**MID SEMESTER EXAMINATION-2020**

**SUBJECT- ENGINEERING ECONOMICS**

**4TH SEMESTER B.TECH.**

**BRANCH—CSCE & ETC**

**[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) Demand and Supply are equally responsible for determination of price in the market. Explain the statement with the help of a suitable diagram.

(b) **QD= 20+4P and QS= 50-2P**

Find out the equilibrium price and quantity from following demand and supply function.

(c) What will be the value of Marginal Revenue when

(i) price elasticity is one

(ii) price elasticity is greater than one

(d) Why the indifference curve is convex to the origin?

(e) Distinguish between Change in Quantity demanded and Change in Demand diagrammatically.

2. The demand values of starter motor of particular vehicle in thousands during the past 6 years (2011-2016) are summarized in Table.

[3+2]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Year (X)** | **2011** | **2012** | **2013** | **2014** | **2015** | **2016** |
| **Demand (Y) in thousands** | **60** | **72** | **58** | **90** | **82** | **100** |

1. Fit a linear regression to estimate the demand of starter motor in future.
2. Compute the demand of the starter motor for the year 2025.

3. a) Explain Consumer’s Equilibrium with the help of Indifference curves and Budget Line.

[3+2]

b) Discuss factors affecting elasticity of Demand.

4. (a) VVDN is an antenna manufacturing company. Its main products are power divider, CPE Antenna and Cavity Filter. The current prices of Power divider is $1000, the CPE Antenna is $1600 and the Cavity Filter is $80.This year the company sold10,000 power divider, 20,000 CPE Antennas and 10,00,000 Cavity Filters. Now the manager of the company decided to increase the prices of all products by 10%. The market research suggested the price elasticity of each product as: [3]

power dividers= -1.5, CPE Antenna = -2.5 Cavity Filter = -0.6

Would a 10% increase in price have been better for some or all the products? Support your argument with proper calculation for each product.

(b) Laxmi has Rs.160 to spend on two goods X and Y. Given the price of good X at Px= Rs.40 and price of good Y at Py= Rs.40. [2]

(i) Draw a budget line and write the budget equation for the consumer.

(ii) Can the consumer buy (4, 1) and (3, 2) bundles of the two goods? Why?