



Coimisiún na Scrúduithe Stáit
State Examinations Commission

Leaving Certificate 2015

Marking Scheme

Agricultural Economics

Higher 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.



LEAVING CERTIFICATE 2015

AGRICULTURAL ECONOMICS

HIGHER LEVEL

MARKING SCHEME

AND

EXPECTED RESPONSES

Marking Scheme and Expected Responses for use with the Marking Scheme

In considering the marking scheme the following points should be noted:

- The Expected Responses presented are not exclusive or definitive. Marks may be awarded for any other correct answers.
- The Expected Responses 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 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.

Leaving Certificate Examination, 2015
AGRICULTURAL ECONOMICS - Higher Level

Marking Scheme

PART I (120 Marks)

20 QUESTIONS – 15 QUESTIONS TO ANSWER.

ALL QUESTIONS CARRY EQUAL MARKS (8 MARKS)

- | | | | |
|-----|-------------------------------------------------------------|-----|------------------------|
| 1. | 4 @ 2 marks each | 11. | 2 @ 4 marks each |
| 2. | 2 @ 4 marks each | 12. | 8 marks (3m + 3m + 2m) |
| 3. | 8 marks | 13. | 2 @ 4 marks each |
| 4. | 2 @ 4 marks each | 14. | 8 marks |
| 5. | Definition: 4 marks (2m + 2m)
Examples: 2 @ 2 marks each | 15. | 2 @ 4 marks each |
| 6. | 2 @ 4 marks each | 16. | 2 @ 4 marks each |
| 7. | 2 @ 4 marks each | 17. | 2 @ 4 marks each |
| 8. | 2 @ 4 marks each | 18. | 2 @ 4 marks each |
| 9. | 2 @ 4 marks each | 19. | 2 @ 4 marks each |
| 10. | 8 marks (3m + 3m + 2m) | 20. | 2 @ 4 marks each |

PART 2 (200 Marks)

4 QUESTIONS TO ANSWER AT 50 MARKS EACH.

1.	(a)	(i)	Explanation:	4m + 4m	8 m	
		(ii)	Three reasons	3 @ 4 m each	12 m	20
	(b)	(i)	PED:	2 @ 4 m each	8 m	
			Elastic or inelastic:	2 @ 2 m each	4 m	
		(ii)	Calculate change in TR:	2 @ 4 m each	8 m	20
	(c)		Two factors:	2 @ 5 marks (3 + 2)		10
						[50 marks]
2.	(a)		Two arguments:	2 @ 9 m each (5 m + 4 m)		18
	(b)		Two measures:	2 @ 7 marks (4 m + 3 m)		14
	(c)		Three support schemes:	3 @ 6 marks (3 m+3 m)		18
						[50 marks]
3.	(a)	Graph:	Four named curves @ 6 m each [Each curve: 6 pts @ 1 m each]		24 m	
			Title	2m		
			Labelling the axes:	4 m (2 @ 2 m)	6 m	30
	(b)	(i)	Short or Long Run	2 m		
			Reason	5 m (3 + 2)	7 m	
		(ii)	Explanations	6 m (3 + 3)	6 m	
		(ii)	Max profit identified:	5 m		
			Reason:	2 m	7 m	20
						[50 marks]

4.	(a)	(i)	FFI and direct payments	9 m (3 @ 3 m)	9 m	
		(ii)	Three reasons	3 @ 5 m (3 + 2)	15 m	24
	(b)		Possible opportunities:	7m (4 + 3) + 6m (4 + 2)	13 m	
			Possible challenges:	7m (4 + 3) + 6m (4 + 2)	13 m	26
						[50 marks]
5.	(a)		Terms of Trade	5 m + 5 m	10 m	
			Calculation outlined	6 marks	6 m	16
	(b)		Impact of decline	6 m + 4 m	10 m	10
	(c)		Graph trends:	3 @ 3 m	9 m	
			Possible reasons:	3 @ 5 m	15 m	24
						[50 marks]
6.	(a)		Partial Budget	25 figs @ 1m	25 m	
			Surplus/deficit	7 marks	7 m	32
	(b)		Three factors:	3 @ 6 marks (3 + 3)		18
						[50 marks]

PART 1 (120 marks)
(Answer 15 questions from 20. Eight marks per question)

