The LNM Institute of Information Technology, Jaipur
HS321: Introduction to Economics (321)
2025-26 Odd Semester
Mid Term Exam (2025-26)

Max Marks: 30 **Date: 24th September 2025** **Time: 90 Mins**

Total Questions	Total Marks	CO1	CO2	CO3	CO4	CO5
6	30	Q1, Q2, Q3, Q4	Q1, Q5, Q6	--	--	--
CO weightage		15/30 = 50%	15/30 = 50%			

Question	Q1	Q2	Q3	Q4	Q5	Q6
Marks	10	3	4	4	4	5

Instructions: READ THE QUESTIONS **VERY** CAREFULLY! Draw diagrams wherever necessary. **NO negative marking & NO** partial credits. Calculator allowed. Attempt the paper in **sequence** answering **new question on new page.**

Q1. Answer the following in ***one line***: [2x5=10]

a) When the Average Variable Cost (AVC) is falling but still lies above Marginal Cost (MC), what will be the behaviour of Average Fixed Cost (AFC)?
b) If Total Product is still increasing but Marginal Product is falling, name the stage of the Law of Variable Proportion the firm operating in, and why?
c) If you are promised ₹10,000 one year from now and the discount rate is 10%, what is the Present Value of that future payment?
d) In a discussion on tuition fees for MBA Programme, a university official in India argues that the demand for MBA admission has remained the same whereas the university has doubled its tuition fees over the past 15 years. Mention the exact degree of price elasticity of demand with diagram.
e) If goods X and Y are complements and the price of X falls, all other things being equal, what will happen to the demand curve for Y. Draw the demand curve for Y good.

Q2. During a pandemic, a country diverts resources from producing luxury goods to producing medical supplies. Assume luxury goods on Y-axis and medical supplies on X-axis. [1+1+1]

a) If resources are not equally efficient in both the sectors and if this leads to the increasing marginal opportunity cost, what will be the shape of PPC. Mention the shape and draw the PPC.
b) Suppose unemployment rises sharply during the pandemic, is the economy efficient, inefficient, or unattainable? Where does the actual production point lie? Draw.
c) After the crisis, if investment in healthcare technology permanently increases productivity in that sector, illustrate whether the PPC will show a rotation or a shift. Draw and explain why.

Q3. In a city, the equilibrium price of onions is ₹40 per kg with 1,000 tons sold monthly. Heavy rains destroy a large part of the crop, impacting supply by 25%. At the same time, a health report claims onions reduce cholesterol, impacting demand by 15%. What will be the effect on the equilibrium price and equilibrium quantity? Draw a single combined diagram using demand and supply curve. [4]

S↓ D↑

Q4. Ramesh spends money on ice cream. The Price of one ice cream (Px) is ₹5, and his Marginal Utility of Money (MUM) is 2 utils per rupee. His Total Utility (TU) schedule from ice cream is: [4]

Quantity of Ice Cream	Price	TU
1	5	20
2	5	35
3	5	47
4	5	57
5	5	65
6	5	71
7	5	75

Find the equilibrium number of ice creams Ramesh should consume to maximize his total satisfaction.

Q5. The following table provides data on the Total Cost of Mac's ice cream production: [1+1+2]

Quantity of Ice Cream (liter)	Total Cost (Rs)
0	50
10	90
20	110
30	140
40	190
50	260
60	350

a) Is Mac producing ice cream in the short run or the long run?
b) Refer to the table at which specific quantity does the Average Total Cost start increasing?
c) Explain the general relationship between Average Total Cost and Marginal Cost with diagram.

Q6. A mechanical engineering startup is considering purchasing a high-end 3D printing machine to expand its prototyping business. The details are: [4+1]

- Initial investment (Year 0): ₹18,00,000

Expected net cash inflows:

- Year 1: ₹4,00,000
- Year 2: ₹5,00,000
- Year 3: ₹6,00,000
- Year 4: ₹7,00,000 + resale value of the printer ₹3,00,000

The startup's cost of capital is 10%.

a) Calculate the Net Present Value (NPV) of the project at 10%.
b) Based on the NPV rule, should the startup invest in the 3D printer? Mention the decision rule.
