Question 1

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Economics
Pack 1• Leaving Cert

JT Economics

The Business Guys

Short Questions

1) 2017 Q7

(a) A consumer buys 80 units of Good A when the price of Good B is €100. When the price of Good B falls to €90 (the price of Good A remaining unchanged), the consumer buys 120 units of Good A. Using an appropriate formula, calculate this consumer's cross price elasticity of demand for Good A. **(Show your workings.)**

Workings:

Answer:

(b) Is Good A a substitute **or** a complement to Good B? Explain your answer.

_____

_____

(17 marks)

2) 2016 Q6

The table below shows the annual average level of income in a country and the corresponding demand for Product A for two years.

Year	Income (€)	Product A (units)
Year 1	57,000	100
Year 2	63,000	200

(i) Calculate the income elasticity of demand (YED) for Product A. **Show your workings**.

(ii) Using your knowledge of YED, explain the economic meaning of this figure you calculated in (i) above.

_____

_____

_____

_____

Workings:

Answer:

(17 marks)

3) 2015 Q1

Outline why 'choice' is fundamental to the study of economics.

_____

_____

_____

(16 marks)

4) 2015 Q2

(a) Explain the concept of the Equi-Marginal Principle of Consumer Behaviour.

_____

_____

_____

(b) In equilibrium, a consumer buys 5 bottles of water at €2.50 each and 8 bagels at €3 each.

The marginal utility of the 5th bottle of water is 5 utils.

Calculate the marginal utility of the 8th bagel. (**Show your workings.**)

Workings:

Answer:

(16 marks)

5) 2015 Q7

Read each statement below and indicate if the statement is true or false. [Tick (✓) the appropriate box.]

STATEMENT	TRUE	FALSE
A good with an income elasticity of demand (YED) of +2.5 is a luxury good.		
If the cross-price elasticity of demand (CED) is negative then it may be said that the goods are complements.		
When demand is price elastic, a reduction in price will lead to a decrease in total revenue.		
When many close substitute goods are available, demand for any one of them should be highly elastic.		

(17 marks)

6) 2014 Q1

Define the term '**opportunity cost**'.
State **one** example of an opportunity cost facing the Irish Government.

Definition: _____

_____

_____

Example: _____

(16 marks)

7) 2014 Q4

Explain the meaning of the term **'complementary goods'** (i.e. joint demand).
State **one** example.

Explanation: _____

_____

_____

Example:_____

(16 marks)

8) 2013 Q1

The fundamental economic problem is one of 'scarcity'. Explain this concept.

_____

_____

_____

(16 marks)

9) 2013 Q3

Read each statement below and indicate if the price elasticity of demand (PED) for the product is most likely to be elastic or inelastic. (Tick ✓ the correct box.)

STATEMENT	ELASTIC	INELASTIC
Consumers are strongly attached and loyal to the product.		
Many close substitutes are available for the product.		
The product is a luxury product.		
The product accounts for only a small fraction of a consumer's weekly expenditure.		

(16 marks)

10) 2012 Q1

State **three** reasons why the demand curve for bottled water may shift to the right.

(i) _____

(ii) _____

(iii) _____

(16 marks)

11) 2012 Q5

'Inferior products have a negative Income Elasticity of Demand (YED)'.

(a) Explain this statement.

Explanation:_____

_____

_____

(b) State **one** example of an inferior product, giving a reason for your answer.

Example:_____

_____

(16 marks)

12) 2011 Q2

Define a mixed economy. State **two** examples of economic activity which supports the view that Ireland is a mixed economy.

Definition: _____

_____

Example 1: _____

Example 2: _____

(16 marks)

13) 2011 Q8

A consumer buys 20 units of Good A when the price of Good B is €8. When the price of Good B rises to €10 (the price of Good A remaining unchanged) the consumer buys 12 units of Good A.
Using an appropriate formula, calculate this consumer's cross elasticity of demand for Good A.
(Show your workings.)

WORKINGS

Answer:

_____

Is Good A a substitute for, or a complement to, Good B? Explain you answer.

_____

_____

(17 marks)

14) 2010 Q3

A consumer spends €200 monthly on Product A when its price is €2 and continues to spend €200 monthly when its price increases to €2.50. Calculate the consumer's price elasticity of demand. (See Formulae and Tables Booklet p.28) **Show all your workings and explain your answer.**

Workings:

Answer:

_____

Explanation:

_____

_____

(16 marks)

15) 2009 Q3

Ireland has a mixed economy. What do you understand by the underlined term? State **one** economic advantage and **one** economic disadvantage of this type of economic system.

Explanation: _____

_____

Advantage: _____

Disadvantage: _____

(16 marks)

16) 2009 Q7

(a) State the **Law of Diminishing Marginal Utility**:_____

_____

_____

(b) The table below illustrates the Law of Diminishing Marginal Utility.

Number of units consumed	**1**	**2**	**3**	**4**	**5**	**6**
Total Utility in units	**30**	**65**	**85**	**100**	**110**	**115**
Marginal Utility in units	**30**					

Complete the table and state the point after which diminishing utility sets in.

_____

(17 marks)

17) 2008 Q5

Define a **Free Enterprise** economic system and state **one** economic advantage of this system.

Definition: _____

_____

Advantage: _____

(16 marks)

18) 2008 Q6

Consumers buy 50 units of a product when the price is €1.50. When the price is reduced to €1 consumers buy 90 units. Using an appropriate formula, calculate the consumers' **price elasticity of demand. Show your workings and explain your answer.**

Workings

Explanation:

_____

_____

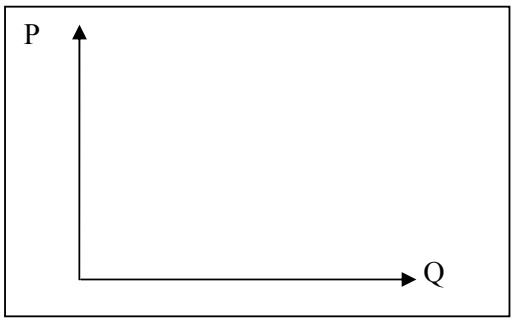
_____

_____

(16 marks)

19) 2007 Q3

China will host the Beijing Olympic Games in August 2008 and 7 million tickets are available for the event. On the diagram below draw the supply curve for tickets and explain the reason for its shape.



Explanation:

_____

_____

_____

(17 marks)

20) 2007 Q7

'An Irish banking group owns thirty branch offices. There is no opportunity cost to the banking group using these offices as they are fully owned'. **True / False**.

Circle your choice and give a one sentence explanation of your answer.

_____

_____

_____

(17 marks)

21) 2006 Q6

In equilibrium a consumer buys 8 bars of chocolate at €1.00 each and 12 sandwiches at €4.00 each. The marginal utility of the eighth bar of chocolate is 10 utils.
Using the Equi-Marginal Principle of Consumer Behaviour **calculate the marginal utility of the twelfth sandwich**.

Show all your workings.

Workings

Answer:

_____

(17 marks)

22) 2005 Q1

Explain the concept **Opportunity Cost.** Why is the concept central to the study of Economics?

_____

_____

_____

_____

(16 marks)

23) 2005 Q3

Explain what is meant by **Consumer Surplus.**

_____

_____

_____

(16 marks)

24) 2005 Q4

A consumer in equilibrium buys 10 cups of coffee at €2 each and 10 phone cards at €6 each. The marginal utility of the cups of coffee is 5 utils. What is the marginal utility of phone cards? **Show your workings.**

Workings	Answer: _____
	_____
	_____
	_____

(16 marks)

25) 2004 Q1

Outline **FOUR** factors that affect **the supply of a good**, other than the price of the good itself.

(i) _____

(ii) _____

(iii) _____

(iv) _____

(16 marks)

26) 2004 Q6

Define the **Law of Diminishing Marginal Utility** and state **TWO** assumptions underlying the law.

Definition:_____

_____

_____

Assumption (i): _____

Assumption (ii): _____

(17 marks)

27) 2004 Q8

"There is no opportunity cost to a firm in using an asset which it already owns". **True / False**.
(Place a circle around your choice and give a one sentence explanation of your answer.)

_____

_____

_____

(17 marks)

28) 2003 Q6

Using the diagram, explain how higher consumers' incomes (other factors unchanged) may affect the demand curve for mobile phones in Ireland.

Diagram

Explanation

_____

_____

_____

_____

_____

_____

(17 marks)

29) 2003 Q7

State **FOUR** economic assumptions used for analysing consumer behaviour.

(i) _____

(ii) _____

(iii) _____

(iv) _____

(17 marks)

30) 2001 Q1

What is meant by the concept *'consumer surplus'*?

.....

.....

.....

(16 marks)

Long Questions

2018 Q1

(a) (i) Distinguish between a **movement along** a demand curve and a **shift** in a demand curve.

(ii) Explain, using a supply and demand diagram how a market would return to equilibrium following a surplus (excess supply) in the market.

[25]

(b) *The owners of a music venue, with a maximum capacity of 400 people, conducted market research into consumer demand for tickets at different prices.*
The information they obtained is shown in the table below.

Price (€)	Quantity Demanded	Quantity Supplied
€100	0	400
€80	200	400
€60	400	400
€40	600	400
€20	800	400

(i) Using the above data, draw the demand and supply curve for this music venue, showing the price and quantity of tickets at which this market is in equilibrium.
(ii) Explain the reason for the shape of the supply curve for this music venue.
(iii) Explain the terms **consumer surplus** and **total revenue.**
(iv) Show clearly on the diagram you have drawn in part (i) above, the areas of consumer surplus **and** total revenue at equilibrium.

[35]

(c) *The owners of this venue decide to charge €60 per ticket.*

(i) Calculate the **total revenue** from the ticket sales for the above venue, assuming there is a full house. **Show your workings**.
(ii) Explain how a knowledge of the concept of **consumer surplus** could benefit the owners of the music venue.

[15]
[75 marks]

2018 Q3 (b)

(i) Define the term **price elasticity of supply** (**PES**).

(ii) Explain, by means of an example, why the PES might be different in the long run than in the short run.

(iii) Discuss **two** factors, other than time period, that influence the PES of a product.

[25]

2018 Q3 (c) (ii)

(ii) Explain how knowledge of **price elasticity of demand** (**PED**) might be helpful to Irish exporters who wish to maximise their total revenue in the UK market.

[25]

2017 Q1

1. **(a)** In the case of any **two** of the following distinguish between the concepts.

(i) The Law of Demand *and* the Law of Supply.

(ii) Consumer Surplus *and* Producer Surplus.

(iii) Derived Demand *and* Joint Demand.

[25]

(b) Assume the market for electric cars is in equilibrium. Describe with the aid of a **separate** diagram in **each** case the effects each of the following market situations is likely to have on the equilibrium position for electric cars.

(i) A technological advance in the production process of electric cars.

(ii) The motor tax on petrol engine cars is expected to rise in the near future.

(iii) The government increases subsidies on public transport, reducing prices for its commuters.

[30]

(c) *The average monthly rental price for private residential property in Ireland is €1,078.*

(**Source:** *Daft.ie 2016*)

(i) Assume the average monthly **equilibrium** rental price is €1,078. On one diagram, illustrate the effect on the market if the Irish Government introduced a rent control that sets the maximum rent at €715.

(ii) Discuss the likely economic consequences of such a rent control (i.e. price ceiling on rental costs) on the Irish rental property market.

[20]

[75 marks]

2016 Q1

(a) (i) Outline **four** factors that determine the supply of a good or service.
(ii) Explain the difference between a **movement along a supply curve** and a **shift in a supply curve**. Use appropriate diagrams to illustrate your answer.

[35]

(b) Read the following statements and indicate if they are **TRUE** or **FALSE**.
Explain your answer in **each** case.

(i) The cross price elasticity of demand for substitute goods has a negative value.
(ii) Price Elasticity of Demand (PED) tends to be more elastic in the long-run than in the short-run.
(iii) When demand for a good is price inelastic, a reduction in price will increase total sales revenue.
(iv) Income elasticity of demand (YED) for luxury goods is positive.

[24]

(c) Using the concepts of demand and supply explain, with the aid of a labelled diagram, how a shortage of tickets for a major concert may arise. The concert venue has a maximum capacity of 30,000 people.

[16]
[75 marks]

2015 Q1

(a) The table below refers to the market data for 4G High Definition Televisions (TVs).

Price (€)	Quantity Demanded ('000 units)	Quantity Supplied ('000 units)
1,000	20	120
800	30	80
600	50	50
400	80	30
200	120	20

(i) Using the above data, draw a diagram showing the market demand and market supply curves for 4G TVs, showing the price and quantity of 4G TVs at which this market is in equilibrium.

(ii) Define the concept *market equilibrium*. With reference to the above market, explain how equilibrium is arrived at. (30)

(b) The market for wheat is in equilibrium. Explain, with the aid of a **separate** diagram in **each** case, the effects which each of the following market situations is most likely to have on the equilibrium position for wheat:

(i) Exceptionally wet weather conditions
(ii) An increasing percentage of the population is suffering from wheat allergies and intolerance
(iii) A decrease in the price of oil. (30)

(c) *Following recent sharp increases in the price of private rented accommodation, calls have been made for the Irish Government to introduce price/rent controls (a rent ceiling).*

Advise the Minister for the Environment on the possible economic consequences of the Government intervening in the market by imposing a price ceiling for private rented accommodation.

(15)
[75 marks]

2014 Q1

(a)

No of Units Consumed	1	2	3	4	5
Total Utility in *Units*/*Utils*	20	45	60	70	75
Marginal Utility in *Units*/*Utils*	20	25	15	10	5

(i) State and explain the law illustrated in the above table.
(ii) Outline **two** assumptions underlying this law. (25)

(b) (i) State the 'Law of Supply', and illustrate with a labelled diagram.
(ii) Explain how technical progress affects the supply curve.
(iii) Outline, with the aid of labelled diagrams, **two** other factors that would cause a shift in the supply curve. (30)

(c) Macklemore announces a concert in Ireland at a venue with a maximum capacity of 80,000 people. The tickets are priced at €65 and the concert sells out in hours.
(i) Draw **one** labelled diagram, showing a market demand curve and a market supply curve that would be consistent with the above information. Explain your answer.
(ii) Explain, using the concept of **Consumer Surplus**, why it might make sense for the concert promoters to have different ticket prices (e.g. VIP section, seating section and standing section) for this concert.

(20)
[75 marks]

2014 Q3

(a) (i) Define the categories of Price Elasticity of Demand (PED): elastic, inelastic and unit elastic.
(ii) State **three** factors that affect PED **and** explain how each factor affects it.
(30)

(b) A consumer/motorist buys 20 litres of petrol when the price is €1.60 per litre. When the price increases to €1.70, as a result of an increase in carbon tax, the consumer buys 19 litres.
Calculate the consumer's Price Elasticity of Demand (PED). **(Show all your workings.)**
Is this demand for petrol price elastic or price inelastic? Outline the implication of your answer for government revenue. (20)

(c) A firm is considering a change to its product's price. It conducts market research which reveals that the Price Elasticity of Demand (PED) for the product is **-2.5**.
Use this information to answer the following question:
(i) If the firm wishes to maximise total sales revenue, should it lower or raise the price of the product? Explain your answer.

The market research also reveals Income Elasticity of Demand (YED) for the product is **+4.5**.
Use this information to answer the following question:
(ii) In the case of an economy which is expected to remain in recession for the next five years, what, if any, will be the likely impact on the demand for the product? Explain your answer.
(25)
[75 marks]

2013 Q1

(a) (i) Distinguish between the terms 'effective demand' and 'derived demand'.
(ii) Outline **two** possible exceptions to the Law of Demand.

(25)

(b) The market for a brand of **blue jeans** is in equilibrium. Explain, with the aid of a separate diagram in each case, the effects which **each** of the following is most likely to have on the equilibrium position:

(i) Due to the economic downturn there is a reduction in the real income of consumers.
(ii) A fall in the price of cotton, a key input in the production of the blue jeans.
(iii) The blue jeans have recently been endorsed by a popular sports star. (30)

(c) A fall in the price of a consumer product has both a <u>substitution effect</u> and an <u>income effect</u>.

(i) Explain the underlined terms.
(ii) If the price of an **inferior** product falls (all other things being equal) will more or less of the product be purchased? Explain your answer with reference to the substitution effect and the income effect.

(20)

[75 marks]

2012 Q1

(a) (i) Explain the Equi-Marginal Principle of consumer behaviour.
(ii) State and explain **three** other economic assumptions used to analyse consumer behaviour. (25)

(b) A manufacturer of three different products calculates the price elasticity of demand (PED) for each product as follows:

Product A: -2.8 Product B: -1.0 Product C: -0.5

The manufacturer wishes to maximise its revenues. Explain in respect of **each** of these products, what change, if any, the manufacturer should make in the prices currently being charged to enable it to achieve its aim.
Illustrate your answers with the aid of a demand curve for **each** product. (30)

(c) You are given the following information about certain products:

Cross Elasticity of Demand between Product X & Product A = -0.8
Cross Elasticity of Demand between Product X & Product B = +3.2
Cross Elasticity of Demand between Product X & Product C = -1.6
Cross Elasticity of Demand between Product X & Product D = +0.5

(i) Which of the products above are substitutes for Product X? Explain your answer.
(ii) Which product is the closer complement to Product X? Explain your answer. (20)

[75 marks]

2011 Q1

(a) (i) Define the economic terms: **individual (consumer) demand; market demand.**

(ii) Explain, with the aid of labelled diagrams, the relationship between individual (consumer) demand and market demand. *(20)*

(b) (i) Distinguish between the economic meanings of a 'movement along a demand curve' and a 'shift in a demand curve' for concert tickets.
Illustrate your answer using diagrams.

(ii) State and explain **two** factors that would cause a shift in a demand curve for concert tickets. In **each** case explain how the factor affects the demand curve. *(30)*

(c) The Law of Diminishing Marginal Utility states that as more of a product is consumed, eventually each additional unit of the good provides less additional utility (marginal utility).

(i) Explain **two** assumptions underlying the Law of Diminishing Marginal Utility.

A consumer in equilibrium buys 6 health bars at €0.80 each and 9 cartons of juice at €1.50 each. The marginal utility of the 6th health bar is 40 utils.

(ii) Using the **Equi-Marginal Principle of Consumer Behaviour** calculate the marginal utility of the <u>ninth</u> carton of juice. (Show all your workings.)

(25)

[75 marks]

2010 Q1

(a) The data below represents the market demand and the market supply schedules for the soft drink 'Quencher'.

Price €	Quantity Demanded ('000 units)	Quantity Supplied ('000 units)
2.00	40	5
2.25	30	10
2.50	20	20
2.75	10	30
3.00	5	40

(i) Using the above data, draw the diagram showing the market demand and market supply curves for the soft drink 'Quencher'. Clearly mark the **point of equilibrium** and the **equilibrium price and quantity**.

(ii) Explain what it means for the market '**to be in equilibrium'**.

(iii) Assume costs of production fell, resulting in an extra 20,000 units supplied at each of the above listed prices. With reference to your diagram in **1(a)** (i) above and assuming that demand remains unchanged, draw the **new** supply curve. Clearly indicate the new point of equilibrium and the new equilibrium price and quantity.

(30 marks)

(b) (i) Outline **four** factors which affect price elasticity of demand (PED).

(ii) The PED for the soft drink 'Quencher' has been calculated at **-3.8**
Using your knowledge of PED, explain the economic meaning of this figure.

(30 marks)

(c) Many health advisors wish to reduce the consumption of soft drinks. Advise the Minister for Health and Children on possible economic actions that the Government could take to reduce the consumption of soft drinks.

(15 marks)

[75 marks]

2009 Q1

(a) (i) Show, by means of a labelled diagram, the market demand and supply curves for games consoles e.g. Xbox, PlayStation, Nintendo DS. Identify and explain the market equilibrium position.

(ii) Explain, with the aid of a separate diagram in **each** case, the effects which **each** of the following is most likely to have on the above equilibrium position:

- 50% reduction in the price of computer games used with the games console;
- Quota placed on the quantity of games consoles entering Ireland;
- Government introduce a 2% levy (tax) on all income earned. *(30 marks)*

(b) (i) Define income elasticity of demand **and** price elasticity of demand.

(ii) Which figure stated below is most likely to represent each of the following:

- **Income** elasticity of demand for low price cuts of meat;
- **Income** elasticity of demand for Apple iPhones;
- **Price** elasticity of demand for Petrol.

- 1.6 **- 0.1** **+ 4.3**

Give reasons for your choice in **each** case. *(30 marks)*

(c) Assume **Income** elasticity of demand for games consoles is **+ 2.5** and total sales in 2008 were 100,000 units.

Calculate the expected total sales for the year if consumers' incomes are expected to fall by 8% in 2009. Show your workings.

(15 marks)

[75 marks]

2008 Q1

(a) **(i)** Explain, with the aid of an example, the '**Law of Demand**'.
(ii) State and explain **three** exceptions to the 'Law of Demand'. *(20 marks)*

(b) The data below represents the market demand and supply schedules for MP3 Players.

Price €	Quantity Demanded (units)	Quantity Supplied (units)
20	100	20
30	80	40
40	60	60
50	40	80
60	20	100

(i) Using the above data, draw the diagram showing the market demand and supply curves for MP3 Players.
(ii) Show on your diagram the price and quantity of MP3 Players at which this market is in equilibrium.
(iii) Using this data, calculate the **price elasticity of demand** when price changes from €40 to €50. (Show all your workings).
For this price change, is demand for MP3 Players elastic or inelastic? Explain your answer.

(30 marks)

(c) **(i)** With reference to your diagram in **1(b) (i)**, assume that consumer demand for MP3 Players increases by 40 units at each price listed above, while supply remains unchanged, draw the **new** demand curve for this situation and show the new equilibrium price and quantity.
(ii) Explain **two** possible reasons for the shift in the demand curve.

(25 marks)
[75 marks]

2007 Q1

(a) **(i)** Define the economic terms: **individual (firm) supply; market supply**.

(ii) Explain, with the aid of labelled diagrams, the relationship between individual (firm) supply and market supply.

(20 marks)

(b) Explain, with the aid of a labelled diagram, the supply curve of an individual firm in **each** of the following circumstances. State one example in **each** case.