1.	<p>Is each of the following statements true or false? (Tick one answer in each case).</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;"></th> <th style="width: 10%; text-align: center;">True</th> <th style="width: 10%; text-align: center;">False</th> <th style="width: 10%;"></th> </tr> </thead> <tbody> <tr> <td>(i) Economics is a social science</td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td rowspan="4" style="vertical-align: middle; text-align: center;">4 x 2m</td> </tr> <tr> <td>(ii) The total supply of agricultural land is highly price elastic</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr> <td>(iii) EU member states can opt out of the Common Agricultural Policy</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr> <td>(iv) The National Farm Survey is conducted by the Central Statistics Office</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </tbody> </table>		True	False		(i) Economics is a social science	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4 x 2m	(ii) The total supply of agricultural land is highly price elastic	<input type="checkbox"/>	<input checked="" type="checkbox"/>	(iii) EU member states can opt out of the Common Agricultural Policy	<input type="checkbox"/>	<input checked="" type="checkbox"/>	(iv) The National Farm Survey is conducted by the Central Statistics Office	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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2.	<p>Complete the following statement by circling the appropriate word in each case:</p> <p>In a perfectly competitive market the demand curve for each individual firm's product or service is vertical / <u>horizontal</u> in shape and has a price elasticity of demand value equal to zero / <u>infinity</u>.</p>	4 + 4																
3.	<p>Explain the term 'Economic Growth'.</p> <p>Annual percentage increase in volume of goods and services produced in the economy. / Changes in real Gross National Product (GNP) or real Gross Domestic Product (GDP)</p>	4 + 4																
4.	<p>Define the accounting term 'Net Worth' in a farming context and state in which financial statement from the list below you would expect it to appear.</p> <p>(i) Definition: Net worth is the value of the farmer's equity or ownership of the farm. / It is the difference in value between the total assets and total liabilities of the farm.</p> <p>(ii) Financial statement:</p> <p style="padding-left: 40px;">Trial balance <input type="checkbox"/> Profit & loss account <input type="checkbox"/> Balance sheet <input checked="" type="checkbox"/></p>	4m 4m																
5.	<p>Define the term 'Intermediate Input' and list two examples from agriculture.</p> <p>(i) Definition: The products of other industries which are employed in farming. They would include both material and service inputs and are generally used up immediately.</p> <p>(ii) Examples: Fertiliser, crop sprays, fuel, animal feed concentrates, veterinary expenses, repairs to machinery.</p>	4m (2 + 2) 2m + 2m																

