

MATRICULATION AND SECONDARY EDUCATION CERTIFICATE EXAMINATIONS BOARD

UNIVERSITY OF MALTA, MSIDA

MATRICULATION EXAMINATION

ADVANCED LEVEL

SEPTEMBER 2017

SUBJECT:	ECONOMICS
PAPER NUMBER:	I
DATE:	4 th September 2017
TIME:	9.00 a.m. to 12.05 p.m.

Answer **FOUR** questions. **TWO** from each Section. All questions carry equal marks. This paper carries 60% of the global mark.

SECTION A

Answer **TWO** questions from this section.

1. a) Evaluate and state whether each of the following statements is true. Explain the reasoning for your answer.
 - i) The opportunity cost of using an economic resource (such as labour, capital or raw materials) is the value it would have in its best alternative use. (3)
 - ii) As society increases its stock of capital goods, the productive capacity of the economy increases, and the production possibility curve moves inwards. (3)
 - iii) In a free-market economy there is a mechanism that coordinates the allocation of resources. (3)
 - b) Draw a demand and supply curve for cars. Illustrate and explain how these curves are effected by:
 - i) an increase in income; (3)
 - ii) a decrease in the cost of public transport; (3)
 - iii) a trade dispute that leads to a 50% reduction in the importation of cars. (3)
 - c) The world price of crude oil fell from around \$100 a barrel in July 2014 to around \$50 a barrel in February 2015. The fall is often attributed to the growth of US shale oil production and decisions made by OPEC not to cut their production quotas. Illustrate the demand and supply curves for oil before and after the fall in price. Explain how the curves have shifted and how the equilibrium price and amount produced and consumed have changed. (7)
- (Total: 25 marks)**
2. a) The following questions concern the Marginal Utility Theory.
 - i) Suppose a consumer with a limited budget is faced with a consumption bundle which consists of two goods – good A and good B. What can you predict about this consumer's behaviour if the marginal utility per euro spent on good A is lower than that spent on good B? (5)
 - ii) 'An additional unit of consumption of any good will always yield an increase in both total and marginal utility'. Is this statement correct? Explain why. (5)

Question continues on next page

- b) State whether each of the following statements is true, false or uncertain. Give a brief explanation for your answer. Use diagrams where appropriate.
- i) If a consumer can buy two goods (X and Y) then the slope of the budget constraint will change if the price of good X falls. (5)
 - ii) If a consumer is initially maximising utility by consuming a combination of two goods, the marginal utility derived from an increase in income will be the same, whatever good it is spent on. (5)
- c) Using the marginal utility theory, explain why consumers usually demand more of a particular good when its price falls. (5)

(Total: 25 marks)

3. a) Define own price, cross price and income elasticity of demand. Explain how any of these elasticities reveals whether:
- i) two goods are complements in consumption;
 - ii) a good is normal. (10)

- b) An insurer has commissioned you to inform him about the demand for private health care insurance. From your analysis, you have found that:

Income elasticity of demand for insurance is 1.8

Own price elasticity is -0.2

Using this information,

- i) briefly describe the nature of demand for insurance; (5)
 - ii) draw a diagram to explain the effects of a flat rate tax levied on all insurance premiums (this tax shifts the demand curve inwards). (5)
- c) Licensed taxis in a city are subject to fare regulation. Taxi drivers applied to raise their fares by 10% and were disappointed when this only yielded a 5% increase in revenue. What can you infer about the elasticity of demand for taxi rides? (5)

(Total: 25 marks)

4. a) Evaluate and state whether each of the following statements is true. Explain the reasoning for your answer.

- i) A U-shaped long-run average cost curve characterizes the firm facing economies of scale for relatively low output levels and diseconomies of scale for higher levels. (3)
- ii) If a firm experiences increasing returns to scale, a doubling of its output requires less than a doubling of its cost. (3)
- iii) If a firm has diminishing returns to a factor, its marginal cost will be rising as output increases. (3)

- b) Suppose a firm is operating in the short-run.