(i) A firm is willing to increase supply as price rises, but there is a minimum price below which the firm will not supply at all.

(ii) A firm can supply only up to a maximum production capacity.

(iii) The product is fixed in supply (e.g. perishable good) and a firm is operating in the short run.

(30 marks)

(c) Outline **FOUR** factors, other than price, which affect the supply curve of an individual firm. In each case explain how the factor affects the supply curve.

(25 marks)
[75 marks]

2007 Q4 (a) + (b)

(a) **Free Enterprise (Laissez Faire)** and a **Command Economy (Central Planning)** are examples of economic systems**.**

(i) Explain each of the underlined terms.

(ii) In relation to any **ONE** of the economic systems above, outline **TWO** possible economic advantages and **TWO** possible economic disadvantages.

(25 marks)

(b) **(i)** 'The Irish Economy can be described as a **Mixed Economy**'. Outline **FOUR** examples of economic activity in the Irish economy to support this view.

(ii) Do you consider that the Irish economy is moving towards more free enterprise or towards more central planning in recent years? Explain your answer, using appropriate examples.

(30 marks)

2006 Q1

(a) For analytical purposes economists make certain assumptions about consumer behaviour. State and explain **FOUR** principal assumptions.

(15 marks)

(b) A manufacturer of three different products calculates the price elasticity of demand for each product as follows:

Product X: -1.5 Product Y: -1.0 Product Z: -0.3

The company wishes to maximise its revenues. Explain in respect of **each** of these products, what change, if any, the company should make in the prices currently being charged to enable it to achieve its aim.

(30 marks)

(c) A consumer buys 10 units of Good A when the price of Good B is €5.
When the price of Good B rises to €6 (the price of Good A remaining unchanged) the consumer buys 14 units of Good A.

(i) Define **cross elasticity of demand**.
(ii) Using an appropriate formula, calculate this consumer's cross elasticity of demand for Good A. Show your workings.
(iii) Is Good A a substitute for, or a complement to, Good B? Explain your reasoning.

(30 marks)

[75 marks]

2005 Q1

(a) State and explain **FIVE** factors which affect a consumer's demand schedule. *(25 marks)*

(b) (i) Show, by means of a labelled diagram, the market demand and supply for a product. Indicate the equilibrium price and quantity in this market.

(ii) Explain, with the aid of a separate diagram in each case, the effects which **each** of the following may have on the above equilibrium position:

- A successful advertising campaign in favour of the product is introduced;
- A tariff on imports of the product is removed. *(30 marks)*

(c) Assume that the average spending on energy by a low-income family is €40 weekly. The price of energy rises by 20% so that the same consumption by a low-income family would now cost €48 weekly.
The government is considering introducing one of the following policy measures to assist low-income families:

- giving low- income families an increased allowance of €8 weekly (income supplement);
- subsidising the producers of energy so that energy can continue to be sold at the initial price (price subsidy).

Which policy measure would you advise the government to take? Explain the economic reasons for your answer.

(20 marks)
[75marks]

2005 Q4 (c)

(c) Explain how an understanding by the Minister for Finance of the concept of **Price Elasticity of Demand** would help in setting levels of indirect taxation. Use examples to illustrate your answer.

(20 marks)
[75marks]

2004 Q1

(a) Define the following types or degrees of **price** elasticity of demand:

(i) Perfectly elastic demand;
(ii) Perfectly inelastic demand;
(iii) Elastic demand;
(iv) Unitary elastic demand.

(20 marks)

(b) State and explain **FIVE** factors that affect **price** elasticity of demand. *(25 marks)*

(c) A consumer spends €120 per month on a product when its unit price is 80c, and continues to spend €120 per month on this product when its unit price increases to €1.

(i) Using the formula below, calculate the consumer's price elasticity of demand. Show all your workings.

$$\frac{\Delta Q}{\Delta P} \times \frac{P_1 + P_2}{Q_1 + Q_2}$$

(ii) Is demand for this product elastic, inelastic or unitary elastic?

(iii) Should the seller make any changes in the selling price of this commodity to increase overall revenue? Explain your answer.

(30 marks)

[75 marks]

2003 Question 2

(a) Define **(i)** *price elasticity of demand* and **(ii)** *cross elasticity of demand.*
In **each** case, state the formula by which it is measured.

(20 marks)

(b) When the price of Good X is €27, the quantity demanded of Good Y is 1,200 units. When the price of Good X falls to €23 (the price of Good Y unchanged) the quantity demanded of Good Y falls to 800 units.

(i) Using the *cross elasticity of demand formula*, calculate the cross elasticity of demand for Good Y. Show all your workings.

(ii) Is Good Y a substitute for or complement to Good X? Explain your choice.

(25 marks)

(c) A firm has the following price elasticities of demand for two goods, Good X and Good Y:

Good X ….. 2.0 Good Y ….. 0.5

What changes, if any, should the firm make in the selling price of each of the goods to increase overall revenue. Explain your answer.

(30 marks)

[75 marks]

2003 Question 3

(a) **(i)** State and explain **FOUR** factors which affect a consumer's demand schedule, other than the price of a good itself.
(ii) Explain the economic rationale for assuming that a person's demand curve for a normal good slopes downward.

(30 marks)

(b) For something to be considered an *economic good,* it must possess certain characteristics.
State and explain **THREE** of these characteristics.

(20 marks)

(c) A consumer spends all income on two goods, Good A and Good B. Both goods are normal goods but they are not complementary goods. The price of Good A is reduced and the price of Good B remains unchanged. The consumer continues to spend all income on the two goods.

Distinguish between the **substitution effect** and the **income effect** of the price reduction in Good A.

(25 marks)

[75 marks]

2002 Q3

(a) Define (i) Income Elasticity of Demand.
(ii) Cross Elasticity of Demand. (15 marks)

(b) (i) "Income elasticity of demand is usually positive but sometimes negative".
Explain, giving examples, the meaning of this statement.

(ii) A consumer spends 40% of income on a certain good. After the consumer's income doubles (everything else remaining unchanged), only 30% of income is spent on the good. State whether this good is a normal or inferior good and explain your answer.
(20 marks)

(c) Which of the figures stated below is likely to represent:

(i) **Income** elasticity of demand for potatoes;
(ii) **Income** elasticity of demand for designer clothes;
(iii) **Price** elasticity of demand for airline seats.

-2.8, -0.1, + 2.5

Explain **each** of your choices. (30 marks)

(d) Income elasticity of demand for a good is **+1.8** and sales in Year 1 are 20,000 units. If consumers' incomes are expected to rise by 5% in Year 2, calculate the expected level of sales. Show your workings.
(10 marks)

[75 marks]

2001 Question 2

(a) Define what is meant by price elasticity of demand. (10 marks)

(b) A consumer buys 80 units of a good when the price is £1.50. The price increases to £1.75 and the consumer now buys 70 units.

(i) Using the formula below, calculate the consumer's price elasticity of demand. Show all your workings.

$$\frac{\Delta Q}{\Delta P} \times \frac{P_1 + P_2}{Q_1 + Q_2}$$

(ii) Is demand for this good elastic, inelastic or unitary elastic?

(iii) The seller of the above good wishes to earn maximum revenue. What changes, if any, should the seller make in the selling price of the good to earn maximum revenue? Explain your answer. (35 marks)

(c) State and explain **FOUR** factors that affect price elasticity of demand. (30 marks)

[75 marks]

2001 Question 3

(a) State **FOUR** factors that affect the supply of a good, other than the price of the good itself, and explain how each factor affects supply. (25 marks)

(b) State and explain the principal economic assumptions made about consumer behaviour. (25 marks)

(c) The law of diminishing marginal utility states that as additional units of a good are consumed the marginal utility of this good will eventually decline.

(i) State and explain the assumptions underlying the law of diminishing marginal utility.

(ii) Give **TWO** examples of commodities which do not comply with this law. Justify each choice with a brief explanation.

(25 marks)

[75 marks]

Short Questions Answers

1) 2017 Q7

(a) A consumer buys 80 units of Good A when the price of Good B is €100. When the price of Good B falls to €90 (the price of Good A remaining unchanged), the consumer buys 120 units of Good A.
Using an appropriate formula, calculate this consumer's cross price elasticity of demand for Good A.
(Show your workings.)

(b) Is Good A a substitute **or** a complement to Good B? Explain your answer. **(17 marks)**

(a)

$$\frac{40}{-10} \times \frac{100 + 90\ (190)}{80 + 120\ (200)}$$

= - 4 x 0.95

= - 3.8

(b) Is good A a substitute or a complement to Good B? Explain your answer.

Good A is a **Complement.**

It has a **Negative CED.** Price and demand move in opposite directions: as the price of Good B falls the demand for Good A rises.

Workings: 8 items at 1 mark each = 8m. Correct answer: 4 marks (2 + 2)
Complement: 2 marks. Reason: 3 marks.

2) 2016 Q6

The table below shows the annual average level of income in a country and the corresponding demand for Product A for two years.

Year	Income (€)	Product A (units)
Year 1	57,000	100
Year 2	63,000	200

(i) Calculate the income elasticity of demand (YED) for Product A. **Show your workings**.
(ii) Using your knowledge of YED, explain the economic meaning of this figure you calculated in (i) above. **(17 marks)**

(i) Calculate the income elasticity of demand (YED) for Product A. **Show your workings**.

$$\frac{+\ 100^{1}}{+\ €6{,}000^{1}} \times^{1} \frac{€57{,}000^{1} + €63{,}000^{1}}{100^{1} + 200^{1}} \quad \frac{€120{,}000}{300} = +^{1}\ 6.67^{1}$$

9 marks

(ii) Using your knowledge of YED, explain the economic meaning of this figure.

+ sign	This is a normal good	4 marks
6.67	This is a luxury good as the good is income elastic (>1) The percentage increase in quantity demanded is greater than the percentage increase in income/ As income rises, consumers spend proportionally more on the good.	4 marks

3) 2015 Q1

In Economics resources are **limited / finite / scarce** and have alternative uses while **wants are unlimited** / infinite. As a result **choices must be made** and these choices involve an opportunity cost.

3 points of information: 8 + 4 + 4 marks

4) 2015 Q2

Consumers spend their income so that the ratio of marginal utility to price is the same for all the goods /services they buy in order to enjoy maximum utility or satisfaction.

6 marks

(b) In equilibrium, a consumer buys 5 bottles of water at €2.50 each and 8 bagels at €3 each. The marginal utility of the 5th bottle of water is 5 utils. Calculate the marginal utility of the 8th bagel. (**Show your workings.**)

$$\frac{MU_W}{P_W} = \frac{MU_B}{P_B} \qquad \frac{5}{€2.50} = \frac{x}{€3}$$

x = **6 utils** (the marginal utility of the 8th bagel)

7 marks + Correct answer 3 marks

5) 2015 Q7

STATEMENT	TRUE	FALSE
A good with an income elasticity of demand (YED) of +2.5 is a luxury good.	✓	
If the cross-price elasticity of demand (CED) is negative then it may be said that the goods are complements.	✓	
When demand is price elastic, a reduction in price will lead to a decrease in total revenue.		✓
When many close substitute goods are available, demand for any one of them should be highly elastic.	✓	

1st correct response: 5 marks
4 + 4 + 4

6) 2014 Q1

Define the term '**opportunity cost**'.
State **one** example of an opportunity cost facing the Irish Government.

Opportunity cost is the cost of forgone alternatives involved in making a choice / the cost of something in terms of the next best alternative.

State **one** example of an opportunity cost facing the Irish Government.

Sample responses include the following:

- Spending on a new hospital the opportunity cost is the infrastructural project which must be deferred.
- Cuts in taxes next year implies less money to spend on other projects.
- The interest on government debt involves a sacrifice of government services such as education.

Definition: 8 marks / Example: 8 marks

7) 2014 Q4

Explain the meaning of the term **'complementary goods'** (i.e. joint demand). State **one** example.

Complementary goods: Goods which are consumed together / are used in conjunction with one another / a rise in the price of one good will lead to a decrease in the demand for another good.

Example: Computer consoles and software/games; cars and petrol.

Explanation: 12 marks / Example: 4 marks

8) 2013 Q1

The fundamental economic problem is one of 'scarcity'. Explain this concept. **(16 marks)**

Scarcity means that while the supply of resources / factors of production are limited the demand for these is unlimited (unlimited wants/limited resources). Hence, society must choose on the use to which the resources are put. Making choices involves an opportunity cost.

9) 2013 Q3

Read each statement below and indicate if the price elasticity of demand (PED) for the product is most likely to be elastic or inelastic. (Tick ✓ the correct box.)

STATEMENT	ELASTIC	INELASTIC
Consumers are strongly attached and loyal to the product.		√
Many close substitutes are available for the product.	√	
The product is a luxury product.	√	
The product accounts for only a small fraction of a consumer's weekly expenditure.		√

(16 marks)

4 at 4 marks each

10) 2012 Q1

State **three** reasons why the demand curve for bottled water may shift to the right.

(i) **Incomes**: consumer income may have increased resulting in increased demand.
(ii) **Taste / Preference**: because of increased advertising / branding / greater health consciousness the consumer is demanding more water.
(iii) **Expectations**: if consumers expect a 'big freeze' then they may stock up on bottled water.
(iv) **Price of substitute goods**: if the price of products such as soft drinks have increased then more people may buy water.
(v) **Unplanned factors**: if there was an unexpected heat wave, demand for water may increase / if a pollutant damaged the water supply then demand for bottled water may increase.
(vi) **Government policies**: if the government initiated a promotional campaign outlining the benefits of drinking water then demand may increase.

3 points: 6 + 5 + 5 marks.

11) 2012 Q5

'Inferior products have a negative Income Elasticity of Demand (YED)'.

(a) Explain this statement. **10 marks**

As a consumer's income decreases s/he will buy more of an inferior product.

(b) State **one** example of an inferior product, giving a reason for your answer.

Example: Remould tyres / low price cuts of meat / supermarket own brands / potatoes / white bread / instant noodles / public transport (bus service).

Reason:
As incomes decline the demand for supermarket own brands may increase as this is all families can afford.

6 marks

12) 2011 Q2

Define a mixed economy. State **two** examples of economic activity which supports the view that Ireland is a mixed economy.

Definition: An economy that incorporates elements of both central planning (government involvement) and private enterprise in its economic system.

Two Examples:

1. **Existence of Social Partnership**
   Allows for the involvement of the government and other social partners in setting and achieving targets, over a specified period of time.
2. **Existence of semi-state bodies and private enterprise**
   Both producing goods and supplying services in areas like transport, energy and communications.
3. **Government Departments / Regulators**
   Regulate economic activities through their actions e.g. the financial services regulator.
4. **Legislation passed by Government**
   Controls the activities of individuals / firms, such as the various labour laws e.g. Minimum Wage Law / Planning Laws / Companies Acts etc.
5. **Use of taxation / government expenditure**
   The use of fiscal policy by the government affects economic activity and can alter market outcomes.

16 marks (12+4)

13) 2011 Q8

A consumer buys 20 units of Good A when the price of Good B is €8. When the price of Good B rises to €10 (the price of Good A remaining unchanged) the consumer buys 12 units of Good A.
Using an appropriate formula, calculate this consumer's cross elasticity of demand for Good A.
(Show your workings.) Is Good A a substitute for, or a complement to, Good B? Explain you answer.

$$\frac{\Delta Q_A}{\Delta P_B} \times \frac{P_{B1} + P_{B2}}{Q_{A1} + Q_{A2}}$$

$$\frac{-8}{€2} \times \frac{€8 + €10 \quad (18)}{20 + 12 \quad (32)}$$

$$= -2.25$$

Good A is a **Complement**. It has a negative **CED**.

17 marks (8+5+2+2)

14) 2011 Q3

A consumer spends €200 monthly on Product A when its price is €2 and continues to spend €200 monthly when its price increases to €2.50. Calculate the consumer's price elasticity of demand. Show all your workings and explain your answer.

Workings:

Quantity 1: €200 / €2 = 100 units.
Quantity 2: €200 / €2.50 = 80 units.

$$-\frac{20^*}{50^*} \times \frac{€2 + €2.50\ (4.50)^*}{100 + 80\ \ (180)^*} = -^* 1.0^*$$

6 * at 2 marks each = 12 marks

This good is a normal good because it has a minus sign / obeys the law of demand.
This good is unit elastic because PED = 1.

4 marks.

15) 2009 Q3

Ireland has a mixed economy. What do you understand by the underlined term? State **one** economic advantage, and **one** economic disadvantage of this economic system.

Explanation:

An economy that incorporates elements of both central planning (government involvement) and private enterprise in its economic system.

Advantage:

- Benefit from efficiency encouraged by free enterprise with regulation from central government.
- Entrepreneurial talent is encouraged.
- Ensures a fairer distribution of wealth within the country.
- Regulation by the government is essential to limit possible abuses of the market.
- Provision of essential services may be provided by government.

Disadvantage:

- The government may be forced to financially support unsuccessful enterprises in the short-term which will cost the public in the long-term.
- A large public sector and private sector may be politically divisive which could affect how economic problems are solved.
- State intervention may results in higher taxes / bureaucracy /inefficiencies.
-

Explanation: 8 marks. one advantage @ 4 marks and one disadvantage @ 4 marks

(16 marks)

16) 2009 Q7

(a) State the **Law of Diminishing Marginal Utility**.

This law states that as a consumer consumes additional units of a good the marginal utility/ extra satisfaction derived from each additional unit consumed will eventually decline.

Definition @ 9 marks

(b) The table below illustrates the Law of Diminishing Marginal Utility.

Number of units consumed	1	2	3	4	5	6
Total Utility in units	30	65	85	100	110	115
Marginal Utility in units	30	**35**	**20**	**15**	**10**	**5**

5 figures @ 1mark each= 5 marks

Complete the table and state the point after which diminishing utility set in.

Diminishing utility sets in after the consumption of the 2nd unit/when the 3rd unit is consumed.

3 marks

(17 marks)

17) 2008 Q5

Free Enterprise is defined as an economic system in which:

The market mechanism operates; the factors of production are privately owned; there is limited government interference; resources are allocated by a decentralised decision making process and citizens are motivated by self-interest.

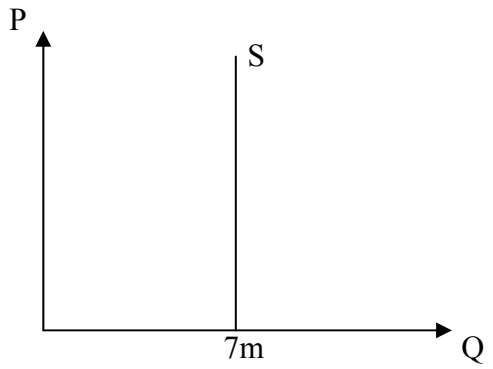
<u>One economic advantage of this system</u>:

Choice: Consumers with income have a wide choice of goods and services.
Efficiency: Incentives exist for producers to be efficient. Those who are inefficient will be forced out by lower costs.
Innovation: Producers who are innovative will be rewarded through increased sales in the market.
Economic Growth: As all individuals are motivated by self-interest, each will strive towards their maximum efficiency and so aid economic growth.
Less Bureaucracy: As decisions are made by individuals within the society, the costs of a large administration to administer matters is significantly reduced.

16 marks graded.

18) 2008 Q6

China will host the Beijing Olympic Games in August 2008 and 7 million tickets are available for the event. On the diagram below draw the supply curve for tickets and explain the reason for its shape.



Complete correct diagram: 5 marks graded.

Explanation:

The supply of tickets available for the Olympics is fixed at 7 million.
Regardless of price this seating capacity will remain unchanged.

12 marks graded.

19) 2007 Q3

Consumers buy 50 units of a product when the price is €1.50. When the price is reduced to €1 the consumer buys 90 units. Using an appropriate formula, calculate the consumers' PED.
Show your workings and explain your answer.

$$\frac{40}{-0.50} \times \frac{1.50 + 1.00}{50 + 90} \; \frac{[2.50]}{140} = \mathbf{-/1.43}$$

9 marks graded.

PED is elastic. Why? Because the PED is greater than 1.
Normal good. Why? The PED is negative.

6 marks graded.

20) 2007 Q7

'An Irish banking group owns thirty branch offices. There is no opportunity cost to the banking group using these offices as they are fully owned.

True / False **1 mark**

The branch offices could be sold and the money invested or
The branch offices could be rented out and an income earned.

16 marks graded.

21) 2006 Q6

In equilibrium a consumer buys 8 bars of chocolate at €1.00 each and 12 sandwiches at €4.00 each.
The marginal utility of the eight bar of chocolate is 10 utils.
Using the Equi-Marginal Principle of Consumer Behaviour -
calculate the marginal utility of the twelfth sandwich. Show all your workings.

$$\frac{\text{Marginal Utility of Chocolate}}{\text{Price of Chocolate}} = \frac{\text{Marginal Utility of Sandwiches}}{\text{Price of Sandwiches}}$$

$$\frac{10\ *}{€1.00\ *} = \frac{MUs}{€4.00\ *} \quad \text{so} \quad \mathbf{MU}s = \boxed{\mathbf{40\ utils}}$$

17 marks graded

22) 2005 Q1

Explain the concept Opportunity Cost. Why is this concept central to the study of Economics?

Opportunity Cost is the cost of foregone alternatives.

This concept is central to the study of economics because:

Economics studies the allocation of scarce resources, which have alternative uses.
The allocation of these resources involves making a choice.

16 marks graded.

23) 2005 Q3

3. Explain what is meant by Consumer Surplus.

The benefit to consumers due to the difference between what consumers actually pay to consume a good and what they would have been willing to pay, rather than go without the good.

16 marks graded.

24) 2005 Q4

A consumer in equilibrium buys 10 cups of coffee at €2 each and 10 phone cards at €6 each. The marginal utility of the cups of coffee is 5 utils. What is the marginal utility of phone cards? Show your workings.

$$\frac{\text{Marginal Utility of coffee}}{\text{Price of Coffee}} = \frac{\text{Marginal Utility of Phone Cards}}{\text{Price of Phone Cards}}$$

$$\frac{5}{€2} = \frac{MU_{PC}}{€6} \quad \text{so} \quad MU_{PC} = \boxed{15 \text{ utils}}$$

16 marks graded.

