Coimisiún na Scrúduithe Stáit
State Examinations Commission

LEAVING CERTIFICATE 2009

MARKING SCHEME

AGRICULTURAL ECONOMICS

HIGHER LEVEL

LEAVING CERTIFICATE 2009

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SUPPORT NOTES

Marking Scheme and Support Notes for use with the Marking Scheme.

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

- The support notes presented are not exclusive or definitive.
- They are support notes and not model or suggested answers.
- 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.

PART I (120 Marks)

15 QUESTIONS TO ANSWER.

ALL QUESTIONS CARRY EQUAL MARKS (8 MARKS)

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

PART II (200 Marks)

4 QUESTIONS TO ANSWER AT 50 MARKS EACH.

1.	**(a)**	Four characteristics which limit marketing efficiency @ 7 marks each graded	28
	(b)	Two ways of increasing price @ 6 marks each graded	12
	(c)	One consequence @ 10 marks graded	10
			[50 marks]

2.	**(a)**	Title, two curves, two labels, equilibrium price – 6 @ 2 m each	12
	(b)	Explanation – derived demand – 10 marks Two factors @ 3 marks each graded	16
	(c)	Four factors @ 3 marks each graded	12
	(d)	Land prices: three reasons: 10 marks graded	10
			[50 marks]

3. Distinguish between each of four pairs:

(a)	Net worth and net present value	13 marks graded	13
(b)	Marginal cost and imputed cost	13 marks graded	13
(c)	Elastic and inelastic demand	12 marks graded	12
(d)	Vertical and horizontal integration	12 marks graded	12
			[50 marks]

4.	**(a)**	Production function concept:		
		Definition	10 marks graded	
		Development	10 marks (5 m + 5 m)	20
	(b)	Criteria for farmers' decisions	4 @ 5 marks graded	20
	(c)	Role of Teagasc	10 marks (5 m + 5 m)	10
				[50 marks]

5.	**(a)**	Effects of EU enlargement	4 @ 5 marks (2 m + 3 m)	20
	(b)	EU directive and example:		
		Directive	10 marks graded	
		Example	10 marks (5 m + 5 m)	20
	(c)	Importance of cross compliance	10 marks (5 m + 5 m)	10
				[50 marks]

6.	**(a)**	Two reasons for cash flow budget	12 marks graded	12
	(b)	(i) Financial implications	4 @ 3 marks	
		(ii) Strategy for farmer	2 @ 6 marks	
		and	2 @ 2 marks	28
	(c)	Additional labour: advice & reasons:		
		Advice	3 marks	
		Two reasons	4 m + 3 m	10
				[50 marks]

AGRICULTURAL ECONOMICS – HIGHER LEVEL

SUPPORT NOTES

PART I

1. In an economic system, prices are determined by the interaction of **demand** and **supply** on the factor market and on the **product** market.

2. State TWO advantages for the farmer of the use of agricultural contractors on his/her farm.

(i) Farmer does not carry the cost of machinery or wear and tear; less capital costs
(ii) Farmer has additional free time for other day to day tasks
(iii) Contractor has expertise for job at hand – specialist.

3. The agriculture and food sector in Ireland accounts for approximately **6%** of GDP, **9%** of employment and **10%** of exports.

4. Gross Capital Formation in the case of farming:

The addition, in any time period, of land improvements, buildings, breeding stock, machinery and equipment.

5. Farmers represent a declining proportion of the food production chain. **TRUE**

Explanation: Typically, of €100 spent by an Irish consumer on food, €30 goes to distribution, €30 to processing. Out of the €40 remaining, the farmer has to pay €25 for his inputs, leaving him a net €15. An increase in purchase inputs or distribution costs or processing costs.

6. State two examples of each of the following inputs in farming:

(i) Factor inputs:	(a) **land**	(b) **labour (or capital, management)**
(ii) Intermediate inputs	(c) **fertiliser**	(d) **purchased feed.**

7. Agricultural prices tend to fluctuate widely over time. Outline **two** negative implications of this on farm financial planning.

(i) Difficult to accurately estimate cash flow requirements for the year
(ii) Shortfalls in cash regularly experienced
(iii) Difficult to present plans/budgets to bank manager for loan requirements
(iv) Limits future investment.

8. Explain the term ‘modulation’.

This is an annual percentage reduction by the EU in the Single Farm Payment to farmers where the SFP is greater than €5,000. This reduction helps to finance the EU’s rural development policy.

