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Total Number of Pages: 02

**B.Tech**  
**HSSM3204**

**3<sup>rd</sup> Semester Back Examination 2016-17**  
**ENGINEERING ECONOMICS AND COSTING**

**BRANCH(S): ALL**

**Time: 3 Hours**

**Max Marks: 70**

**Q.CODE: Y732**

**Answer Question No.1 which is compulsory and any five from the rest.**  
**The figures in the right hand margin indicate marks.**

**Q1** Answer the following questions: (2 x 10)

- Explain the three basic problems of an economy?
- If the price of pen decreases from ₹2 to ₹1 and the quantity demand for pens increases from 60 to 70 units, calculate the price elasticity of demand. Interpret the result.
- Write the two determinants of price elasticity of demand.
- What do you mean by "Equal Payment series sinking fund factor"?
- Define IRR. How is different from NPV?
- What is Margin of Safety? How do you compute MOS when p/v ratio and desired profit is known?
- What is monopoly of note issue?
- Explain with examples the concept of opportunity cost.
- What is returns to scale?
- Explain the difference between public projects and private projects.

**Q2** A state government was planning for construction of a hydroelectric project. In addition to the production of electric power, this project will provide flood control, irrigation and recreation benefits. The estimated benefits and costs that are expected to be desired from the projects are as follows (10)

Initial Cost	= ₹ 10,00,00,000
Annual Power Sales	= ₹ 70,00,000
Annual flood control and savings	= ₹ 40,00,000
Annual irrigation benefits	= ₹ 60,00,000
Annual recreation benefits	= ₹ 20,00,000
Annual operating and maintenance costs	= ₹ 30,00,000
Life of the project	= 50 years

Check whether the state government should implement the project at  $i = 15\%$ .

**Q3 a)** What is depreciation? Distinguish between decline balance and straight-line method of depreciation. (5)

**b)** What is cost sheet? Point out the significance of cost sheet. (5)

**Q4 a)** How equilibrium price is determined under perfect competition? (5)

**b)** Discuss the present worth and annual method of evaluating engineering alternatives. (5)

**Q5 a)** A company is planning to purchase an advance machine centre. Three original manufacturers have responded to its tender whose particulars are tabulated below (5)

Manufacturer	Down Payment (₹)	Yearly Equal Installments (₹)	No of Installment
1	5,00,000	2,00,000	15
2	4,00,000	3,00,000	15
3	6,00,000	1,50,000	15

Determine the best alternative based on the annual equivalent method by assuming by  $i = 20\%$ , compounded annually.

**b)** What is demand? Explain the factors influencing demand. (5)

**Q6** From the following information find out (10)

(a) P/V Ratio

(b) BEP for sales

(c) Profit if sales are ₹1,00,000

(d) Sales required to earn a profit of ₹20,000

(e) Margin of safety in 1994

Year	Sales	Profit
1993	₹1,20,000	₹9,000
1994	₹1,40,000	₹13,000

**Q7** Discuss the various functions of a Commercial Bank. How these banks play a major role in the development of a country. (10)

**Q8** Write short answer on any TWO: (5 x 2)

**a)** Fixed Cost Vs Variable cost

**b)** Declining Balance Method of Charging Depreciation

**c)** Production Function

**d)** Lender of the Last Resort