- i) What would the shape of the average cost curve of this firm be and what would the shape and position of the marginal cost curve be relative to the average cost curve? Use diagrams to illustrate your answers.
- ii) Assume that this firm experiences an increase in its fixed costs. How would that affect the shape and position of the average and marginal cost curves of this firm? (10)

- c) 'A firm suffering short run losses will continue to operate as long as total revenue covers fixed costs.' Is this statement correct? Explain why. (6)

(Total: 25 marks)

5. a) Briefly define the concepts of perfectly competitive and oligopolistic market structures, and explain the nature of the demand curves faced by firms in each of these market structures. (10)
- b) Evaluate and state whether each of the following statements is true. Explain the reasoning for your answer.
- i) A monopolist will always set a price that exceeds marginal revenue. (3)
 - ii) In a perfectly competitive market a firm makes zero profit in the long run. (3)
 - iii) A monopolistically competitive industry achieves an efficient use of the resources (labour and capital) employed in it. (3)
- c) With the help of a diagram, briefly explain how pricing and output decisions made by a perfectly competitive firm differ from a monopolistic firm. (6)
- (Total: 25 marks)**
6. a) Consider the factors that determine the labour supply of a household. Show how an individual's real wage rate and preferences for consumption of goods and leisure affect the supply of labour. Why might an increase in the real wage cause either an increase or a decrease in labour supply? (10)
- b) Consider the labour demand decisions of a competitive firm. What factors determine the position and the slope of the labour demand curve? Consider and explain the effects of the following on the labour demand curve:
- i) An increase in the price at which the firm can sell its product. (3)
 - ii) A rise in the prices of raw materials that the firm uses to make the product in question. (3)
 - iii) An improvement in the firm's technology that enables it to produce the same amount of goods with less labour and capital. (3)
- c) With the help of a diagram, explain why a minimum wage that is set below the equilibrium wage will not be binding. (6)
- (Total: 25 marks)**

Questions continue on next page

SECTION B

Answer **TWO** questions from this section.

7. a) “Describe the different methods of measuring GDP.” In what way does GDP differ from GNP (or GNI)? (8)
- b) Explain the circular flow of income with reference to the various leakages and injections in the generation of national income. What would the likely impact be on national income of an increase in imports of goods and services? (9)
- c) Discuss, using examples, the importance of technological change and the quality of labour within the process of long run economic growth. (8)
- (Total: 25 marks)**
8. a) What does the slope of the consumption function represent? Would an increase in household wealth impact the slope of the consumption function? (8)
- b) Describe **THREE** determinants of aggregate investment behaviour. (7)
- c) Explain, within the context of the income multiplier model, how a contractionary fiscal policy would generate a deflationary gap. In what way would a larger multiplier coefficient impact the resulting deflationary gap? (10)
- (Total: 25 marks)**
9. a) The Nobel Prize winning economist Milton Friedman once postulated that, “Inflation is always and everywhere a monetary phenomenon”. Explain this statement within the context of the quantity theory of money. (8)
- b) Describe the **TWO** main instruments that a central bank has at its disposal to undertake monetary policy. Briefly also describe the unconventional monetary policy known as quantitative easing. (8)
- c) Explain the process by which the central bank can utilize open market operations to cause the equilibrium interest rate in the economy to rise. (9)
- (Total: 25 marks)**
10. a) Distinguish between frictional, structural and seasonal unemployment and provide one example of a policy that the government can implement to reduce each of these **THREE** types of unemployment. (8)
- b) Describe, utilizing the aggregate demand and aggregate supply model, the impact of a rise in utility tariffs on the economy. Give an example of a supply side policy that the government can implement to mitigate such a shock. (9)
- c) Explain the relationship between unemployment and inflation as depicted in the Phillips curve. Does this relationship hold in the long run? (8)
- (Total: 25 marks)**

