



**Coimisiún na Scrúduithe Stáit**  
**State Examinations Commission**

**Leaving Certificate 2018**

**Marking Scheme**

**Agricultural Economics**

**Ordinary Level**

## **Note to teachers and students on the use of published marking schemes**

Marking schemes published by the State Examinations Commission are not intended to be standalone documents. They are an essential resource for examiners who receive training in the correct interpretation and application of the scheme. This training involves, among other things, marking samples of student work and discussing the marks awarded, so as to clarify the correct application of the scheme. The work of examiners is subsequently monitored by Advising Examiners to ensure consistent and accurate application of the marking scheme. This process is overseen by the Chief Examiner, usually assisted by a Chief Advising Examiner. The Chief Examiner is the final authority regarding whether or not the marking scheme has been correctly applied to any piece of candidate work.

Marking schemes are working documents. While a draft marking scheme is prepared in advance of the examination, the scheme is not finalised until examiners have applied it to candidates' work and the feedback from all examiners has been collated and considered in light of the full range of responses of candidates, the overall level of difficulty of the examination and the need to maintain consistency in standards from year to year. This published document contains the finalised scheme, as it was applied to all candidates' work.

In the case of marking schemes that include model solutions or answers, it should be noted that these are not intended to be exhaustive. Variations and alternatives may also be acceptable. Examiners must consider all answers on their merits, and will have consulted with their Advising Examiners when in doubt.

## **Future Marking Schemes**

Assumptions about future marking schemes on the basis of past schemes should be avoided. While the underlying assessment principles remain the same, the details of the marking of a particular type of question may change in the context of the contribution of that question to the overall examination in a given year. The Chief Examiner in any given year has the responsibility to determine how best to ensure the fair and accurate assessment of candidates' work and to ensure consistency in the standard of the assessment from year to year. Accordingly, aspects of the structure, detail and application of the marking scheme for a particular examination are subject to change from one year to the next without notice.



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**Note regarding the Marking Scheme**

The support notes presented are neither exclusive nor complete. They are not model answers but a sample of possible responses.

The support notes in many cases contain key phrases which must appear in the candidate's answer in order to merit the assigned marks.

Further relevant points of information presented by candidates are marked and rewarded on their merits.

The level of detail required in any answer is determined by the context and the manner in which the question is asked and by the number of marks assigned to the answer in the examination paper. Requirements may therefore vary from year to year.

Words, expressions, or phrases must be correctly used in context and not contradicted, and where there is evidence of incorrect use or contradictions the marks may not be awarded.

## Summary of Marks Allocations

### PART 1 (120 Marks)

Answer 15 questions from 20. 8 marks per question.

<b>Q1</b>	2 x 4 marks	<b>Q11</b>	8 marks (3 + 3 + 2)
<b>Q2</b>	2 x 4 marks	<b>Q12</b>	8 marks (4 + 2 + 2)
<b>Q3</b>	8 marks (3 + 3 + 2)	<b>Q13</b>	8 marks (2 + 2 + 2 + 1 + 1)
<b>Q4</b>	2 x 4 marks	<b>Q14</b>	8 marks (4 + 2 + 2)
<b>Q5</b>	2 x 4 marks	<b>Q15</b>	2 x 4 marks
<b>Q6</b>	2 x 4 marks	<b>Q16</b>	2 x 4 marks
<b>Q7</b>	2 x 4 marks	<b>Q17</b>	2 x 4 marks
<b>Q8</b>	2 x 4 marks	<b>Q18</b>	2 x 4 marks
<b>Q9</b>	8 marks (3 + 3 + 2)	<b>Q19</b>	2 x 4 marks
<b>Q10</b>	2 x 4 marks	<b>Q20</b>	8 marks (2 + 2 + 4)

