Questions

Q1. Production Possibilities & Trade

Australia can produce either 20 computers or 300 tons of rice, while India can produce 50 computers or 400 tons of rice.

(a) Calculate the opportunity cost of 1 computer in both countries. Which country has:

- Absolute advantage in computer production?
- Comparative advantage in rice production?

(b) Draw the PPC for both countries (label axes and intercepts).

(c) If Australia and India trade at a ratio of 1 computer = 12 tons of rice, show how both can consume beyond their PPCs with numerical examples.

(4+3+3 marks)

Q2. Market Equilibrium & Elasticity

Given the apple market:

$$Q_d = 170 - 2P \quad \text{and} \quad Q_s = -10 + P$$

(a) Find equilibrium price and quantity.

(b) Calculate price elasticity of demand and supply at equilibrium.

(c) The government imposes a price floor of Rs70:

- Is it binding? Why?
- Calculate the new quantity traded and deadweight loss (show graphically).

(3+3+4 marks)

Q3. Tax Incidence & Welfare Analysis

Consider a market with:

$$Q_d = 200 - P \quad \text{and} \quad Q_s = 3P$$

(a) Find initial equilibrium.

(b) A Rs40 tax is imposed on buyers. Calculate:

- Price paid by buyers and received by sellers
- Tax revenue
- Deadweight loss (illustrate with diagram)

(c) "The more elastic side of the market bears less tax burden." Explain using this example.

(3+5+2 marks)

Q4. Externalities & Market Failure

(a) Define with examples:
- Positive externality
- Negative externality

(b) Vaccinations create positive externalities:
- Draw a diagram comparing market equilibrium and social optimum
- Propose two policy solutions to achieve efficiency

(c) State the Coase Theorem and its limitations in solving pollution problems.

(2+4+4 marks)

Q5. Game Theory & Oligopoly

Two firms face this payoff matrix (profits in Rs crore):

	Firm B	
	High Output	Low Output
Firm A: High Output	40, 30	60, 20
Firm A: Low Output	20, 60	50, 40

(a) Find the Nash Equilibrium. Is it Pareto efficient?

(b) How could repeated interaction enable collusion? What prevents it?

(c) Compare this to the Prisoner's Dilemma.

(3+4+3 marks)

Bonus (Optional)

6. Explain why rice might become a Giffen good during famines using income and substitution effects. **(5 marks)**

7. Metro systems use peak-hour pricing. Analyze this as a solution to the "Tragedy of the Commons." **(5 marks)**