MARKING SCHEME
AGRICULTURAL ECONOMICS

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

1.   In many instances only key words are given i.e. words, which must appear in the correct context in the candidate's answer in order to merit the assigned marks.

2.   Marks shown in brackets represent marks for partial answers, as indicated in the scheme.

3.   Words, expressions or statements separated by solidus (/) are alternatives, which are equally acceptable.

4.   The descriptions, methods and definitions in the scheme are **not** exclusive and alternative valid answers are acceptable.

5.   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 EXMAINATION, 2002

AGRICULTURAL ECONOMICS – HIGHER LEVEL PAPER

STRUCTURE   Two parts: I and II

                     PART I   20 Questions -   120 marks

                     PART II   6 Questions -   200 marks

                                       Total -   320 marks

OUTLINE MARKING SCHEME

PART I   -   **Answer <u>15</u> Questions**   **(15 x 8 = 120 marks)**

(1) 4 x 2   (2) 1 x 8   (3) 1 x 8   (4) 2 x 4   (5) 2 x 4

(6) 1 x 8   (7) 2 x 4   (8) 2 x 4   (9) 1 x 8   (10) 1 x 8

(11) 1 x 8   (12) 1 x 8   (13) 4+2+2   (14) 1 x 8   (15) 1 x 8

(16) 2 x 4   (17) 2 x 4   (18) 2 x 4   (19) 4+2+2   (20) 2 x 4

PART II   -   **Answer <u>4</u> Questions**   **(4 x 50 = 200 marks)**

Question 1
       (i) 2 x 5   (ii) 2 x 5   (iii) 2 x 5   (iv) 2 x 5   (v) 2 x 5   (50 marks)

Question 2
       (i) 2 x 4   (ii) 4 x (2+1)   (iii) 2 x 5   (iv) 2 x 10   (50 marks)

Question 3
       (i) 5 x 2   (ii) 1 x 8   (iii) 4 + 8   (iv) 1 x 10   (v) 1 x 10   (50 marks)

Question 4
       (i) 1 x 15   (ii) 1 x 8   (iii) 8 + 4   (iv) 5 x (2+1)   (50 marks)

Question 5
       (i) (a) 4 + (2x2) (b) 4+(2x2) (c) 4+(3x2)   (ii) 3 x 5   (iii) 3 x 3   (50 marks)

Question 6
       (i) (a) 2 x 5   (b) 2 x 5   (c) 2 x 5   (ii) 4 x 5   (50 marks)

LEAVING CERTIFICATE EXAMINATION, 2002

AGRICULTURAL ECONOMICS HIGHER LEVEL

MARKING SCHEME

PART I (120 marks)

1. (a) What to produce?
    (b) How to produce?
    (c) How much to produce?
    (d) For whom to produce?
    (e) When to produce?   (Any Four 4 X 2 marks)

2. The measurement of the farming workforce is complicated by the **family nature**
    of the industry because much of the family labour is **part-time** and its precise
    contribution is difficult to assess.

                                                                (8 marks)

3. Value added by the factor inputs.   (8 marks)

4. Subsidies   [4 marks]
    Levies   [4 marks]

5. Large number of relatively small units / Geographical dispersal of farming.
    Seasonal variations in supply / Agricultural products are bulky and perishable.
    Over-supply of international markets.
                                                        (Any Two 2 X 4 marks)

6. $€\,10{,}000 \div \left(1 + \dfrac{r}{100}\right)^{10}$
                                                                (8 marks)

7. Manufacturing Firm – Reduces Output/Quantity adjustment   [4 marks]

    Family Farm – Maintain Output while accepting Lower Prices. [4 marks]

8. Necessary Goods – Income elasticity of demand between <u>zero</u> and <u>one</u> [4 marks]
    Inferior Goods – Negative Income Elasticity of demand   [4 marks]

9. There are many other alternatives to Irish beef on the British market.
    Only Irish beef available on Irish market.   (8 marks)

10.   20%   (8 marks)

11.   Operating on the Total Product Curve   (8 marks)

12.   A.O.P.I. ÷ A.I.P.I   or   Agricultural Output Price Index
                                        Agricultural Input Price Index

                                Or

        It describes how prices farmers are receiving for their output are moving in
        relation to the prices they must pay for their inputs.