### PART 2 (200 MARKS)

**6 QUESTIONS - 4 QUESTIONS TO ANSWER**  
**ALL QUESTIONS CARRY EQUAL MARKS (50 marks).**

<b>1</b>	<b>(a)</b>	<b>(i)</b> Farm Output		10 Marks
		<b>(ii)</b> Farm Gross Income		6 Marks
		<b>(iii)</b> Family Farm Income		10 Marks
	<b>(b)</b>	Any Two variable costs	<b>Any 2 @ 3 Marks each</b>	6 Marks
	<b>(c)</b>	<b>(i)</b> Two methods to calculate depreciation	<b>Any 2 @ 4 Marks each</b>	8 Marks
		<b>(ii)</b> Two methods outlined	<b>Any 2 @ 5 Marks each</b>	10 Marks
				<b>[50 Marks]</b>
<b>2</b>	<b>(a)</b>	Four components of the marketing mix.	<b>4 @ 4 marks each</b>	<b>16 Marks</b>
	<b>(b)</b>	Two reasons why farmers have weak bargaining power	<b>Any 2 @ 8 marks each</b>	<b>16 Marks</b>
	<b>(c)</b>	Two strategies that farmers could use to improve their bargaining power	<b>Any 2 @ 9 marks each</b>	<b>18 Marks</b>
				<b>[50 Marks]</b>

<b>3</b>	<b>(a) (i)</b>	Label both axes	<b>2 @ 3 Marks each</b>	<b>6 Marks</b>	
	<b>(ii)</b>	Label demand and supply curves	<b>2 @ 3 Marks each</b>	<b>6 Marks</b>	
	<b>(iii)</b>	Label equilibrium price/quantity	<b>2 @ 3 Marks each</b>	<b>6 Marks</b>	
<b>(b)</b>	<b>(i)</b>	Impact of bad weather on supply and demand		<b>12 Marks</b>	
	<b>(ii)</b>	Impact of bad weather on price and quantity		<b>8 Marks</b>	
<b>(c)</b>		Two reasons why agricultural prices tend to fluctuate	<b>2 @ 6 Marks each</b>	<b>12 Marks</b>	
				<b>[50 Marks]</b>	
<b>4.</b>	<b>(a)</b>	Purpose of balance sheet		<b>15 Marks</b>	
	<b>(b)</b>	Calculation of current liabilities (X)		<b>5 Marks</b>	
	<b>(c)</b>	(i)	Calculation of capital / net worth (Y)		<b>5 Marks</b>
		(ii)	Explanation of capital / net worth figure		<b>10 Marks</b>
<b>(d)</b>		Explanation of solvency situation on the farm		<b>15 Marks</b>	
				<b>[50 Marks]</b>	
<b>5.</b>	<b>(a)</b>	Three challenges from Brexit	<b>3 @ 6 Marks each</b>	<b>18 Marks</b>	
	<b>(b)</b>	Two reasons for government intervention	<b>2 @ 6 Marks each</b>	<b>12 Marks</b>	
	<b>(c)</b>		Two organisations mentioned	<b>2 @ 5 Marks each</b>	<b>10 Marks</b>
		Main activity of each organisation	<b>2 @ 5 Marks each</b>	<b>10 Marks</b>	
				<b>[50 Marks]</b>	
<b>6.</b>	<b>(a)</b>	(i)	Description of two trends	<b>2 @ 7 Marks</b>	
		(ii)	Description of two volatilities	<b>2 @ 5 Marks</b>	
	<b>(b)</b>	(i)	Meaning of Cross Compliance		<b>10 Marks</b>
		(ii)	Reasons for compliance		<b>10 marks</b>
		(iii)	Example of Cross Compliance measure		<b>6 Marks</b>
					<b>[50 Marks]</b>

## Support Notes

### PART 1 (120 Marks)

Answer 15 questions from 20. 8 marks per question.