11. a) Distinguish between merit and public goods. (8)
- b) Explain what is implied by a government budget surplus. In what way does a government budget surplus (or deficit) differ from the level of national debt? Does the level of national debt have any influence on the government budget? (9)
- c) Discuss the role of automatic stabilizers within the context of the management of the national economy. (8)
- (Total: 25 marks)**
12. a) Distinguish between the **TWO** main types of import controls and explain the motives which would drive a government to implement such policies. (8)
- b) Explain, with the aid of an appropriate example, how it is possible for two countries to mutually benefit from trade on the basis of the law of comparative advantage. (8)
- c) Describe the components of the balance of payments and explain the likely impact on the balance of trade of the Maltese economy if the Euro had to appreciate against the British pound. (9)
- (Total: 25 marks)**

MATRICULATION AND SECONDARY EDUCATION CERTIFICATE EXAMINATIONS BOARD
UNIVERSITY OF MALTA, MSIDA
MATRICULATION EXAMINATION
ADVANCED LEVEL
SEPTEMBER 2017

SUBJECT: ECONOMICS
PAPER NUMBER: II
DATE: 5th September 2017
TIME: 9.00 a.m. to 12.05 p.m.

Answer **THREE** questions, at least **ONE** from Section A and **ONE** from Section B. All questions carry equal marks. This paper carries 40% of the global mark.

SECTION A

1. A Maltese farmer faces the following demand and supply schedules for potatoes:

Price (€)	Quantity Demanded (sacks/year)	Quantity Supplied (sacks/year)
4000	53000	26000
5000	50000	32000
6000	47000	38000
7000	44000	44000
8000	41000	50000
9000	38000	56000
10000	35000	62000
11000	32000	68000
12000	29000	74000

- a) Using the information in the above Table, plot the demand and supply functions and find the equilibrium price and quantity. (7)
- b) Does the above data conform to the laws of demand and supply? Explain your answer. (4)
- c) Suppose that the initial price is €1,000. Calculate the price elasticity of demand if prices were to be reduced by €1,000. Would your answer be different if the initial price was €6,000 and prices were still reduced by the same amount? Explain your answer. (6)
- d) Suppose that the Government introduces a maximum price of €9,000. How do you think the market will respond? Will there be any changes in the market for potatoes? (7)
- e) Suppose that due to adverse weather conditions, government introduces a price floor at €9,000. What is expected to happen in the market? Could there be valid reasons for the imposition of price controls? (Hint: In discussing market effects, you are requested to discuss possible changes in producer surplus, consumer surplus and possible changes to total economic welfare. Furthermore, you are also encouraged to discuss whether this could lead to dearth/excess supply or demand). (9)

(Total: 33 marks)

2. Information regarding the revenues and costs of a newly set-up profit seeking firm producing household appliances is given in the table below:

Output (units)	Total Costs (€)	Total Revenues (€)
10	64	240
20	121	460
30	177	660
40	239	840
50	314	1000
60	408	1140
70	528	1259.4
80	680	1360
90	872	1440
100	1110	1500

As an economist, you have been engaged to provide consultancy services to the proprietor of the firm. (Hint: You should conduct your analysis by rounding to one decimal place)

- Using the information from the table above, compute the Marginal Cost (MC), Average Cost (AC), Marginal Revenue (MR) and Average Revenue (AR) at each level of output. (8)
- Plot the Average Cost (AC), the Average Revenue (AR), Marginal Cost (MC) and Marginal Revenue (MR) curves in the graph paper provided. (6)
- What is the level of output you would advise the firm to produce? How much profit will the firm earn in this case? Highlight the area which represents the firm's profit if the proprietor decides to take your advice. (10)
- Why is the level of output you suggested different than the revenue-maximising level of output? Explain your answer. (4)

Suppose that the firm decides to index wages to the minimum wage, and government decides to increase it.

- Under what circumstances would it make sense for you to advise the firm to shut-down? Is the answer dependent on whether the firm is operating in the short run or in the long run? Explain your answer. (5)

(Total: 33 marks)

3. Suppose that a firm producing low-end gadgets faces the following production function (assuming that capital is constant):

Total Output of Gadgets per week	Number of Workers
147	1
270	2
369	3
444	4
495	5
522	6
527	7

The firm manages to sell each gadget at a price of €4 and hires workers at a rate of €300 per week.

