

Indian Statistical Institute, Bangalore
B. Math. Third Year
First Semester - Economics I

Mid-Semester Exam

Duration : 3 hours

Max Marks 50

Date : Sept 14, 2016

All questions must be answered.

One mark questions

1. In a country, if production is on any point inside the Production Possibility Frontier
 - a. The economy is inefficient
 - b. The economy can produce more of one or both goods
 - c. The economy has unused resources
 - d. all of the above.

2. If X and Y are perfect substitutes, which of the following assumptions about indifference curves is not satisfied?
 - a. completeness.
 - b. transitivity.
 - c. more is preferred to less.
 - d. diminishing MRS (marginal rate of substitution).
 - e. none of the above (All of the above assumptions are satisfied).

3. An individual consumes only two goods, X and Y. Which of the following expressions represents the utility maximizing market basket?
 - a. MRS_{xy} is at a maximum.
 - b. $P_x/P_y = \text{money income}$.
 - c. $MRS_{xy} = \text{money income}$.
 - d. $MRS_{xy} = P_x/P_y$.
 - e. All of the above.

4. The fact that Alice spends no money on travel:
 - a. implies that she does not derive any satisfaction from travel.
 - b. implies that she is at a corner solution.
 - c. implies that her MRS does not equal the price ratio.
 - d. any of the above are possible.

5. Under factor price equalization, trade between countries A and B will result in
 - a. both countries producing the same goods
 - b. equal wages in both countries
 - c. equal returns to factors in both countries
 - d. none of the above

6. Which of the following is a flow?
 - a. monthly income
 - b. bank fixed deposit
 - c. gold jewellery
 - d. all of the above

7. In a situation where a producer experiences increasing returns or economies of scale, it implies that the
- long run average cost is low
 - long run average cost is rising
 - long run average cost is constant
 - long run average cost is falling
8. Which of the following products is most likely to have an oligopolistic market structure?
- wheat
 - raw cotton
 - cars
 - wooden chairs
9. Use the following two statements to answer this question:
- The average cost curve and the average variable cost curve reach their minima at the same level of output.
 - The average cost curve and the marginal cost curve reach their minima at the same level of output.
- Both I and II are true.
 - I is true, and II is false.
 - I is false, and II is true.
 - Both I and II are false.
10. Use the following two statements to answer this question:
- "Decreasing returns to scale" and "diminishing returns to a factor of production" are two phrases that mean the same thing.
 - Diminishing returns to all factors of production implies decreasing returns to scale.
- Both I and II are true.
 - I is true, and II is false.
 - I is false, and II is true.
 - Both I and II are false.

Two marks each

11. The table describes the cost structure of a telephone producer.

Quantity of telephones	Fixed Cost (Rs)	Variable Cost (Rs)
0	50	
1	50	25
2	50	30
3	50	40
4	50	55

- What is the total cost of producing three telephones?
- What is the marginal cost of producing the fourth telephone?

12. Of the two goods -- Stereo headphones and hearing aids -- which is more (own) price inelastic and why?

13. Japan and Korea make ships and cars using the following inputs. Which country has comparative advantage in producing cars? Why?

Country	Number of hours to make a ship	Number of hours to make a car
Japan	50	100
Korea	150	200

14. Match the items in the two columns.

Private good	Swimming club
Artificially scarce good	Groundwater
Public good	Furniture
Common property resource	Public radio

15. Tea and coffee are substitutes. Milk is a complement for both tea and coffee.

- What happens to demand for tea when price of coffee falls.
- What happens to demand for tea when price of milk falls.

Two marks for each sub-question (a, b)

16. Is demand more elastic in the short run or long run for the following. State the reason.

- petrol for cars
- air conditioners

17.

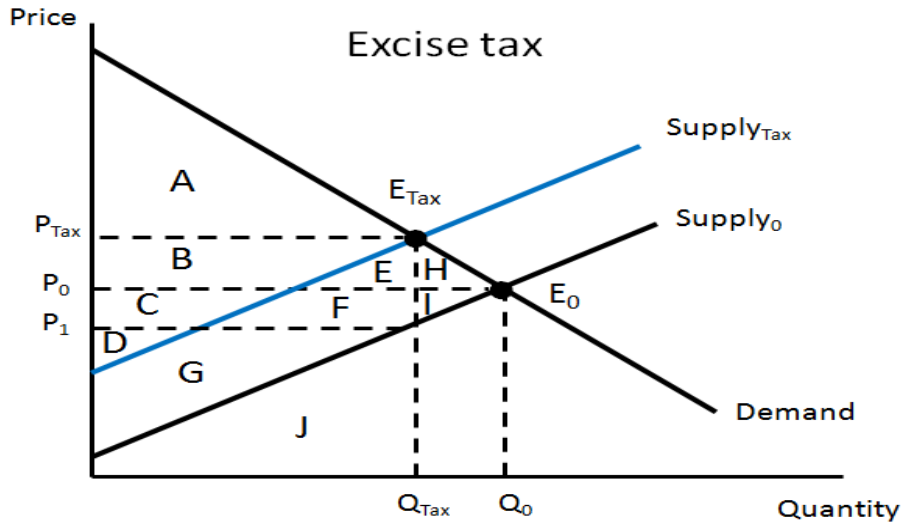
- Draw a backward bending labour supply curve.
- In the backward bending section, is the income effect weaker or stronger than the substitution effect?

Three marks each

18. In what situation is social cost higher than private cost? Give an example.

19. In the case of a positive externality, if there is no regulation, how will production be affected?

20. The graph below illustrates a market with an excise tax. In the post-tax equilibrium,
- What is the consumer surplus?
 - What does the government gain?
 - What is the deadweight loss?



21. Assume the market for housing is competitive. The government imposes a ceiling on house price or rent. Show the impact on the housing market with a diagram.

22. Is a pure monopoly better for a consumer than a monopolist who practices perfect price discrimination? Explain (with a graph if required).

23. Define an oligopolistic market structure. What does inter-dependence mean? Give an example.

24. Use a supply and demand diagram to illustrate the effect of the following given shock on equilibrium price and quantity in a competitive market: An unexpected heat wave in Delhi. What is the impact on the ice cream market?

One mark for neatness.