald estimated the following regression equation for Chevrolet Automobiles:

$$Q_C = 1,00,000 -100P_C + 2,000N + 50I + 30P_F - 1,000P_G +3A +40,000P_I$$

Where Q_c = Quantity demanded per year of Chevrolet automobiles, P_C = price of Chevrolet automobiles in dollars, N= population of the United States in millions, I= per year income in dollars, P_F = price of Ford automobiles in dollars, P_G = real price of gasoline in cents per gallon, A= Advertisement expenditure by Chevrolet in dollars per year, P_I = credit incentives to purchase Chevrolets, in percentage points.

   (a) Find the value of Q_C if the average value of P_C= 9000\$, N=200 millions, I= 10,000 \$, P_F = 8000 \$, P_G = 80 cents, A = 2,00,000 \$ and P_I = 1. Derive the equation for the demand curve for Chevrolet and plot it. [3]

(b) From the demand equation established in 2(a), find out the price elasticity of demand when price of Chevrolet automobiles (in dollars) rises from 9000 to 12000. [2]

3.   (a) There are 10,000 identical individual buyers in the market for commodity X, each with a demand function given by Qdx= 12- 2Px and 1000 identical producers of commodity X each with a supply function given by Qsx= 20Px. [3]

(i) Find the market demand function and market supply function for commodity X.

(ii) Obtain equilibrium price and equilibrium quantity.

(iii) Suppose the Government decides to collect a tax of Rs 2 per unit sold from each of the 1,000 sellers of commodity x. What effect will this have on equilibrium price and quantity of commodity X.

(b) From the schedule provided below calculate TR and AR. Also indicate the price elasticity of demand.[2]

Quantity	1	2	3	4	5	6	7	8	9
MR	10	6	2	2	2	0	0	0	-5

4.   (a)   An industrial unit in US has agreed to pay 25,000 $ in royalties at the end of each yaer for next 5 years for the use of a patented product design. If the payments are left in a foreign country, interest on the retained funds will be paid at an annual rate of 15%. What amount will be available in 5 years under these conditions? How large would the uniform annual payments have to be if the patent owners insisted that a minimum of 1,75,000 $ be accumulated in the account by the end of 5 years. [3]

(b)   Returns from an investment will turn down by 150 $ each year for 5 years from a level of 1000 $ at the end of the 1st year. With 7% interest rate, find out annual series amount over the following 6 year period. [2]

5.   (a)   After reaching the point of equilibrium, consumer would not like to change his allocation of expenditure on Goods X and Y even if the price of Good X changes. Do you agree? Comment. [3]

(b)   Find the effective interest rate for 12 months if the nominal rate of interest is 1% per month and compounding occurs monthly. Using this effective rate of interest find conmpound amount at the end of 15 years for an amount of Rs 200000 which is invested now. [2]

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