25) 2004 Q1

1. Outline FOUR factors that affect the supply of a good, other than the price of the good itself.

1. The cost of producing the product.
2. The state of the firm's production technology.
3. The price of related / other goods.
4. Unplanned factors.
5. Government Policy such as: rates of taxation / availability of state subsidies.
6. Number of sellers in the industry.
7. Objectives of the firm.

26) 2004 Q6

Define the **Law of Diminishing Marginal Utility** and state **TWO** assumptions underlying the law.

Definition: ***9 marks graded***
Assumptions: ***8 marks: 2 x 4 marks each***.

The law of diminishing marginal utility states that as a consumer consumes additional units of a good their marginal utility for this good will eventually decline.

Assumptions:

1. **It applies only after a certain point called the origin.**
2. **It does not apply to addictive goods.**
3. **Sufficient time has not elapsed for circumstances to change i.e. change in tastes / change in incomes/ change in the nature of the product/ no gap in time between the consumption of successive units.**

2 x 4 marks each = 8 marks

27) 2004 Q8

"**There is no opportunity cost to a firm in using an asset which it already owns**". **True / False**
(Place a circle around your choice and give a one sentence explanation of your answer).

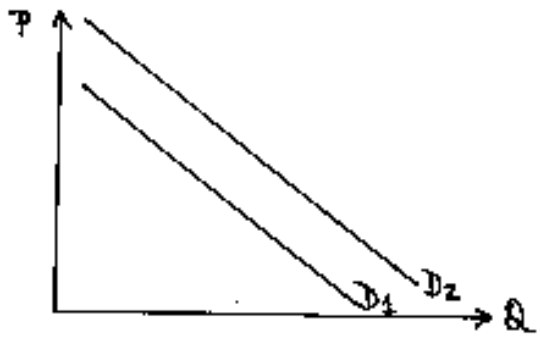
Correct Answer: False: ***1 mark***
Explanation: ***16 marks graded*.**

The asset could be sold and the money invested *or*
The asset could be rented out and an income earned

28) 2003 Q6

Using the diagram, explain how higher consumers' incomes (other factors unchanged) may affect the demand curve for mobile phones in Ireland.

Complete Diagram



As consumers' incomes grow, the increased purchasing power will give 'new' consumers the ability to purchase mobile phones,
and/or existing customers the ability to update their models.

Correctly labeled diagram + Explanation: 17 marks graded

29) 2003 Q7

7. FOUR economic assumptions used for analysing consumer behaviour:
1. The consumer has a limited income.
2. The consumer aims to gets maximum satisfaction / utility from that income.
3. The consumer acts rationally.
4. The consumer is subject to the Law of Diminishing Marginal Utility.

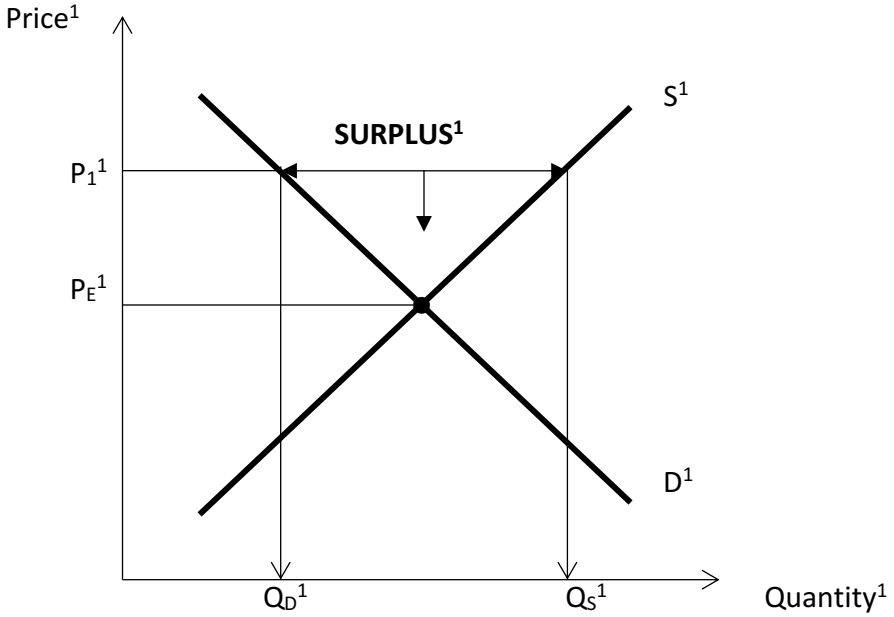
4 points: 5 + 4 + 4 + 4 = 17 marks

30) 2001 Q1

1. What is meant by the concept 'consumer surplus'? 16 marks
This is the difference between what the consumer actually pays for the good & what he/she would be willing to pay for the good, rather than do without the good.

Long Questions Answers

2018 Q1

	Possible responses	Max Mark
(a)		
(i)	Distinguish between a **movement along** a demand curve and a **shift** in a demand curve.	
	Movement along a demand curve: A change in the price of the good itself will cause a movement along the demand curve (all other things being equal) and this is referred to as a change in the quantity demanded.	**5**
	A shift in a demand curve: A change in any of the factors other than price will cause the demand curve to shift and this is referred to as a change in demand, at any given price.	**5**
(ii)	Explain, using a supply and demand diagram how a market would return to equilibrium following a surplus (excess supply) in the market.	
		**9** (9 x 1)
	An excess supply (surplus) in the market implies that the price is greater than the market price as shown in the diagram above. • When there is a surplus or excess supply for a good, suppliers are unable to sell all they want at the going price. Sellers find stocks increasing so they respond to the surplus by cutting their prices/Some sellers in the market respond to the falling price by reducing the amount they are willing to offer for sale. • As the prices falls, some consumers are persuaded to buy more and so there is a movement along the demand curve. • Prices continue to fall until the market reaches equilibrium where $Q_d = Q_s$	**6**
		25

2018 Q1 Continued

	Possible responses	Max Mark
(b) **(i)**	*The owners of a music venue, with a maximum capacity of 400 people, conducted market research into consumer demand for tickets at different prices.* *The information they obtained is shown in the table below.*	

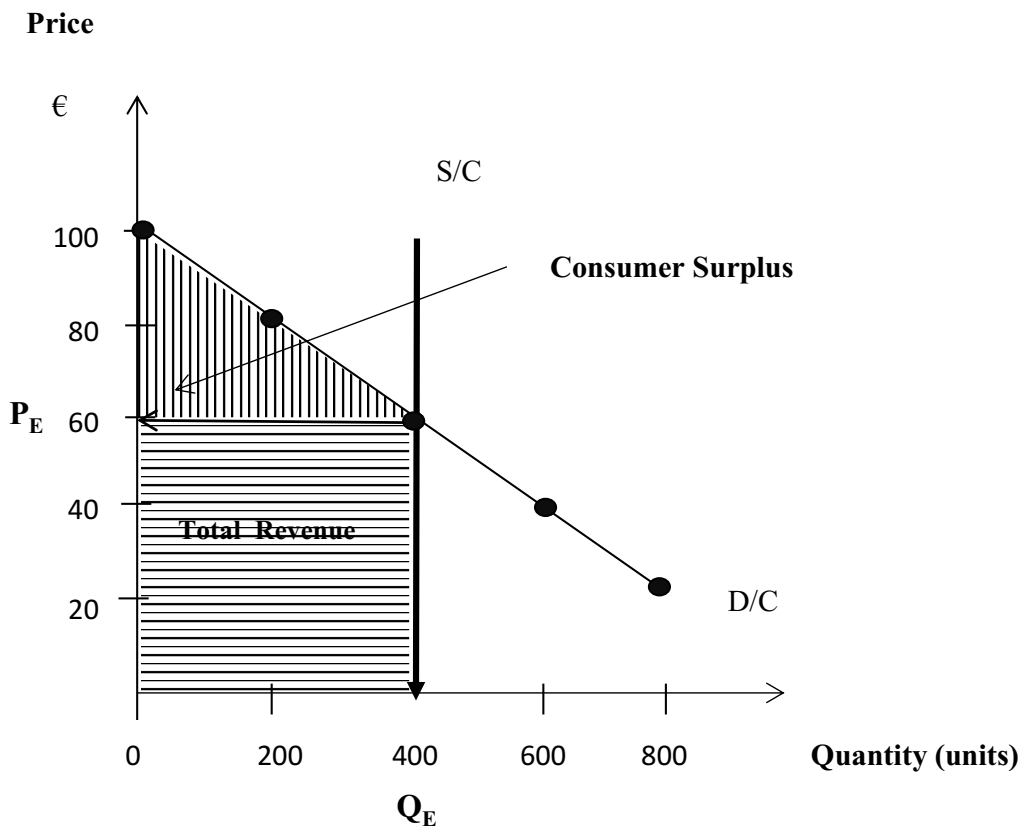


Diagram: 13 marks
Labels: P, Q, D/C, S/C, P_E, Q_E : 6 x 1 marks
Vertical S/C at 400 units: 2 marks
5 points along D/C (5 x 1) = 5 marks

	Possible responses	Max Mark
(ii)	Explain the reason for the shape of the supply curve for this music venue. Regardless of price the quantity supplied will be fixed at 400 / even if price goes to €100 the venue can only accommodate 400 attendees. It is perfectly inelastic / vertical, reflecting the fact that venue has a maximum / fixed capacity of 400.	**6**

2018 Q1 Continued

	Possible responses	Max Mark
(iii)	Explain the terms **consumer surplus** and **total revenue.**	
	Consumer surplus is the difference between what the consumer paid for the product and the maximum price s/he was willing to pay for it rather than go without the product.	**6**
	Total Revenue: is the total revenue received from sales i.e. Price x Quantity sold.	**6**
(iv)	Show clearly on the diagram you have drawn in part (i) above, the areas of consumer surplus **and** total revenue at equilibrium.	**2 + 2**
		35

	Possible responses	Max Mark
(c)		
(i)	Calculate the **total revenue** from the ticket sales for the above venue, assuming there is a full house. **Show your workings**.	
	400 x €60 = €24,000	**6**
(ii)	Explain how a knowledge of the concept of **consumer surplus** could benefit the owners of the music venue.	**9 graded**
	The owners of the venue know that some consumers will be willing to pay higher prices than other consumers to attend the venue. By offering slightly different choices the firm is able to separate consumers who are willing to pay higher process.	
	The owners could charge higher prices and extract this surplus. Offer something extra to some consumers – tickets closer to the stage; seated vs standing; advance ticket purchase; meeting with the bands/performers; seasonal tickets etc.	
	If the consumer was charged the highest price they were willing to pay then the owners of the music venue could turn the consumer's surplus into revenue and as a result they could increase their profits.	
	For small firms an understanding of the consumer surplus can aid better decision making about setting prices. Consumers that derive large benefits i.e. a large consumer surplus, from buying products or services are likely to purchase them again in the future.	**15**

2018 Q3 (b)

	Possible responses	Max Mark
(b) (i)	Define the term **price elasticity of supply** (**PES**). It is the percentage change in quantity supplied caused / divided by the percentage change in price. Price elasticity of supply measures the degree of sensitivity / responsiveness of quantity supplied to changes in price.	**5**
(ii)	Explain, by means of an example, why the PES might be different in the long run than in the short run. **In the short run**, **the quantity supplied is not very responsive to the price**. Firms may find it difficult to respond to a change in price by changing output. Firms cannot easily change the size of their factories or productive capacity in the short run to make more of the goods but may have some flexibility. (-1m if example not given) **Supply is usually more elastic in the long run** than in the short run due to the ability to change capacity in the long run. With more time to adjust, the supply response becomes larger. Over longer periods, firms have more time and can build new factories, hire new staff and invest in capital and equipment. (-1m if example not given) It takes time to respond to a price change. In the long run a firm can increase the scale of production by employing more factors of production. In a competitive industry with not too many barriers it will be possible for more firms to enter the industry in the long run.	**10 graded**

2018 Q3 (b) Continued

	Possible responses	Max Mark
(iii)	Discuss **two** factors, other than time period, that influence the PES of a product. • **The nature of the product / ease of storing stock** Some firms can build up a stock of the product to respond more flexibly to changes in prices. In such cases price elasticity of supply is more elastic than in industries where it is difficult to do this. Many products are perishable, fixed in supply or take a long time to produce. These products cannot respond to price changes i.e. their supply is inelastic e.g. crops. • **Is the firm operating at full productive capacity** If a firm is capable of producing more goods with its present resources, supply will be elastic as the firm can easily increase its production. However, if it was operating at full capacity it could not react quickly to an increase in market price so supply may be inelastic. If labour and raw materials are readily available, it is easier to increase production. • **Mobility of the factors of production** Firms allocate their resources to the most profitable use. Thus, if factors are mobile the elasticity of supply will be elastic for goods whose prices have increased, as the firms can switch its resources to the production of those goods. • **Degree of specialised labour or capital used in production** The production of some goods requires the use of highly specialised labour/ machinery. If extra units of these forms of labour and machinery are not immediately available, then it is difficult for a firm to react to a change in the market price – supply would be inelastic. • **Ease of switching between alternative means of production** If firms can quickly change the way they produce goods, supply tends to be more elastic. • **Production cost conditions** If, at the prevailing output, production can be increased without incurring an increase in unit cost then the quantity supplied may increase significantly when market price rises i.e. supply is elastic. But if increased production means an increase in unit costs then quantity supplied will not increase significantly when the market price rises. • **Products in joint supply** When a firm is producing two products, the supply of either will be more elastic than if the firm was only producing one. If the price of one of the products rises, the factors of production can be switched fairly quickly to produce more of the product which has risen in price. **Must refer to elastic / inelastic: -1 mark**	**2 x 5 (2+3)** **25**

2018 Q3 (c) (ii)

(ii)	Explain how knowledge of **price elasticity of demand** (**PED**) might be helpful to Irish exporters who wish to maximise their total revenue in the UK market. **If the product has an inelastic demand** then there is scope for the firm to increase price by a large amount as they know that the quantity demanded won't change very much and, overall, total sales revenue will increase. (When demand for a product is inelastic an increase in price should increase total sales revenue). If PED is inelastic in the UK market they may decide to increase price. **If demand for their product is elastic** then the firm might be wary of raising price. This is because the quantity demanded will fall by a greater proportion, thus lowering total sales revenue. (When demand for a product is elastic an increase in price should reduce total sales revenue). If PED is elastic in the UK market they may decide not to increase price. Or If response is linked to part (i) A fall in the value of sterling means that Irish exporters will have to raise the sterling price of their product in the UK market if they wish earn the same amount of revenue in euros. However, a knowledge of PED (elastic/inelastic) will be useful as to whether or not to proceed with the passing on of an increase in price to the consumer as a result of the fall in value of sterling. **Elastic-Inelastic / Explanation / reference to UK market**	**2 x 9 graded** **25**

2017 Q1

(a) In the case of any **two** of the following distinguish between the concepts.

(i) The Law of Demand *and* the Law of Supply.
(ii) Consumer Surplus *and* Producer Surplus.
(iii) Derived Demand *and* Joint Demand. [25]

The Law of Demand states that as prices rise the quantity demanded will fall and vice versa, ceteris paribus (all other things being equal). We illustrate the law of demand using a downward-sloping line from left to right. There is an inverse or negative relationship between the price of a good and the quantity demanded of that good.

The Law of Supply states that as prices rise the quantity supplied will rise and vice versa ceteris paribus (all other things being equal). We illustrate the law of supply using an upward-sloping line from left to right. There is a positive relationship between the price of a good and the quantity supplied of that good.

Consumer Surplus is the difference between what a consumer actually pays for a good and the maximum s/he was willing to pay for the good rather than do without it. The utility gained from a good or service in excess of the amount paid for it.

Producer Surplus is the difference between what a producer receives for a good and the minimum s/he was willing to accept for the good. The extra earnings obtained by the producer above the minimum required for them to supply the good or service.

Derived Demand is where a factor of production is not demanded for its own sake but rather for its contribution to the production process.

Joint Demand is where two (or more) goods are used in conjunction with each other in order to achieve utility. They are complementary goods, for example, golf clubs and golf balls.

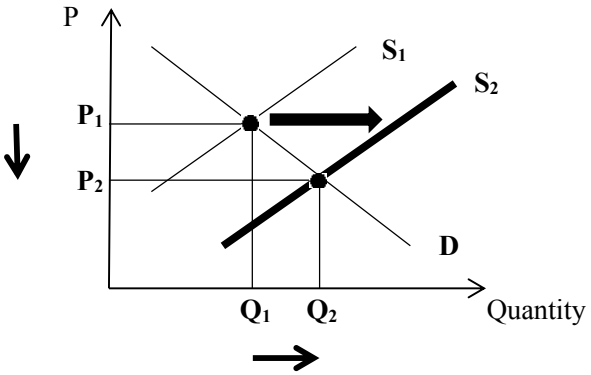
1st correct response: 7 marks
Remaining 3 correct responses: 6 marks each

(b) Assume the market for electric cars is in equilibrium. Describe with the aid of a **separate** diagram in **each** case the effects each of the following market situations is likely to have on the equilibrium position for electric cars.

(i) A technological advance in the production process of electric cars.
(ii) The motor tax on petrol engine cars is expected to rise in the near future.
(iii) The government increases subsidies on public transport, reducing prices for its commuters. [30]

2017 Continued

(i) A technological advance in the production process of electric cars.



- S/C shifts to the right (S_2)
- The technological advance will lead to an increase in the supply of electric cars due to increased efficiency/lower unit production costs
- There will be a surplus of electric cars at price P_1. This surplus will cause the price to fall to P_2.
- New **lower** equilibrium price – P_2
- New **higher** equilibrium quantity – Q_2

Diagram: 5m

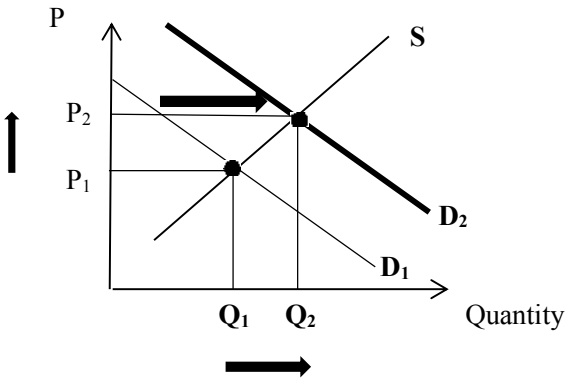
D / S_1 / S_2 / Indication of lower equilibrium price, higher quantity: 1 marks each = 5 marks.

Explanation: 5m

Shift in S/C to the right / Lower P / Higher Q: 1 mark each

& reference to Surplus that drives down price / efficiency/productivity has increased: 2 marks

(ii) The motor tax on petrol engine cars is expected to rise in the near future.



- D/C shifts to the right (D_2)
- The demand for electric cars will increase as a substitute good has now become more expensive.
- This increase in demand will result in an excess demand or a shortage which will drive price up to P_2.
- New **higher** equilibrium price – P_2
- New **higher** equilibrium quantity – Q_2

Diagram: 5m

S / D_1 / D_2 / Indication of higher equilibrium price and quantity: 1 marks each = 5 marks.

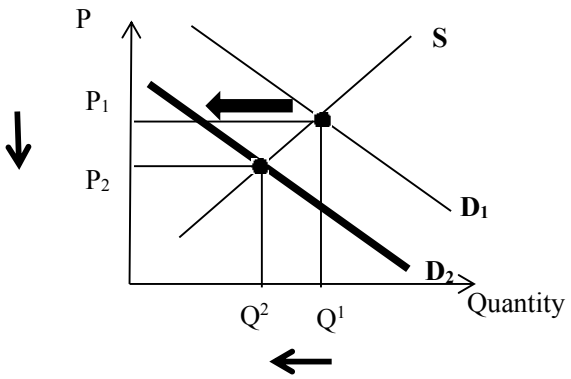
Explanation:5m

Shift in D/C to the right/ Higher P / Higher Q: 1 mark each &

reference to Shortage that drives up price / electric cars now more attractive as substitute good has increased in price: 2 marks

2017 Continued

(iii) The government increases subsidies on public transport, reducing prices for its commuters.

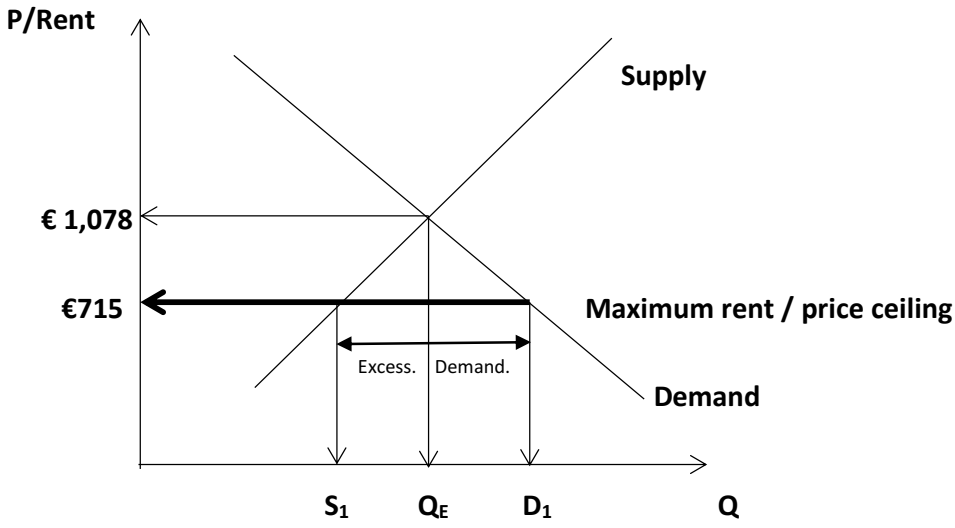


- D/C shifts to the left (D_2)
- The demand for electric cars will decrease as a substitute service has now become more affordable / cheaper.
- This decrease in demand will result in an excess supply which will drive price down to P_2.
- New **lower** equilibrium price – P_2
- New **lower** equilibrium quantity - Q_2

<u>Diagram</u>: 5m
S / D_1 / D_2 / Indication of lower equilibrium price and quantity: 1 marks each = 5 marks.
<u>Explanation</u>: 5m
Shift in D/C to the left/ Lower P / Lower Q: 1 mark each &
reference to Excess supply which will drive price down to P_2 / car transport is less attractive than the subsidised public transport: 2 marks.

