Microeconomics for engineers NAME:…………………………………….

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Practice exercises for the topics:

Economics and the economy; Demand, supply and the market; Elasticities of demand and supply, Consumer choice and demand decisions (Test I)

A. <u>Multiple choice questions</u>

Instructions: Please fill in the table! Each question in section A is worth 2 points each. Choose the one alternative that <u>best</u> completes the statements or answers the question! (If there is seemingly more than one correct answer – the answer should be d.)

A/1	A/2	A/3	A/4	A/5	A/6	A/7	A/8	A/9	A/10	A/11	A/12	A/13	A/14	A/15

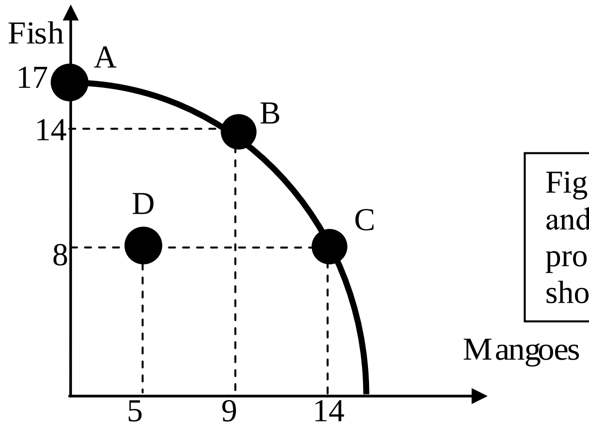
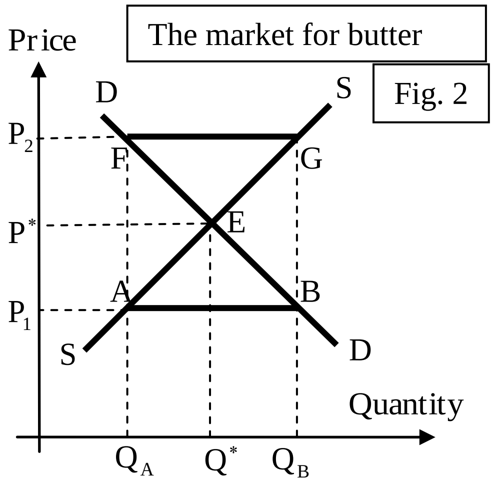


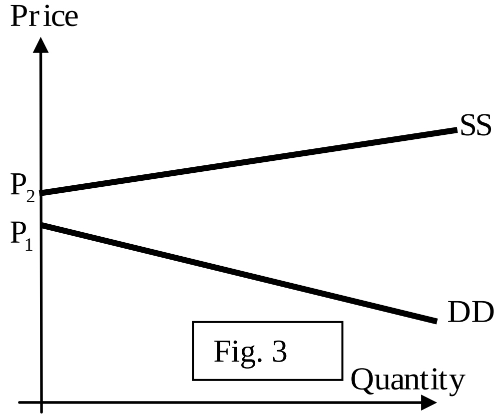
Fig 1. A jungle tribe catches fish and gathers mangoes. The tribe's production possibility frontier is shown in the figure to the left.

1. Suppose the economy is at point A, with 17 fish and 0 mangoes. What is the opportunity cost of gathering the first 9 mangoes?
   a.) 8 fish.
   b.) 14 fish.
   c.) 17 fish.
   d.) 3 fish.
   e.) None of the above.

2. Now suppose the economy is at point D. What is the opportunity cost of gathering 9 more mangoes?
   a.) 5 fish.
   b.) 8 fish.
   c.) 6 fish.
   d.) 14 fish.
   e.) None of the above.

3. Suppose that a new climbing technique is invented, making the harvesting of mangoes easier. After the technological change, which of the following combinations of goods might represent points of inefficient production?
   a.) A, B, C and D.
   b.) A and D.
   c.) A, B and D.
   d.) B, C and D.
   e.) None of the above.





4. Suppose that the government imposes a price *ceiling* (P_1) below P*, the equilibrium price in the market for butter (figure 2).
   a.) At the new market price, the quantity supplied will be Q_B.
   b.) AB shows the excess supply at the new market price.
   c.) The quantity traded will be reduced to Q_A.
   d.) The quantity traded might be maintained at Q* if the government adds its own demand to that of the private sector.
   e.) All of the above.

5. Now suppose that the government imposes a price *floor* (P_1) below P*, the equilibrium price in the market for butter (figure 2). Previously, the market was in equilibrium.
   a.) At the new market price, the quantity supplied will be Q_B.
   b.) AB shows the excess supply at the new market price.
   c.) The quantity traded will be reduced to Q_A.
   d.) The quantity traded can be maintained at Q* only if the government adds its own demand to that of the private sector.
   e.) None of the above.

6. In figure 3, SS and DD represent the supply and the demand curves in the market for refrigerators in Antarctica. Which of the following statements is *not* valid?
   a.) Even the highest price consumers will pay is lower than the minimum price producers require to produce any of this good.
   b.) Price floors are irrelevant in this market.
   c.) Price ceilings are irrelevant in this market.
   d.) Unless the government subsidizes the producers, this good will not be produced.
   e.) None of the above (= All of them are valid).