6.	<p>The table below shows the price series for sheep meat. Calculate the values for A and B.</p> <table border="1" data-bbox="260 192 1329 315"> <tr> <td>Year</td> <td>1 (base year)</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>Price (€/100kgs)</td> <td>240</td> <td>264</td> <td>276</td> <td>B</td> </tr> <tr> <td>Price index</td> <td>100</td> <td>A</td> <td>115</td> <td>150</td> </tr> </table> <p>A: 110 ($264/240 \times 100$) B: 360 ($240/100 \times 150$)</p>	Year	1 (base year)	2	3	4	Price (€/100kgs)	240	264	276	B	Price index	100	A	115	150	2 x 4m
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7.	<p>State two contributions agriculture makes to Irish society, other than its economic contribution.</p> <ul style="list-style-type: none"> • Management/protection of habitats • Contribution to maintaining vibrant communities in rural and remote areas • Food security • Maintenance of the aesthetic beauty of the countryside (tourism). 	2 x 4m															
8.	<p>What change in agricultural wages and labour employed should result from an increase in the supply of agricultural labour?</p> <table border="0" data-bbox="244 808 1297 954"> <tr> <td></td> <td style="text-align: center;">Rise</td> <td style="text-align: center;">Fall</td> <td style="text-align: center;">No change</td> <td></td> </tr> <tr> <td>(i) Wages</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: right;">4m</td> </tr> <tr> <td>(ii) Labour employed</td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: right;">4m</td> </tr> </table>		Rise	Fall	No change		(i) Wages	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4m	(ii) Labour employed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4m	
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9.	<p>Identify the correct approximate value for each of the following Irish national statistics for 2013.</p> <table border="0" data-bbox="244 1115 1297 1261"> <tr> <td></td> <td style="text-align: center;">€bn</td> <td style="text-align: center;">€bn</td> <td style="text-align: center;">€bn</td> <td></td> </tr> <tr> <td>(i) Total Single Farm Payment expenditure</td> <td style="text-align: center;">0.7 <input type="checkbox"/></td> <td style="text-align: center;">1.2 <input checked="" type="checkbox"/></td> <td style="text-align: center;">3.2 <input type="checkbox"/></td> <td style="text-align: right;">4m</td> </tr> <tr> <td>(ii) Value of agri-food exports</td> <td style="text-align: center;">1.4 <input type="checkbox"/></td> <td style="text-align: center;">5.5 <input type="checkbox"/></td> <td style="text-align: center;">10.0 <input checked="" type="checkbox"/></td> <td style="text-align: right;">4m</td> </tr> </table>		€bn	€bn	€bn		(i) Total Single Farm Payment expenditure	0.7 <input type="checkbox"/>	1.2 <input checked="" type="checkbox"/>	3.2 <input type="checkbox"/>	4m	(ii) Value of agri-food exports	1.4 <input type="checkbox"/>	5.5 <input type="checkbox"/>	10.0 <input checked="" type="checkbox"/>	4m	
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10.	<p>Name three industries that comprise the Primary Sector in Ireland.</p> <p style="text-align: center;">(i) Agriculture (ii) Forestry (iii) Fishing</p>	3 + 3 + 2															
11.	<p>What type of good is being described in each of the following statements?</p> <table border="0" data-bbox="225 1503 1297 1760"> <tr> <td></td> <td style="text-align: center;">Normal good</td> <td style="text-align: center;">Inferior good</td> <td></td> </tr> <tr> <td>(i) A percentage increase in income leads to a percentage increase in quantity demanded.</td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: right;">4m</td> </tr> <tr> <td>(ii) A percentage increase in income leads to a percentage decrease in quantity demanded.</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: right;">4m</td> </tr> </table>		Normal good	Inferior good		(i) A percentage increase in income leads to a percentage increase in quantity demanded.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4m	(ii) A percentage increase in income leads to a percentage decrease in quantity demanded.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	4m				
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12.	<p>What type of organisation is each of the following?</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;"></th> <th style="width: 25%;"></th> <th style="width: 15%; text-align: center;">Public company</th> <th style="width: 15%; text-align: center;">State-sponsored body</th> <th style="width: 15%; text-align: center;">Voluntary body</th> <th style="width: 10%;"></th> </tr> </thead> <tbody> <tr> <td>(i)</td> <td>Bord Bia</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;">3m</td> </tr> <tr> <td>(ii)</td> <td>Glanbia</td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;">3m</td> </tr> <tr> <td>(iii)</td> <td>Macra na Feirme</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">2m</td> </tr> </tbody> </table>			Public company	State-sponsored body	Voluntary body		(i)	Bord Bia	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3m	(ii)	Glanbia	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3m	(iii)	Macra na Feirme	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2m
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13.	<p>Name two types of direct payments received by Irish farmers under the CAP.</p> <ul style="list-style-type: none"> • Single farm payment / Basic Payment Scheme • REPS/AEOS payments • Disadvantage areas payments • GLAS / Greening • Young Farmers' Payment 	2 x 4m																							
14.	<p>State one competitive advantage for cereal production in Ireland.</p> <ul style="list-style-type: none"> • Significant livestock enterprises, resulting in a strong domestic feed market, with approximately 75% of domestic cereal production going to this market, • Suitable climate and soils – Ireland's cereal yields are among the highest internationally, with winter wheat yields among the highest in the world. • Strong technical ability of growers arising from years of experience in sector and backing of research and development • Crop production is a lower emitter of greenhouse gases per hectare than livestock based systems. 	8m (4 + 4)																							
15.	<p>Circle which one of the following is not a factor of production and give a reason for your answer:</p> <p>(i) Land Labour Wages Capital Management/Enterprise</p> <p>(ii) Reason: 'Wages' is the price producers pay for using Labour, which is a factor of production. The payment for it is not a factor of production.</p>	4m 4m																							
16.	<p>What likely effect would a general fall in the value of the euro against other currencies have on each of the following?</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 55%;"></th> <th style="width: 10%; text-align: center;">Increase</th> <th style="width: 10%; text-align: center;">Decrease</th> <th style="width: 10%; text-align: center;">No change</th> <th style="width: 15%;"></th> </tr> </thead> <tbody> <tr> <td>(i) Price of Irish dairy products in German supermarkets.</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">4m</td> </tr> <tr> <td>(ii) Quantity of Irish lamb demanded by UK consumers.</td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;">4m</td> </tr> </tbody> </table>		Increase	Decrease	No change		(i) Price of Irish dairy products in German supermarkets.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	4m	(ii) Quantity of Irish lamb demanded by UK consumers.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4m									
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17.	<p>‘Capital expenditure should be spread over a number of years in farm accounts by entering part of the cost each year under a heading called A, which is generally calculated using either the straight line method or B method’.</p> <p>Write the appropriate word(s) for A and B.</p> <p>A. Depreciation</p> <p>B. Declining / diminishing / reducing balance</p>	<p>4m</p> <p>4m</p>
18.	<p>State two variables that affect the quantity demanded of an agricultural product, other than its price.</p> <ul style="list-style-type: none"> • Income • Tastes and preferences / influence of advertising • Seasonality • Prices of substitute and complementary goods in consumption • Food quality. 	2 x 4m
19.	<p>State two ways in which information and communications technology (ICT) can be used by Irish farmers to improve land management.</p> <ul style="list-style-type: none"> • Enabling the better measurement of land fertility/nutrition / Sensors that monitor temperature in moisture and soil. • Controlling grazing times to optimise benefits • Control strip grazing to maximise benefits • Identifying optimal time to harvest • Smart irrigation systems / wireless fencing systems. 	2 x 4m
20.	<p>State one potential opportunity and one potential threat for the Irish beef sector arising from EU free trade talks with the USA.</p> <p>(i) Opportunity:</p> <ul style="list-style-type: none"> • Access to premium beef markets in USA • Limit the ability of governments to intervene or distort markets • Driver of R&D • Development of value added products. <p>(ii) Threat:</p> <ul style="list-style-type: none"> • Increased competition force prices down for Irish farmers • Issues over food quality (use of hormones/antibiotics or GM foods). 	<p>4m</p> <p>4m</p>

PART 2 (200 marks)