PART 1										
<b>1.</b>	<b>(i), (ii)</b>	<i>Any two of, for example:</i> <ul style="list-style-type: none"> <li>• Employment</li> <li>• National output</li> <li>• Foreign exchange earnings</li> <li>• Taxation revenue for government</li> <li>• Regional development from location of processing facilities in rural areas</li> </ul>	4 + 4							
<b>2.</b>	<b>A.</b> Product market(s) <b>B.</b> Households		4 + 4							
<b>3.</b>	<table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #d3d3d3;"> <th style="padding: 5px;">Livestock</th> <th style="padding: 5px;">Cattle</th> <th style="padding: 5px;">Pigs</th> <th style="padding: 5px;">Sheep</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">No. live animals</td> <td style="padding: 5px;">7.2 m</td> <td style="padding: 5px;">1.6 m</td> <td style="padding: 5px;">5.2 m</td> </tr> </tbody> </table>	Livestock	Cattle	Pigs	Sheep	No. live animals	7.2 m	1.6 m	5.2 m	3 + 3 + 2
Livestock	Cattle	Pigs	Sheep							
No. live animals	7.2 m	1.6 m	5.2 m							
<b>4.</b>	<b>(i)</b> 7% (economic growth rate) <b>(ii)</b> 7% (average unemployment rate)		4 + 4							
<b>5.</b>	<b>(i), (ii)</b> <i>Any two of, for example:</i> <ul style="list-style-type: none"> <li>• To increase agricultural productivity by promoting technical progress and ensuring the optimum use of the factors of production, in particular, labour</li> <li>• To ensure a fair standard of living for farmers</li> <li>• To stabilise markets</li> <li>• To assure the availability of supplies</li> <li>• To ensure reasonable prices for consumers.</li> </ul>		4 + 4							
<b>6.</b>	<b>(i)</b> 32.5 ha <b>(ii)</b> 140,000 farms		4 + 4							
<b>7.</b>	<b>(i)</b> False <b>(ii)</b> False <b>(iii)</b> True		3 + 3 + 2							
<b>8.</b>	<b>(i), (ii)</b> <i>Any two of, for example:</i> <ul style="list-style-type: none"> <li>• Basic payment</li> <li>• Greening payment</li> <li>• Young farmers scheme</li> <li>• Aid for protein crops</li> </ul>		4 + 4							
<b>9.</b>	Labour Capital Management/Enterprise		3 + 3 + 2							
<b>10.</b>	<b>A.</b> Purchased inputs <b>B.</b> Processing / Marketing		4 4							
<b>11.</b>	<b>(i)</b> True <b>(ii)</b> False <b>(iii)</b> False		3 + 3 + 2							

12.	(i) Yes (increase output) (ii) For as long marginal revenue exceeds marginal cost, the farmer will add to profit by increasing output. Profit is maximised when the marginal revenue of the last unit of output is equal to its marginal cost.	4 + 4 (2 + 2)								
13.	<table border="0" style="width: 100%;"> <thead> <tr> <th style="text-align: left;"><u>Average Product (tonnes)</u></th> <th style="text-align: left;"><u>Marginal Product (tonnes)</u></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">6</td> <td style="text-align: center;">-</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">2</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">1</td> </tr> </tbody> </table>	<u>Average Product (tonnes)</u>	<u>Marginal Product (tonnes)</u>	6	-	4	2	3	1	2 + 2 + 2 1 + 1
<u>Average Product (tonnes)</u>	<u>Marginal Product (tonnes)</u>									
6	-									
4	2									
3	1									
14.	(i) Teagasc (ii) Family Farm Income is calculated by deducting all farm costs (direct and overhead) from the value of farm gross output. It represents the total return to the family's labour, management and capital investment in the farm business. Factors of production owned by the farmer, such as labour and land, are not included as costs. It does not include income from non-farming sources.	4 + 4 (2 + 2)								
15.	(i) Consumer Price Index (ii) Agricultural Output Price Index	4 + 4								
16.	(i), (ii) <i>Any two of, for example:</i> <ul style="list-style-type: none"> <li>• Own resources (retained profits of the farm)</li> <li>• Bank loan</li> <li>• Leasing arrangements</li> <li>• Capital from a new partner joining the farm business</li> </ul>	4 + 4								
17.	<i>Income elasticity of demand is defined as the <b>percentage</b> change in the quantity of a good associated with a one percent change in income holding <b>all</b> other variables constant.</i>	4 + 4								
18.	(i) Downward-sloping (ii) Vertical	4 + 4								
19.	(i) <i>Any one of, for example:</i> <ul style="list-style-type: none"> <li>• Capital Gains Tax</li> <li>• Capital Acquisitions Tax (on gifts and Inheritances)</li> <li>• Stamp Duty</li> <li>• Local Property Tax</li> <li>• Probate Tax</li> </ul> (ii) <i>Any one of, for example:</i> <ul style="list-style-type: none"> <li>• Income Tax</li> <li>• Capital Gains Tax</li> <li>• Capital Acquisitions Tax (on gifts and Inheritances)</li> </ul>	4 + 4								
20.	(i) <i>Any two of, for example:</i> <ul style="list-style-type: none"> <li>• Land</li> <li>• Farm buildings</li> <li>• Farm machinery</li> <li>• Breeding livestock</li> </ul> (ii) The <b>Liquidity</b> or <b>Current</b> ratio is the ratio of current assets to current liabilities.	4 (2 + 2) + 4								

