UNIVERSITY OF ESWATINI

FIRST SEMESTER MAIN EXAMINATION PAPER, NOVEMBER 2019

FACULTY OF SOCIAL SCIENCES

DEPARTMENT OF ECONOMICS

COURSE CODE: ECO201

TITLE OF PAPER: MICROECONOMICS I

TIME ALLOWED: 2 HOURS

Instructions
1. This paper consists of Section (A), Section (B) and Section (C).
2. Section A is compulsory.
3. Answer one (1) questions from Section B and one question from section (C).

Special Requirements

  Scientific calculator

Additional Material (s)

*Candidates may complete the front cover of their answer book when instructed by the Chief Invigilator and sign their examination attendance cards but must **NOT** write anything else until the start of the examination period is announced.*

No electronic devices capable of storing and retrieving text, including electronic dictionaries and any form of foreign material may be used while in the examination room.

DO NOT turn examination paper over until instructed to do so.

SECTION A

QUESTION ONE: COMPULSORY (20 Marks)

**PART I: MULTIPLE CHOICE QUESTIONS** (1 Mark Each = 20 Marks)

WRITE THE CORRECT ANSWER IN YOUR ANSWER BOOKLET.

1. If the government sets the minimum price of a product above the equilibrium price,

    a) more firms get attracted by the high price, and the industry supply curve shifts to the right

    b) the quantity demanded would drop to zero as people are not prepared to pay these high prices

    c) the demand and supply curves would shift until a new equilibrium price is formed at the price set by the government

    d) producers have an incentive to produce more than they would produce under free-market circumstances

2. The diagram below shows the effects of an indirect tax applied by a government to producers of a good.
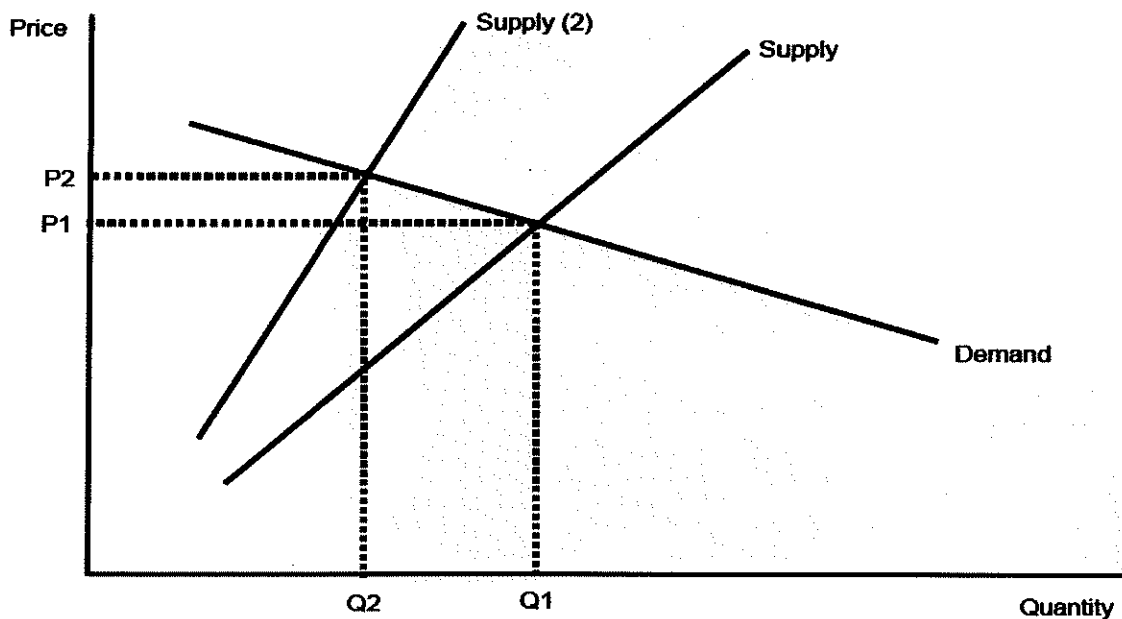
As a result, the majority of the burden of the tax will be paid by-:

a) Consumers because demand is elastic

b) Producers because demand is elastic

c) Consumers because demand is inelastic

d) The burden will be shared equally between producers and consumers

3. Airlink cuts its fares on average by 14% and finds that the volume of passengers demanding flights on their services rises by 25%. As a result, the total revenue of Airlink will:

a) Decrease because demand is price elastic

b) Increase because demand is price inelastic

c) Increase because demand is price elastic

d) Remain the same as elasticity of demand = unity (1)