9. Outline **two** effects for Irish agriculture of the suspension of the Early Retirement Scheme in 2008.

(i) Delays the transfer of land from parents to younger generation thereby delaying succession planning
(ii) Lack of innovation / development / poor management
(iii) Loss of income for those hoping to join the Early Retirement Scheme
(iv) Government savings could be used for other purposes.

10. Outline **two** effects of seasonality of Irish milk production for processors.

(i) Surplus supply in summer months and shortage of milk for processors at beginning/end of year / underutilisation of processing capacity / high production and storage costs
(ii) Insufficient supply of milk to produce certain milk products all year round
(iii) Pressure on processing capacity in the summer months.

11. The Terms of Trade for Irish sheep farmers have been deteriorating in recent years. Explain this statement.

The prices received for Irish lamb have been declining while the cost of producing lamb has increased. As the cost of living increases, the quantity of lamb sales required to meet the same standard of living as previous years must increase.
The Terms of Trade describe how prices received by farmers for their output are moving in relation to the price they must pay for inputs.
The output price index divided by the input price index.

12. In farm accounting, output is total sales minus purchases, plus or minus **changes in inventories,** plus **household consumption**.

13. Farmers are legally obliged to prepare a Farm Safety Statement. Outline two benefits of preparing a Farm Safety Statement.

(i) Identifies key areas for improvement on the farm in relation to safety / hazards
(ii) Orients farmer towards farm safety and higher safety standards / encourage best practice
(iii) Insurance costs may fall.

14. Explain the following statement: "A feasible plan may not be profitable".

While funds may be available to carry out the plan (feasibility) and a cash flow budget may indicate this (feasibility), the economic return on the investment may be negative (unprofitable), or actual expenditure may be greater than income (unprofitable) over time.
Feasible: available funds to carry out plan.
Profitable: relates to the economic return of the investment.

15. List two factors that affect the level of interest rate in capital markets.

(i) ECB rate
(ii) Availability of credit
(iii) Rate of inflation/deflation / current economic state
(iv) Demand
(v) Competition from other markets
(vi) Risk involved in the loan

16. Outline **two** advantages of planting agricultural land with forestry.

(i) Additional source of income for farmer / grants / future income
(ii) Excellent for environment & greenhouse gas emissions
(iii) Better use of marginal land.

17. Explain the term **Value Added** in relation to Irish milk.

Any product made from milk which has been processed to command a higher price. Examples: Yogurt, Superplus Milk.

18. State why protection may be preferable to free trade in the case of the agricultural sector.

(i) Protection enables prices to be held at a higher level than under free trade.
(ii) It also helps to maintain local supply.
(iii) Free trade tends to depress farm incomes.
(iv) Free trade leads to very unstable prices and incomes because farming is not mobile enough to respond quickly to the changing economic pressures of the marketplace.

19. Explain the **Law of Diminishing Returns** using an agricultural example.

As fertiliser is added to grass, the quantity of grass grown will increase until a point is reached where no matter how much additional fertiliser is applied, grass growth will no longer increase.

20. Explain the term 'export refunds'.

There are minimum price levels for certain farm products paid through the EU budget (CAP) to EU farmers to allow them to export to countries outside the EU. These minimum price levels are in many cases higher than the world price level for the same products. When farmed products are exported outside the EU, it is necessary to bridge the gap between the EU price level and the world market price level. This bridging is done by paying **export refunds** to the exporters. Without export refunds, EU exports would be too expensive on world markets. Export refunds were re-introduced in the Dairy Sector in 2009.

SUPPORT NOTES

PART II

1.(a) Improvement in agricultural marketing efficiency is limited by certain characteristics of Irish farming. Outline **four** of these characteristics and explain how they limit marketing efficiency.

(i) The structure of farming – relatively small units – weak bargaining power – farmer has little control over prices.
(ii) The geographical dispersal of farming over a wide area means that assembly and grading of products is difficult. Grading is essential for marketing purposes.
(iii) Variation of supply – supply is seasonal while demand is constant, resulting in price fluctuation.
(iv) Bulky & perishable nature of agricultural products means that transport and/or storage costs may be high. Processing industry tends to be nearer supply than market. Timeliness is critical due to the perishable nature of some products.
(v) Over supply of international markets means Irish agricultural export prices have to be very competitive, even with EU support.