                                Or

        Ratio of output prices to input prices   (Any one 8 marks)

13.   Determine profit or loss / Information for future planning.
        Check progress of farming during the year / Income tax returns
        Facts for borrowing money / Statistical information for advisory purposes
                                                        [Any three 4 marks]
                                                                [2 marks]
                                                                [2 marks]

14.   A check table is based on the fact that the number of animals on hands at the
        beginning of any period plus births and purchases must be equal to the number at
        the end, plus the number sold or consumed in the house plus any which have died.
        A built- in check in the farm account book can pinpoint errors as soon as they
        arise.   (8 marks)

15.   To estimate the income implications when a change in a part of the farm is
        being considered by the farmer/to enable a farmer evaluate the income
        implications of some alteration in his/her farming system.
                                                                (8 marks)

16.   (a) Financial Feasibility / Repayment capacity   [4 marks]
        (b) Security   [4 marks]

17.   Productivity: Any ratio of output to input   [4 marks]
        Example: Yield per Hectare , Gross agricultural output per person   [4 marks]

18. Internal: Subsidisation of capital under Farm Improvement Scheme / Research or Education / Advisory services/ Livestock and Crop improvement.

[Any one 4 marks]

External: Land Commission / Retirement Schemes / Leasing Land / Partnerships/ Taxation

[Any one 4 marks]

19. (a) Common Price Level   [4 marks]
     (b) Preference for E.U. producers   [2 marks]
     (c) Common Financing   [2 marks]

20. (a) Lower Prices/falling prices   [4 marks]
     (b) Unstable Prices/fluctuating prices   [4 marks]

PART II (200 marks)

1. Account on dairy processing in Ireland

    (i)   Structure and ownership of processing capacity
            (a) Most dairy processing firms are farmer's co-operatives.   [5 marks]
            (b) Three largest firms process about 70% of all milk.   [5 marks]

    (ii)   Main market outlet
            (a) Home market – 35%   [5 marks]
            (b) Export Markets (UK, Other E.U., Non – E.U.) – 65%   [5 marks]

    (iii)   Seasonality of Production
            (a) Peak months supply six times higher than trough months supply
            (b) Underutilisation of processing capacity raises unit costs and storage
                costs
            (c) Continuous production of short-life dairy products is constrained

                                                                   [Any Two 2 X 5 marks]

    (iv)   Product diversification
            (a) Recent improvement due to the reduction in the guaranteed price for
            butter and S.M.P.   [5 marks]
            (b) Winter milk prices have encouraged dairy farmers to supply milk all
            year around for short-life dairy products.   [5 marks]

    (v)   Price Gaps
            Reasons: (a) Low fat and solids-non-fat content.
                     (b) High assembly, processing and distribution costs.
                     (c) Poor product mix.
                     (d) Currency differences   [Any Two 2 X 5 marks]

                                                                          (50 marks)

2. Balance Sheet for a Farm

    (i) Total Liabilities € 850,000   [4 marks]

                          € 850,000
                 less   € 130,000
            Net Worth   € 720,000   [4 marks]

(ii)   Example: Assets – **Fixed:** Land and Buildings
Machinery / Equipment
Breeding Livestock   [Any <u>Two</u> 2+1 marks]

- **Current:** Trading Livestock
Crops
Feeds
Cash
Debtors   [Any <u>Two</u> 2+1 marks]

Liabilities: **Long-term:** Bank Loan/mortgage
ACC
Hire Purchase   [Any <u>Two</u> 2+1 marks]

Current: Bank Overdraft
Creditors   [Any <u>Two</u> 2+1 marks]