4. In the diagram below, the demand curve for bus transport in a local town is shown. Initially the bus fare is P1 and the number of passenger journeys per day is Q1. If the bus company abolishes fares for a month and the number of passenger journeys increases to Q0, how will consumer surplus change?
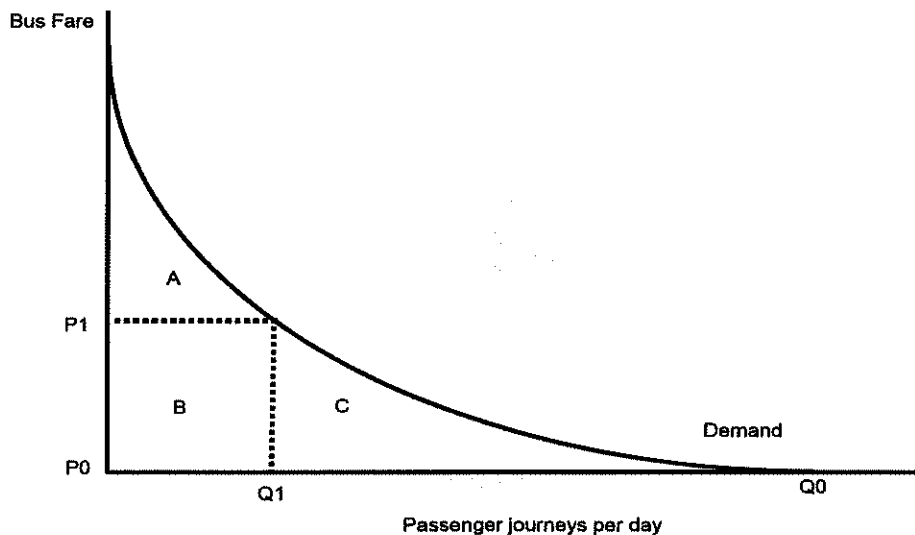
a) From A to B + C

b) From A to A + C

c) From A to A + B + C

d) From A + B to A + B + C

5. If the cross price elasticity of demand between two products is +3.5, then

    a) The two products are complements

    b) The two products are substitutes

    c) One of the products is expensive and one is relatively inexpensive

    d) One product is a normal good and the other is an inferior good

6. The diagram below shows the demand and supply curves for a product following the introduction of an ad valorem tax.
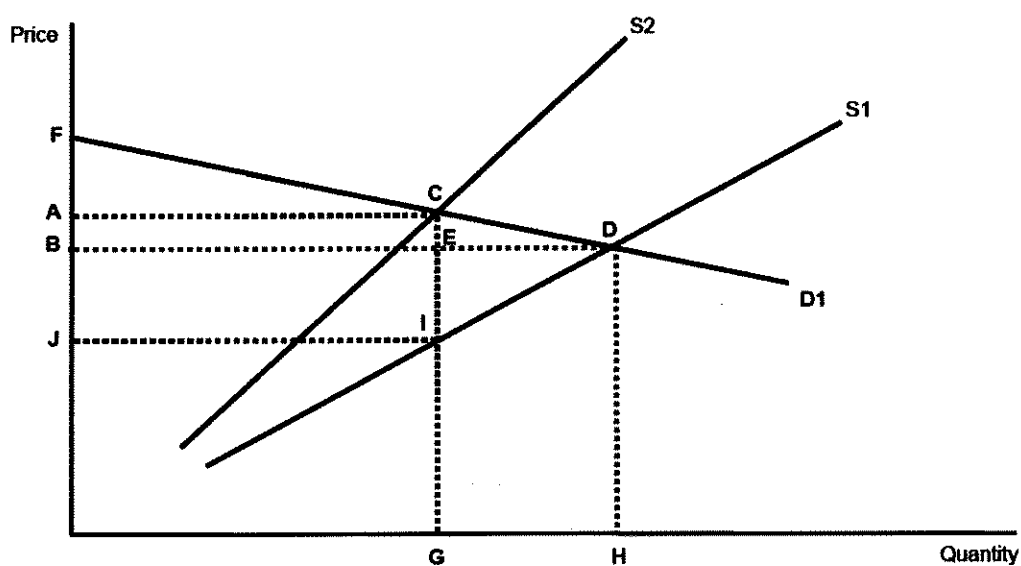
As a result of the shift in the supply curve from S_1 to S_2, the level of consumer surplus falls by-:

    a) ACF

    b) ABEC

    c) CED

    d) ABDC

7. The diagram below shows the effect of a tax on petrol to reduce road congestion and pollution from road use. It can be deduced from the diagram that-:

    a) Suppliers pay all the tax

    b) Consumers pay all the tax

    c) Consumers will refuse to pay the tax

    d) The demand for petrol falls as a result of the tax

4
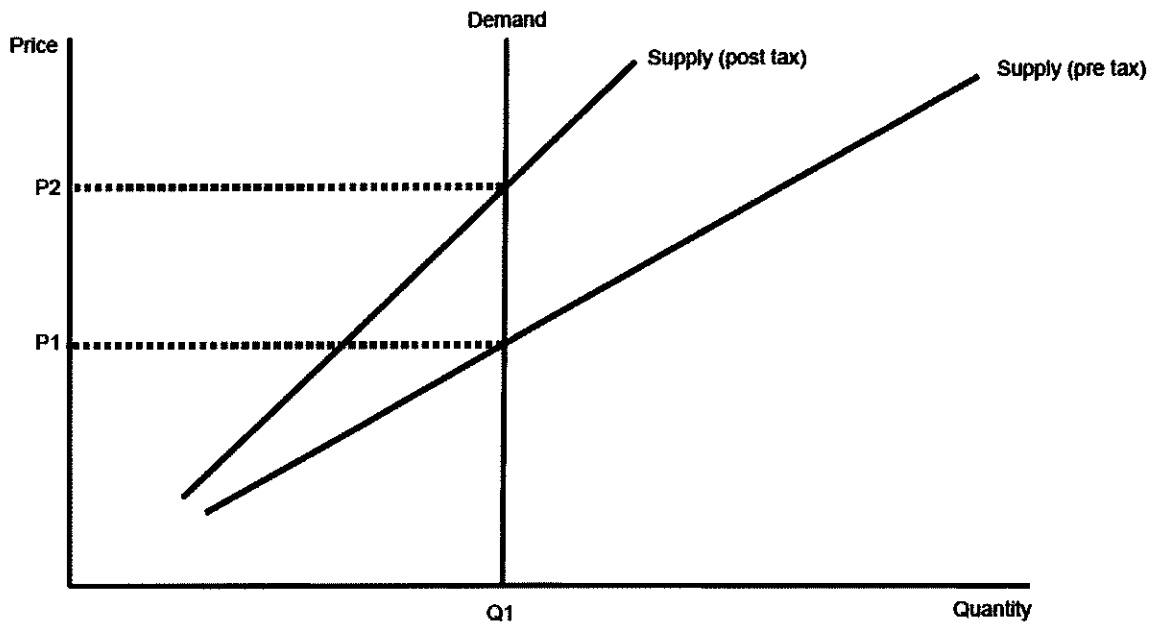
8. If the amounts of two commodities purchased both increase or decrease when the price of one changes, the cross elasticity of demand between them is
   a) Negative
   b) Positive
   c) Zero
   d) 1.

9. The diagram below shows the effect of an increase in market supply for a commodity.
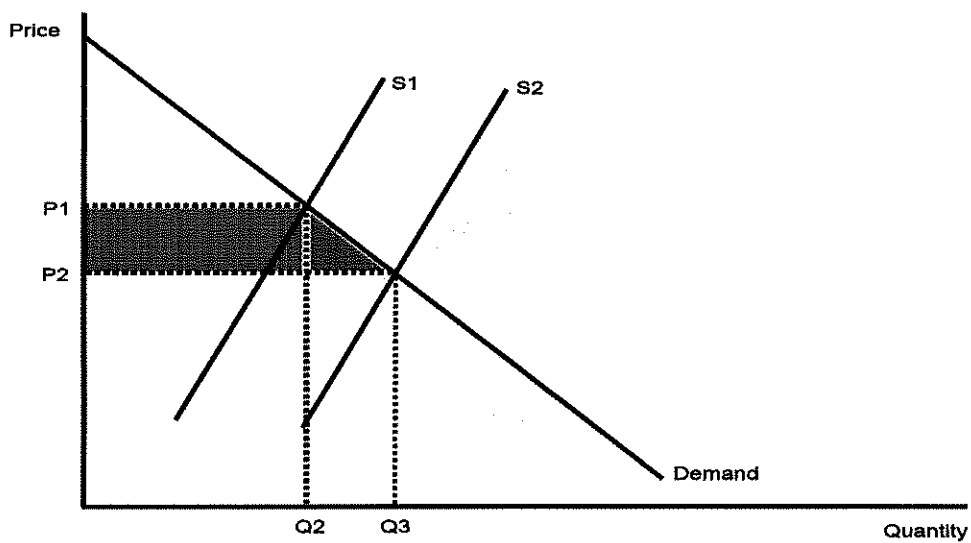
The shaded area in the diagram represents