Question 1	Marks
<p data-bbox="167 248 1281 320">The diagrams below show the demand (D_1) and supply (S_1) curves in the markets for two goods, X and Y.</p> <div style="display: flex; justify-content: space-around;"><div data-bbox="185 349 703 824"><p>Market for Good X</p><p>The diagram for Good X shows a downward-sloping demand curve D_1 and two upward-sloping supply curves, S_1 and S_2. S_2 is to the left of S_1. The equilibrium price is €30 when supply is S_1 and quantity is 55. When supply shifts to S_2, the equilibrium price rises to €10 and quantity falls to 45.</p></div><div data-bbox="767 349 1302 824"><p>Market for Good Y</p><p>The diagram for Good Y shows a downward-sloping demand curve D_1 and two upward-sloping supply curves, S_1 and S_2. S_2 is to the left of S_1. The equilibrium price is €10 when supply is S_1 and quantity is 55. When supply shifts to S_2, the equilibrium price rises to €14 and quantity falls to 25.</p></div></div> <p data-bbox="167 920 1086 958">(a) The supply curve in both markets shifts to the left (S_1 to S_2).</p> <p data-bbox="240 976 1102 1014">(i) Explain if this represents an increase or decrease in supply.</p> <p data-bbox="320 1043 1262 1081">Decrease in supply: at any given price, the quantity supplied is now less.</p> <p data-bbox="240 1122 1190 1160">(ii) Outline three reasons why this shift in supply may have occurred.</p> <ul data-bbox="308 1189 1310 1977" style="list-style-type: none">• Increased input prices/costs of production: a rise in input prices such as wages, raw materials, energy costs or cost of capital will reduce the willingness of producers to manufacture at each given price.• Reduced supply of inputs: reduced availability of inputs will put upward pressure on the price of inputs, thus reducing supply.• Restrictive regulations on production: can directly affect the ability of firms to supply goods• Adverse technical change: a deterioration in technology acts to limit the ability of firms to use the factors of production to produce output.• Fall in price of complementary goods in production: reduced revenue arising from goods produced alongside the good in question will negatively affect the willingness of producers to create output.• Rise in price of substitute goods in production: provides producers with an incentive to substitute away from producing the good in question and produce the substitute good in production instead.• Expectations about prices falling in future will shift the supply curve to the right.• Government imposed specific tax will lead to less supply at any given market price.• Environmental variables, e.g. adverse weather.	<p data-bbox="1358 992 1437 1066">8m (4 + 4)</p> <p data-bbox="1342 1223 1449 1296">12m (3 x 4m)</p>

(b) In the case of both Good X and Good Y:

(i) Calculate the Price Elasticity of Demand (PED) revealed by the shift in supply and state whether each product is price elastic or inelastic.

$$\text{Formula: } PED = \frac{\Delta Q}{\Delta P} \times \frac{P_1 + P_2}{Q_1 + Q_2}$$

	$\Delta Q/\Delta P$	$(P_2+P_1)/(Q_2+Q_1)$	PED	Elastic/inelastic
PED X	-0.5 (-10/20)	0.4 (40/100)	-0.2	Inelastic
PED Y	-7.5(-30/4)	0.3 (24/80)	-2.25	Elastic

12m
(4m+2m)
+
(4m+2m)

(ii) Calculate the change in total revenue created by the shift in supply for each good.

Total Revenue (TR) = Price X Quantity

Good X: Change in TR = (€30 x 45) - (€10 x 55) = €1,350 - €550 = **plus €800**

Good Y: Change in TR = (€14 x 25) - (€10 x 55) = €350 - €550 = **minus €200**

4m
4m

(c) Outline two factors that influence the price elasticity of demand for a good.

- The availability and closeness of substitutes: The availability of close substitutes for a good or service increases the price elasticity of demand. The greater the degree of substitutability, the more elastic the demand. Goods that have close substitutes available will tend to exhibit elastic demand, whereas the demand for goods for which there are no substitutes will tend to be more inelastic.
- The proportion of income spent on the good: The greater the proportion of income consumers spent on a good, the more elastic the demand.
- Sensitivity to price change: The more time consumers have to adjust to a price change or the longer that a good can be stored without losing its value, the more elastic is the demand for that good. Elasticity of demand tends to be more elastic in the long run than the short run.
- Nature of the good: Necessary goods or those with higher brand loyalty may have lower price elasticity of demand (price inelastic). Goods regarded as luxury goods will tend to be more price sensitive / price elastic.

10m
[2 x 5m
(3+2)]