(c) *The average monthly rental price for private residential property in Ireland is €1,078.* [20]
(**Source:** *Daft.ie 2016*)

(i) Assume the average monthly **equilibrium** rental price is €1,078. On one diagram, illustrate the effect on the market if the Irish Government introduced a rent control that sets the maximum rent at €715.



(Excess demand: D_1 minus S_1)

Diagram: P / Q / S / D / € 1,078 / Q_E / S_1 / D_1 at 1 mark each + €715: 2 marks = 10 marks

2017 Continued

(ii) Discuss the likely economic consequences of such a rent control (i.e. price ceiling on rental costs) on the Irish rental property market.

Possible responses include

Effect on demand
The rent price would decrease to €715 and the quantity demanded would increase as more people can now afford to rent. The impact of the price ceiling/rent control is a shortage or **excess demand** at this new price level.

Effect on consumers
Rent controls can reduce exploitation of consumers, especially where there is a lack of competition. They can help people on low incomes to afford rental housing. It will allow those on lower incomes to have an improved standard of living. If landlords do not invest in their properties then consumers may have to settle for poor quality accommodation.

Effect on landlords
The quantity supplied of rental property will fall if developers / landlords consider the rental return to be too low. Some landlords may decide to sell their properties or withdraw from the market. Some landlords will have less income to invest and maintain their property, resulting in a deterioration in the quality of properties.

Allocation of available supply
Problems arise over how to allocate supply to meet the excess demand in the market, since price cannot increase. This could involve a 'first-come, first-served' basis or 'seller's preference', both of which are deemed to be unfair. Landlords may require large deposits from new tenants.

Difficulties for government / black market
It will be difficult for the government to monitor and enforce price controls in markets. There is a danger of a shadow market/black market being created.

2 at 5 marks each (2 +3)

2016 Q1

(a) (i) Outline **four** factors that determine the supply of a good or service.
(ii) Explain the difference between a **movement along a supply curve** and a **shift in a supply curve**. Use appropriate diagrams to illustrate your answer. [35]

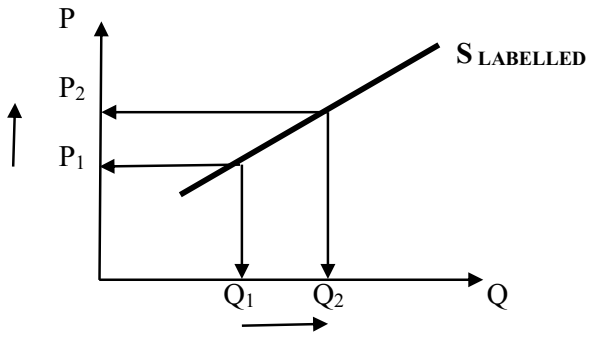
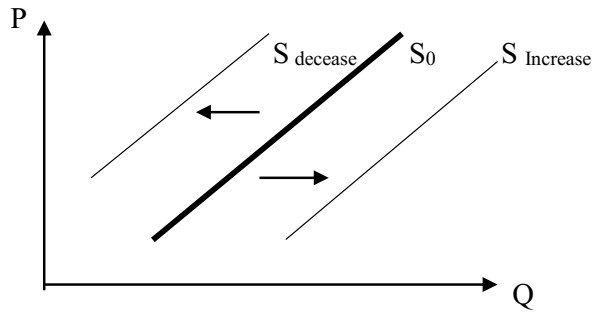
(i) Outline **four** factors that determine the supply of a good or service.

The factors that affect supply include:

- **Price of the good itself**
- **Price of related goods**
- **Cost of inputs / cost of production**
- **The introduction of new technologies**
- **Unplanned events / changes in expectations**
- **Indirect taxes / Government subsidies**

4 x 5 marks. State: 2 marks. Explain: 3 marks.

(ii) Explain the difference between a **movement along a supply curve** and a **shift in a supply curve**. Use appropriate diagrams to illustrate your answer.

Movement along a supply curve	**Shift in a supply curve.**
	
3 marks	**2 marks**
A **change in the selling price of the good itself** will cause a **movement along** the supply curve and we term this a change in the **quantity supplied**.	A **change in any of the factors other than price** will cause the supply curve to **shift** to the right (an increase in supply) or to the left (a fall in supply). In this case we say that there has been a **change in supply at any given price.**
5 marks	**5 marks**
8 marks	**7 marks**

2016 Continued

(b) Read the following statements and indicate if they are **TRUE** or **FALSE**. Explain your answer in **each** case.

(i) The cross price elasticity of demand for substitute goods has a negative value.
(ii) Price Elasticity of Demand (PED) tends to be more elastic in the long-run than in the short-run.
(iii) When demand for a good is price inelastic, a reduction in price will increase total sales revenue.
(iv) Income elasticity of demand (YED) for luxury goods is positive. [24]

(i) The cross price elasticity of demand for substitute goods has a negative value. **FALSE**

The cross price elasticity of demand for substitute goods is positive / An increase in the price of one good will lead to an increase in the demand for its substitute.
Substitute goods are goods that are interchangeable.
For example, Toyota and VW are substitute goods. If the price of Toyota cars increases, then the demand for VW is also likely to increase.

(ii) PED tends to be more elastic in the long run than in the short run. **TRUE**

In general, for many goods, demand is more elastic in the long run than in the short run because it takes time for consumers to adjust their patterns of consumption to changes in price.
Over the longer term consumers are better able to switch from one product to another and demand for original product becomes more price elastic.

(iii) When demand is price inelastic, a fall in price will increase total sales revenue. **FALSE**

If demand is inelastic it means that buyers are not sensitive to changes in prices. Thus the increase in demand in percentage terms is smaller relative to the price change in percentage terms. Therefore, the fall in price won't increase sales revenue, rather it will lower it.

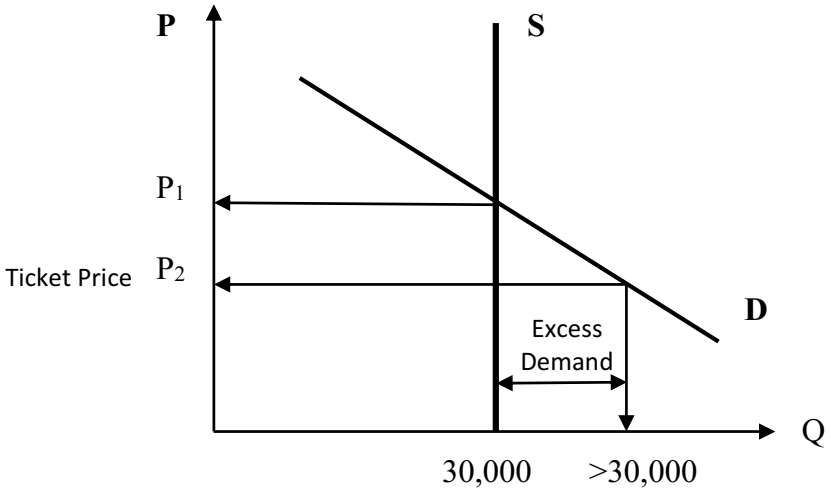
(iv) Income elasticity of demand (YED) for luxury goods is positive. **TRUE**

As income rises consumers spend proportionately more on normal goods. As luxury goods are normal goods this statement is true. Consumers will buy more of these goods as income rises therefore YED is positive/A luxury good is a normal good for which income elasticity of demand is positive and greater than 1.

True / False: 4 x 2 marks
Explanation:4 x 4 marks

2016 Continued

(c) Using the concepts of demand and supply explain, with the aid of a labelled diagram, how a shortage of tickets for a major concert may arise. The concert venue has a maximum capacity of 30,000 people. [16]



12 marks

Supply of concert tickets is fixed regardless of the price. The S/C is vertical showing that the capacity is fixed at 30,000 seats. With limited supply the market equilibrium price could be very high. The D/C for concert tickets is downward sloping as concert tickets are a normal good. At prices below the market equilibrium price of P_1 (e.g. P_2) there is excess demand and insufficient supply. If the promoters were to sell tickets at prices lower than the equilibrium price P_1, then there would be excess demand at this price.

4 marks

2015 Q1

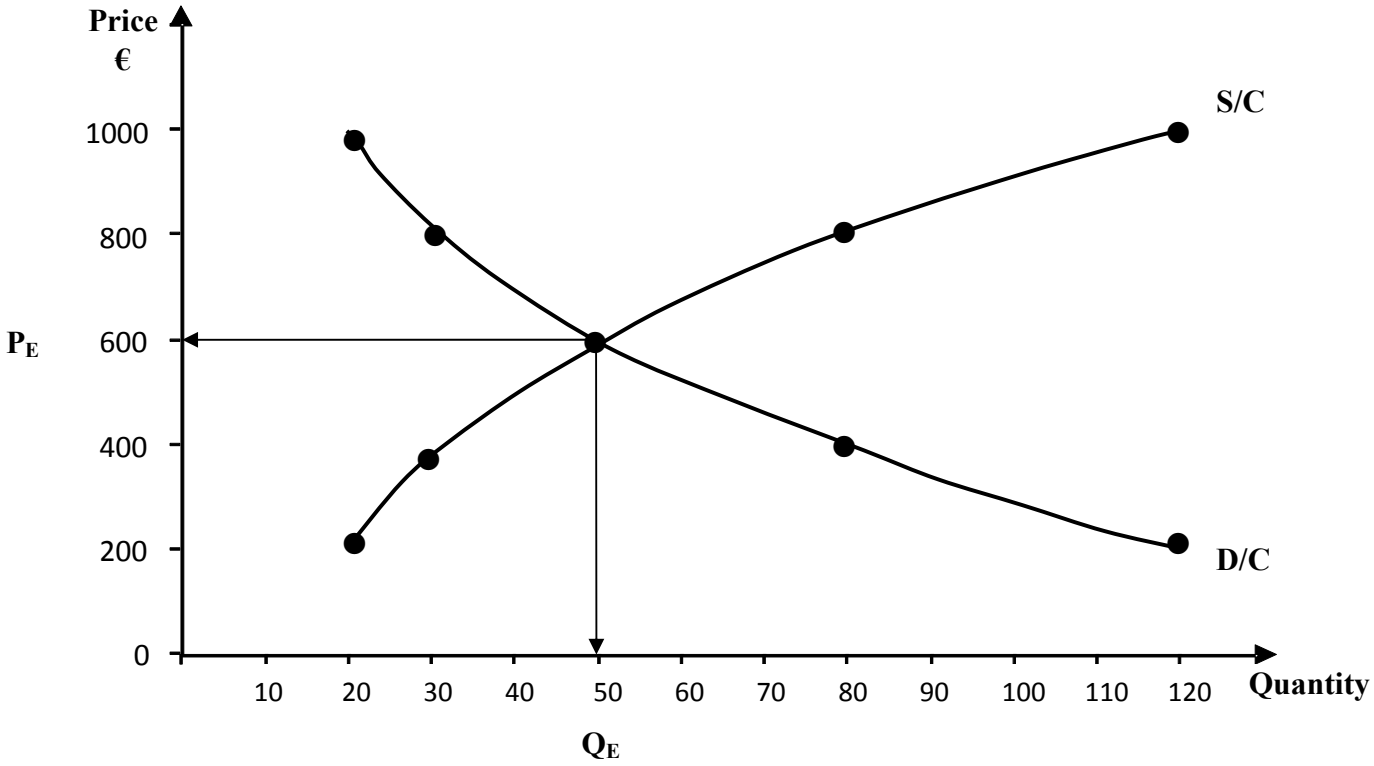
(a) The table below refers to the market data for 4G High Definition Televisions (TVs).

Price (€)	Quantity Demanded ('000 units)	Quantity Supplied ('000 units)
1,000	20	120
800	30	80
600	50	50
400	80	30
200	120	20

(i) Using the above data, draw a diagram showing the market demand and market supply curves for 4G TVs, showing the price and quantity of 4G TVs at which this market is in equilibrium.

(ii) Define the concept *market equilibrium*. With reference to the above market, explain how equilibrium is arrived at. (30)

(i)



- D/C: 5 points x 1 mark each + Correct label x 1 mark. (6)
- S/C: 5 points x 1 mark each + Correct label x 1 mark. (6)
- Price & Quantity axes: 2 x 1 mark each. (2)
- Equilibrium price + equilibrium Quantity: 2 x 1 mark each. (2)

16 marks

2015 Continued

(ii) Define the concept *market equilibrium*. With reference to the above market, explain how equilibrium is arrived at.

Definition:
Market equilibrium arises where the quantity demanded equals the quantity supplied / equilibrium occurs when the price is such that the quantity that consumers wish to buy is exactly balanced by the quantity that firms wish to supply. There is no tendency for price to change.

10 marks (6 + 4)

Explain how equilibrium is arrived at:

If the price on the market is below the equilibrium price of €600, a situation of **excess demand** will occur. Excess demand will drive up the price of the TVs. Eventually as the price begins to rise demand will decrease and supply will increase. Price will continue to rise until equilibrium is restored at the equilibrium price of €600 and 50,000 TVs are purchased.

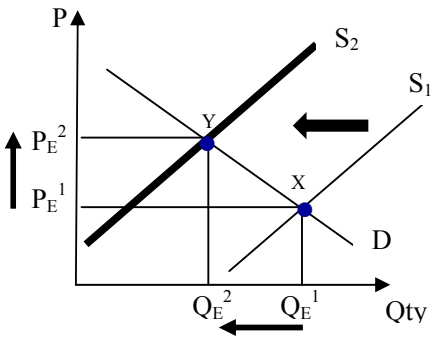
OR

If the price on the market is above the equilibrium price of €600, a situation of **excess supply** will occur as buyers are not willing to pay the high price. Then there will be downward pressure on price. Quantity supplied will exceed quantity demanded and firms will lower price to sell the surplus televisions. Firms will reduce stock levels by reducing price. The lower prices will encourage an increase in demand. Price will continue to fall until equilibrium is restored at the equilibrium price of €600 and 50,000 TVs are purchased.

4 marks

(b) The market for wheat is in equilibrium. Explain, with the aid of a **separate** diagram in **each** case, the effects which each of the following market situations is most likely to have on the equilibrium position for wheat:
(i) Exceptionally wet weather conditions
(ii) An increasing percentage of the population is suffering from wheat allergies and intolerance
(iii) A decrease in the price of oil. (30)

(i) Exceptionally wet weather conditions

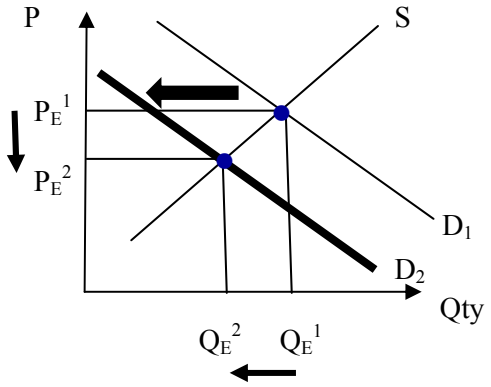


- S/C shifts to the left (S_2)
- Wet weather conditions will result in lower yields of wheat (lower quantity of wheat supplied to market)
- Shortage of wheat at existing price level (ceteris paribus)
- Increase in price, so demand contracts
- New **higher** equilibrium price P_E^2
- New **lower** equilibrium quantity Q_E^2

Diagram: D / S_1 / S_2 / Indication of Higher Price and lower quantity: 1 marks each = 5 marks.
Explanation: Shift in S/C / Higher P / Lower Q: 1 mark each and reason for shift in S/C: 2 marks

2015 Continued

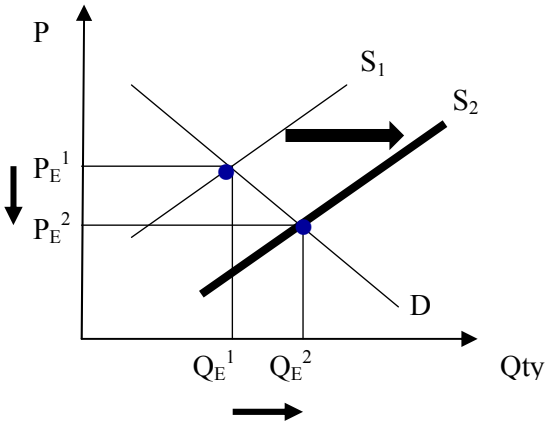
(ii) An increasing percentage of the population is suffering from wheat allergies and intolerance.



- D/C shifts to the left (D_2)
- Consumer preferences will decline for wheat products due to allergies and intolerance
- Assuming price does not change (ceteris paribus) a situation of excess supply develops
- In order to reduce the stocks of wheat the price of wheat will fall
- New **lower** equilibrium price P_E^2
- New **lower** equilibrium quantity Q_E^2

Diagram: S / D_1 / D_2 / Indication of lower price and lower quantity: 1 marks each = 5 marks.
Explanation: Shift in D/C / Lower P / Lower Q: 1 mark each and reason for shift in D/C: 2 marks

(iii) A decrease in the price of oil.



- S/C shifts to the right (S_2)
- Production costs for farmers growing wheat will fall and they will be prepared to increase supply
- A greater supply of wheat to the market will create a situation of excess supply if price unchanged
- New **lower** equilibrium price P_E^2
- New **higher** equilibrium quantity $\mathbf{Q_E^2}$

Diagram: D / S_1 / S_2 / Indication of lower Price and higher quantity: 1 marks each = 5 marks.
Explanation: Shift in S/C / Lower P / Higher Q: 1 mark each and reason for shift in S/C: 2 marks

2015 Continued

(c) *Following recent sharp increases in the price of private rented accommodation, calls have been made for the Irish Government to introduce price/rent controls (a rent ceiling).*

Advise the Minister for the Environment on the possible economic consequences of the Government intervening in the market by imposing a price ceiling for private rented accommodation. (15)

Possible Responses include:

Shortage of accommodation
If the price/rent ceiling is below the equilibrium price for the market, there will be more people looking for accommodation (excess demand) and hence a shortage of rented accommodation.

The rent control will also affect the **supply side** of the market. Some landlords may no longer be willing to make property available at the lower price as they will no longer find it profitable to supply as much rental accommodation. This could create a shortage of available accommodation.

Lower Rents
While some buyers get to pay a lower price, and hence improve their standard of living, other buyers cannot get any accommodation at all.

Allocation by alternative methods
As not all those wishing to rent can be catered for suppliers must decide which consumers to do business with. Landlords may allocate according to sellers' preferences or prejudices e.g. they may not rent to those on rent allowance. Rent control could turn the market into a lottery. It could be on a first-come-first-served basis.

Reduced mobility
People who have rent controlled property will be reluctant to move since they have to search for new accommodation under conditions of severe shortage.
Some people will be reluctant to move out of parental homes as quickly as they might otherwise have done.

Quality of accommodation
Property investors may skimp on quality so as to reduce costs, hence the quality of rental accommodation may deteriorate.

Black Market
It could lead to a growth in the illegal black market for rented accommodation. Landlords may require large deposits from new tenants. Landlords may evict tenants in order to extract larger deposits from new tenants.

Lower supply of available housing / Impact on future supply
Some landlords may decide to exit the industry as it's no longer profitable to rent out property.
Others may decide not to construct new rental accommodation as the return would be insufficient.

3 points at 5 marks each (2 + 3)

2014 Q1

(a)

No of Units Consumed	1	2	3	4	5
Total Utility in *Units/Utils*	20	45	60	70	75
Marginal Utility in *Units/Utils*	20	25	15	10	5

(i) State and explain the law illustrated in the above table.
(ii) Outline **two** assumptions underlying this law. (25)

(i)

Statement:

This table illustrates the **Law of Diminishing Marginal Utility**.

Explanation:

This law states that as a consumer consumes more units of a good the extra satisfaction or marginal utility derived from each additional unit consumed will eventually decline. After the consumption of the second unit of the good in the above example, the marginal utility of the third unit consumed is 15 utils of satisfaction compared to a marginal utility of 25 utils for the second unit consumed.

Statement: 4 marks/Explanation: 9 marks = 13 marks

(ii) Outline **two** assumptions underlying this law.

Applies after 'the origin'
The law only applies after a certain minimum quantity of the item has been consumed e.g. A full orange consumed equals 'the origin' rather than segments of it.

Consumer tastes do not change
It is assumed that consumers' tastes remain the same, thus utility means the same thing for the commodity in question.

Consumer incomes do not change
It is assumed that consumers' incomes do not change in the time period being examined, which would affect consumption patterns.

No time lapse between the consumption of successive units which permits a change in taste
It is assumed that there is a relatively short time period between consumption points.

2 Assumptions: 6 marks each = 12 marks

2014 Q1 Continued

(b) (i) State the 'Law of Supply', and illustrate with a labelled diagram.
(ii) Explain how technical progress affects the supply curve.
(iii) Outline, with the aid of labelled diagrams, **two** other factors that would cause a shift in the supply curve.
(30)

(i) State the 'Law of Supply', and illustrate with a labelled diagram.

The law of supply states that there is a positive relationship between the price of a good and the quantity supplied of that good i.e. if the price rises / quantity supplied rises and if price falls quantity supplied falls, ceteris paribus (all other things being equal).

Statement: 4 marks

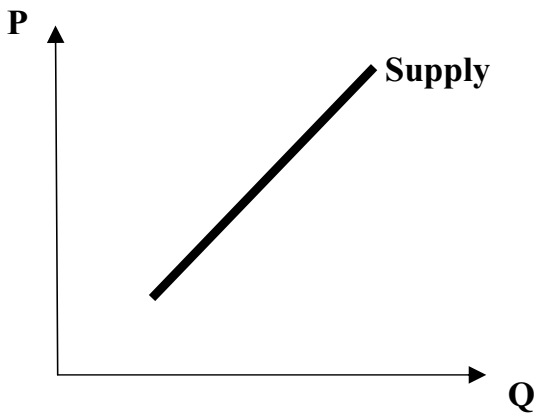


Diagram: 4 marks

(ii) Explain how technical progress affects the supply curve.