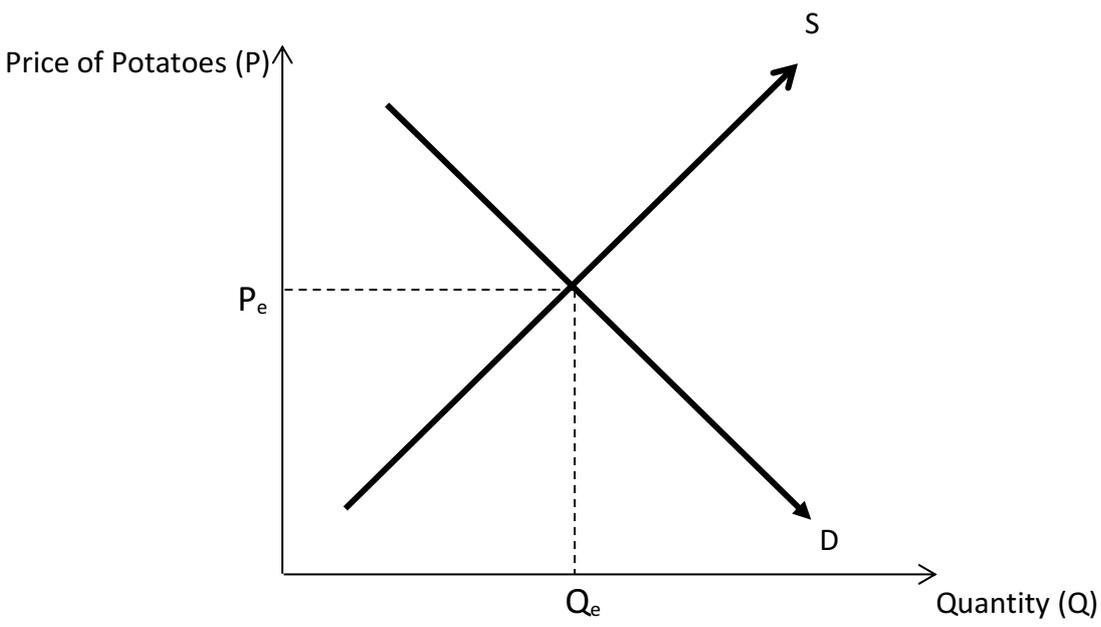
**PART 2 (200 Marks)**

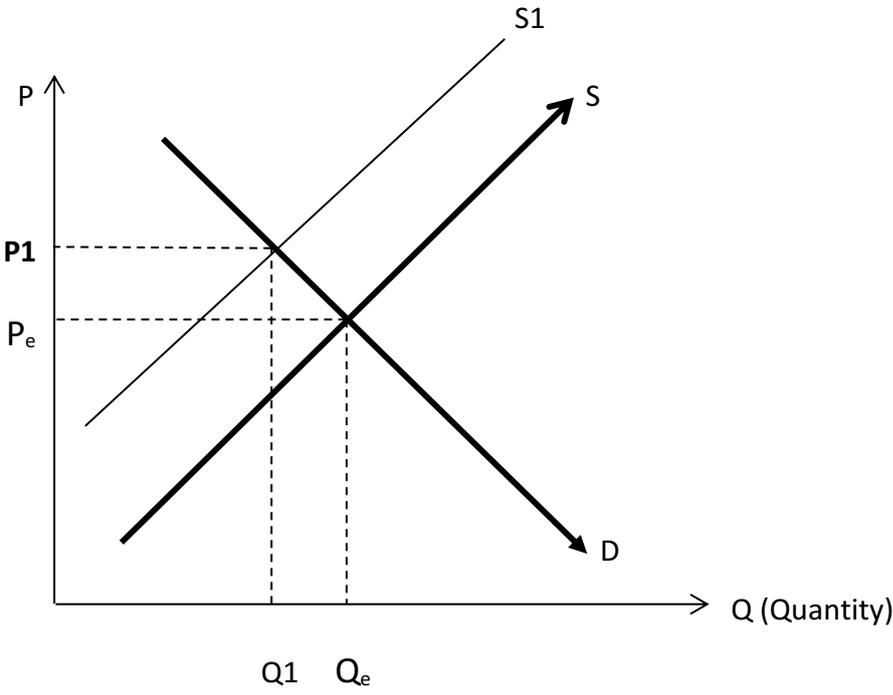
Answer 4 questions from 6. 50 marks per question.