50 m

Question 2	Marks
<p>(a) Outline two arguments in support of government intervention in the farming sector.</p> <ul style="list-style-type: none"> • Food security reasons: ensuring that the nation is capable of producing enough food for its population. • Food safety reasons: ensuring that the food the nation produces and imports is safe to eat. • Reduce instability in price and markets: to guarantee ongoing supply of agricultural output and maintenance of steady food prices for consumers. • Promotion of agricultural productivity: to counteract the ongoing tendency for agricultural output prices and therefore incomes to fall behind the non-agricultural sector in real terms over time. • Environmental reasons: ensuring that agricultural production and imports do not cause environmental damage, loss of habitat, damaged waterways, or contamination of groundwater. • Regional and way of life reasons: ensuring survival of the family farm and ensuring the regional economy continues to be underpinned by farming. • Marketing and training: through state bodies such as Bord Bia and Teagasc. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>The Irish Government's Budget 2015 introduced several tax measures aimed at farmers. These measures included:</i></p> <ul style="list-style-type: none"> • <i>Increasing the Income Tax exemption thresholds for leased land income by 50%.</i> • <i>Better targeting of agricultural relief from Capital Acquisitions Tax (CAT) in favour of agricultural property gifted to or inherited by active farmers as opposed to non-active farmers.</i> </div>	<p>18m [2 x 9m (5+4)]</p>
<p>(b) Discuss how both measures mentioned in the box above may help support the development of a successful agricultural sector in Ireland.</p> <p>1: Lessors of land are exempt from income tax on progressively increasing amounts linked to lease duration (5-7, 7-10, >10 years). These income tax thresholds have been increased by 50%, thus encouraging more leasing of land, particularly on a longer term basis. The introduction of a fourth threshold encourages longer-term leasing and will also work to help new entrants and younger farmers secure long-term financing, as the term on such financing is usually linked to the length of the land lease.</p> <p>2: Better targeting of agricultural relief from Capital Acquisitions Tax to qualified or full-time farmers: This measure was introduced to discourage the transfer of land to individuals who are not actively farming (i.e. spending less than 50% of time farming) or do not hold farming qualifications. This will also work to encourage the transfer of land to younger farmers, who are more likely to be qualified and have an incentive to improve the land's long term productivity. The relief from CAT is also available to individuals who are not active farmers but who lease out the property on a long term basis to active farmers for agricultural use.</p>	<p>14m [2 x 7m (4+3)]</p>

(c) *The Rural Development Programme 2007-13 had three main objectives: enhancing the competitiveness of Irish farms; promoting environmental protection; and improving the quality of life in rural areas.*

In the case of each objective discuss a support scheme that was introduced under this programme.

1. Enhancing the competitiveness of Irish farms: examples of measures:

- (i) **Young Farmers Installation Aid scheme:** The Young Farmer's Installation Scheme (Installation Aid) supports the entry of young persons into the agriculture sector. It provides for a one-off grant of €15,000 to be paid to trained farmers between the ages of 18 and 35 who have been set-up in farming for the first time on or after 1 January 2007
- (ii) **Early Retirement Scheme:** was introduced June 2007. Farmers who retire early under the scheme may be eligible for a pension of up to €15,000 a year for up to 10 years.
- (iii) **On Farm Capital Investment schemes:** Grant aid is made available for various capital investment projects on farms e.g. grants for dairy equipment (will be of particular importance under the abolition of milk quotas in 2015), slurry storage facilities (e.g. meet requirements of the nitrates directive), farm buildings, environmentally friendly initiatives (e.g. biofuels), investments carried out by young farmers.

18m
[3 x 6m
(3+3)]

2. Promoting environmental protection: examples of measures:

- (i) **REPS/AEOS:** a scheme designed to reward farmers for carrying out farming activities in an environmentally friendly manner and to bring about environmental improvement on existing farms. Based on farmers first drawing up an agri-environment plan for their farm and meeting certain environmental requirements.
- (ii) **Least Favourable Area (Disadvantaged Area) scheme:** payments offered to farmers to introduce the Scheme with reference to ensuring the continued conservation of the countryside in mountain areas and other less favoured areas. Seen as a form of compensation for lower productivity and higher unit costs associated with farming in such remote and low land quality areas.

3. Improving the quality of life in rural areas: examples of measures:

LEADER programmes: Provides support and funding for entrepreneurs or community groups interested in establishing a business or a service in rural areas. Can provide grants of up to €500,000 for community groups and up to €150,000 to individual entrepreneurs.

50m

Question 3

Marks

(a) The table below shows the output and costs on John's dairy farm.

