

### Costs of Production Long Questions

#### 2000 Q2

- (d) The above firm may benefit from certain internal economies of scale.
- (i) Define what is meant by **internal economies of scale**.
  - (ii) State **TWO** examples of possible internal economies of scale.
- (15 marks)

#### 2000 Q3

- (a) (i) Draw a short-run average cost curve and a long-run average cost curve.  
(ii) Explain the reasons for the shape of each curve. (25 marks)

- (b) With the aid of **TWO** clearly labelled diagrams, explain the relationship between:
- (i) the short run and long run average cost curves.
  - (ii) the short run average and marginal cost curves.
- (30 marks)

- (c) A firm wishes to increase its labour force from 5 to 6 employees.  
In order to do this the firm must raise the weekly wage rate from £200 to £230 per worker
- (i) Explain what is meant by the term **marginal cost of labour**.
  - (ii) Calculate, using the information above, this firm's marginal cost of labour.
- (20 marks)

#### 2002 Q2

- (a) (i) Draw a short-run average cost curve and a short-run marginal cost curve.  
(ii) Explain the relationships between the shapes of these curves. (20 marks)
- (b) It is generally agreed that the long-run average cost curve initially slopes downward due to **economies of scale** and then slopes upward due to **diseconomies of scale**. These economies and diseconomies can be both internal and external.
- (i) Define the underlined terms.
  - (ii) Distinguish between internal and external economies of scale, giving **TWO** examples in **each** case and explaining how each arises. (30 marks)

## 2004 Q3

- (a) (i) State the **Law of Diminishing Marginal Returns**.  
 (ii) Using the table below, state after which level of employment diminishing marginal returns set in. Explain your answer.

| Number of persons employed | 1  | 2  | 3  | 4  | 5  |
|----------------------------|----|----|----|----|----|
| Total Output (in units)    | 14 | 30 | 50 | 64 | 76 |
| Marginal Output (in units) | 14 |    |    |    |    |

(15 marks)

- (b) The **short-run average cost curve** of a firm initially slopes downwards and afterwards slopes upwards. Explain why this is the pattern of short-run average costs.

(15 marks)

- (c) It is generally agreed that the long-run average cost curve initially slopes downwards due to **economies of scale** and then slopes upwards due to **diseconomies of scale**. These economies and diseconomies can be both internal and external.

- (i) Define the underlined terms.  
 (ii) Distinguish between **internal** and **external** economies of scale, giving **TWO** examples in each case.

(30 marks)

- (d) While there can be advantages from producing on a large scale, the majority of firms in Ireland are small. Explain **THREE** reasons why small firms survive in the Irish economy.

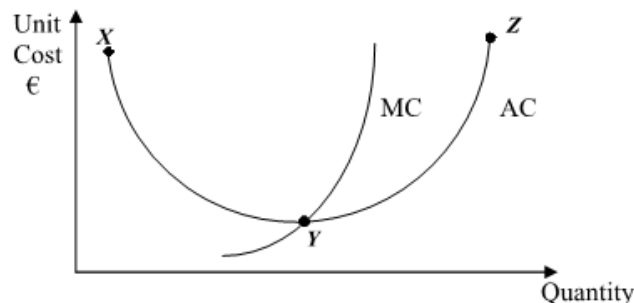
(15 marks)

## 2009 Q3

- (a) The Short Run Average Cost (AC) of a firm is usually shown as a U-shaped curve.

- (i) State and explain the reason(s) for the shape of the AC curve:

- From point X to Y;
- From point Y to Z.



- (ii) Explain the relationship between the Marginal Cost (MC) and Average Cost (AC) curves as shown above.

(25 marks)

- (b) 'The shape of a Long Run Average Cost (LRAC) curve is determined by economies and diseconomies of scale'.
- Explain this statement, with the aid of a clearly labelled diagram.
  - Define **Internal Economies of Scale** and **External Economies of Scale**.
  - State and explain **two** examples of **each** economy.
- (30 marks)
- (c) 'The Irish government should encourage initiatives that will prevent further cost increases and in turn sustain employment in small firms'.
- Suggest with reasons actions the government could take to improve the competitiveness of small firms.
- (20 marks)  
[75 marks]

**2010 EC Q4**

- (a) Marginal Revenue Product (MRP) equals Marginal Physical Product (MPP) multiplied by Marginal Revenue (MR).
- Explain the underlined terms.
  - Outline the factors that influence MRP and MPP.
- (25 marks)
- (b) (i) The short run average cost curve of a firm initially slopes downwards and afterwards slopes upward. Explain why this occurs.
- (ii) Explain the relationship between the short run average cost curve and the marginal cost curve.
- (25 marks)

**2011 DEB Q4**

- (a) The data below represents the Law of Diminishing Marginal Returns.
- |                                   |    |    |    |    |    |
|-----------------------------------|----|----|----|----|----|
| <b>Number of persons employed</b> | 1  | 2  | 3  | 4  | 5  |
| <b>Total output (in units)</b>    | 20 | 36 | 56 | 70 | 82 |
| <b>Marginal output (in units)</b> | 20 |    |    |    |    |
- State the **Law of Diminishing Marginal Returns**.
  - Complete the table above and state the point after which diminishing marginal returns set in. Explain your answer.
  - In order for this firm to increase its labour force from 5 to 6 employees, it must increase the weekly wage rate from €350 to €400 per worker. Calculate the firm's **marginal cost of labour**. Show all your workings.
- (30 marks)
- (b) With the aid of **two** clearly labelled diagrams, explain the relationship between:
- the Short Run Average Cost and Long Run Average Cost curves;
  - the Short Run Average Cost and Short Run Marginal Cost curves.
- (20 marks)