Technical progress, such as the introduction of a labour saving device:
Will reduce production costs / increase the productivity of the firm (more output per worker)
The supply curve shifts out to the right (at each level of price there will be an increase in the supply).

Explanation: 6 marks

2014 Q1 Continued

(iii) Outline, with the aid of labelled diagrams, **two** other factors that would cause a shift in the supply curve.

- Costs of inputs/factors of production
- Number of sellers/suppliers in the market
- Changes in taxation/subsidies
- Price of related goods in production
- Changes in expectations about future price of the good
- Changes in unplanned factors.

Cost of inputs
If there is an increase in input prices that a firm uses in the production of its good, then it will be more costly to produce the good. They will not continue to supply the same quantity of the good at the old prices, there will be a reduction in supply. The supply curve will shift to the left.

Number of sellers in the market
If the number of firms in the industry decreased e.g. due to rationalisation, then the overall quantity supplied will decrease, with a leftward shift in the supply curve.

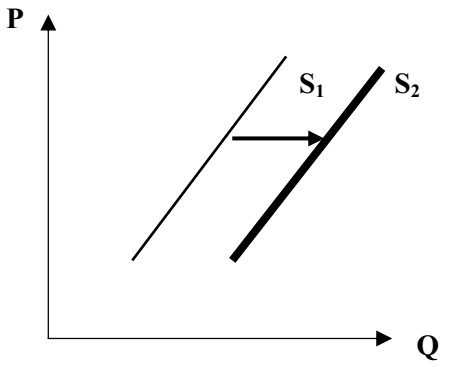
Changes in Taxation/Subsidy
A subsidy will shift the supply curve to the right by the amount of the subsidy. Taxes on goods cause price increases and this affects the quantities firms may or may not be willing to supply.

Changes in the price of related goods in production
When a producer sells several products the quantity of any one good it is willing to supply at any given price depends on the prices of its other co-produced goods. Example: Oil refinery produces gasoline from crude oil but it also produces heating oil and other products from the same raw material. If the price of gasoline increases relative to heating oil, then the supply of gasoline will increase.

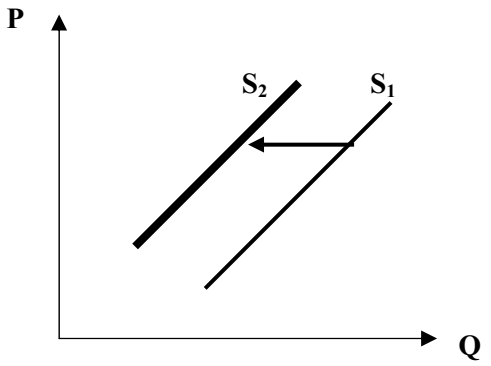
Changes in expectations
When suppliers have some choice about when they put their goods up for sale, changes in the expected future price of the good can lead a supplier to supply less or more of the good today.

Changes in unplanned factors
If the weather improves unexpectedly then the supply of agricultural products may increase and supply curve may shift to the right.

Increase in quantity supplied



Decrease in quantity supplied



2 factors stated, explained with correctly labelled diagram: 8 marks each = 16 marks

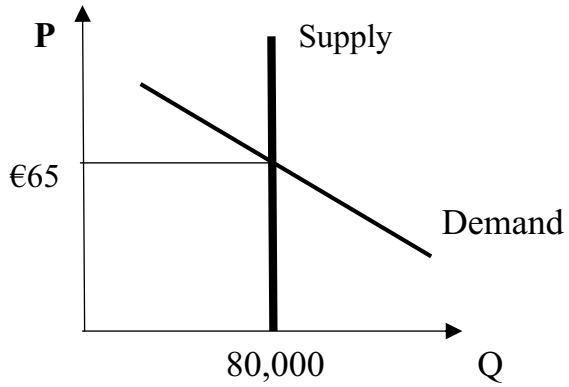
2014 Q1 Continued

(c) Macklemore announces a concert in Ireland at a venue with a maximum capacity of 80,000 people. The tickets are priced at €65 and the concert sells out in hours.

(i) Draw **one** labelled diagram, showing a market demand curve and a market supply curve that would be consistent with the above information. Explain your answer.

(ii) Explain, using the concept of **Consumer Surplus**, why it might make sense for the concert promoters to have different ticket prices (e.g. VIP section, seating section and standing section) for this concert. (20)

(i)



- Supply of Macklemore tickets is fixed, therefore the supply curve is vertical or perfectly inelastic.
- The equilibrium quantity is 80,000.
- and the equilibrium price is €65.

Correct diagram: 8 marks/Explanation: 4 marks = 12 marks

(ii)

Consumer surplus
Consumer surplus is the difference between what a consumer actually pays for a product i.e. the market price and what s/he would have paid rather than go without the product.
Some concert goers are likely to be bigger fans than others and so would be willing to pay more than €65 to go to the concert.

The concert promoter can extract consumer surplus by offering something extra
To extract this consumer surplus the concert promoter may charge these concert goers a higher price for tickets closer to the stage, for seated tickets or for advance ticket purchase for fan club members. The VIP tickets could allow fans meet with band members plus other perks etc.

Example
For example the promoter could charge €100 for front row seats tickets. Those who pay this will forgo a consumer surplus of €35; those who pay €85 for seated tickets will forgo €20 of consumer surplus.
In this way the sales revenue of the promoter will increase as these consumers have been charged what they are willing to pay and will therefore buy the tickets. A person who faces a price for a ticket higher than what s/he is willing to pay will not buy a ticket.

2 points of explanation: 4 marks each = 8 marks

2014 Q3

(a) (i) Define the categories of Price Elasticity of Demand (PED): elastic, inelastic and unit elastic.
(ii) State **three** factors that affect PED **and** explain how each factor affects it. (30)

(i) Define the categories of Price Elasticity of Demand (PED): elastic, inelastic and unit elastic.

Elastic demand
The percentage / proportionate change in the price of the good causes a greater than percentage / proportionate change in quantity demanded of the good.

Inelastic Demand
The percentage / proportionate change in price of the good causes a lesser percentage/proportionate change in the quantity demanded of the good.

Unitary Elastic Demand
The percentage / proportionate change in the price of the good is equal to the percentage / proportionate change in the quantity demanded of the good.

Each definition: 5 marks each

(ii) State **three** factors that affect PED **and** explain how each factor affects it.

The amount and availability of close substitutes
When a good has a close substitute and its price is increased the demand for the good will be elastic because people will switch to the cheaper substitute. Where a good has no substitutes and its price is increased there is no substitute to switch to and so it will be inelastic.

The proportion of income which is spent on the good
In general the greater the proportion of income which is spent on a good, the more elastic the demand this good is likely to be in response to a change in its own price. An increase of 50% in the price of a box of matches is unlikely to have a significant effect on the demand for it as it constitutes only a small % of income.

The length of time allowed for adjustment to price changes
The longer any price change persists, the greater will be the PED. If the price of electricity rose by 80% a consumer may economise on the use of various electrical appliances in the short term. In the long term the consumer will have to consider substituting other forms of energy. The longer the time period available to figure out possible changes, the more electricity will be saved. The demand will at first be highly inelastic but as time goes on will become more elastic.

The durability of the good
The more durable the good, the more elastic is the demand for it likely to be in response to a change in its own price. In the case of products such as cars if there is an increase in price, it is likely that the public will extend the life of their existing car and postpone the purchase of a replacement.

Number of alternative uses the good has
A good which has a large number of alternative uses will usually have an elastic demand. For example sugar is used in direct consumption, for sweetening purposes, baking, food processing etc. Any increase in the price of sugar may only result in a small fall in demand in each of these markets but the overall total fall may be significant and so will be price elastic.

3 factors: 5 marks each = 15 marks

2014 Q3 Continued

(b) A consumer/motorist buys 20 litres of petrol when the price is €1.60 per litre. When the price increases to €1.70, as a result of an increase in carbon tax, the consumer buys 19 litres.
Calculate the consumer's Price Elasticity of Demand (PED). **(Show all your workings.)**
Is this demand for petrol price elastic or price inelastic?
Outline the implication of your answer for government revenue. (20)

Calculate the consumer's Price Elasticity of Demand (PED)

$$\frac{-1}{10c} \times \frac{€1.60 + €1.70}{20 + 19} \frac{(€3.30)}{(39)} = -0.846\ (-0.85)$$

10 marks

Is this demand for petrol price elastic or price inelastic? **Demand for petrol is inelastic.** **2 marks**

Outline the implication of your answer for government revenue.

An increase in the price of petrol will yield an increase in revenue for the government, because the percentage increase in price will be greater than the percentage decrease in quantity demanded, resulting in increased tax revenue for the government.

8 marks

(c) A firm is considering a change to its product's price. It conducts market research which reveals that the Price Elasticity of Demand (PED) for the product is **- 2.5**.
Use this information to answer the following question:

(i) If the firm wishes to maximise total sales revenue, should it lower or raise the price of the product? Explain your answer.

The market research also reveals Income Elasticity of Demand (YED) for the product is **+ 4.5**.
Use this information to answer the following question:

(ii) In the case of an economy which is expected to remain in recession for the next five years, what, if any, will be the likely impact on the demand for the product? Explain your answer. (25)

(i) Price Elasticity of Demand (PED) for the product is **- 2.5**.

This good is a price elastic good because its absolute value is greater than 1 (a 1% reduction in price will cause a 2.5% increase in quantity demanded).
To increase total sales revenue the firm should reduce price.
This is because the percentage increase in quantity demanded is greater than the percentage decrease in price.

12 marks

(ii) Income Elasticity of Demand (YED) for the product is **+ 4.5**.

This good could be considered by consumers to be a luxury good because its YED is greater than 1 (a 1% reduction in income will cause a 4.5% reduction in quantity demanded).
So as incomes fall in a recession / quantity demanded should fall by a larger percentage than the percentage fall in income.

13 marks

Other acceptable answers marked on their merits

2013 Q1

(a) (i) Distinguish between the terms 'effective demand' and 'derived demand'.
(ii) Outline **two** possible exceptions to the Law of Demand. (25)

(i) Distinguish between the terms 'effective demand' and 'derived demand'.

Effective demand	Derived demand
Effective demand is demand supported by the necessary purchasing power.	Where a factor or production is demanded not for its own use but for its contribution to the production process.

1st correct response: 7 marks: (4 + 3)
2nd correct response: 4 marks: (2 + 2)

(ii) Outline **two** possible exceptions to the Law of Demand.

1. Giffen Goods

- As the price falls, real incomes increase and consumes buy less of these goods and purchase more of better quality goods.
- As the price rises consumers have less income to spend on other types of goods so they tend to devote more of their income to these goods.

2. Status Symbols / Snob items / Ostentatious Goods / Goods of Conspicuous Consumption

- A rise in price makes these goods more exclusive, and therefore more attractive to those who have the incomes to purchase them.
- A fall in price may lead to a fall in quantity demanded as they may no longer appear as exclusive to the rich and are still outside the price range of the poor.

3. Goods the purchase of which is influenced by expectations as to future prices / Speculative goods

- If prospective consumers think that prices are likely to be even higher in the future, the current level of demand may not fall even if prices increase.
- If a person is considering buying a house the possibility that prices are likely to be even higher in the future will probably stimulate demand at current prices.

4. Goods of Addiction

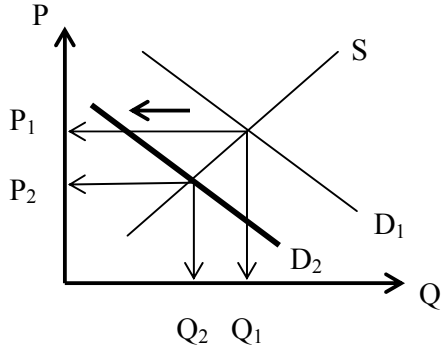
- Consumers become so addicted to the drug that in order to get the same 'buzz' from consumption of the drug, demand for the commodity may increase, even when the price of the commodity increases.

2 at 7 marks (4+3) each

2013 Continued

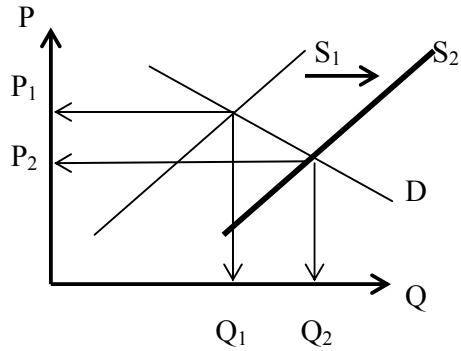
(b) The market for a brand of **blue jeans** is in equilibrium. Explain, with the aid of a separate diagram in each case, the effects which **each** of the following is most likely to have on the equilibrium position:

(i) Due to the economic downturn there is a reduction in the real income of consumers. (30)



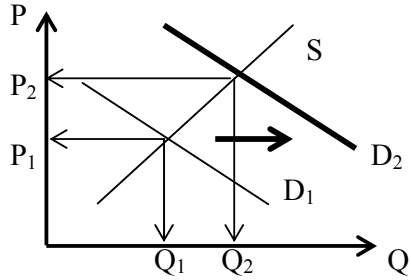
- Diagram: S/C; D_1; D_2; Lower P, Lower Q: all at 1 mark each = **5 marks**
- D/C shifts to the left (D_2) **shown on diagram at 1m**
- Because consumer income has fallen / they can't afford the product at **2m**
- New **lower** P_2 at **1m**
- New **lower** Q_2 at **1m**

(ii) A fall in the price of cotton, a key input in the production of the blue jeans.



- Diagram: D/C; S_1; S_2; Lower P, Larger Q: all at 1 mark each = **5 marks**
- S/C shifts to the right (S_2) **shown on diagram at 1m**
- Because the costs of production have fallen at **2m**
- New **lower** P_2 at **1m**
- New **higher** Q_2 at **1m**

(iii) The blue jeans have recently been endorsed by a popular sports star.



- Diagram: S/C; D_1; D_2; Higher P, Higher Q: all at 1 mark each = **5 marks**
- D/C shifts to the right (D_2) **shown on diagram at 1m**
- Because consumers' taste / preference for these jeans has increased: at **2m**
- New **higher** P_2 at **1m**
- New **higher** Q_2 at **1m**

2013 Continued

(c) A fall in the price of a consumer product has both a substitution effect and an income effect.
(i) Explain the underlined terms.
(ii) If the price of an **inferior** product falls (all other things being equal) will more or less of the product be purchased? Explain your answer with reference to the substitution effect and the income effect. (20)

(i)

Substitution effect	Income effect
When the price of a good rises customers may shift to cheaper substitutes to maximise utility.	When the price of a good falls it means that the consumer's real income will rise.

2 explanations at 5 marks each

(ii)

Price of inferior product falls	**Substitution effect**	**Income effect**
Effect on demand	Demand will rise	Demand will fall
Explanation	The consumer is getting more marginal utility for this good now that it is cheaper.	Because the good is an inferior good, demand will fall as the consumer will buy less as income has increased.

2 explanations at 3 marks each

If positive substitution effect is greater than the negative income effect then demand for the product will increase.

or

If negative income effect is greater than positive substitution effect then demand for the product will decrease.

4 marks

2012 Q1

(a) (i) Explain the Equi-Marginal Principle of consumer behaviour.
(ii) State and explain **three** other economic assumptions used to analyse consumer behaviour. (25)

(i)

Consumers will spend their incomes in such a way that the ratio of marginal utility to price is the same for all the goods consumed. They then enjoy maximum satisfaction.

10 marks.

(ii) **Three** other economic assumptions used to analyse consumer behaviour.

1. **The consumer has a limited income.**
   The consumer's income is not large enough to satisfy all his/her needs and wants, therefore, the consumer must choose between those goods s/he wishes to buy.

2. **The consumer acts rationally.**
   The consumer acts in that manner consistent with his preferences – if a consumer prefers fruit to chocolate and they both cost the same, then a rational consumer will buy fruit.
   If the person sees an identical commodity priced differently in two adjoining shops s/he will act rationally and buy the commodity at the lower price.

3. **The consumer is subject to the law of diminishing marginal utility.**
   As consumers consume additional units of a good their marginal utility for this good will eventually decline.

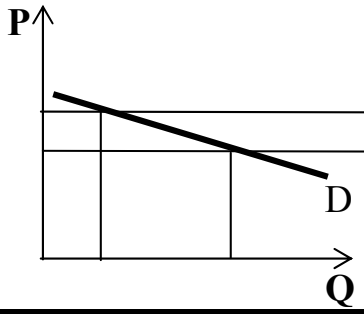
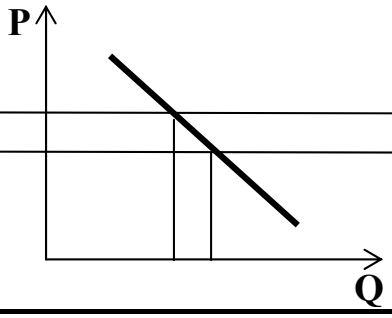
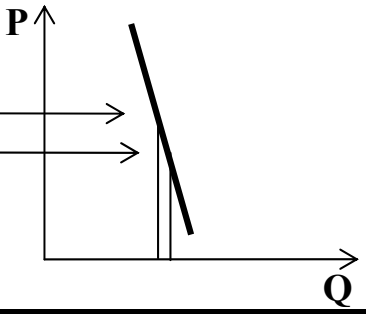
3 at 5 marks each.

2012 Continued

(b) A manufacturer of three different products calculates the price elasticity of demand (PED) for each product as follows:

Product A: -2.8 Product B: -1.0 Product C: -0.5

The manufacturer wishes to maximise its revenues. Explain in respect of **each** of these products, what change, if any, the manufacturer should make in the prices currently being charged to enable it to achieve its aim.
Illustrate your answers with the aid of a demand curve for **each** product. (30)

	Product A: - 2.8	**Product B: - 1.0**	**Product C: - 0.5**
Price Change	**Decrease** price	Leave price **unchanged**	**Increase** price
Type of good	**Elastic**	**Unit elastic**	**Inelastic**
Reason	Because: the **% ↑ in demand** exceeds the **% ↓ in price**	Because: the % Δ in demand equals the % Δ in price	Because: the % ↑ in price exceeds the % ↓ in demand
Effect on Total Revenue	This will increase	Will remain unchanged	This will increase
Demand Curve			
	10 marks	**10 marks**	**10 marks**

2012 Continued

(c) You are given the following information about certain products:

Cross Elasticity of Demand between Product X & Product A = -0.8
Cross Elasticity of Demand between Product X & Product B = +3.2
Cross Elasticity of Demand between Product X & Product C = -1.6
Cross Elasticity of Demand between Product X & Product D = +0.5

(i) Which of the products above are substitutes for Product X? Explain your answer.
(ii) Which product is the closer complement to Product X? Explain your answer. (20)

Products B and D are substitutes to Product X.

This is because substitutes have a positive CED, which means that as the price of product X rises the demand for both product B and D rises.

10 (4+6) marks

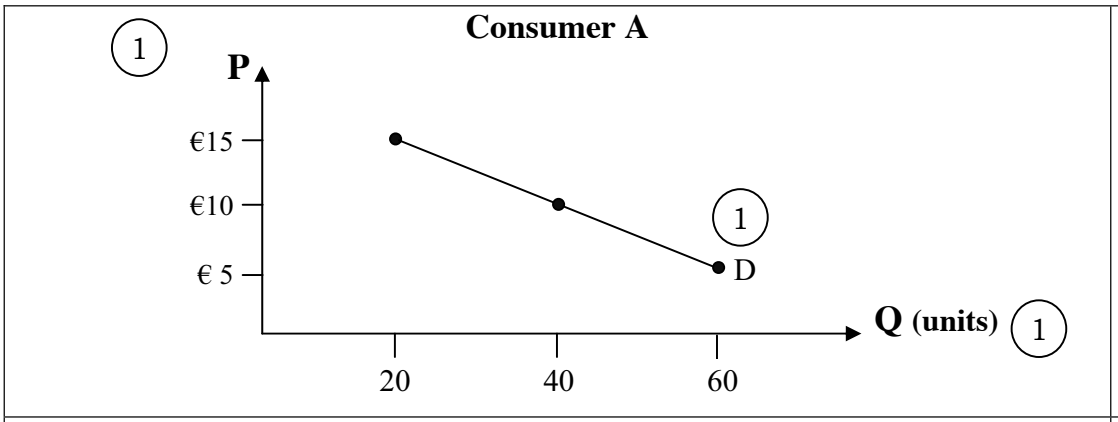
Product C is the closer complement to Product X.
Product C has the highest numerical value of the two products A & C so this is the closest complement.
If the price of Product X rises then the demand for Product C will fall by a greater percentage than the demand for Product A.

