Registration No.: | | | | | | | | | | |

Total Number of Pages: 02 **Course: IDD (B.Tech and M.Tech)/B.Tech**
Sub_Code: HSHS2001, REN3E001

3rd Semester Regular/Back Examination: 2025-26
SUBJECT: Engineering Economics
BRANCH(S): ALL
Time: 3 Hours
Max Marks: 100
Q.Code: U523, U524
Answer Question No.1 (Part-I), which is compulsory, any eight from Part-II, and any two from Part-III.
The figures in the right-hand margin indicate marks.

Part-I

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

a) What happens to the total revenue of a commodity when its demand is elastic and its price falls?
b) How do expectations of future prices affect present market equilibrium?
c) How does the availability of close substitutes affect the price elasticity of demand?
d) Why does the average fixed cost continuously fall as output increases?
e) State the relationships between average product and marginal product
f) Why is the average cost U-shaped in the short run?
g) What is the Sum-of-Years-Digits (SOYD) method?
h) Write the difference between nominal and effective interest rates?
i) What happens if the time value of money is ignored in investment decisions?
j) Mention two important functions of a commercial bank.

Part-II

Q2 **Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve)** **(6 x 8)**

a) Explain the concept of long-run returns to scale. Distinguish between increasing, constant, and decreasing returns to scale with the help of a diagram.
b) Using cost and revenue concepts, explain how a firm determines its optimum level of output.
c) Explain how break-even analysis helps management in decision-making.
d) Describe the concept of normal profit and justify why firms earn only normal profit in the long run under perfect competition.
e) Determine the price and output under a monopoly. Illustrate your answer with a suitable diagram.
f) A project requires an initial investment of ₹1,50,000 and yields annual benefits of ₹45,000 for 5 years. Using a 10% interest rate, calculate the Present Worth (PW) and decide whether to accept the project.

g) Define the concept of Internal Rate of Return (IRR) and calculate the IRR for a project with an initial investment of ₹50,000 and annual benefits of ₹20,000 for 3 years. Discuss whether the project is acceptable if the minimum attractive rate of return is 12%.

h) Discuss the methods of measuring National Income.

i) Analyse the causes and economic effects of inflation in a developing economy

j) Explain the nature and scope of economics and distinguish between microeconomics and macroeconomics.

k) A country reports the following data (₹ crores):
GDP at market price = ₹2,50,000
Indirect taxes = ₹15,000
Subsidies = ₹5,000
Depreciation = ₹20,000

1. Calculate GDP at factor cost.
2. Calculate Net Domestic Product at market prices.
3. Calculate Net Domestic Product at factor cost.

l) Critically analyse the differences between demand-pull and cost-push inflation?

Part-III

Only Long Answer Type Questions (Answer Any Two out of Four)

Q3 Discuss the different determinants of demand and supply, and explain how changes in these determinants shift the demand and supply curves. Illustrate with diagrams. (16)

Q4 Write the features of different market structures. Discuss the determination of price and output in the cases of perfect competition and monopoly market using diagrams. (16)

Q5 Analyse the strengths and limitations of the Internal Rate of Return (IRR) method when used for evaluating engineering projects with non-conventional cash flows. (16)

Q6 Explain the functions of the central bank, including monetary policy tools, and its role in maintaining economic stability. (16)