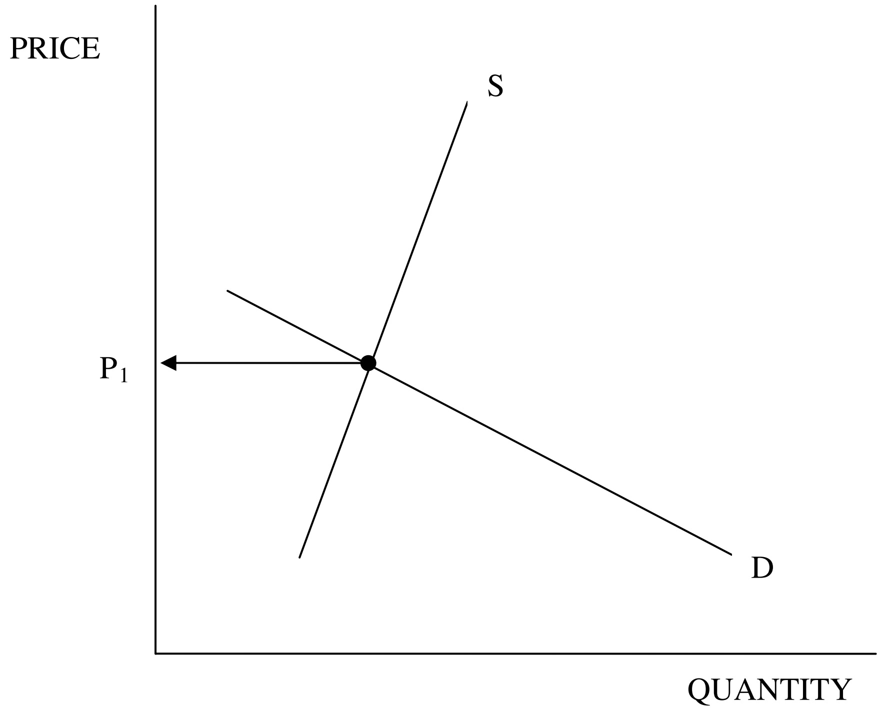
(b) Using agricultural examples, explain two ways farmers may increase the price received for their outputs.

(i) Formation of producers groups – increase volume of product produced and savings in terms of bulk buying of inputs.
(ii) Production of premium product – contract for Italian beef, contract for cereal crops, i.e. malting barely, free range eggs rather than battery production.
(iii) Support and supply local farmers' markets / value added route.

(c) Discuss the economic consequences of a decrease in the value of sterling (£) relative to the euro (€) for an Irish farmer exporting his produce to the UK market.

Irish farmers rely heavily on UK market to sell their produce i.e. mushrooms, poultry. If value of euro weakens relative to sterling, Irish produce become more expensive on UK market leading to reduced sales, reduced market share and reduced profitability. Farmers may have to look to markets outside UK / extra finance required.

2.(a) Supply and demand curves for land.



(b) (i) The demand for land is a 'derived demand'. Explain this statement.

Derived demand: Demand for land derives from the contribution it is expected to make to production when combined with other resources.

(ii) Outline the factors which influence the price of land.

- Number of potential buyers / demand
- Location of the land
- Availability of funds from bank
- Quality of the land / uses to which land will be put.

(c) If a farmer is considering the purchase of 20 acres of agricultural land, outline **four** factors which will influence his decision to purchase the land.

(i) Level of existing borrowings
(ii) Existing income / availability of finance
(iii) Future income stream from purchased lands
(iv) Price of land
(v) Closeness to existing farm
(vi) Infrastructure.

(d) Irish agricultural land prices fell significantly in recent months. Outline **three** reasons for this decline.

(i) Economic downturn; collapse of construction sector in Ireland; no speculative buying of agricultural land for development purposes because of this.
(ii) Availability of credit; banks not lending; farmers unable to expand.
(iii) International downturn; no foreign investment in Irish land during recession.

3. Distinguish between each of the following pairs with reference to Irish agriculture.

(a) Net Worth and Net Present Value:

Net Worth of a farm is the difference between total assets and total liabilities / capital owned by farmer / how much the farmer has invested in the business.

Net Present Value is the time value of an investment, i.e. the value of the investment compared to the value of the same investment in the future, taking inflation into account. Often, the investment as well as the revenues and expenses may take place over a period of time, as when farm development is phased over a number of years. In that case, the investments that take place in the future must also be discounted, and the present value of the revenue less expenses is compared with the present day value of the investments.

(b) Marginal Cost and Imputed Cost:

Marginal cost is defined as the change in total costs per additional unit of output.

Imputed cost is a cost where no actual payment is made for the resources i.e. own labour, family labour. In the case of the family farm where most of the capital and labour is owned by the farmer rather than hired, there is no actual payment made for these resources. One can, however, impute a value/cost to them by valuing them at the going rate.