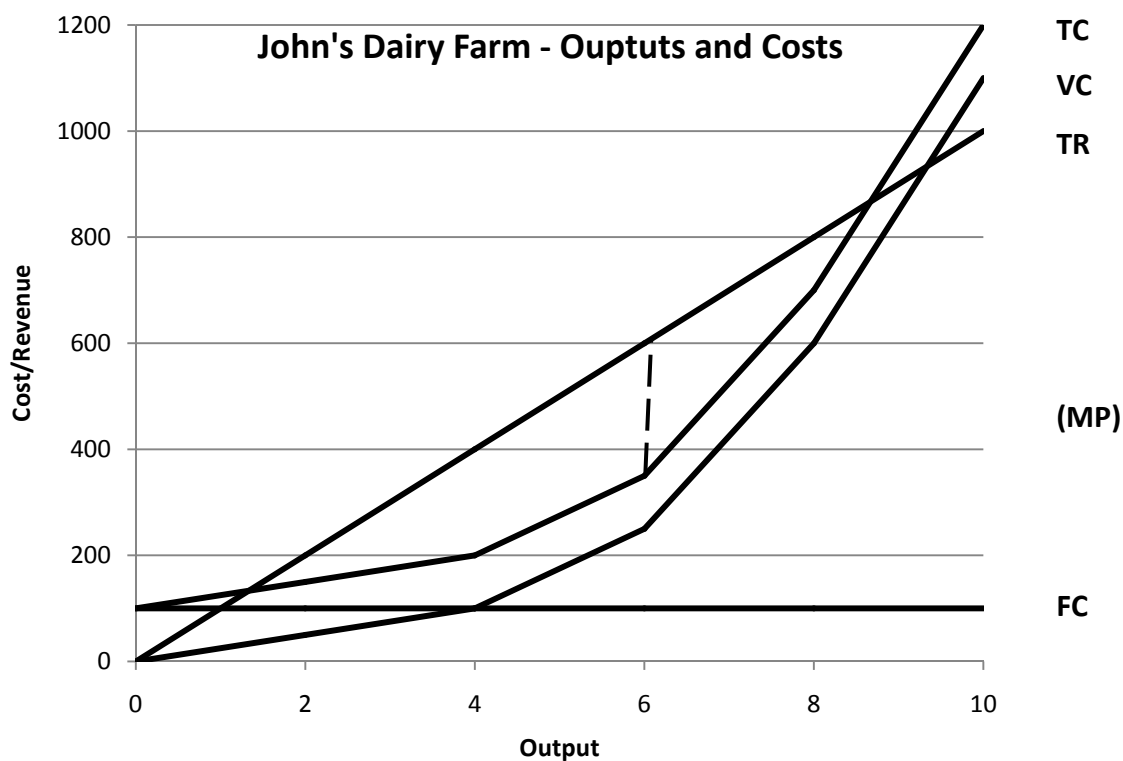
Output ('000 litres)	0	2	4	6	8	10
Total Costs (€)	100	150	200	350	700	1200

Assume John earns revenue of €100 per 1,000 litres of milk produced.

On a **single graph** with output on the x-axis and cost/revenue on the y-axis, plot **all** of the following (you may use graph paper to complete this question.):

- (i) Total costs (label the curve TC)
- (ii) Total revenue (label the curve TR)
- (iii) Total fixed costs (label the curve FC)
- (iv) Total variable costs (label the curve VC)

Output	Total Costs	Total Revenue	Fixed Costs	Variable Costs	Profit
0	100	0	100	0	-100
2	150	200	100	50	50
4	200	400	100	100	200
6	350	600	100	250	250
8	700	800	100	600	100
10	1200	1000	100	1100	-200



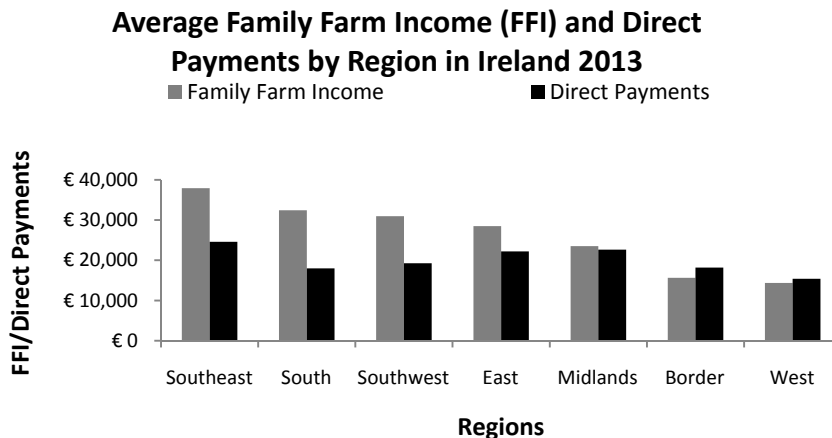
30m:
Curves
(4 x 6m)
Title
2m
Labels
(2 x 2m)

<p>(b) With reference to the graph you have drawn in part (a):</p> <p>(i) Does the graph represent the short run or long run? Provide a reason for your answer.</p> <p>Short run: the fact the farmer has costs of €100 when output is zero, shows that there are fixed costs of €100. Fixed costs can only occur in the short-run, as all costs are variable in the long-run.</p> <p>(ii) Explain why variable costs begin to rise by larger amounts after 4,000 litres of milk are produced.</p> <p>Variable costs increase by larger increments after 4,000 litres of output due the law of increasing costs (or law of diminishing returns). In the short-run, as more of the variable input is added to a given quantity of fixed inputs, the marginal product produced eventually begins to diminish. As a result, the variable costs associated with producing addition units of output are also forced to increase by larger increments.</p> <p>(iii) Identify on your graph the level of output at which John maximises profits. Provide a reason for your answer.</p> <p>Profit maximised: 6,000 litres of output, as this is where the difference between total revenue and total costs are at the maximum (€250)</p>	<p>7m: [SR 2m Reason (3 + 2)]</p> <p>6m (3 + 3)</p> <p>7m: MP 5m Reason 2m</p>
50m	

Question 4

Marks

The bar chart below shows family farm income (FFI) and direct payment figures for Irish farmers by region in 2013.



(a) (i) Using the information presented on the bar chart, describe the main differences in average FFI and direct payments received between regions.