<b>PART 2 – Question 1</b>			<b>Marks</b>
Sales less Purchases	Milk	€150,000	
	Livestock	€50,000	
	Crops	€5,000	
Total sales less purchases		€205,000	
Household consumption of own produce		€5,000	
Change in Inventories		+ €6,500	
<b>(a) (i) Farm Output</b>		<b>€216,500</b>	
Less Variable costs		€60,500	
<b>(a) (ii) Farm Gross Margin</b>		<b>€156,000</b>	
Fixed costs			
	(i) Depreciation of machinery and buildings	€6,500	
	(ii) Own machinery operating expenses	€4,000	
	(iii) Interest on farm loan	€4,500	
	(iv) Other	€12,000	
	Total Fixed Cost	€27,000	
<b>(a) (iii) Family Farm Income = Farm Gross Margin – Fixed Costs</b>		<b>€129,000</b>	
<p>(a) (i) Farm Output Total sales less purchases + Household consumption + Change In inventories = €205,000 + €5,000 + €6,500 = €216,500</p>			10
<p>(a) (ii) Farm Gross Margin = Farm Output – Variable Costs = €156,000</p>			6
<p>(a) (iii) Family Farm Income = Farm Gross Margin - Fixed Costs = €129,500</p>			10
<p><b>(b) Any two of, for example:</b></p> <ul style="list-style-type: none"> <li>• Purchased feed</li> <li>• Fertilizers and lime</li> <li>• Purchased seeds</li> <li>• Livestock</li> <li>• Maintenance</li> <li>• Casual labour</li> <li>• Fuel and energy</li> </ul>			<p>3</p> <p>+</p> <p>3</p>

<b>(c) (i)</b>	<b>Straight Line depreciation</b>	4
	<b>Reducing or Declining Balance depreciation</b>	4
<b>(c) (ii) A.</b>	<b>Straight Line depreciation:</b>  10% of €200,000 is €20,000. Accordingly, the asset will depreciate by €20,000 every year for 10 years. At the end of 10 years there will be no value left.	5 (3 + 2)
<b>B.</b>	<b>Reducing or Declining Balance depreciation:</b>  The asset loses 10% of its value in the first year and the depreciation charge will be €20,000. The asset starts the second year with a value of €180,000 and will have a depreciation charge of €18,000 (i.e. 20% of €180,000) for the second year and so on.	5 (3 + 2)

PART 2 – Question 2		Marks
(a)	<p>Product: Having the right type of product for your market</p> <p>Place: How the product is distributed to your customer</p> <p>Price: Setting the right price for your product in the market</p> <p>Promotion: How the product is promoted and sold.</p>	<p>4 (2 + 2)</p> <p>4 (2 + 2)</p> <p>4 (2 + 2)</p> <p>4 (2 + 2)</p>
(b)	<p>Any <b>two</b> of, for example:</p> <ul style="list-style-type: none"> <li>The Structure of farming, i.e. a large number of relatively small units. EXPLANATION: The farmer has to deal with large and powerful industries, e.g. processors, suppliers etc. Therefore the farmer has little control over the prices he pays for his inputs and the prices he receives for his products. 10 marks graded</li> <li>The Dispersal of Farming geographically, i.e. farms are spread throughout the country EXPLANATION: Assembly and grading of produce is difficult because consumers and processors demand very high standards / lack of uniform standards. Provision of market information to many scattered individuals is a problem. This information is necessary for the farmer to meet market requirements.</li> <li>The bulky and perishable nature of agricultural products Most agricultural products are bulky so transport and storage is expensive. The perishable nature of most agricultural products means they must be sold fresh or processed quickly after harvest to avoid deterioration and loss.</li> <li>The over-supply of international markets For Irish farmers over 60% of output is exported. There tends to be an over-supply of world food markets and this means that often Irish produce cannot be sold at economic prices.</li> <li>The seasonality of production Whilst demand for Irish food products tends to be regular, supply is often seasonal or variable due to climatic conditions. Eggs. Milk and cereal production.</li> </ul>	<p>8 (3, 3, 2)</p> <p>+</p> <p>8 (3, 3, 2)</p>
(c)	<p>Any <b>two</b> of, for example:</p> <ul style="list-style-type: none"> <li>Farmers could form a co-operative in order to have more bargaining power when dealing with large businesses.</li> <li>Centralised marketing can provide countervailing power against big business and can lead to greater economies of scale and better control of supply than can marketing by a number of individual firms e.g. Bord Bainne, Bord Bia etc.</li> <li>Contractual agreements provide the farmer with a guaranteed outlet for his produce before he/she enters into an agreement with the buyer to produce a commodity. Vertical integration involves linking two or more stages in the food chain to streamline the flow of produce, in keeping with market requirements.</li> <li>Vertical integration involves linking two or more stages in the food chain to streamline the flow of produce, in keeping with market requirements.</li> </ul>	<p>9 (5, 4)</p> <p>+</p> <p>9 (5, 4)</p>