(c) Price Elastic Demand and Price Inelastic Demand:

Price elastic demand: a change in price results in a proportionately greater change in quantity demanded, i.e., a one per cent change in price is associated with a percentage change in the opposite direction of more than one per cent in the quantity purchased (e.g. -1.5). Example: Irish butter on the export market.

Inelastic demand: a change in price results in a proportionately smaller change in quantity demanded. i.e., a one per cent change in price is associated with a percentage change in the opposite direction of less than one per cent in the quantity purchased (e.g. -0.5). Example: potatoes in Ireland.

(d) Vertical Integration and Horizontal Integration:

Vertical integration involves <u>linking two or more stages in the food chain</u> to streamline the flow of produce e.g. bacon factories and the farmer.

Horizontal integration is where a firm is taken over or merged with another firm in the same industry with both at <u>the same stage of production</u> e.g. two dairy co-operatives merging (Glanbia).

4. (a) Explain the concept of the 'production function' with respect to Irish agriculture.

The production function is the concept that describes the nature of the relationship between products and factors / inputs and outputs. Production may increase or decrease as input levels are varied, and may increase or decrease in various ways e.g. crop output is influenced by the level of fertilizer used or area of land available or the amount of machinery employed.

(b) Explain the criteria which may guide farmers in making production decisions.

- Desire for increased leisure / own ability / habit
- Enhanced social status
- Reduced risk
- Increased sense of achievement
- Profit maximisation / future prices / markets
- Improved use of land / quality of land
- Policy changes / quotas / free trade agreements.

(c) Outline the role of Teagasc in relation to improvements in agricultural production functions.

Teagasc seeks to advise farmers on improved production methods which enable more output to be obtained from a given quantity of resources. For a farmer the adoption of improved varieties of crops or breeds of animals is an example of such progress. Other possible examples are improved weed and disease control and more effective machines and equipment. Improved husbandry methods give a similar output result to technological progress.

5. (a) Outline the possible effects on Irish agriculture of EU enlargement.

- Less money/funding potentially available from EU to Irish market. Ireland must now become net contributor to budget. Over the years, Ireland was a net beneficiary from budget.
- Larger export market for sellers – greater customer base.
- More competition
- Larger workforce available
- More countries where Irish agricultural workers may find employment

(b) Explain the term 'EU Directive' using an agricultural example.

A directive is a legislative act of the EU which requires member states to achieve a particular result without dictating the means of achieving that result. While the directive is binding, it normally leaves member states with a certain amount of leeway (within prescribed limits) as to the choice of means to be employed in carrying it out.

Example: The Nitrates Directive:
Farmers are restricted in terms of the quantity of fertiliser/slurry that can be spread.

(c) Outline the importance of cross compliance in relation to Irish agriculture.

Cross compliance requires farmers to farm under new requirements regarding public, animal and plant health, animal welfare, and the maintenance of all agricultural land in good agricultural and environmental condition. These guidelines must be met in order for farmers to receive their SFP without penalty. It also applies to REPS and Disadvantage payments.

Cross compliance places the onus on farmers to keep their farms in good agricultural and environmental condition. It is a response to societal demands relating to animal welfare and food safety. As a result, it should lead to better land management in Ireland.

Cross compliance links direct payment to farmers to their respect of environmental and other requirements set at EU and national levels.

6. A cash flow budget for a dairy farmer for 2010 is detailed below:

Quarterly Cash Flow Budget for the year 2010

	Jan-Mar	**Apr-Jun**	**July-Sept**	**Oct-Dec**	**Total**
	€	€	€	€	€
Receipts					
Milk	14,000	29,000	33,000	10,000	86,000
Calf sales	4,000				4,000
Cull cows			7,000		7,000
Single Farm Payment				29,000	29,000
REPS	11,000				11,000
A. Total Receipts	**29,000**	**29,000**	**40,000**	**39,000**	**137,000**
Payments					
Feed	6,000				6,000
Fertiliser	2,500				2,500
Labour	4,800	4,800	4,800	4,800	19,200
Livestock purchases	20,000		15,000		35,000
Drainage		6,000			6,000
Contractor				5,000	5,000
Loan Repayments				22,000	22,000
Household Expenses	8,000	10,000	11,000	11,000	40,000
B. Total Payments	**41,300**	**20,800**	**30,800**	**42,800**	**135,700**
Net Balance (A – B)	–12,300	8,200	9,200	–3,800	1,300
Opening Balance	1,700	–10,600	–2,400	6,800	1,700
Closing Balance	–10,600	–2,400	6,800	3,000	3,000

(a) State **two** reasons why a dairy farmer should prepare a cash flow budget.