a) The increase in producer surplus following a fall in market price

b) The increase in total costs following a fall in market price

c) The increase in consumer surplus following a fall in market price

d) The increase in government tax revenue following a fall in market price

10. The substitution effect can be measured holding _____ constant.

   a) income

   b) utility

   c) the price of one good

   d) the price of all goods

11. The substitution effect for a fall in the price of a commodity (ceteris paribus) is given by

   a) a movement up a given indifference curve

   b) a movement from a higher to a lower indifference curve

   c) a movement down a given indifference curve

   d) any of the above.

12. The diagram below shows the effects of an indirect tax applied by a government to producers of a good.
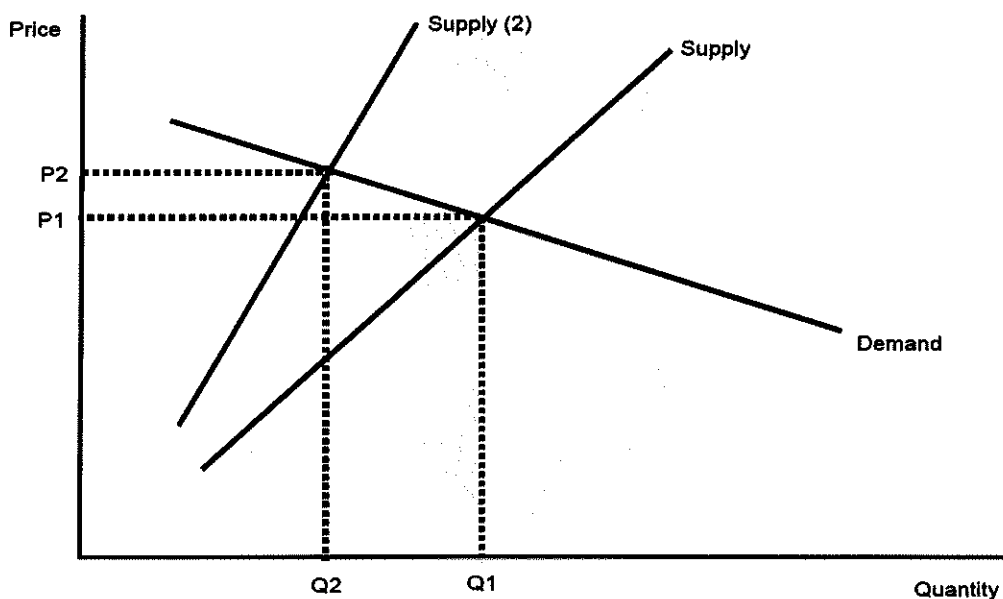
As a result, the majority of the burden of the tax will be paid by

a) Consumers because demand is elastic

b) Producers because demand is elastic

c) Consumers because demand is inelastic

d) The burden will be shared equally between producers and consumers

13. If the MU of the last unit of X consumed is twice the MU of the last unit of Y consumed, the consumer is in equilibrium only if

a) The price of X is twice the price of Y

b) The price of X is equal to the price of Y

c) The price of X is one half of the price of Y

d) Any of the above is possible

14. An increase in the price of a good causes

a) a change in the slope of the budget line.

b) an increase in the consumption of that good.

c) a rightward shift of the demand curve for that good.

d) a parallel rightward shift of the budget line.

15. Suppose the quantity of X is measured on the horizontal axis. If the price consumption curve is vertical when the price of X changes, then the demand for X is

a) perfectly elastic.

b) perfectly inelastic.

c) unit elastic.

d) There is not enough information to determine the price elasticity of demand for X.

16. A movement upward along an upward sloping Engel curve corresponds to

a) upward sloping indifference curves.

b) crossing indifference curves.

c) a rotation in the budget constraint.

d) a parallel shift in the budget constraint.

17. When deriving an Engel curve the prices of both goods

    a) are held constant.

    b) increase by the same percentage as income.

    c) decrease by the same percentage as income.

    d) can either decrease, increase or stay the same.

