Indian Statistical Institute, Bangalore

BMath (H) Third Year

Mid-Semester - Economics I

Maximum marks: 50 | Time: 3 hours | Date: September 08, 2025

Section 1: All questions are of one mark each. All questions are compulsory.

1. Give an example of an intermediate goal.
2. Name the type of capital in:
   a) Assets of a bank
   b) Fish available in a lake
3. According to the theory of comparative advantage, countries gain from trade because:
   a. They can produce more of every good.
   b. They specialise in goods with the lower opportunity cost.
   c. They get access to new goods

   Which of the following combinations is true:
   i. a and b
   ii. a and c
   iii. b and c
4. In the theory of market adjustment, market forces make quantity and prices move towards equilibrium, such that surpluses will lead to a ___________ in prices and shortages will lead to a ___________ in prices.
5. Define market failure. Give an example.
6. In which of the following market conditions will a profit-maximising firm hire labour up to the point where the Marginal Revenue Product of Labour (MRPL) equals the wage rate?
   a) Monopolistic product market and monopsonistic labour market
   b) Perfectly competitive product market and monopsonistic labour market
   c) Perfectly competitive product market and perfectly competitive labour market
   d) Monopolistic product market and perfectly competitive labour market
7. The average variable cost curve and marginal cost curve are both U-shaped in the short-run. This is because initially, there are ________ returns, and after a particular level of output, the law of __________ returns start operating.
8. Which of the following statements about excise taxes is correct?

a) When demand is inelastic, the change in quantity sold is large, and most of the tax burden falls on producers.

b) When demand is elastic, the change in quantity sold is small, and consumers bear most of the tax burden.

c) When demand is inelastic, the change in price is large (close to the tax amount), and consumers bear most of the tax burden.

d) When demand is elastic, tax revenues are relatively large because producers can easily pass on the tax.

9. When a firm faces diseconomies of scale, it means that:
   a) The long-run average cost is falling as output increases.
   b) The long-run average cost is rising as output increases.
   c) The marginal cost is always below the average cost.
   d) None of the above
10. A negative externality occurs when:
   a) A good provides benefits to people who do not pay for it.
   b) The production of a good imposes costs on third parties.
   c) A firm produces less than the socially efficient level of output.
   d) The government subsidises environmentally friendly goods.

Section 2: All questions are of two marks each. Answer any ten questions.

1. How do you define markets as social institutions? Give an example.
2. Give two non-price determinants of supply, with an example each.
3. Give two reasons why the demand for a commodity may be price elastic.
4. Draw a diagram to show deadweight loss in the context of demand-supply for a commodity with a price ceiling.
5. If the demand for electric cars increases due to government subsidies, what can happen to the equilibrium price and quantity of cars in the short run?
6. Are the following progressive taxes? Explain.
   a) GST (Goods and Services Tax)
   b) Proportional income tax
7. The table below shows the labour hours required to produce one unit of wheat and one unit of cloth in Country A and Country B.

Country	Wheat (hrs/unit)	Cloth (hrs/unit)
A	2	4
B	6	3

a) Which country has a comparative advantage in wheat?

b) Which country has a comparative advantage in cloth?

8. Define monopsony and oligopsony, with an example each.
9. What is the Gini ratio? Illustrate with a Lorenz curve.
10. Give the difference between capital stocks and investment.
11. What is a Pigouvian tax? What is a revenue neutral tax?
12. Give an example of trade protectionism using the case of India and China.

Section 3: All questions are of five marks each. Answer any four questions.

1. What is the production-possibilities frontier (PPF) curve? Consider a two-commodity economy and illustrate the production quantities of the two commodities, using a diagram. Using the PPF curve, include and define scarcity, trade-offs, opportunity cost and efficiency.
2. Suppose a consumer has a utility function U(X, Y) = XY,
   X and Y are the goods he wishes to consume. The price of X is Rs. 20, Y is Rs. 30, and the money he wishes to spend on X and Y is Rs. 1200.
   a) State the consumer problem and solve for the optimal bundle, or consumer equilibrium (with diagram).
   b) What happens to the optimal bundle if the price of Y increases to Rs. 40? (with diagram)
3. Using a Production Possibility Frontier (PPF) diagram, explain how two countries can benefit from trade even if one country is more productive in both goods. Draw two PPFs (Country X with an absolute advantage, Country Y with lower productivity). Show specialisation according to comparative advantage. Indicate how trade allows both countries to consume beyond their PPF.
4. a) What is the difference between equality of outcomes and equality of opportunities.
   b) What forms of government spending can reduce inequality? Give examples.

5. Consider the below diagram where the supply curve shifts from the initial $Supply_0$ to $Supply_{Tax}$ after the government brings in an excise tax. With reference to the below diagram, define consumer surplus, producer surplus and tax revenues.