- The higher levels of FFI are earned in the Southeast, South, Southwest and East regions. These regions also have a lower proportion of total earnings accounted for by direct payments and subsidies.
- In the Midlands, there is little difference in the proportion of income coming from FFI and direct payments.
- For the Border region and West, FFI is much lower and direct payments account for a larger proportion of total farm earnings.
- Overall, total farm earnings (FFI plus direct payments) appear relatively limited in the Border and West regions in comparison to the other regions.

9m
(3 x 3m)

(ii) Outline three reasons why these regional differences exist.

- Type of farming: Dairy farming is more common in regions such as the South, Southeast, Southwest and East. Dairy farming creates more output value than other forms of farming and farmers in this industry are more likely to be full time. This may help explain the relatively higher level of FFI and overall earnings in these areas. In the Border and West region farmers are more likely to rely on cattle rearing or sheep and work only part-time as farmers, thus relying on off-farm income to supplement earnings.
- Land quality: land in the East, Southeast, South, and Southwest are of better quality than land found in the Border and West regions. Thus the value of output per hectare is higher in these areas and the unit costs of farming the land may also be lower. This increases the FFI in these areas.
- Farm size: farm sizes tend to be smaller in the West and Border regions. Thus, due to lower economies of scale, farms in these areas have higher costs per unit. The small farm sizes and need for farmers to rely on off-farm income also means land in the West or Border regions are more likely to be farmed inefficiently or be used as hobby farms.

15m:
(3 x 5m
(3+2))

<ul style="list-style-type: none"> ▪ Infrastructure and proximity to urban areas: the remote locations and difficulties surrounding access to land in the West and Border regions may explain the relatively high costs of farming this land. ▪ Demographics: the age profile, particularly amongst the farming community, tends to be older in West and Border regions. This can lead to lower levels of investment and productivity on farms. In other regions, younger and better qualified farmers are more likely to avail of modern technical and scientific developments to increase productivity and returns. 	
<p>(b) “Since 1984, the [dairy] industry has operated within a quota environment. The shackles come off next April and following that we will have an exciting mix of opportunity and challenge for all stakeholders.” Minister Simon Coveney, National Dairy Conference 2014</p> <p>Discuss the possible opportunities and challenges facing Irish dairy farmers following the abolition of the quota system.</p> <p>Possible opportunities:</p> <ul style="list-style-type: none"> • With the highest margins found amongst major farm types, many dairy farmers are in a good financial position to invest in expansion. • Because of its pasture-based system, Irish dairy farmers have a natural cost advantage in dairy production over rivals. • Outlook in the medium term in terms of milk prices is positive due to significant world demand for dairy products based on increasing world population and economic growth in emerging economies. • As one of the largest dairy exporters in the world, Ireland has a well-established processing infrastructure and reputation to build upon in the future. • There is significant scope for the Irish dairy sector to expand through the creation of more value added output. <p>Possible challenges:</p> <ul style="list-style-type: none"> • Milk prices on the world market are highly volatile and can have a detrimental impact on farmers unless they closely monitor their cash flow • Expansion in the dairy sector takes significant levels of investments in terms of equipment, land and breeding. Farmers need to be careful to plan and budget for such investment costs, particularly where financed using debt. • Dairy farming is a significant emitter of greenhouse gases (e.g. methane). Some 30% of Irish emissions come from agriculture, far more than most EU countries. These emissions are expected to grow by a further 9% due to the impact of the Food Harvest 2020 and the removal of the milk quota. As such, it is likely to continue being the focus of environmental concerns and regulations. Also taxpayers are open to severe penalties from the EU. • Land availability and access can pose a major challenge to expansion. Dairy farms require land that is close to milking facilities and with good access to enable animals to walk to and from pasture and milking facilities. • Access to finance can be an issue for many Irish dairy farms, as most are family run businesses. 	<p style="text-align: right;">13m (4m+3m) + (4m+2m)</p> <p style="text-align: right;">13m (4m+3m) + (4m+2m)</p>
	50m

