Mid-Semester Examination
Branch:IT,EEE,E&I(5th semester)
KIIT University, Bhubaneswar-24

Time: 2hrs *Full Mark: 50*

Question No.1 is compulsory and answer any 4 from the rest. Marks are given in bracket.

Q1 (i) An investor has an option to purchase a tract of land that will be worth \$10000 in 6 years. If the value of the land increases at 8% each year, how much should the investor be willing to pay now for this property? **(2x5)**

(ii) Given a demand function Q=500-3P+2A+0.002I (where P=Price, A=Advertisement expenditure and I= Income), and I=Rs.1000 and A = Rs.100, Find the equation showing the relationship between quantity and price.

(iii) Demand equation for a certain product is given to be **P=5000-8Q**,find out (a) The Marginal Revenue (b) At what price and quantity will the TR be maximized?

(iv)Find the Annual Equivalent amount of a cash flow of Rs 5000 at the end of the first year which there after increases by Rs 1000 each year till the end of the 5th year at i=10% per year.

(v) Write short notes on Percentage method of measuring Price elasticity of demand.

Q2. (i) If a person receives Rs 5000, Rs 6000, Rs.7000 and Rs.8000 at the end of the 1st, 2nd, 3rd and 4th year respectively, find the Present value of the returns at an interest rate of 15%? **(6)**

(ii)Write the objectives of Equal Payment Services Capital Recovery Factor. Also draw a cash flow diagram for it. . (4)

Q3. (i) (a) There are only 2 consumers in a market. Their demand equations are:

Individual1: X_1=45-9P and Individual 2: X_2=7-P.Find the Market demand function and also find the Price elasticity at Price (P) =Rs.4.

(b)What happens to equilibrium price and quantity when demand increases and supply decreases by the same amount. Show by a diagram. (5+1)

(ii)The demand for an item X varies with respect to its price(Y) as per the following relationship.

Q_x=125 – 1.5P_y.What is the Cross Elasticity of demand if the price of Y increases from Rs.65 to Rs.125.Interpret the result. (2+2)

Q4. (i)From the following information forecast the sale for the year 2012 and 2014 by Least Square Method. (6)

Year	2003	2004	2005	2006	2007	2008	2009
Sale (in 000)	80	95	120	150	145	160	170

(ii) Explain the Graphical Method of Measuring Price elasticity of demand. (4)

Q5. (i)A firm's sale of product X is 15000 units when it declares the price of X as Rs.5 per unit. When it increases the price by 10% for the product, its sales of X falls to 12500 units. (a) Find the price elasticity of demand, assuming a linear demand curve (b) Given the elasticity coefficient found above in (a),find the change in the quantity of the firm if it would have decreased the price by 10%.Should he go for the price decrease based on his revenue changes. (6)

(ii) Explain why the Giffen Goods and Veblen goods are an exception to the Law of Demand.(4)

Q6.(i) A management Institute finds that for the kind of course it is offering ,there are the following kind of demand and supply equations for it:

Demand Function: **Qd=2000-25P** and Supply Function: **Qs= 500 + 25P**, where Q refers to the number of seats in the courses and P is the monthly fee for the course. (6)

1. Find the average monthly fee at which (a) $Q_d=0$ and (b) $Q_s=0$.
2. What is the equilibrium price and output?
3. Suppose demand increases and new curve is Qd = 3200 – 25P, find the change in equilibrium price and quantity?

(ii) Describe 4 different factors influencing elasticity of demand of a commodity. (4)