- a) Construct a table to show the Total Cost of Labour per week (TC_L), the Marginal Cost of Labour (MC_L), the Total Revenue Product per week (TRP_L), and the Marginal Revenue Product of Labour (MRP_L). (8)
- b) Sketch the derived demand curve for labour and explain how you have derived it. (6)
- c) What do you understand by the law of diminishing marginal product? Does the above data conform to the law of diminishing marginal product? Your answer should include numerical illustrations. (6)
- d) How many workers should the firm employ to maximize its profits? What would its total wage bill be at this level of employment? How much revenue will the firm earn at this level of employment? (6)
- e) Suppose that the workers decide to join a union. Negotiations between the management and the union led to higher wage rates of €400 per week. What happens if the employer decides to take on more workers? What happens if the employer pays less than the agreed wage rate? (7)

(Total: 33 marks)

Questions continue on next page

SECTION B

4. In the spring forecasts, the European Commission notes that Malta's real GDP growth is expected to remain robust both this year and in the next. The labour market is an important driver of economic growth and is expected to continue performing well fueled by rising labour market participation, in particular among women, strong employment growth averaging 2.9 per cent in 2017-2018 while unemployment is expected to stabilize at just below 5.0 per cent.

The European Commission also notes that risks to the macroeconomic projections are broad-based. On the domestic front, strong economic growth could spur investment and private consumption further. The launching of the Malta Development Bank could provide an additional boost to investment. The decision to increase the minimum wage may support private consumption further, although the impact on GDP growth could be offset by higher costs for employers. The negotiations between the UK and the EU may also impact Malta's growth prospects.

The budget balance swung into surplus in 2016, which is expected to remain positive in 2017 and 2018. The government debt-to-GDP ratio, which fell below the 60% threshold in 2016, is forecast to decline further to 52.5% in 2018. Risks to the fiscal outlook are balanced as higher current expenditure, related to the recently-called early elections and slippages in budgetary execution, may be compensated by higher proceeds from the citizenship programme.

Selected Macroeconomic Indicators			
Annual percentage change	2016	2017 ⁽¹⁾	2018
GDP growth at chain linked volumes (2010) prices	5.0	4.6	4.4
Expenditure Components of GDP			
Private Final Consumption Expenditure ⁽²⁾	3.8	3.5	3.3
General government final consumption expenditure	-3.1	11.8	4.1
Gross Fixed Capital Formation	-1.3	0.5	-3
Exports of Goods and Services	4.0	3.6	4.5
Imports of Goods and Services	1.1	3.4	2.8
Contribution to GDP growth (in percentage points):			
Domestic Demand	1.0	3.9	1.7
Inventories	-0.2	0.0	0.0
Net Exports	4.3	0.7	2.8
Inflation Rate (%)	0.9	1.6	1.8
Employment Growth	3.7	3.0	2.8
Unemployment Rate	4.7	4.9	4.9
General Government Balance	1.0	0.5	0.8
General Government Gross Debt	58.3	55.8	52.5
⁽¹⁾ Forecasts from 2017 onwards			
⁽²⁾ Includes NPISH Final Consumption Expenditure			

Reference: European Commission (spring, 2017). Spring 2017 Economic Forecast
https://ec.europa.eu/info/sites/info/files/ecfin_forecast_spring_110517_mt_en.pdf

- a) Why is the increased labour force participation considered to be an important driver of economic growth? (5)
- b) The European Commission is expecting strong employment growth this year and the next, while unemployment is expected to stabilize at 4.9 per cent. Do these statements contradict each other? Is it possible for continued employment growth to push the unemployment rate to zero? Explain your reasoning. (7)
- c) What are domestic demand components of GDP? Why are the domestic demand components of Malta's GDP considered import intensive? Use an example to support your answer. (6)
- d) Which expenditure components are captured under domestic demand? How would you arrive at the net exports figure? What significance do the contributors to GDP growth play on economic analysis and how would you interpret them? (4)
- e) What are the positive effects of running a budget surplus? Is it the only way to reduce the debt to GDP ratio? (6)
- f) One of the main macroeconomic risks identified by the European Commission as a potential factor which may hinder Malta's growth prospects over the years to come is BREXIT. Discuss the channels through which BREXIT could potentially affect Malta. Explain your reasoning. (5)