7. Which of the following statements is *not* valid?
   a.) For both specific and ad valorem taxes, it is the relatively more price insensitive side of the market that bears more of the burden of a tax.
   b.) Ad valorem taxes are measured as a percentage of the commodity's value.
   c.) The total tax revenue for a specific tax can be calculated as $T = t \times Q$, where $\boldsymbol{Q}$ is the quantity traded and $\boldsymbol{t}$ is the tax per unit.
   d.) Tax incidence measures 'who really pays the tax'. Since tax changes don't induce changes in equilibrium prices and quantities, these are always the people from whom the government appears to collect the money.
   e.) None of the above

8. The budget share of a good …
   a.) falls if income rises by 1%, and the good is a necessity good.
   b.) is its price times the quantity demanded, divided by total consumer spending.
   c.) falls if income rises by 1%, and the good is an inferior good.
   d.) All of the above.
   e.) None of the above.

9. When a demand curve is linear…
   a.) price rises and cuts of equal size lead to quantity changes that differ in size.
   b.) elasticity typically falls as we move down the demand curve.
   c.) elasticity might never be unit-elastic as we move down the demand curve.
   d.) All of the above.
   e.) None of the above.

10. Which of the following statements should be the definition of an inferior good?
   a.) A good having a supply elasticity between 0 and 1.
   b.) A good with a positive income elasticity of demand.
   c.) A good with a negative price elasticity of demand.
   d.) A good having an income elasticity of demand greater than 1.
   e.) None of the above.

11. Which of the following could result in a price fall in the market for cars?
   a.) A fall in the price of petrol.
   b.) A rise in the price of bicycles (if bikes and cars are considered substitutes).
   c.) A fall in the price of rubber (used to make car tyres).
   d.) A rise in the wages of workers working in car factories.
   e.) None of the above.

12. Which of the following statements is *not* valid? A utility-maximizing consumer chooses to be at a point at a tangent between his budget line and an indifference curve because:
   a.) This is the highest indifference curve that can be attained.
   b.) At any point to the left of the budget line some income would be unused.
   c.) All combinations to the right of their budget line are unreachable, given money income.
   d.) At any other point on the budget line they will gain less utility.
   e.) All of the above are valid.

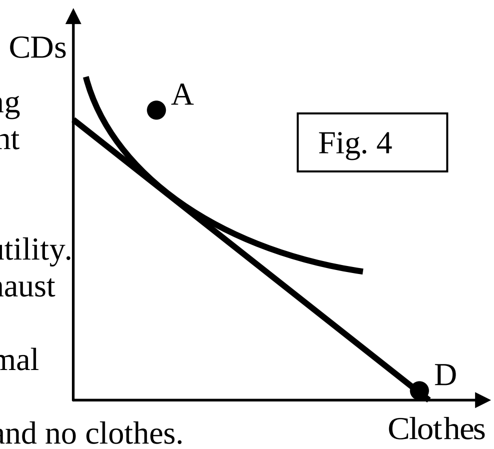


Fig. 4

13. Barbara is choosing how to allocate her spending between CDs and clothes. The figure to the right shows her budget line and indifference curve. Match point A with the appropriate phrase:
   a.) The point at which Barbara maximizes her utility.
   b.) A consumption bundle which would not exhaust Barbara's budget for these goods.
   c.) A consumption bundle preferred to her optimal choice but which Barbara cannot afford.
   d.) The point at which Barbara buys only CDs and no clothes.
   e.) None of the above.

14. Suppose that Barbara's tastes, income and the price of CDs remain constant, but the price of clothes is halved. What would happen to her budget line, point D and her optimal choice?
    a.) Her budget line would rotate around point D.
    b.) Point D would represent a bundle which Barbara cannot afford.
    c.) The budget line would not change but the optimal choice would be different.
    d.) Point D would not exhaust Barbara's budget for these goods.
    e.) None of the above.

15. Which of the following statements is *not* valid?
    a.) A Giffen good is an inferior good where the substitution effect outweighs the income effect, causing the demand curve to slope upwards to the right.
    b.) The income expansion path is a curve showing how the chosen bundle of goods varies with consumer income levels.
    c.) An individual demand curve is a curve showing the amount demanded by a consumer at each price.
    d.) A market demand curve is the sum of the demand curves of all individuals in a market.
    e.) A budget constraint is the set of different consumption bundles that the consumer can afford, given income and prices.

B. <u>True or false questions</u>

Instructions: Please decide if the following statements are true ('T') or false ('F'), and fill in the table! Each question in section B is worth 1 point each.

B/1	B/2	B/3	B/4	B/5	B/6	B/7	B/8	B/9	B/10

1. An economy in which there is full employment is not producing on the production possibility frontier.
2. An expansion of an economy's capacity to produce would be reflected in an 'outwards' movement of the production possibility frontier.
3. An increase in consumers' incomes will cause an expansion in the demand for normal goods.
4. Price cuts will increase total spending on a good if the good is a Giffen good.
5. If two goods are complements, the cross-price elasticity of demand is likely to be negative.
6. Indifference curves never intersect if the consumer has consistent preferences.
7. China is an example of a command economy in which private markets play no part.
8. The imposition of a minimum legal wage will always lead to an increase in employment.
9. The theory of consumer choice demonstrates that consumers prefer to receive transfers in kind rather than transfers in cash.
10. The slope of the budget line depends only upon the relative prices of the goods.