## 2011 EC Q3

- (a) The table below shows the total output and marginal output which a firm receives as its labour force is increased.

| Number of persons employed | 1  | 2  | 3  | 4   | 5   |
|----------------------------|----|----|----|-----|-----|
| Total output (in units)    | 25 | 52 | 84 | 108 | 130 |
| Marginal output (in units) | 25 |    |    |     |     |

- (i) State the **Law of Diminishing Marginal Returns**.
- (ii) Using the example above, state at what point diminishing marginal returns set in. Explain your answer. (15 marks)
- (b) It is generally agreed that the long-run average cost curve initially slopes downwards due to **economies of scale** and then slopes upward due to **diseconomies of scale**. These economies and diseconomies can be both internal and external.
- (i) Define the underlined terms.
- (ii) Distinguish between internal and external economies of scale, giving **two** examples in **each** case and explaining how **each** arises. (30 marks)
- (c) While there can be advantages from producing on a large scale, the majority of firms in Ireland are small.
- (i) Explain **three** reasons why small firms survive in the Irish economy.
- (ii) Suggest **three** actions the government could take to improve the competitiveness of small firms. (30 marks)

## 2011 Q4

The table below shows the short run production costs for a small firm producing and selling kitchen furniture.

| Number of units of output | Fixed Costs | Variable Costs | Total Costs |
|---------------------------|-------------|----------------|-------------|
|                           | €           | €              | €           |
| 1                         | 400         | 600            | 1,000       |
| 2                         | 400         | 1,200          | 1,600       |
| 3                         | 400         | 1,850          | 2,250       |
| 4                         | 400         | 2,900          | 3,300       |
| 5                         | 400         | 4,100          | 4,500       |

- (a) (i) Using the information in the table above calculate the following:
- The **marginal cost** of producing the 4<sup>th</sup> unit.
  - The **average cost** of producing 5 units.
  - The **profit** earned by the firm selling 5 units of output at €1,200 per unit. (Show your workings.)
- (ii) Using the information in the table above, draw the firm's short run average cost (AC) curve. Explain the reasons for its shape. (30)
- (b) *'The cost of doing business in Ireland is falling. However, some costs continue to increase or remain relatively high'.* (National Competitiveness Council Report, 2010)
- (i) Discuss the economic advantages of falling costs of production for the Irish economy.
- (ii) Outline possible restrictions on the growth of businesses in the Irish economy at present. (30)
- (c) The British Petroleum (BP) oil spill in the Gulf of Mexico in 2010 is estimated to have cost a total of \$40 bn. Identify **two** costs for BP and **two** costs to society associated with this oil spill.

**2012 Q4**

- (a) With the aid of **two** clearly labelled diagrams, explain the relationship between:
- (i) the short run average cost curve and long run average cost curve.
  - (ii) the short run average cost curve and marginal cost curve.
- (25)

- (c) Ocean Blue Ltd produces two boats weekly and incurs the following weekly costs:

- Rent: €1,200
- Raw materials: €2,000
- Labour: €1,600
- Normal profit: €1,000

What is the minimum price at which **each** boat can be sold if production is to continue:

- (i) in the short run?      (ii) in the long run?

Explain your answers in **each** case.

(25)

**2012 DEB**

- (b) It is generally agreed that the long run average cost curve slopes downward due to economies of scale and then slopes upward due to diseconomies of scale. These economies and diseconomies of scale can be both internal and external.

- (i) Define the underlined terms.
- (ii) Distinguish between internal economies of scale and external economies of scale. Give **two** examples in **each** case and explain how **each** arises.

(30)

- (c) An entrepreneur producing a maximum output of 100 units per week has the following total costs of production:

- Rent €800;
- Wages (paid weekly) €1,500;
- Raw materials €2,000;
- Normal profit €1,000 (€10 per unit).

What is the minimum price at which each unit can be sold if production is to continue:

- (i) in the short run;
- (ii) in the long run?

Explain your answers.

(20)

**2012 EC**

- (a) (i) Draw a short run average cost curve and a long run average cost curve.  
(ii) Explain the reasons for the shape of each curve. (25)
- (b) With the aid of **two** clearly labelled diagrams, explain the relationship between:
- (i) The short run and long run average cost curves.  
(ii) The short run average and marginal cost curves. (25)

**2013 EC**

- (a) Distinguish between the following terms, using relevant examples in **each** case:

- (i) Explicit costs and implicit costs;  
(ii) Fixed costs and variable costs;  
(iii) Economies of scale and diseconomies of scale.

(25)

- (b) The table below shows the cost structure of a small furniture company.

|               |       |
|---------------|-------|
| Fixed costs   | €1000 |
| Wages         | €1000 |
| Raw materials | €1000 |
| Total cost    | €3000 |
| Total revenue | €2500 |

- (i) Should this firm remain in business in:
- the short run?
  - the long run?
- Explain your answers in **each** case.
- (ii) The above firm wishes to increase its labour force from 4 to 5 employees. In order to do this, the firm must raise the weekly wage rate from €250 to €280 per worker. Explain what is meant by the term marginal cost of labour.
- (iii) Using the information above, calculate this firm's marginal cost of labour.

(25)