10 (4+6) marks

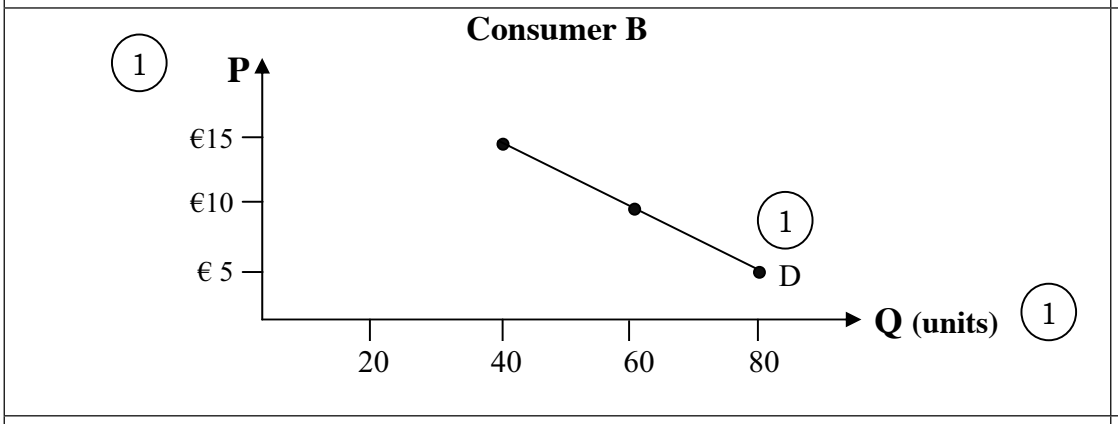
2011 Q1

(a) (i) Define the economic terms: **individual (consumer) demand; market demand.**
(ii) Explain, with the aid of labelled diagrams, the relationship between individual (consumer) demand and market demand. *(20)*

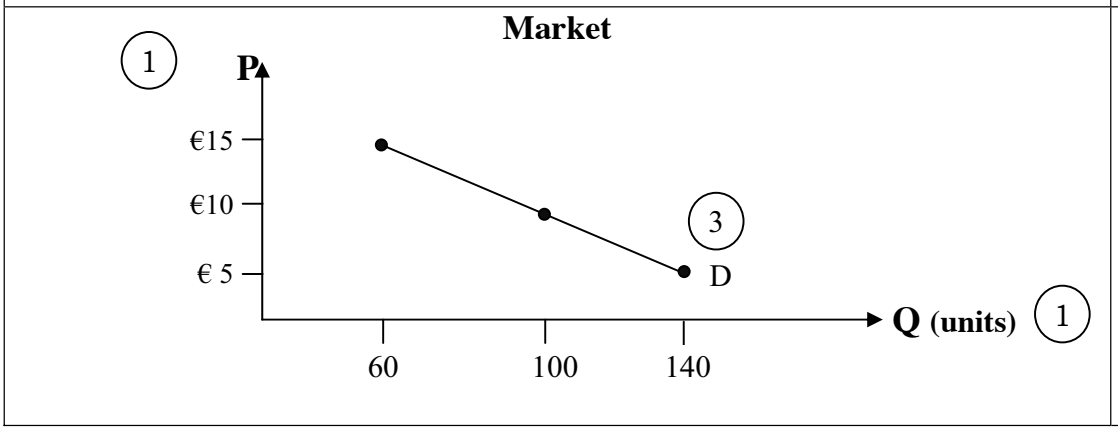
(i) **6 marks**
Individual demand: the quantity of a good an individual consumer demands at different prices.
Market demand: total quantity of a good that all consumers demand at different prices.



3 marks



3 marks



5 marks

2 diagrams x 3 marks each: Graduated P axis; Graduated Q axis; labelled D/C (1 mark each)
Market diagram: 5 marks: Graduated P axis; Graduated Q axis (1 mark each)
Correct cumulative D/C: 3 marks

To derive the market demand add the quantity demanded by each individual consumer at each price to calculate the overall quantity demanded by the market at each price.

3 marks

2011 Continued

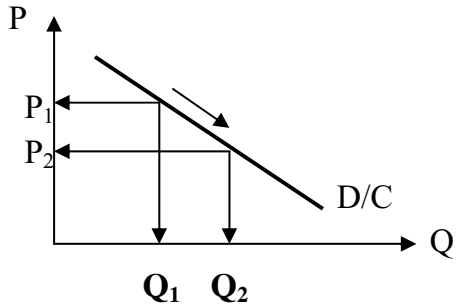
(b) (i) Distinguish between the economic meanings of a 'movement along a demand curve' and a 'shift in a demand curve' for concert tickets. Illustrate your answer using diagrams.

(ii) State and explain **two** factors that would cause a shift in a demand curve for concert tickets. In **each** case explain how the factor affects the demand curve. *(30)*

(i) Movement along a demand curve: **8 marks**

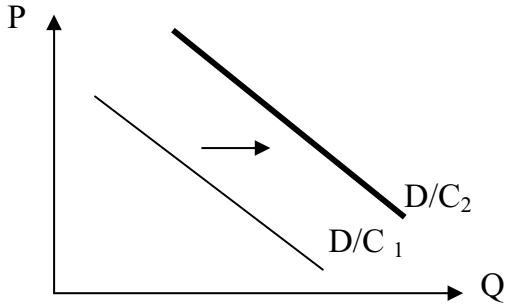
Caused by a change in the selling price of the good itself, ceteris paribus/all other things being equal.

Diagram:



Shift in a demand curve: **8 marks**

If any of the factors other than the price of the good itself change this will result in a shift in the demand curve.



(ii) Two factors that would cause a shift in a demand curve for concert tickets:

Factor	**How this factor affects the demand curve -The demand curve shifts to the right**
Income levels	If income rises then the demand for concert tickets will increase, assuming concert tickets is a normal good.
Taste / Preference	If the consumer's preference for the artist/event becomes stronger then the demand for concert tickets will increase.
Expectations about the future	If consumers expects the performance not to repeated they may increase their demand. If they expect ticket price to rise in the future they may buy the ticket now and demand will increase.
Unplanned events	Factors such as the weather may influence the current demand for tickets e.g. good weather may increase demand for an outdoor event.
Change in price of substitute good	If the price of tickets for an alternative concert increased then demand for tickets for this concert may increase.
Change in price of complementary good	If the price of hotel accommodation near the concert venue decreased then demand for the concert tickets may increase.

2 x 7 marks each

2011 Continued

(c) The Law of Diminishing Marginal Utility states that as more of a product is consumed, eventually each additional unit of the good provides less additional utility (marginal utility).

(i) Explain **two** assumptions underlying the Law of Diminishing Marginal Utility.

A consumer in equilibrium buys 6 health bars at €0.80 each and 9 cartons of juice at €1.50 each. The marginal utility of the 6th health bar is 40 utils.

(ii) Using the **Equi-Marginal Principle of Consumer Behaviour** calculate the marginal utility of the ninth carton of juice. (Show all your workings.) *(25)*

(i) Assumptions underlying the Law of Diminishing Marginal Utility.

1. Applies after a certain point called the origin.
The origin is the minimum quantity of the commodity which can be used effectively and until this stage has been reached, marginal utility may not diminish.

2. It does not apply to Addictive goods.
The consumer may gain increasing marginal utility by consuming each additional unit of an addictive good.

3. Time lapse between consumption of successive units. Sufficient time has not elapsed between the consumption of successive units.
If a person eats a number of oranges, each additional orange consumed will give diminished marginal utility. However, if a person eats one on a Monday, one on a Thursday and one on Sunday, because of the time which has elapsed between the consumption of each extra orange marginal utility may not diminish.

4. 'Other factors' affecting utility do not change.
The law is based on the assumption that other factors which may affect a consumer's utility do not change including income levels, the nature of successive units of the commodity; and the consumer's taste for the commodity.

2 x 6 marks each

(ii) The marginal utility of the ninth carton of juice. (Show all your workings.)

$$\frac{40}{80} = \frac{X}{150}$$

= **75** utils

13 marks (9+4)

2010

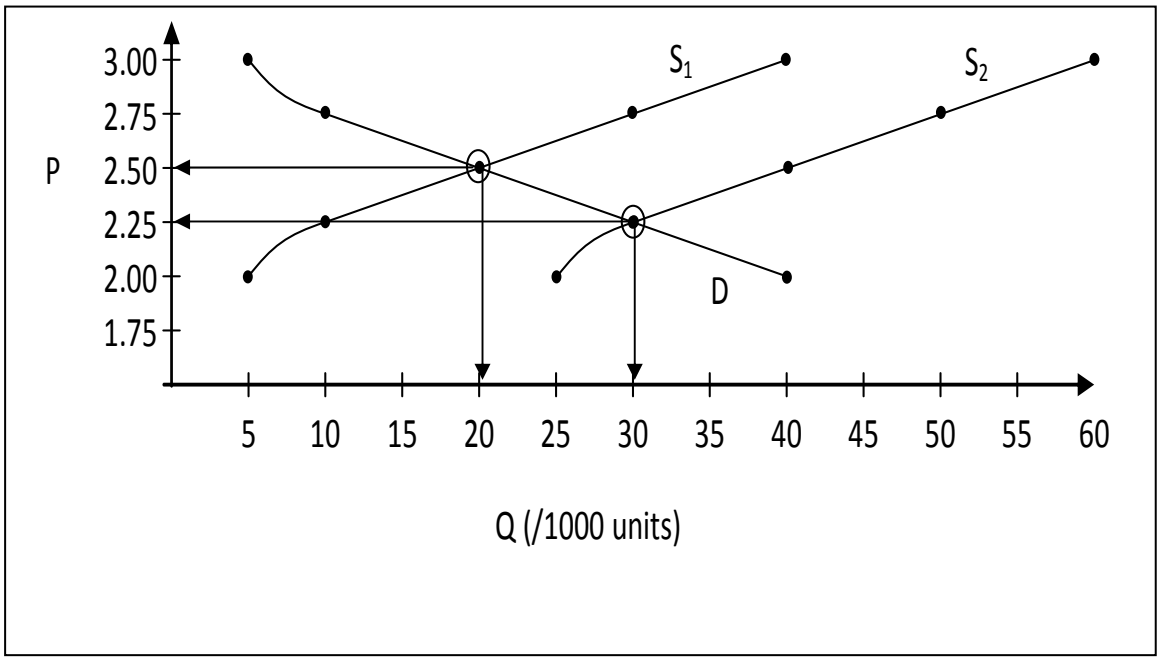
(a) The data below represents the market demand and the market supply schedules for the soft drink 'Quencher'.

Price €	Quantity Demanded ('000 units)	Quantity Supplied ('000 units)	**New Quantity Supplied ('000 units)**
2.00	40	5	**25**
2.25	30	10	**30**
2.50	20	20	**40**
2.75	10	30	**50**
3.00	5	40	**60**

(i) Using the above data, draw the diagram showing the market demand and the market supply curves for the soft drink 'Quencher'. Clearly mark the **point of equilibrium** and the **equilibrium price and quantity.**

(ii) Explain what it means for the market **'to be in equilibrium'.**

(iii) Assume costs of production fell, resulting in an extra 20,000 units supplied at each of the above listed prices. With reference to your diagram in 1(a) (i) above and assuming that demand remain unchanged, draw the **new** supply curve. Clearly indicate the new point of equilibrium and the new equilibrium price and quantity. (30)



(i) D/C: 5 points at 1 mark each + Correct label at1 mark. (6)
S/C: 5 points at 1 mark each + Correct label at1 mark. (6)
Equilibrium point + Equilibrium price + Equilibrium Quantity: 3 at 1 mark each. (3) **[15]**

(ii) To be in equilibrium:
where quantity demanded equals/meets quantity supplied and there is no tendency for prices to change. **[7]**

(iii) New S/C: 5 points at 1 mark each (5)
Equilibrium point + Equilibrium price + Equilibrium Quantity: 3 at 1 mark each. (3) **[8]**

2010 Continued

(b) (i) Outline **four** factors which affect price elasticity of demand (PED).
(ii) The PED for the soft drink 'Quencher' has been calculated at **- 3.8**
Using your knowledge of PED, explain the economic meaning of this figure. **(30 marks)**

1. The availability of close substitutes.

- When a good has a close substitute and its price is increased the demand for the good will be elastic because people will switch to the cheaper substitute.
- Where a good has no substitutes and its price is increased there is no substitute to switch to and so it will be inelastic.
- The closer the substitutability between goods the more consumers will tend to switch their purchasing behaviour in response to a change in relative prices and thus the greater will be PED.

2. Complementary goods.

- If the good in question is the cheaper of two goods, which are in joint demand, then the demand for it is likely to be relatively inelastic in response to changes in its own price.

3. Is the commodity a luxury or necessity?

- It is not vital that one should possess luxuries and therefore the PED for them will be relatively elastic.
- Necessities are vital for life – people must buy them even when their price is increased, so their PED will be relatively inelastic.

4. The proportion of income which is spent on the commodity.

- In general the greater the proportion of income which is spent on a good, the more elastic the demand for it is likely to be, in response to a change in its own price. A rise of 50% in the price of a box of matches is unlikely to have a significant effect on its demand.

5. The durability of the commodity.

- The more durable the commodity, the more elastic is the demand for it likely to be in response to a change in its own price.
- If products such as motorcars increase in price, it is likely that the public will extend the life of their existing model and postpone the purchase of a replacement.

6. Expectations as to future changes in price.

- If, in the face of a price reduction, the public considers that prices are likely to fall even further, they may wait for the further reduction in price, in which case demand may not be very elastic on the initial price reduction.

7. The length of time allowed for adjustment to price changes.

In the long run, demand is more elastic as consumers have time to adjust to a change in price.

- If the price of electricity rose by 80% a consumer may economise on the use of various appliances in the short term. In the long term the consumer will have to consider substituting other forms of energy. The demand will at first be highly inelastic but as time goes on will become more elastic

8. Consumer habits / brand loyalty.

- A consumer may become strongly attached to a particular product through habit or loyalty to that brand. An increase in price for that good will not cause him/her to consume less of the product or to switch to cheaper substitutes. The demand for such goods will therefore be price inelastic.

9. Number of alternative uses the good has.

- A commodity which has a large number of uses will usually have a relatively elastic demand. For example sugar is used in direct consumption, sweetening purposes, baking, food processing etc. Any increase in the price of sugar may only result in a small fall in its demand in each of these markets but the total drop overall may be significant.

4 points at 5 marks each: State: 2 marks. Explain: 3 marks.

2010 Continued

(ii) The PED for the soft drink 'Quencher' has been calculated at **- 3.8**
Using your knowledge of PED, explain the economic meaning of this figure. **10 marks**

-3.8	Sign is minus	This is a normal good	As price increases, demand will fall / obeys the law of demand
		2 marks	**3 marks**
	Value is 3.8	This is a price elastic good	The percentage change in quantity demand is greater than then the percentage change in price
		or	
		This is a luxury good	Because when price rises the demand will fall by a greater percentage, indicating that the good is not a necessity.
		2 marks	**3 marks**

(c) Many health advisors wish to reduce the consumption of soft drinks. Advise the Minister for Health and Children on possible economic actions that the Government could take to reduce the consumption of soft drinks. (15 marks)

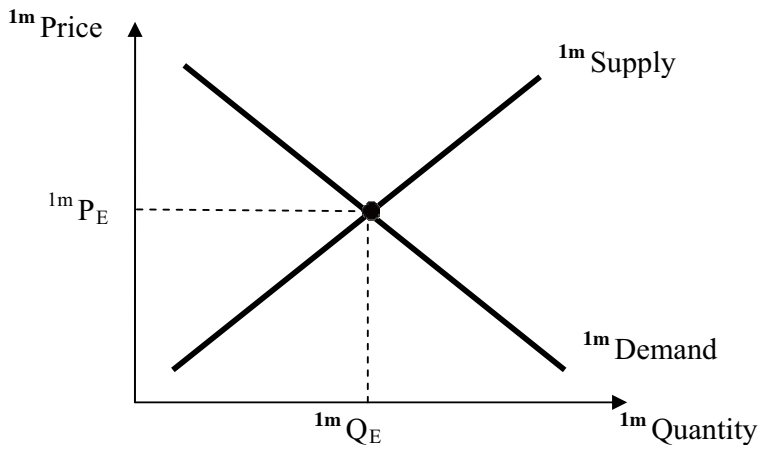
Statement	Explanation
Taxation: **Increase taxes on soft drinks**	By increasing indirect taxes (e.g. VAT) the price will increase which may cause demand to fall.
Education: **Education / Awareness campaign**	The government could increase spending on advertising campaigns to raise awareness of the problems which may result from the consumption of soft drinks. It could insist on more stringent product labelling.
Legislation: **Introduce legislative changes**	It could ban the sale of soft drinks in schools and colleges / ban their sale in vending machines. It could place a quota on imports of such drinks.
Subsidisation: **Subsidise the price of substitute goods / Reduce VAT rates on substitute goods**	By doing this the prices of substitute goods may be more attractive and this may lead to a drop in the demand for soft drinks e.g. the subsidisation of milk in schools.

3 points at 5 marks each. State: 2 marks. Explain: 3 marks.

2009 Q1

(a) (i) Show, by means of a labelled diagram, the market demand and supply curves for games consoles e.g. Xbox, PlayStation, Nintendo DS. Identify and explain the market equilibrium position.

Labelled Diagram: 6 marks



Marking Diagram	
Price:	1m
Quantity:	1m
Supply Curve:	1m
Demand Curve:	1m
PE:	1m
QE:	1m

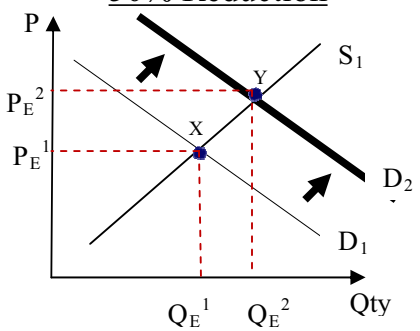
Explanation: 3 marks

The firm is in equilibrium where the market demand curve equals the market supply curve and there is no tendency for the price to change.

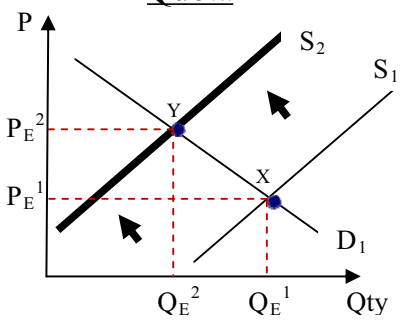
(ii) Explain, with the aid of a separate diagram in **each** case, the effects which **each** of the following is most likely to have on the above equilibrium position:

- 50% reduction in the price of computer games used with the games console;
- Quota placed on the quantity of games consoles entering Ireland;
- Government introduce a 2% levy (tax) on all income earned.

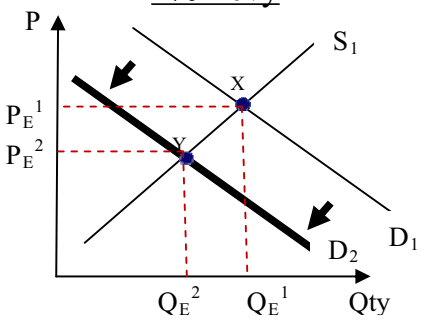
50% Reduction



Quota



2% Levy



50% Reduction	Quota	2% Levy
• D/C shifts to the right (D_2) Explanation: • Because the complementary good is now cheaper • New **higher** P_E^2 • New **higher** Q_E^2 **7 marks graded**	• S/C shifts to the left (S_2) Explanation: • Because less Consoles can be imported • New **higher** P_E^2 • New **lower** Q_E^2 **7 marks graded**	• D/C shifts to the left (D_2) Explanation: • Because consumer income has fallen • New **lower** P_E^2 • New **lower** Q_E^2 **7 marks graded**

2009 Continued

(b) (i) Define income elasticity of demand **and** price elasticity of demand. **6 marks**

Income Elasticity of Demand measures
The percentage / proportionate change in the demand for a good caused by the percentage / proportionate change in income.

Price Elasticity of Demand measures
The percentage / proportionate change in the demand for a good caused by the percentage / proportionate change in the price of that good.

(ii) Which figure stated below is most likely to represent each of the following:

- **Income** elasticity of demand for low price cuts of meat;
- **Income** elasticity of demand for Apple iPhones;
- **Price** elasticity of demand for Petrol.

- 1.6 **- 0.1** **+ 4.3**

Give reasons for your choice in **each** case.

Category	Answer	Reason
Income elasticity of demand for low price cuts of meat	**- 1.6**	• low price cuts of meat is an **inferior good** so it has a **negative** YED. • low price cuts of meat is **not a necessity** so it is **income elastic** (>1)
Income elasticity of demand for Apple iPhones	**+4.3**	• Apple iPhones are a **normal good** so they have a **positive** YED. • Apple iPhones are a **luxury** so they are **income elastic** (>1).
Price elasticity of demand for Petrol	**- 0.1**	• Petrol is a **normal good** so it has a **negative** PED. • Petrol is a **necessity** so it is **price inelastic** (<1).

3 answers @ 8 marks each = 24 marks

(b) Assume **Income** elasticity of demand for games consoles is **+ 2.5** and total sales in 2008 were 100,000 units. Calculate the expected total sales for the year if consumers' incomes are expected to fall by 8% in 2009. Show your workings.

- If income decreases by 8% then sales will decrease by (8% x 2.5) = 20%.
- Sales will fall by 20% of 100,000 units = 20,000 units.
- Sales in 2009 will equal 100,000 – 20,000 = 80,000 units.

15 marks graded

2008 Q1

(a) (i) Explain with the aid of an example, the **'Law of Demand'**.
(ii) State and explain **three** exceptions to the 'Law of Demand' (20 marks)

(i) The Law of Demand states that an increase in price leads to a decrease in quantity demanded, or a decrease in price leads to an increase in quantity demanded.

Example
If price of a bar chocolate increased by 5c per bar then quantity demanded or purchased would fall.

Explanation and example: 5 marks graded.

(ii) State and explain **three** exceptions to the 'Law of Demand'

1. Giffen Goods
For certain necessities a rise in price causes an increase in demand while a fall in price causes a fall in demand. Goods of lower quality make up a large part of the spending of low income families. As the price falls, real incomes increase and families buy less of these goods and purchase more better quality goods. As the price rises they have less income to spend on other types of goods so they tend to increase their demand for these goods.

2. Status Symbols / Snob items / Ostentatious Goods / Goods of Conspicuous Consumption
Some commodities by their exclusiveness or expensiveness are attractive to some buyers. A rise in price makes them more exclusive, and therefore, more attractive to those with the incomes to purchase them. A fall in price may lead to a fall in quantity demanded as they may no longer appear as exclusive to the rich and are still outside the price range of the poor.

3. Goods the purchase of which is influenced by expectations as to future prices / Speculative goods
If prospective buyers think that prices are likely to be even higher in the future, the current level of demand may not fall even if prices increase e.g. if a person is considering buying a house the possibility that prices are likely to be even higher in the future will probably stimulate demand at current prices.

4. Goods of Addiction
In the case of those goods to which a person becomes addicted e.g. drugs, they no longer act rationally. They become so addicted to the drug that in order to get the same 'buzz' from consumption of the drug, demand for the commodity may increase, even when the price of the commodity increases.

3 exceptions at 5 marks each graded.