PART 2 – Question 3	Marks
<p>(a)</p>  <p>(a) (i) The horizontal or x-axis is labelled Quantity (Q), the vertical or y-axis is labelled Price (P).</p> <p>(a) (ii) The Demand curve is labelled D, the Supply curve is labelled S.</p> <p>(a) (iii) The equilibrium price is <math>P_e</math>, the equilibrium quantity is <math>Q_e</math>.</p>	<p>3 + 3</p> <p>3 + 3</p> <p>3 + 3</p>

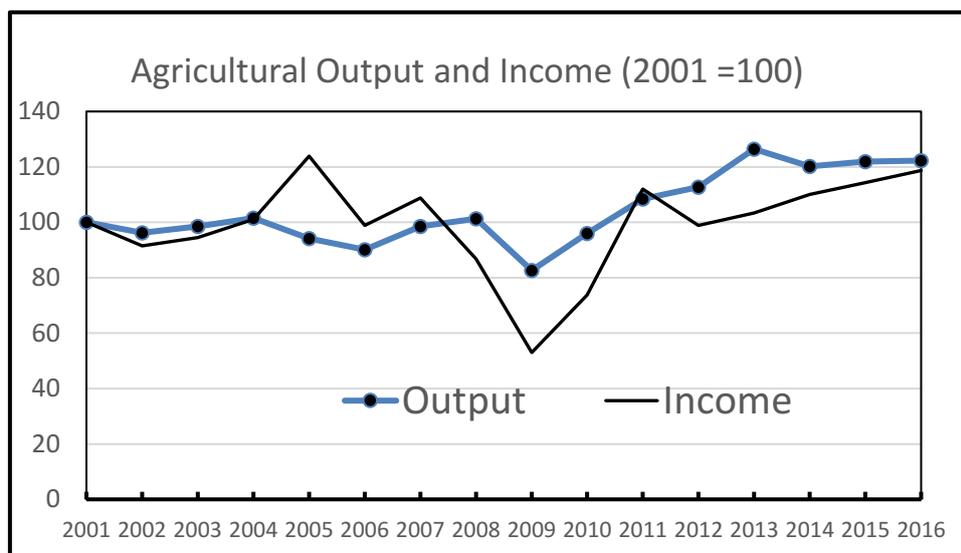
<p>(b) <b>Effects of Bad weather that disrupts production of Irish potatoes.</b></p> <p>(i) The supply curve is likely to shift to the left (decrease in supply) as in S1. There will be no change in the demand curve</p>  <p>(ii) The equilibrium price will rise to P1 as excess demand arises at the original equilibrium market price. At the same time the equilibrium level of output will drop to Q1.</p>	<p>4 4 4 8 (4 + 4)</p>
<p>(c) Any <b>two</b> from: for example</p> <ul style="list-style-type: none"> <li>• Availability of substitutes goods in production and consumption cause supply and demand curves to move around</li> <li>• Seasonality of production (potatoes, milk, cereals) may cause prices to fluctuate between different times of the year</li> <li>• Existence of prices cycles that arise from farmers making changes to their supply based on what prices they received in the previous year and the inability of some markets to clear properly</li> <li>• Disruption of supply (due to strikes, input shortages or delays).</li> </ul>	<p>6 (3, 3) + 6 (3, 3)</p>