Question 5	Marks																		
<p>(a) Explain what is meant by 'Terms of Trade' for agriculture and outline how it is calculated.</p> <p>Terms of trade: describes how prices received by farmers for their goods or services move in relation to the price they must pay for inputs (i.e. factors of production).</p> <p>Computing the terms of trade: divide the output price index (e.g. agricultural output price index) by the input price index (e.g. agricultural input price index).</p>	<p>10m (5 + 5)</p> <p>6m</p>																		
<p>(b) Explain the impact a decline in the terms of trade may have on the financial returns for farmers.</p> <p>If the ratio is declining it means farmers are receiving a lower output price relative to input prices. This can work to reduce the financial returns and income prospects on farms (i.e. price-cost squeeze). However, declining terms of trade do not take into account other potential sources of farm income such as direct payments or other measures farmers can use to reduce volume of inputs or increase output yields.</p>	<p>10m (6 + 4)</p>																		
<p>(c) The graph below shows the terms of trade for Irish agriculture from 2007 to 2014. Describe the trends shown in the graph and outline possible reasons for these trends.</p> <div data-bbox="422 1008 989 1321" data-label="Figure"> <table border="1"> <caption>Terms of Trade for Irish Agriculture</caption> <thead> <tr> <th>Year</th> <th>Index Value</th> </tr> </thead> <tbody> <tr><td>2007</td><td>107</td></tr> <tr><td>2008</td><td>99</td></tr> <tr><td>2009</td><td>90</td></tr> <tr><td>2010</td><td>100</td></tr> <tr><td>2011</td><td>104</td></tr> <tr><td>2012</td><td>104</td></tr> <tr><td>2013</td><td>110</td></tr> <tr><td>2014</td><td>107</td></tr> </tbody> </table> </div> <p>Decline in terms of trade 2007-2009: From 2007 to 2009 farms experienced a significant rise in the cost of inputs, particularly in the cost of fertilisers, energy and feedstuffs. This can be attributed to increases in oil prices at this time and the onset of the financial crisis. Farmers also saw a decline in output prices for crops and animals during this period as economic fallout of the financial crisis affected both domestic demand and that of our main export markets (UK and EU).</p> <p>Increases in terms of trade 2009-2013: In the period following 2009, the terms of trade recovered primary due to rising output prices received by farmers. This can be attributed to the increasing demand from emerging markets and recovery in trade with existing export markets. Although in 2009 input prices declined following their initial spike in 2008, they have tended to rise again since 2010.</p> <p>Decrease in terms of trade 2013-2014: the recent dip in terms of trade could be attributed to a decline in output prices including world milk prices and Irish beef prices. This could be partly explained by a reduction in demand for products such as milk from certain markets, especially China.</p>	Year	Index Value	2007	107	2008	99	2009	90	2010	100	2011	104	2012	104	2013	110	2014	107	<p>Trend 3m Reason 5m</p> <p>Trend 3m Reason 5m</p> <p>Trend 3m Reason 5m</p>
Year	Index Value																		
2007	107																		
2008	99																		
2009	90																		
2010	100																		
2011	104																		
2012	104																		
2013	110																		
2014	107																		
50m																			

Question 6

Marks

Sarah is considering setting up a farm shop by converting some unused farm buildings.

Sarah plans to sell the beef from the 50 heifers she rears on her farm each year.

The following are the financial details for the new farm shop:

- *Sarah estimates her heifers will earn revenue of €8.50 per kg in the farm shop, with each heifer providing on average 300 kg of meat. Sarah would have earned revenue of €3.85 per kg of meat if she sent her heifers to a processing factory instead, with an associated transport cost of €500.*
- *To prepare the beef for the farm shop, Sarah has arranged for a local abattoir to butcher the heifers for €100 per head. The abattoir will also package the meat for an additional €1,000 in total.*
- *To convert her existing farm buildings into a farm shop, Sarah will take out a loan costing €240 per month. If she does not set up a farm shop, Sarah could lease these buildings out to another farmer for €1,000 per annum.*
- *Running the shop will cost in total €200 per month for lighting, heating and insurance. Sarah also plans to hire an employee for 40 weeks of the year at €400 per week to help run the shop.*

- (a) Using the above information, prepare a partial budget for the new farm shop covering its first year in operation, taking into account revenues foregone and cost savings, if applicable. Calculate the total deficit or surplus that will be generated.**

Partial Budget Analysis of Setting up a Farm Shop

Extra costs and revenue foregone			Extra revenue and costs saved		
Extra costs	Workings	Total	Extra revenue	Workings	Total
Slaughtering costs	50*100	5,000	Beef sales	50*8.50*300	127,500
Packaging	1,000	1,000			
Repayment of loan (shop)	240*12	2,880			
Lighting, heating & insurance	200*12	2,400			
Staff costs	40*400	16,000			
Revenue foregone			Costs saved		
Heifer sales	50*3.85*300	57,750	Transportation	500	500
Rent foregone	1,000	1000			
Total		86,030	Total		128,000
Surplus		41,970			

25m

7m

Partial budget should be in appropriate format.

<p>(b) Other than financial planning, discuss three factors Sarah should also consider before setting up a farm shop.</p> <ul style="list-style-type: none"> • Skills and training: A decision has to be made on whether or not the farmer has the necessary skills and knowledge needed to run a farm shop. Training may be needed in running a small business and how to meet hygiene and food safety standards. • Market research: Research is needed to ensure there is sufficient demand in the area to sustain the business and to assess other competitors in the area. • Location / access for customers: Farmer should take into account proximity to roads and other access routes, as well as the availability of parking. • One stop shopping experience: Most consumers will look for a shop that can provide all they need in terms of shopping for family meals in one place. It is therefore important for the farmer to assess her ability to provide this service. • Time management: If Sarah plans to continue operating as a farmer as well as running the farm shop, the ability to accomplish both tasks at the same time should be considered. Alternative options could be to hire employees to help, although this will entail additional costs. • Product promotion and advertising: Sarah needs to take account how she will promote her product through means such as local radio/newspapers, flyers, signage, and seasonal promotions. • Compliance with regulations: Sarah will need to provide a safe environment for both customers and potential employees. Planning permission may be required if building facilities. Registration with HSE for purposes of health and safety will also be required. 	<p>18 m [3 x 6m (3+3)]</p>
<p>50m</p>	

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