2008 Continued

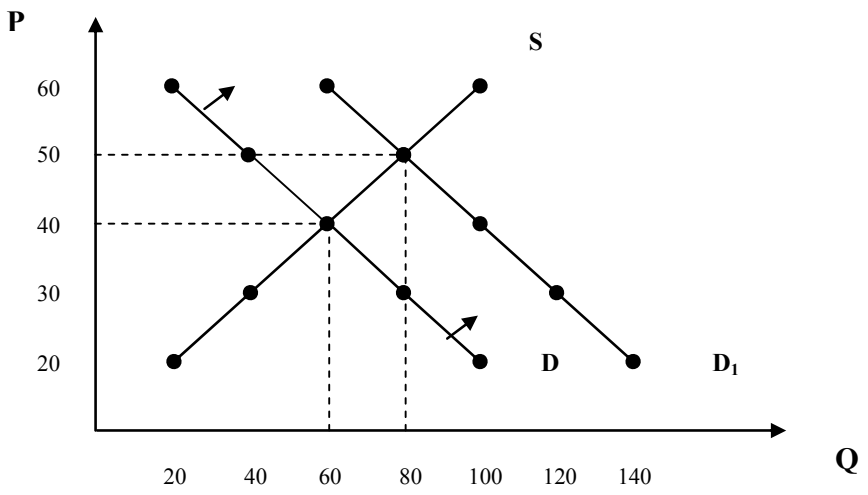
(b) (i) Using the data, draw the diagram showing the market demand and supply curves for MP3 Players.

(ii) Show on your diagram the price and quantity of MP3 Players at which this market is in equilibrium.

(iii) Using this data, calculate the price elasticity of demand when price changes from €40 to €50. (Show all your workings).
For this price change is demand for MP3 players elastic or inelastic? Explain your answer.

(30 marks)

(i)



(i) Diagram
- Correctly labelled demand curve
- Correctly labelled supply curve
- Correctly labelling Price and Quantity axes
- Correctly labelling demand and supply curves **14 marks graded.**

(ii) Correctly identifying equilibrium on diagram:
Equilibrium price €40
Equilibrium quantity 60 units **2 marks.**

(iii) Elasticity

$\frac{\Delta Q}{\Delta P} \times \frac{P1 + P2}{Q1 + Q2}$
$\frac{-20}{10} \times \frac{€40 + €50 \ (90)}{60 + 40 \ (100)}$
- 1.8
Price Elastic
Because the PED is greater than 1

14 marks graded.

2008 Continued

(c) (i) Demand increases by 40 units at each price, so the new demand is as follows:
(ii) Explain **two** possible reasons for the shift in the demand curve. (25 marks)

Price - €	New Quantity Demanded
20	**140**
30	**120**
40	**100**
50	**80**
60	**60**

Diagram

- Correctly labelled **new** demand curve
- Correctly showing new equilibrium price and equilibrium quantity
  - Equilibrium price €50
  - Equilibrium quantity 80 units

11 marks graded.

(c) (ii) Explain **two** possible reasons for the shift in the demand curve.

1. **Increase in consumers' incomes**
   With higher incomes people can now afford to buy MP3 players.

2. **Improvements in services available /Change in Tastes**
   The range of services available for MP3 users are being expanded and consumers who wish to keep up-to-date are buying MP3s e.g. increase in downloading radio broadcasts.

3. **Technological advances**
   With improvements in technology, manufacturers are now offering new models with advanced features, thereby attracting consumers to upgrade/CD's are becoming obsolete.

4. **More convenient than other available substitute goods**
   People prefer the convenience of MP3s. They are small and light. Music can be downloaded by the user at their convenience. Is portable and can be plugged into home entertainment devices. MP3s make it easier to share music

5. **Prices of Complementary goods decreased**
   Downloading music, relative to buying conventional CDs, is cheaper and this makes them attractive. PCs are also cheaper attracting more people to buy both.

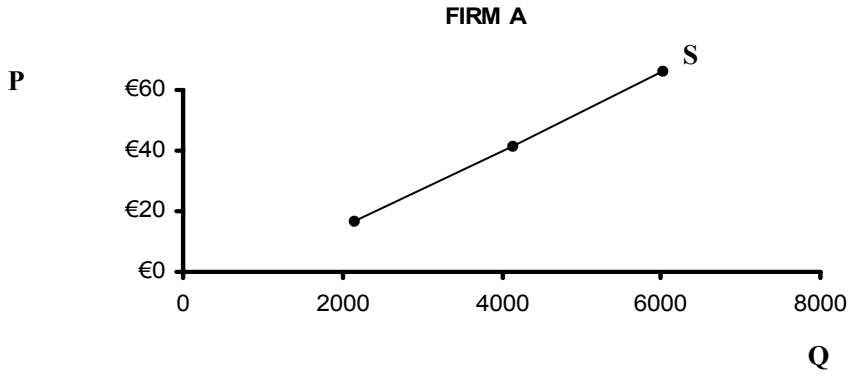
2 reasons at 7 marks each graded.

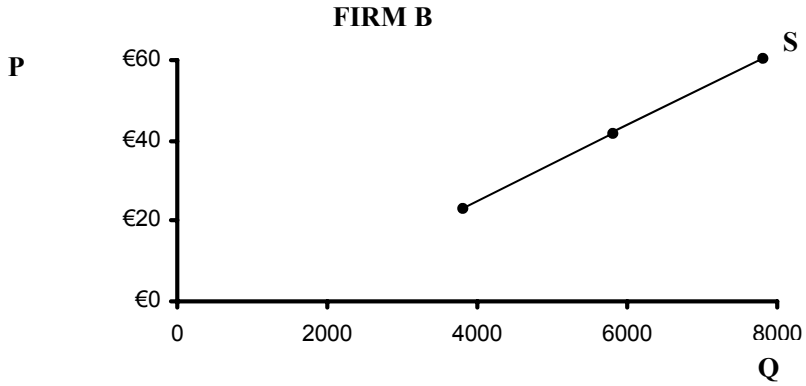
2007 Q1

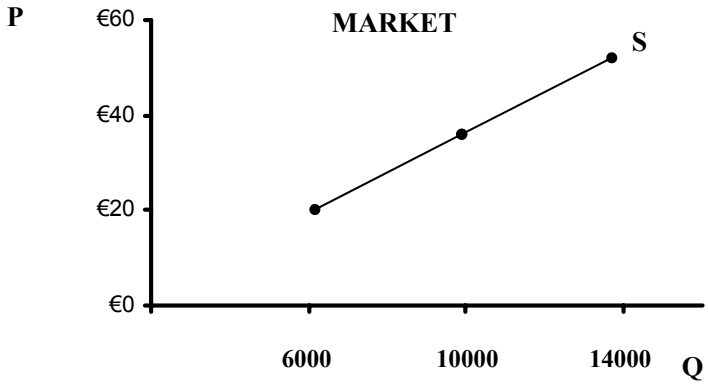
(a) (i) Define the economic terms: **individual (firm) supply; market supply**.
(ii) Explain, with the aid of labelled diagrams, the relationship between individual (firm) supply and market supply. (20 marks)

(i) **Individual supply**: the quantity of a good an individual firm is willing to supply at different prices.
Market supply: the total quantity of a good that all firms are willing to supply at different prices.

(ii)







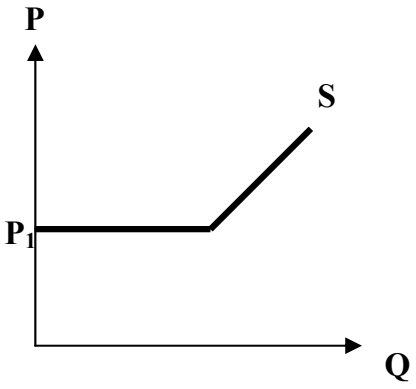
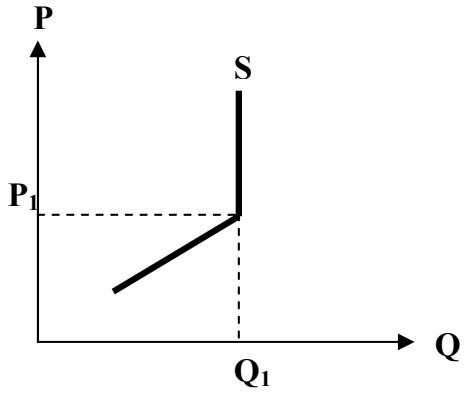
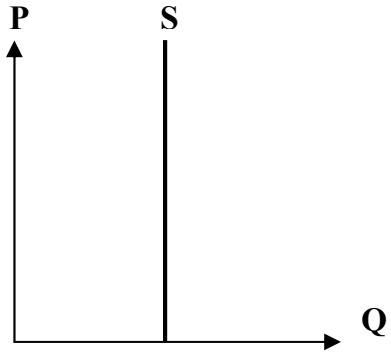
To derive the market supply we add the quantity supplied by each individual firm at each price to calculate the overall quantity supplied to the market at each price.

20 marks graded.

2007 Continued

(b) Explain, with the aid of a labelled diagram, the supply curve of an individual firm in **each** of the following circumstances. State one example in **each** case.

(i) A firm is willing to increase supply as price rises, but there is a minimum price below which the firm will not supply at all.
(ii) A firm can supply only up to a maximum production capacity.
(iii) The product is fixed in supply (e.g. perishable good) and a firm is operating in the short run. (30 marks)

(i) **10 marks graded.**	(ii) **10 marks graded.**	(iii) **10 marks graded.**
		
• **Supply of labour**	• **ESB Power Plant** • **Mining Plant** • **Output is limited by plants productive capacity**	• **Supply of fresh fish** • **Supply of land** • **Seating capacity of a sports stadium**
• Below P_1 nothing is supplied • At prices above P_1 as price increases, quantity supplied increases.	• As price increases up to P_1 output increases up to a maximum level Q_1. • As price increases above P1 quantity supplied will not increase.	• Any change in price will not bring about any change in supply. • Entire daily supply must be sold, regardless of the prevailing price because the commodity cannot be held over for sale the following day.

2007 Continued

(c) Outline **FOUR** factors, other than price, which affect the supply curve of an individual firm. In each case explain how the factor affects the supply curve. (25 marks)

1. The cost of producing the product.
If there is an increase in costs of factors of production, which a firm uses in the production of their good, then it will be more costly to manufacture the good. They will not continue to supply the same quantity of the good at the old prices – there will be a reduction in the quantity supplied.

2. The state of the firm's production technology.
As new machinery is invented, as labour becomes more specialised and efficient the factors of production become more efficient. It becomes possible to increase their output even thought the payments they receive remain the same.

3. The price of related goods.
If there is an increase in the selling price of other goods, which the manufacturer could produce through using his existing factors of production, he may switch from producing the present commodity to that for which the price has increased.

4. Unplanned factors.
There may be changes in the quantity supplied, which were never intended by the producer.
Examples include agriculture – due to changes in the weather; diseases etc.
In industry there may be shortages of raw materials, strikes etc.

5. Taxation / Subsidy.

- If the government were to reduce the rates of taxation on the raw materials used in the manufacture of a commodity, this represents a reduction in the cost of production and hence quantity supplied would increase.
- If a subsidy is granted on the raw materials or on the labour employed by the firm, this has the effect of reducing costs and thereby resulting in an increase in the quantity supplied.

6. Number of sellers in the industry.
If the number of firms in the industry decreased e.g. due to rationalisation then the overall quantity supplied to the market would decrease.

7. Objectives of the firm.
If the objectives of the firm changed from that of profit maximisation to a deliberate reduction in output by firms in the industry then quantity supplied would fall.

7 + 6 + 6 + 6 = 25 marks graded.

2007 Q4 (a) and (b)

(a) **Free Enterprise (Laissez Faire)** & **Command Economy (Central Planning)** are economic systems.
(i) Explain each of the underlined terms.
(ii) In relation to any **ONE** of the economic systems above, outline **TWO** possible economic advantages and **TWO** possible economic disadvantages. (25 marks)

Free Enterprise (Laissez Faire)

- **Market mechanism**: resources are allocated through the market / price mechanism.
- **Ownership of factors or production**: nearly all factors of production are privately owned.
- **Limited government interference**: government exists to supply public goods; provide a legal framework within which markets can work and prevent the creation of monopolies.
- **Decentralised decision making**: the allocation of resources; the decisions on what to produce; how to produce and who gets the commodities: decided by individuals /entrepreneurs.
- **Motivated by Self-Interest**: consumers, producers and property owners are motivated by this.

[Consumers aim to maximise their utility / Producers aim to maximise profit / Owners of factors aim to maximise their return]

6 marks graded.

Economic Advantages	Economic Disadvantages
Choice: Consumers with income have a wide choice of goods and services.	**Distribution of income /wealth inequities:** Resources are allocated to those with spending power. Individuals who can't supply a factor of production have no income.
Efficiency: Incentives exist for producers to be efficient. Those who are inefficient will be forced out by lower costs.	**Lack of essential public services**: If an activity does not make a profit then it may not be available e.g. education, health services - the government must provide these.
Innovation: Producers who are innovative will be rewarded through increased sales on the market.	**Vital services should not be in private hands:** It may be desirable to have certain services e.g. defence, judiciary, police under government control.
Economic Growth: As all individuals are motivated by self-interest, each will strive towards their maximum efficiency and so aid economic growth.	**Growth of monopolies**: Some firms or groups of workers may try to gain control over individual markets.
Less Bureaucracy: As decisions are made by individuals within the society, the costs of a large administration to administer matters is significantly reduced.	**Social costs of commodities ignored**: Producers and consumers may pollute the atmosphere and without government regulation no individual will pay the full price for a commodity.
	Unemployment / Inflation: If entrepreneurs choose the lowest cost of production or are pessimistic about profitability then workers may become unemployed. If shortages occur, inflation may result.

13 marks graded.

2007 Q4 Continued

Command Economy (Central Planning)

- **Planning mechanism**: resources are allocated by the state through a planning mechanism.
- **Ownership of factors or production**: all the factors of production owned by the state apart from labour – though the use of labour can be directed by the state.
- **Motivated by common good:** consumers, workers and government are assumed to be selfless and, co-operating together to work for the common good.
- **Maximum government interference**: government exists to regulate all economic activity.
- **Centralised decision making**: the allocation of resources; the decisions on what to produce; how to produce and who gets the commodities are decided by the state.

6 marks graded.

Economic Advantages	Economic Disadvantages
Reduced inequalities in society / More even distribution of wealth: The government may place great emphasis on providing all citizens with a minimum standard of living e.g. subsidising essential food.	**Shortages in goods and services**: Because the state may limit prices there may be excess demand and so shortages develop and the available goods may be allocated by a queuing system.
Provision of essential services: The state may provide those services to citizens which it considers vital such as health care, education, public infrastructure.	**Restricted choice / freedom for individuals**: Workers may be allocated particular jobs or in particular areas and maybe restricted in their ability to change jobs by state requirements. Consumers will have little say in what is produced and what is available may be quite restricted.
Economies of scale: The large scale of production may mean that the firm benefits from economies of scale. The government may be more efficient in the provision of those commodities which require a large capital investment e.g. energy generation ; roads etc.	**Inefficiency:** Because there is little incentive for enterprise and innovation, individuals and firms are not encouraged to take risks, work harder or innovate.
Full employment Historically centrally planned economies were able to achieve full employment while those economies consider free enterprise suffered from unemployment.	**Low economic growth:**: As all individuals are not motivated by self-interest this may result in reduced economic activity resulting in poor economic growth rates.
	Bureaucracy / Corruption / High Taxes: With so many decisions to be made it may mean that the system becomes over bureaucratic further reducing incentives to work / or be innovative. Taxes may have to rise to fund the administration involved. Corruption may develop within society.

13 marks graded.

2007 Q4 Continued

(i) 'The Irish economy can be described as a **Mixed Economy'**.
Outline **FOUR** examples of economic activity in the Irish economy to support this view.

1. **Existence of Social Partnership**:
   Allows for the involvement of the government and other social partners to set and achieve targets over a specified period of time.
2. **Existence of Semi-State bodies & private enterprise side by side:**
   Producing goods and supplying services in areas like transport, energy and communications.
3. **Government Departments / various Regulators**:
   Regulate economic activities through their actions e.g. the financial services regulator.
4. **Legislation**:
   which controls the activities of all individuals / firms such as the various labour laws e.g. Minimum Wage Law / Planning Laws / Companies Acts etc.
5. **Use of taxation / government expenditure**:
   the use of fiscal policy by the government affects economic activity and can alter market outcomes.

4 points at 4 marks each graded.

(ii) Do you consider that the Irish economy is moving towards more free enterprise or towards more central planning in recent years? Explain, your answer, using appropriate examples. (30 marks)

Moving towards more Free Enterprise

Activity	Example
Privatisation of state companies	Eircom, Aer Lingus, some Dublin Bus routes
Public Private Partnerships	Building of second level schools / hospitals
De-regulation of markets / Allowing competition into the industry	De-regulation of taxi industry; Allowing competitors into electricity generation; telecommunications networks i.e. O2, Meteor etc Allowing competitors to set up pharmacies;
Encouraging entrepreneurship	County Enterprise Boards; changing curricula in schools; lowering PRSI and CPT etc.

Moving towards more Central Planning

Activity	Example
Increasing Legislative framework	Introduction of minimum wage rate; Emergency legislation re: BUPA / QUINN health insurance;
Appointment of Regulators Establishing Tribunals of Enquiry	Regulator for Aviation / Financial services etc. Many tribunals of enquiry are currently examining the abuses of the free market system.
Fear of the 'Nanny State'	Individuals may feel that much of our daily lives are controlled / interfered with by the state e.g. smoking laws; planning laws etc.

2 points at 7 marks each graded.

2006 Q1

(a) For analytical purposes economists make certain assumptions about consumer behaviour. State and explain these **FOUR** principal assumptions. *(15 marks)*

1. **The consumer has a limited income.**

   The consumer's income is not large enough to satisfy his/her needs and wants, therefore the consumer must choose between those goods he wishes to buy.

2. **The consumer aims to gets maximum satisfaction / utility from that income.**

   A consumer will spend his/her limited income in such a way that he/she will achieve the most satisfaction / best value for money.
   He will obey the Equi-Marginal Principal of Consumer Behaviour.

3. **The consumer acts rationally.**

   The consumer acts in that manner consistent with his preferences. If the person sees an identical commodity priced differently in two adjoining shops they will but it at the lower price.

4. **The consumer is subject to the law of diminishing marginal utility.**

   As a consumer consumes additional units of a good his/her marginal utility for this good will eventually decline.

(4+4+4+3 graded)

2006 Continued

(b) A manufacturer of three different products calculates the price elasticity of demand for each product as follows:

Product X: - 1.5 **Product Y: -1.0** **Product Z: -0.3**

The company wishes to maximise its revenues. Explain in respect of **each** of these products, what change, if any, the company should make in the prices currently being charged to enable it achieve its aim. (30 marks)

	Product X: - 1.5	**Product Y: -1.0**	**Product Z: -0.3**
Type of Elasticity	**Elastic** because PED > 1	**Unit Elastic** Because PED = 1	**Inelastic** because PED < 1
Price Change	**Decrease** price	Leave price **unchanged**	**Increase** price
Comparison	Because: the **%** ↑ in demand exceeds the **%** ↓ in price	Because: the % Δ in demand equals the % Δ in price	Because: the % ↑ in price exceeds the % ↓ in demand
Effect on Total Revenue	This will increase	Will remain unchanged	This will increase
	10 marks graded	**10 marks graded**	**10 marks graded**

(c) A consumer buys 10 units of Good A when the price of Good B is €5.
When the price of Good B rises to €6 (the price of Good A remaining unchanged) the consumer buys 14 units of A.

(i) Define **cross elasticity of demand**.
(ii) Using an appropriate formula, calculate this consumer's cross elasticity of demand for Good A. Show workings.
(iii) Is Good A a substitute for, or complement to, Good B? Explain your choice. *(30 marks)*

(i) **Cross Elasticity measures**

The percentage / proportionate change in the demand for one good, caused by the percentage / proportionate change in the price of other goods. **10 marks graded**

(ii)

$\frac{\Delta Q_A}{\Delta P_B} \times \frac{P_{B1} + P_{B2}}{Q_{A1} + Q_{A2}}$	$\frac{\Delta Q_A}{\frac{1}{2}(Q_{A1} + Q_{A2})} \div \frac{\Delta P_B}{\frac{1}{2}(P_{B1} + P_{B2})}$
$\frac{+4}{+1} \times \frac{5 + 6}{10 + 14}$ (44) (24)	$\frac{+4}{\frac{1}{2}(10 + 14)} \div \frac{+1}{\frac{1}{2}(5 + 6)}$
+ 1.83	**+ 1.83**
15 marks graded	

(iii) Good A is a **substitute** good:
It has a + sign. This means that as the price of Good B increased the consumer switched from Good B to the cheaper alternative, Good A.

5 marks

2005 Q1

(a) State and explain FIVE factors that affect a consumer's demand schedule *(25 marks)*

The factors which influence a consumer's demand schedule: $D_A = f(P, P_{OG}, Y, T, E, G, U)$

(i) Price of the good itself.
Generally as the price of a good falls consumers will buy more of that good – consumers are getting better value for their money.

(ii) Prices of complementary and substitute goods.
If the price of a complementary good rises then demand for this good falls - e.g. an increase in the price of petrol will result in a drop in the demand for large cars, as consumers may be tempted to use alternative modes of transport. If the price of a substitute good rises then demand for this good rises, as it has become relatively cheaper.

(iii) Income of the consumer.
For normal goods as disposable income rises the demand for them increases and vice versa e.g. smaller quantities of goods are bought when a person becomes unemployed.

(iv) Consumer tastes or preferences.
When a commodity comes into fashion or into season there is an increase in the quantity demanded at each price. Advertising attempts to influence taste in favour of the good.

(v) Expectations concerning future prices .
If a consumer expects that future prices are likely to be greater than they are at present, then there may be an increase in the demand for the good at each price.

(vi) Government regulations.
If the government initiates a programme to curtail consumption of a particular product then it may affect the demand for a good e.g. a health education campaign to curtail cigarette consumption.

(vii) Unplanned factors.
If there was a sudden heatwave this may result in an increase in the demand for suncream / icecream.

5 points at 5 marks graded.

(b) (i) Show, by means of a labelled diagram, the market demand and supply for a product. Indicate the equilibrium price and quantity in this market.