(i) To predict the movement of cash into and out of the farm for year
(ii) To enable the farmer to see if plan can be put into operation
(iii) To help farmer identify potential cash flow problems
(iv) To compare budget with actual figures and control the farm cash
(v) To assist when applying to financial institutions for further finance.

6 (b) (i) Outline the financial implications for the farmer of the net balance in each quarter.

(b) (ii) Suggest an appropriate strategy for the farmer considering the net balance in each quarter.

Quarter 1:

Implications: Negative net balance of €12,300 and negative closing cash of €10,600. This puts pressure on cash flow as more money would be leaving the farm than coming in. There may be pressure on paying bills as they fall due. The expenditure planned for this quarter cannot be met within the quarter.

Strategy: Loan repayments could be spread throughout the year, at €5,500 per quarter. This would solve the potential deficit in the final quarter but would add to pressure on the first quarter. To counteract this, the farmer could delay buying the intended livestock.
Arrange short term finance / overdraft and allow for payment of interest.
Feed could be purchased throughout the year rather than a bulk purchase in the first quarter, but this could prove more costly (e.g. no bulk discount).

Quarter 2:

Implications: As milk sales have increased due to grass growth, there is a positive net balance of €8,200. The farm will be able to meet commitments in this quarter but will still not clear the first quarter deficit in full. It will have a negative closing cash of €2,400.

Strategy: Continue short term finance / overdraft until July to clear deficit.
Defer drainage until next quarter.
Labour costs could be reduced in less busy times of year.

Quarter 3:

Implications: Milk sales have peaked and this is the main reason for the positive net balance of €9,200. The farm will be able to meet commitments in this quarter. There is also a closing cash surplus of €6,800.

Strategy: The farm might consider carrying out drainage in this quarter as cash is available.
Despite positive net balance, the farm should not overspend, as a drop in sales is expected in the next quarter.

Quarter 4:

Implications: Milk sales are low in winter months. There is a negative net balance of €3,800 which would have been much greater except for the receipt of the Single Farm Payment.
The expenditure planned for this quarter still cannot be met within the quarter, mainly due to the loan repayment. However, the overall budget is feasible as the farm would have a higher closing cash balance than opening balance (by €1,300). There is no leeway to cater for emergency or unforeseen spending greater than that amount.

Strategy: The farm might consider using own labour rather than hiring a contractor.
On a longer term basis, the farm could improve the quality of milk and/or breed higher-value calves. This would generate extra income in the long term.
The farm might review household expenses with a view to cutting down on expenditures which are non-essential or discretionary.
The farm might consider a new enterprise.

(c) The farmer is considering hiring an additional labour unit on the farm at an additional cost of €3,000 per quarter. What advice would you give the farmer? Give reasons for your answer.

The farmer should not hire additional labour.

An additional cost of €3,000 per quarter will put considerable pressure on cash flow. The farmer already has labour employed so would need to determine if further labour is required.

The farmer would need further overdraft accommodation of at least €9,000 to pay for the additional labour.

The best advice would be to increase the efficiency of the farm before considering costly extra labour.

Coimisiún na Scrúduithe Stáit

Marcanna Breise as ucht freagairt trí Ghaeilge

Léiríonn an tábla thíos an méid marcanna breise ba chóir a bhronnadh ar iarrthóirí a ghnóthaíonn níos mó ná 75% d'iomlán na marcanna.

N.B. Ba chóir marcanna de réir an ghnáthráta a bhronnadh ar iarrthóirí nach ngnóthaíonn níos mó ná 75% d'iomlán na marcanna don scrúdú. Ba chóir freisin an marc bónais sin **a shlánú síos**.

Tábla 320 @ 10%

Bain úsáid as an tábla seo i gcás na n-ábhar a bhfuil 320 marc san iomlán ag gabháil leo agus inarb é 10% gnáthráta an bhónais.

Bain úsáid as an ngnáthráta i gcás 240 marc agus faoina bhun sin. Os cionn an mharc sin, féach an tábla thíos.

Bunmharc	Marc Bónais
241 - 243	23
244 - 246	22
247 - 250	21
251 - 253	20
254 - 256	19
257 - 260	18
261 - 263	17
264 - 266	16
267 - 270	15
271 - 273	14
274 - 276	13
277 - 280	12

Bunmharc	Marc Bónais
281 - 283	11
284 - 286	10
287 - 290	9
291 - 293	8
294 - 296	7
297 - 300	6
301 - 303	5
304 - 306	4
307 - 310	3
311 - 313	2
314 - 316	1
317 - 320	0