18. If consumer income and prices increase by the same percentage

    a) the consumer will buy more of both goods.

    b) the consumer will buy more of both goods if they are both normal goods.

    c) the consumer will buy less of both goods if they are both inferior goods.

    d) the consumer's utility maximizing bundle stays the same.

19. Suppose that export prices of coffee in Ethiopia fell by half, from 79 cents/ pound in 2010 to 39 cents in 2011. If the demand for Ethiopian coffee is assumed to be price inelastic, the fall in price will cause

    a) A rise in the total revenue of coffee growers

    b) A fall in the total revenue of coffee growers

    c) No change in total revenue

    d) An increase in the profitability of growing coffee in Ethiopia

20. When total utility increases, marginal utility is

    a) negative and increasing

    b) negative and declining,

    c) zero

    d) positive and declining.

Question 1 (i)

Suppose that the production function for compact disc player is

$$Q = 100L^{0.6}K^{0.4}$$

Where Q is the total output, L is the quantity of labor employed, and K is the quantity of capital in place.

a) Calculate TP, AP, and MP for the sixth, seventh and eighth units of labour employed if capital is fixed at 240 units. [6]

b) To which stage of production do these quantities of labor correspond? Why?

[4]

Question 1 (ii)

a) What are the accounting costs of your university education? What are the economic costs? How do they compare?

[4]

b) Explain why the short-run MC is equal to the slope of both the TC and TVC curves.

[6]

SECTION B

ANSWER ANY ONE (1) QUESTION   **[30 Marks Each]**

Question Three   **(30 Marks)**

3. (a) If the market demand for agricultural commodities is price-inelastic, would a bad harvest lead to an increase or a decrease in the incomes of farmers as a group? Why?   [5]

(b) Identify the type of price control that governments can impose on the price of fuel to control the sustained price increases. With the aid of a diagram, critically discuss the economic effects of the imposition of such a price control.   [15]

(c) Suppose the demand for fuel is instead perfectly inelastic. What would be the effect, if any, of fuel price controls?   [5]

(d) Explain why for many goods, the long-run price elasticity of supply is larger than the short-run elasticity.   [5]

Question Four   **(30 Marks)**

4.(a) (i)Suppose you have two goods, X and Y, show the income, substitution and total effects of a decrease in the Price of good Y when Y is a Giffen good. Draw the corresponding demand curve for Good Y in the lower graph.

[10]

(ii) In your answer, explain how you derived the demand curve for good Y.   [10]

(b) Suppose the demand curve for a product is given by $Q = 300 - 2P + 4I$, where I is average income measured in thousands of Emalangeni. The supply curve is $Q = 3P - 50$. If $I = 25$, find the market-clearing price and quantity for the product.   [10]

SECTION C

ANSWER ANY ONE (1) QUESTION   **[30 Marks Each]**

Question 5

Suppose that you wake up tomorrow to discover that you have 12 hours of study time in which to prepare for three exams. For each hour of study you can expect your marks to be as given in the accompanying table. You want to allocate your time to maximize your total numerical score on all three exams. (Each is weighted equally on your final result).

Hour	Exam A	Exam B	Exam C
1	40	60	39
2	65	90	46
3	80	100	60
4	90	100	72
5	95	90	82
6	99	75	90
7	100	55	96
8	100	33	100
9	99	8	100
10	95	0	100

a) Calculate the marginal product (score) of each hour of study for each exam.   [12]

b) State briefly the meaning of negative marginal product in this example.   [3]

c) State a general rule for dividing your time to maximize the total score on all three

exams. How many hours should be devoted to the preparation of exams A, B and C?

[5]

d) Explain why the short-run MC is equal to the slope of both the TC and TVC curves.

[6]

e) How is the law of diminishing returns marginal returns related to the shape of the short-run marginal cost curve?   [4]

Question 6

a) Explain the concept of returns to scale   [6]

b) Consider the production function given by, $Q = 5L + 10K$, is it characterized by constant, increasing or decreasing returns to scale? Why?   [2]

c) Given the production function above find the marginal rate of technical substitution of capital for labor.   [12]

d) How do external economies and diseconomies of scale affect the firms long-run marginal cost curve? Why?

   [5]

e) Weakbeer and Co. produces bottled lager. The company faces the following total cost function:

$$TC = 300 + 3Q + 0.02Q^2$$

Where TC is total cost in Emalangeni and Q is the number of bottles of lager produced. What is the corresponding TFC function? The AFC function? The TVC function? The AVC function? Plot these curves as well as MC cure for the first six bottles produced.

   [5]