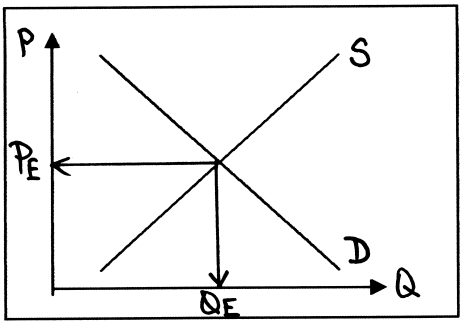


Diagram: P, Q, D/C and S/C:
Equilibrium P_E and Q_E

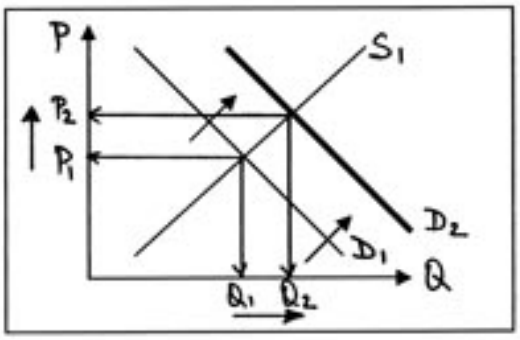
6 marks graded.

2005 Q1 Continued

(b) (ii) Explain, with the aid of a separate diagram in each case, the effects which **each** of the following may have on the above equilibrium position.

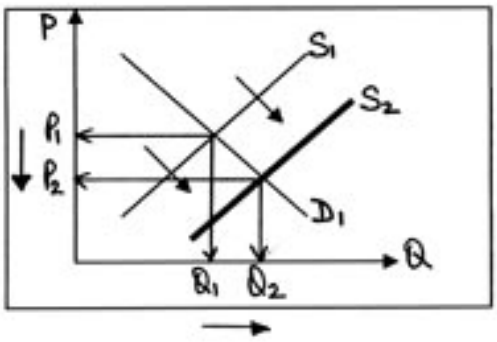
- A successful advertising campaign is favour of the product is introduced;
- A tariff on imports of the product is removed.

A successful advertising campaign is favour of the product is introduced – 12 marks graded.



Effect: The **D/C** will shift to the right.
Why? Consumers are enticed to buy more due to the successful advertising campaign
Equilibrium: both price and quantity increase.

A tariff on imports of the product is removed – 12 marks graded.



Effect: The **S/C** will shift to the right.
Why? The removal of the tariff will result in an increase in the quantity of imports into the market resulting in an increase in supply.
Equilibrium: Price falls and quantity increases.

2005 Q1 Continued

(c) Assume that the average spending on energy by a low income family is €40 weekly.
The price of energy rises by 20% so that the same consumption by a low income family would now cost €48 weekly.
The government is considering introducing one of the following policy measures to assist low-income families:

- giving low income families an increased allowance of €8 weekly (income supplement);
- subsidising the producers of energy so that energy can continue to be sold at the initial price (price subsidy)

Which policy measure would you advise the government to take? Explain the economic reasons for your answer. *(20 marks)*

Giving low income families an increased allowance of €8 weekly (income supplement).

1. Cost efficient.
As the income supplement specifically targets low-income families it is cost efficient and cheaper for the government than the price subsidy.

2. Purchasing power maintained / No change to standard of living.
Low-income families will now receive an additional €8 weekly income.
The family now have a choice in deciding how to allocate this. It can maintain existing energy consumption or economise on the use of energy and use the €8 in some alternative way.

3. Efficient use of state scarce revenues.
As government revenue is limited and there are many demands on it the specific targeting of low income families could lead to more efficient use of these scarce revenues.

4. Efficient use of scarce resources by consumers.
As the price of energy rises, consumers seeing this may economise on energy use thus saving scarce resources.

OR

Subsidising the producers of energy so that energy can continue to be sold at the initial price (price subsidy).

1. Protecting employment.
By using a price subsidy the demand for energy will remain unchanged and so employment is protected.

2. Prevent an increase in inflation / maintain competitiveness.
The government may use the price subsidy so that energy prices remain unchanged hence maintaining price stability and ensuring that our competitiveness is not affected, subject to EU rules.

3. Pressure on employees for greater cost efficiencies / maintain partnership agreements.
The government may use this price subsidy as leverage for achieving cost reductions within the industry. This could involve: encouraging employees to face cutbacks / rationalisation; encouraging employees and trade unions to continue with Partnership Agreements, in return for maintaining price stability.

2 points at 10 marks graded.

2005 Q4 (c)

(c) Explain how an understanding by the Minister for Finance of the concept Price Elasticity of Demand would help is setting levels of indirect taxation. Use examples to illustrate your answer. (20 marks)

A knowledge of the concept of Price Elasticity of Demand could help the Minister for Finance in setting levels of indirect tax in two main ways:

1. How to raise more revenue from indirect taxation levels.

An increase in indirect taxation on a commodity will only lead to increased tax revenue if the demand for the commodity is inelastic.

Example: Price inelastic commodities [alcohol and cigarettes].

If the demand for these commodities is price inelastic then by increasing the VAT rate on these commodities, the Government will earn additional revenue because the percentage decrease in demand is less than the percentage increase in selling price.

2. How to reduce the consumption of 'harmful' commodities.

Increasing the rate of indirect taxation on certain (elastic) commodities may help the government to reduce the consumption of commodities which may have high social costs. If the Minister knows they are elastic commodities, then by increasing VAT rates, the demand for these goods will fall, thus helping to achieve this objective.

Example: Price elastic commodities.

While an increase in the rate of indirect tax may not bring in additional revenue (due to the drop in demand) the aim of reducing consumption of these commodities may be achieved.

20 marks: 2 reasons at 5 marks graded. 2 examples at 5 marks graded.

2004

(a) Define the following types or degrees of price elasticity of demand:
(i) Perfectly elastic demand.
(ii) Perfectly inelastic demand.
(iii) Elastic demand.
(iv) Unitary elastic demand.

(20 marks)

Marking Scheme: 4 points x 5 marks graded

(i) **Perfectly elastic demand**.

- This occurs when consumers are prepared to buy all they can of a good at a given price, while any increase in price above this given price will result in quantity demanded to fall to zero.

(ii) **Perfectly inelastic demand**

- The percentage change in price causes no change in the quantity demanded.

(iii) Elastic demand

- The percentage change in demand is greater than the percentage change in the price of the good

(iv) **Unitary elastic demand**.

The percentage change in demand is equal to the percentage change in the price of the good

(b) State and explain FIVE **factors that affect price elasticity of demand.** ***(25 marks)***

Marking scheme
5 points at 5 marks graded.

1. The availability of close substitutes.

- **When a good has a close substitute and its price is increased the demand for the good will be elastic because people will switch to the cheaper substitute.**
- **Where a good has no substitutes and its price is increased there is no substitute to switch to and so it will be inelastic.**
- **The closer the substitutability between goods the more consumers will tend to switch their purchasing behaviour in response to a change in relative prices and thus the greater will be PED.**

2. Complementary goods.

- **If the good in question is the cheaper of two goods, which are in joint demand, then the demand for it is likely to be relatively inelastic in response to changes in its own price.**

2004 Continued

3. Is the commodity a luxury or necessity?

- **It is not vital that one should possess luxuries and therefore the PED for them will be relatively elastic.**
- **Necessities are vital for life – people must buy them even when their price is increased – and so their PED will be relatively inelastic.**

4. The proportion of income which is spent on the commodity.

- **In general the greater the proportion of income which is spent on a good, the more elastic is demand for it likely to be in response to a change in its own price – because the more important is a change in its own price.**
- **A rise if 50% in the price of a box of matches is unlikely to have a significant effect on the demand for them.**

5. The durability of the commodity.

- **The more durable the commodity, the more elastic is the demand for it likely to be in response to a change in its own price.**
- **If products such as motorcars are increased in price, it is likely that the public will extend the life of their existing model and postpone the purchase of a replacement.**

6. Expectations as to future changes in price.

- **If, in the face of a price reduction, the public considers that prices are likely to fall even further, they may wait for the further reduction in price, in which case demand may not be very elastic to the initial price reduction.**

7. The length of time allowed for adjustment to price changes.

- **The longer any price change persists, the greater will be the PED.**
- **If the price of electricity rose by 80% a consumer may economics on the use of various appliances in the short term. In the long term the consumer will have to consider substituting other forms of energy. The longer the time period available to figure out possible changes, the more electricity will be saved. The demand will at first be highly inelastic but as time goes on will become more elastic.**

8. Consumer habits / brand loyalty.

- **A consumer may become strongly attached to a particular product through habit or loyalty to that brand. An increase in price for that good will not cause him/her to consume less of the product or to switch to cheaper substitutes. The demand for such goods will therefore be price inelastic.**

9. Number of alternative uses the good has.

- **A commodity which has a large number of uses will usually have a relatively elastic demand. For example sugar is used in direct consumption, sweetening purposes, baking, food processing etc. Any increase in the price of sugar may only result in a small fall in its demand in each of these markets but the total drop overall may be significant.**

2004 Continued

(c) A consumer spends €120 per month on a product when its unit price is 80c, and continues to spend €120 per month on this product when its unit price is increased to €1.

(i) Using the formula below, calculate the consumer's price elasticity of demand.
Show all your workings.

$$\frac{\Delta Q}{\Delta P} \times \frac{P_1 + P_2}{Q_1 + Q_2}$$

(ii) Is demand for this product elastic, inelastic or unitary elastic?

(iii) Should the seller make any changes in the selling price of this commodity to increase overall revenue? Explain your answer. (30 marks)

Quantity demanded of the product:

Price	Workings	Quantity Demanded
When the unit price is 80c	€120 / 80 cent	150 units
When the unit price is €1	€120 / €1	120 units

(i) Calculate the Price Elasticity of Demand: ***12 marks graded.***

Correct Answer
$\frac{-30}{+0.20c} \times \frac{0.80c + €1}{150 + 120}$
$\frac{-30}{+0.20} \times \frac{1.80}{270}$
- 1.00

(ii) Is demand for this product elastic, inelastic or unitary elastic?: Unitary elastic: ***3 marks***

(iii) Should the seller make any changes in the selling price to increase revenue? ***15 marks* graded**

	Unit elastic
Price Change	The price of the product should be left unchanged
Effect on Demand	Hence the quantity demanded will remain unchanged unchanged.
Effect on Revenue	Thus there will be no effect on the revenue of the firm.
Reason	*Because* The percentage change in quantity demanded equals the percentage change in the price of the product..

2003 Question 2

(a) Define (i) *price elasticity of demand* and (ii) *cross elasticity of demand*.
In each case, state the formula by which it is measured. (20 marks)

(i) Price Elasticity of Demand measures:

- the percentage / proportionate change in the quantity demanded for a good caused by the percentage / proportionate change in the price of that good.

Formula: $\frac{\Delta Q}{\Delta P} \times \frac{P1 + P2}{Q1 + Q2}$

Definition + Correct Formula: 10 marks graded

(ii) Cross Elasticity of Demand measures:

- the percentage / proportionate change in the demand for one good caused by the percentage / proportionate change in the price of other goods.

Formula : $\frac{\Delta QX}{\Delta PY} \times \frac{PY1 + PY2}{QX1 + QX2}$

Definition + Correct Formula: 10 marks graded

(b) When the price of good X is €27 the quantity demanded of good Y is 1,200 units.
When the price of Good X falls to €23 (the price of Good Y unchanged) the quantity demanded of good Y falls to 800 units.

(i) Using the cross elasticity of demand formula, calculate the cross elasticity of demand for Good Y. Show all your workings.
(ii) Is good Y a substitute for or complement to good X? Explain your choice.

(25 marks)

(i) Formula : $\frac{\Delta Q_X}{\Delta P_Y} \times \frac{P_{Y1} + P_{Y2}}{Q_{X1} + Q_{X2}}$

$$\frac{-400}{-4} \times \frac{27 + 23}{1200 + 800} \quad \frac{(50)}{(2000)} = +2.5$$

6 correct figures at 2 marks each:**12 marks**/Correct Sign:**2 marks**/Correct answer: **4 mks**

2003 Question 2 Continued

(ii) Good Y is a substitute good. ***7 marks graded***

This means that as the price of good X decreased, consumers switched from Good Y to the cheaper alternative, Good X.

(c) A firm has the following price elasticities of demand for two goods, Good X and Good Y: (30 marks)

Good X = -2.0 Good Y = -0.5

What changes, if any, should the firm make in the selling price of each of the goods to increase overall revenue? Explain your answer.

	Good X: -2.0	**Good Y: -0.5**
Type of Good	Normal because it has a – PED.	Normal because it has a – PED.
Comment	Elastic because PED > 1	Inelastic because PED < 1
Price change	Decrease price	Increase price
Effects on demand	Demand will rise	Demand will fall
Comparison	Because: the % increase in demand exceeds the % decrease in price	Because: the % increase in price exceeds the % decrease in demand
Effect on Total revenue	This will increase	This will increase
	15 marks graded	***15 marks graded***

2003 Question 2 Continued

In cases where candidates assumed that the sign for Good X and Good Y was +

	Good X: + 2.0	**Good Y: + 0.5**
Type of good	Giffen because It has a + PED or as P↑ → Q_D↑	Giffen because It has a + PED or as P↑ → Q_D↑
Comment	Elastic because PED > 1	Inelastic because PED < 1
Price change	Increase price	Increase price
Effects on demand	Demand will rise	Demand will rise
Effect on Total revenue	This will increase	This will increase
	15 marks graded	***15 marks graded***

2003 Question 3

(a) (i) State and explain **FOUR** factors which affect a consumers' demand schedule, other than the price of the good itself.
(ii) Explain the economic rationale for assuming that a person's demand curve for a normal good slopes downward. (30 marks)

(i) The factors, which influence a consumer's demand schedule:

DA = f (POG, Y, T, E, G, U)

(a) the prices of complementary and substitute goods
If the price of a complementary good rises then demand for this good falls - e.g. an increase in the price of petrol will result in a drop in the demand for large cars.
If the price of a substitute good rises then demand for this good rises, as it has become relatively cheaper.

(b) the income of the consumer
For most goods as income rises the demand increases and vice versa
e.g. smaller quantities of goods are bought when a person becomes unemployed.

(c) the consumers' tastes or preference for a commodity
When a commodity comes into fashion or into season there is an increase in the quantity demanded at each price. Advertising attempts to influence taste in favour of the good.

(d) The expectations concerning future prices, availability of income
If a consumer expects that future prices are likely to be greater than they are at present, then there will be an increase in the demand for the good at each price.

(e) government regulations
If the government initiates a programme to curtail consumption of a particular product then it may affect the demand for a good
e.g. a health education campaign to curtail cigarette consumption.

(f) Unplanned factors
If there was a sudden heatwave this may result in an increase in the demand for suncream / ice cream etc.

4 points x 6 marks graded

2003 Question 3 Continued

(ii) The reason a person's demand curve for a normal good slopes downward:

as the price of a good falls the consumer buys more of this cheaper good, because **the marginal utility per cent spent on this good increases** and the consumer aims to maximise his/her total utility.

6 marks graded

(b) For something to be considered an *economic good,* it must possess certain characteristics. State and explain **THREE** of these characteristics. (20 marks)

(i) It must command a Price.
Supply must be scarce in relation to the demand for it.
If not people will not be prepared to pay a price to obtain it.

(ii) It must provide Utility.
The commodity must provide a feeling of satisfaction.
Anything which is a nuisance or irritant does not, and so is not an economic good.

(iii) It must be transferable.
For an item to be considered an economic good it must be capable of being transferred from one person to another.

3 points: 7 +7 + 6 marks graded

2003 Question 3 Continued

(c) A consumer spends all income on two goods, Good A and Good B. Both goods are normal goods but they are not complementary goods. The price of Good A is reduced and the price of Good B remains unchanged. The consumer continues to spend all income on the two goods. Distinguish between the substitution effect and the income effect of the price reduction in Good A.

(25 marks)

Substitution Effect	**Income Effect**
Demand for Good A	**Demand for Good A**
Increases	Increases
Good A is now relatively cheaper. Hence the consumer is getting increased marginal utility for this good.	Consumer has additional income, due to the reduction in price of Good A As good A is a normal good the demand for this good will increase.
13 marks graded	***12 marks graded***

2002

(a)

(i) Income Elasticity of demand

Measures the percentage change in/responsiveness of the demand for one good caused by the percentage change in the consumer's income.

(ii) Cross Elasticity of Demand

Measures the percentage change in/responsiveness of the demand for one good caused by the percentage change in the price of other goods.

2 definitions: 8 + 7 marks graded

(b) (i)

YED is usually positive **5 marks graded**

- This means that as income increases, quantity demanded rises
- These goods are normal goods.
- e.g.YED for foreign holidays is positive.

YED is sometimes negative **5 marks graded**

- This means that as income rises, quantity demanded falls
- These goods are inferior goods.
- e.g. YED for potatoes is negative.

(b) (ii) **10 marks graded**

- This good is a normal good
- Let the consumer's income = €100. S/he spends €40 on the good.
  The consumer's income is doubled. S/he now spends €60 on the good

(c)

3 x 10 marks graded = 30 marks

Category	Answer	Explanation
YED for potatoes	**- 0.1**	- Potatoes are an **inferior good** – so they have a negative YED - Potatoes are a necessity – so they are inelastic.
YED for designer clothes	**+2.5**	- Designer clothes are a **normal good** - so they have a **positive YED** - Designer clothes are a **luxury** – so they are **income elastic**.
PED for airline seats	**- 2.8**	- Airline seats are a **normal good** so they have a **negative PED** - Demand for airline tickets **is responsive to price changes** – so they are **price elastic.**

2002 Continued

(d) YED =+1.8 and Sales in Year 1 = 20,000 units. Consumers income rises by 5%

- For the 5% rise in income, sales will rise by 1.8 x 5 = **9%.**
- Sales will rise by **9% x 20,000 units = 1,800 units**.
- Thus sales in Year 2 = 20,000 + 1,800 = **21,800 units**. **10marks graded**

2001

(a) Define what is meant by price elasticity of demand. (10 marks)

Price Elasticity of Demand measures the

- percentage / proportionate change in the quantity demanded for a good caused by the percentage / proportionate change in the price of that good.

- Responsiveness of QD to changes in the price of the good itself.

Marking Scheme
10 marks graded

(b) A consumer buys 80 units of a good when the price is £1.50. The price increases to £1.75 and the consumer now buys 70 units.

(i) Using the formula below, Calculate the consumer's price elasticity of demand. Show all your workings.

$$\frac{Q}{P} \times \frac{P1 + P2}{Q1 + Q2}$$

(ii) Is demand for this good elastic, inelastic or unitary elastic?

(iii) The seller of the above good wishes to earn maximum revenue. What changes, if any, should the seller make in the selling price of the good to earn maximum revenue? Explain your answer. (35 marks)

(i) $\frac{-10}{+25p}$ $\frac{[£1.50 + £1.75]}{[80 + 70]}$ [or] $\frac{-10}{+25p}$ $\frac{£3.25}{150}$

4 figures @ 4 marks each = 16 marks

2001 Continued

Answer, PED = $\boxed{-0.866}$

Correct Sign: 3 marks Correct value: 3 marks

(ii) Demand for this good is inelastic: 3 marks

(iii)

1. The seller should increase the price of the good.
2. This will cause the demand for the good to decrease.
3. However the percentage drop in the demand for the good is small relative to the price change in percentage terms. The revenue gained from the rise in price outweighs the revenue lost from the subsequent fall in demand.
4. Total revenue will increase.

Marking Scheme	
• Increase in price:	3 marks
• Decrease in demand:	3 marks
• % increase in P exceeds % drop in demand:	2 marks
• so Total revenue will increase:	2 marks

(c) State and explain FOUR factors that affect price elasticity of demand (30).

1. The availability of close substitutes.

- When a good has a close substitute and its price is increased, the demand for the good will be elastic because people will switch to the cheaper substitute.
- Where a good has no substitutes and its price is increased there is no substitute to switch to and so it will be inelastic.
- The closer the substitutability between goods the more consumers will tend to switch their purchasing behaviour in response to a change in relative prices and thus the greater will be PED.

2. Complementary goods.

- If the good in question is the cheaper of two goods, which are in joint demand, then the demand for it is likely to be relatively inelastic in response to changes in its own price.

3. Is the commodity a luxury or necessity?

- It is not vital that one should possess luxuries and therefore the PED for them will be relatively elastic.
- Necessities are vital for life – people must buy them even when their price is increased – and so their PED will be relatively inelastic.

2001 Continued

4. The proportion of income which is spent on the commodity.

- In general the greater the proportion of income which is spent on a good, the more elastic is demand for it likely to be in response to a change in its own price – because the more important is a change in its own price.
- A rise if 50% in the price of a box of matches is unlikely to have a significant effect on the demand for it.

5. The durability of the commodity.

- The more durable the commodity, the more elastic is the demand for it likely to be in response to a change in its own price.
- If products such as motorcars increase in price, it is likely that the public will extend the life of their existing model and postpone the purchase of a replacement.

6. Expectations as to future changes in price.

- If, in the face of a price reduction, the public considers that prices are likely to fall even further, they may wait for the further reduction in price, in which case demand may not be very elastic to the initial price reduction.

7. The length of time allowed for adjustment to price changes.

- The longer any price change persists, the more elastic will be demand.
- If the price of electricity rose by 80% a consumer may economise on the use of various appliances in the short term. In the long term the consumer will have to consider substituting other forms of energy. The longer the time period available to figure out possible changes, the more electricity will be saved. The demand will at first be highly inelastic but as time goes on will become more elastic.

8. Consumer habits / brand loyalty.

- A consumer may become strongly attached to a particular product through habit or loyalty to that brand. An increase in price of that good will not cause him/her to consume less of the product or to switch to cheaper substitutes. The demand for such goods will therefore be price inelastic.

9. The number of alternative uses the good has.

- A commodity, which has a large number of uses, will usually have a relatively elastic demand. For example sugar is demanded for direct consumption, sweetening purposes, baking, food processing etc. Any increase in the price of sugar may only result in a small decrease in its demand in each of these markets but the total overall drop in demand could be significant.

Marking scheme
4 points: 8 + 8 + 7 + 7 = 30 marks.
State: 4 x 3 marks each. Explain: 5 + 5 + 4 + 4 marks.
The explanation must state whether PED is elastic/inelastic as a result of the factor identified.