PART 2 – Question 4		Marks																																	
<table border="1"> <thead> <tr> <th colspan="3">Balance Sheet as at 31 December 2017</th> </tr> <tr> <th></th> <th>€</th> <th>€</th> </tr> </thead> <tbody> <tr> <td>Fixed Assets</td> <td></td> <td>300,000</td> </tr> <tr> <td>Current Assets</td> <td>25,000</td> <td></td> </tr> <tr> <td>Less Current Liabilities</td> <td><b>(b) X = 20,000</b></td> <td></td> </tr> <tr> <td>Working Capital</td> <td></td> <td>5,000</td> </tr> <tr> <td></td> <td></td> <td>305,000</td> </tr> <tr> <td>Financed by:</td> <td></td> <td></td> </tr> <tr> <td>Long-term Liabilities</td> <td>75,000</td> <td></td> </tr> <tr> <td>Capital / Net Worth</td> <td><b>(c) (i) Y = 230,00</b></td> <td></td> </tr> <tr> <td></td> <td></td> <td>305,000</td> </tr> </tbody> </table>			Balance Sheet as at 31 December 2017				€	€	Fixed Assets		300,000	Current Assets	25,000		Less Current Liabilities	<b>(b) X = 20,000</b>		Working Capital		5,000			305,000	Financed by:			Long-term Liabilities	75,000		Capital / Net Worth	<b>(c) (i) Y = 230,00</b>				305,000
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<p>(a) A balance sheet describes the financial position of the farm at the end of the accounting year. It shows the value of assets, liabilities and owners' equity (net worth) in the farm business. It provides a record at a point in time of the financial health of the farm. The liquidity and solvency situation of the farm business can be assessed from the balance sheet.</p> <p>It represents balance in the sense that the farm's assets are controlled by those to whom the farm owe money and the farmer who owns the farm herself.</p>	<p>15 (5 + 5 + 5)</p>																																		
<p>(b) Current liabilities = €20,000</p>	<p>5</p>																																		
<p>(c) (i) Net Worth = €230,00</p>	<p>5</p>																																		
<p>(c) (ii) This represents the value of the farm to the owner, in other words, what the farm is worth to her (equity) or the value of the accumulated capital invested in the farm. Net Worth as shown in the balance sheet also shows what money would go to the farmer after all debts of the farm were paid off following sale of all the farm's assets.</p>	<p>10 (5 + 5)</p>																																		
<p>(d) Julia's farm is solvent.</p> <p>This means the farm has long term financial viability of the farm. This is usually assessed by looking at how much debt the farm has accumulated relative to the size of its assets according to the figures given in the balance sheet.</p> <p>Julia's farm is in a good solvency situation as the value of net worth (€230,000) is greater than all the farm's debt and liabilities to those who are outside of the farm such as creditors or lenders to the farm like the bank (€95,000 in total).</p>	<p>5</p> <p>5</p> <p>5</p>																																		

PART 2 – Question 5	Marks
<p>(a) Any <b>three</b> of, for example:</p> <ul style="list-style-type: none"> <li>• Possible UK tariffs on Irish exports may make Irish produce less competitive on UK markets.</li> <li>• Possible UK trade agreements with non-EU agri-food export countries like the USA, Brazil, Argentina may allow their goods to enter the UK market at lower than EU tariffs. This would make Irish produce less competitive</li> <li>• If the UK lowers its standards on its food production and on imports then Irish produce would be at a disadvantage as our output has to conform to the EU’s very high production and environmental standards.</li> <li>• A Brexit deal that enforces a hard border between the Republic of Ireland and Northern Ireland will be very disruptive to the flow of agricultural raw materials and food output across the border and will add to production costs.</li> <li>• A hard Brexit is likely to lead to an ongoing weakness in the value of sterling which would make Irish agri-food exports less competitive on the UK market than might have been the case with the UK still in the EU.</li> </ul>	<p style="text-align: center;">6 (4 + 2) + 6 (4 + 2) + 6 (4 + 2)</p>
<p>(b) Any <b>two</b> of, for example:</p> <ul style="list-style-type: none"> <li>• Maintenance of economic activity in the rural society / avoidance of urban drift and environmental damage due to farm abandonment</li> <li>• To ensure that farmers’ incomes and farm output are less volatile than would otherwise be the case</li> <li>• To ensure high standards of food production in terms of quality, traceability and environmental protection</li> <li>• To ensure that the nation is capable of producing some of its own food requirements (Food security)</li> <li>• To prevent excessive price cycles that would be harmful to the prospects of long term agricultural supply</li> <li>• Small farm businesses might not survive without state interventions like advisory and training services.</li> </ul>	<p style="text-align: center;">6 (4 + 2) + 6 (4 + 2)</p>