(iii)   Liquidity Ratio = <u>Liquid Assets</u>

                     Current Liabilities   [5 marks]

$$= \frac{€\ 100,000}{€\ 30,000} = 3.33$$

     [5 marks]

(iv)   Farm is **<u>solvent</u>** because the debt to net worth ratio   [10 marks]
is less than 1.

$$\frac{€\ 130,000}{€\ 720,000} = 0.18$$

     [10 marks]

(50 marks)

3.   Diagram on the relationship between Total Revenue and Total Costs at different Levels of Output

(i)   Axes – Vertical – Costs and Revenues   [2 marks]
               Horizontal – Output   [2 marks]

       Curves: Total Revenue   [2 marks]
              Total Cost   [2 marks]
              Fixed Cost   [2 marks]

(ii)   Variable Cost is the space between the total cost curve and the fixed cost curve.   [8 marks]

(iii)   Law of Increasing Costs   [4 marks]
As output levels from any combination of fixed resources increases, larger and larger quantities of variable inputs are necessary to give each additional increase in production.   [8 marks]

(iv)   The most profitable level of production is where the gap between the total revenue curve and the total cost curve is at its widest.   [10 marks]

(v)   Output at OB and ON are break-even points i.e. Total Cost = Total Revenue.   [10 marks]

                                                                (50 marks)

4.   Construction of Supply Curve using Table

(i)   Curve   [15 marks]

(ii)   Definition – Price Elasticity of Supply
       = % change in quantity of a commodity supplied
            % change in the price of that commodity   [8 marks]

(iii) Price Elasticity of Supply

$$= \frac{0 + 1}{\frac{1}{2}(11+12)} \times \frac{100}{1} \div \frac{+10}{\frac{1}{2}(80+90)} \times \frac{100}{1} = 0.74$$ [8 marks]

       Inelastic because it is less than 1   [4 marks]

(vi)   Costs of production   [3 marks]
       Price of related commodities   [3 marks]
       Costs of production of related commodities   [3 marks]
       Technological Progress and Husbandry Progress   [3 marks]
       Environmental Variables   [3 marks]

                                                                (50 marks)

5.   Classification of factors according to the origin of their supply and demand

(i)   (a) Inputs supplied and used mainly within farming   [4 marks]
       e.g. land, animal feed   [2x2 marks]

       (b) Input supplied from outside of farming but used   [4 marks]
       mainly by farmers e.g. sprays, fertilisers   [2x2 marks]

(c) Inputs supplied outside of farming   [4 marks]
and used mainly outside of farming
e.g. building materials, diesel, labour and capital   [3x2 marks]

(ii)   (a) Prices reflect conditions within farming i.e. they relate
to changes in product prices   [5 marks]

(b) Prices reflect conditions within farming to a lesser extent
than in (a) because **supply** is outside of farming   [5 marks]

(c) Prices are determined by non-agricultural forces reflecting
general economic conditions in the country for example, inflation
                                                           [5 marks]

(iv)   Prices of the category (a) move in line with farm product prices
                                                           [3 marks]
The tendency for input prices overtime to increase more rapidly (or fall
more slowly) than product prices is mainly attributable to category (c)
but category (b) can also contribute   [3+3 marks]

                                                           (50 marks)

6.   (i)   Direct Supply Control

(a) Milk – Quotas at farm level   [5 marks]
          Penalty or Levy on excess production   [5 marks]

(b) Sugar Beet – High Price for production within quota   [5 marks]
          Lower price for excess production   [5 marks]

(c) Cereals – Support for area sown (i.e. Area Aid)   [5 marks]
          Market price for remainder   [5 marks]

(ii) Every farmer receives the maximum price
for a given quantity of milk.
Once this quantity exceeded the price was reduced
in successive stages, until at very high levels
of production a very low price was paid   [2x 5 marks]
In the tiered system you can enter and/or expand, cannot with quota
                                                           [5 marks]
High price for milk within quota/quota absolute-single tier in effect
                                                           [5 marks]

                                                           (50 marks)