(Total: 33 marks)

Questions continue on next page

5. The Central Bank of Malta publishes a wide range of monetary statistics and indicators, including broad measures of money supply, its components and its counterpart assets. The table below highlights the monetary aggregates according to the May 2017 release:

MONETARY AGGREGATES (€million)	Apr-17	Apr-16
NARROW MONEY (M1)	14,104.3	X
Currency issued	X	903.5
Overnight deposits	13,163.0	11,099.5
<i>From residents of Malta</i>	12,671.8	10,659.1
<i>From other euro area residents</i>	491.2	X
INTERMEDIATE MONEY (M2)	X	16,116.3
Narrow money (M1)	14,104.3	12,003.0
Deposits redeemable at notice up to 3 months	94.1	106.3
<i>From residents of Malta</i>	92.8	104.9
<i>From other euro area residents</i>	1.3	1.4
Deposits with agreed maturity up to 2 years	4,116.9	4,007.0
<i>From residents of Malta</i>	3,185.3	3,502.1
<i>From other euro area residents</i>	X	504.9
BROAD MONEY (M3)	18,343.2	16,170.4
Intermediate money (M2)	18,315.3	X
Marketable instruments	27.9	54.1

Reference: Central Bank of Malta (May, 2017). *The Contribution of Resident MFIs to Euro Area Monetary Aggregates*
<https://www.centralbankmalta.org/monetary-banking-and-financial-markets>

- a) Complete by reproducing on the script (only the relevant parts) the missing parts (marked with “X”) in the Table on page 6. Identify the monetary aggregates that made the strongest contribution to the increase in Broad Money (M3) between April of 2016 and April of 2017. (9)
- b) What is the role of the European Central Bank, and how does it differ from the role of the Central Bank of Malta? (4)
- c) On 1st January 2008, Malta officially adopted the euro. The Central Bank of Malta thus became a member of the Eurosystem which meant that the Central Bank of Malta no longer had ‘autonomous’ monetary policy at its disposal. Discuss **SIX** functions of the Central Bank of Malta and their importance for the Maltese economy. (7)
- d) The Eurosystem uses a number of monetary policy instruments approved by the Governing Council of the European Central Bank to achieve its monetary policy objectives. These instruments steer short-term interest rates, manage the liquidity situation in the banking system, as well as signal the general stance of monetary policy. List the **THREE** standard monetary policy instruments used by the ECB and explain how they are used to reach the monetary policy objectives. (9)
- e) The ECB has a target rate of 2% inflation, but individual members of the euro area have persistently recorded different inflation rates. What are the implications of these differentials within the framework of a common monetary policy? (4)

(Total: 33 marks)

Questions continue on next page

6. Assume that the following equations represent key economic relationships for a closed economy:

GDP identity:	$Y = C + I + G$	eq. (1)
Consumption function:	$C = 25 + 0.8 (Y - T)$	eq. (2)
Tax equation:	$T = tY$	eq. (3)
$I = 150$		eq. (4)
$G = 180$		eq. (5)
$t = 0.2$		eq. (6)

Where:

Y = National Income

C = Consumption Expenditure

I = Investment Expenditure

G = Government Final Consumption Expenditure

- a) Define the Marginal Propensity to Consume, the Marginal Propensity to Save and Autonomous Consumption. What are the values taken by each in the equations above? (9)
- b) What is the value of the multiplier coefficient? Show your workings. (7)
- c) Use the equations above to find the equilibrium value of income (Y). (6)
- d) Explain how savings is equal to investment in the economy. (5)
- e) Discuss the implications of:
 - i. the tax rate (t) equal to 0; (2)
 - ii. a change in investment from 150 to 180; (2)
 - iii. a change in government expenditure from 180 to 150. (2)

(Total: 33 marks)