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

(b) State whether the consumer or the seller will bear a higher indirect tax burden if the demand is less elastic than supply?

(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 Gross Domestic Product(GDP) and Gross National Product(GNP).

2. (a) The business analyst for a video company wants to forecast this year's demand for DVD decoders based on the following historical data: [3]

|  |  |
| --- | --- |
| Year | Demand (000 units) |
| Five years ago | 900 |
| Four years ago | 700 |
| Three years ago | 600 |
| Two years ago | 500 |
| Last year | 300 |

What will be this year demand?

(b) The cross price elasticity between two goods X and Y is +1.5. If the price of X increases by 10%, what will be its impact on the demand for Y? Currently, demand for Y is 3000 units. What will be the new demand for Y after this price change? [2]

3. (a) MKU is a computer manufacturing company. Its main products are ROM, HARD DISK and CPU. The current prices of ROM is $1000,the HARD DISK is $1600 and the CPU is $80.This year the company sold10,000 ROMs,20,000 HARD DISKs and 10,00,000 CPUs. 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]

ROMs= -1.5, Hard Disks = -2.5 CPUs= -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) A consumer 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?

4. (a) Delisha has to receive Rs.50000 at the end of first year, Rs.70000 at the end of fourth year, Rs.100000 at the end of the seventh year and Rs.80000 at the end of the tenth year from a company from now. How much money Delisha will receive if she decided to get all her money now? The market rate of interest is 10% annual compounding. [3]

(b) Rana deposited money in a savings account in the following pattern. [2]

Year Amount of deposits ($)

0 4000

1 -----

2 5000

3 6000

4 -----

5 7000

6 8000

Find the maturity amount of his account at the end of the deposit period if money is growing at 8% interest yearly compounding.

5. (a) Sanchit deposited $20000 in a bank for 6 years for his sister's study fund. The annual nominal interest rate is 6%. Find the maturity amount of his account when [3]

(i) Compounding is done half yearly.

(ii) Compounding is done quarterly.

(b) Suppose that you make a series of annual deposits into a bank account that pays 8% interest compounded annually. The initial deposit at the end of the first year is $50000. The deposit amount declines by $1000 in each of the next ten years. How much money would you get immediately after the deposit period? [2]

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