<p>(c) Any <b>two</b> named organisations, for example:</p> <ul style="list-style-type: none"> <li>• plc companies such as Greencore or Glanbia</li> <li>• Co-operative organisations involved in meat / dairy processing</li> <li>• Inputs supply companies like Connolly's, Gouldings, etc.</li> <li>• From state bodies involved in research, marketing, etc. like Bord Bia, Irish Dairy Board, Teagasc</li> <li>• Farmers' representative bodies e.g. IFA, ICMSA</li> <li>• Companies in the food and drinks industries</li> <li>• Farm accounts and business services e.g. IFAC, FBD</li> </ul> <p>Stated main activity of <b>two</b> named organisations: for example</p> <ul style="list-style-type: none"> <li>• Production and marketing of dairy products</li> <li>• Production and marketing of meat products</li> <li>• Supply of agricultural inputs</li> <li>• Marketing and advisory services</li> <li>• Financial and insurance services to farmers.</li> </ul>	<p>10 (5 + 5)</p> <p style="margin-top: 100px;">+</p> <p style="margin-top: 100px;">10 (5 + 5)</p>
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(a)

(a) (i) **Trend**

**Output:** The value of output was more or less unchanged between 2001 and 2008. After a big drop in output in 2009, output values have risen more or less every year since then up to 2016. By 2016 the value of agricultural output was just over 20% higher than it was in 2001.

7  
(4 + 3)

**Income:** Agricultural incomes in general rose between 2001 and 2005, fell between 2005 and 2009 and like output have been rising more or less every year since 2009. However, the rates of increase in income in the years 2010 and 2011 were relatively large. By 2016 the value of agricultural output was just under 20% higher than it was in 2001.

7  
(4 + 3)

(a) (ii) **Volatility**

**Output:** Apart from the big fall in 2009, the value of agricultural output over the years has shown very little volatility. The value of output tends to be not much different from one year to the next apart from a small increase most years. The lowest index value was just over 80 and the highest was around 125.

5  
(3 + 2)

**Income:** Income has been much more volatile than output. The lowest index value for income was around 50 and the highest was just over 125. This gives a range of volatility of 75 compared to 45 for output. Income follows the trend in output but in a much more exaggerated way. Income is output less costs. So a better understanding of income volatility would require knowledge of what happened to farm costs over the period.

5  
(3 + 2)

<p>(b) (i) Cross Compliance means that the farmer must follow a variety of regulations on the environment, public health, animal health, plant health, animal welfare and land maintenance. Rules set out what the farmer must and must not do. Cross Compliance aims at ensuring the safe production of food, the welfare of animals, the sustainable use of land to combat environmental damage previously caused by intensive farming, the maintenance of natural resources and limiting climate change.</p> <p>Cross compliance is seen as a key mechanism for achieving the EU's many objectives relating to the European model of farming such as safe food, animal welfare, environmental protection, bio-diversity and farm income supports.</p>	<p>10 (5 + 5)</p>
<p>(b)(ii) A farmer's annual EU payment (Basic Payment Scheme) can be reduced if the farmer has failed to follow the rules. There are detailed rules laying down the size of reductions in the basic payment depending on the scale of the failure of compliance by the farmer. Direct payments form a huge part of most farmers' income from farming especially in cattle and sheep production. No rational farmer would want to put such an important source of income in jeopardy.</p>	<p>10 (5 + 5)</p>
<p>(b) (iii) Any <b>one</b> of, for example</p> <ul style="list-style-type: none"> <li>• Protection of water against pollution</li> <li>• Conservation of wild birds</li> <li>• Conservation of natural habitats</li> <li>• Managing the spreading of fertilisers</li> <li>• Food and Feed hygiene</li> <li>• Identification and registration of pigs, sheep and goats</li> <li>• Welfare of farm animals</li> <li>• Keeping records of fertilisers used and livestock numbers.</li> </ul>	<p>6</p>

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