

**CORK INSTITUTE OF TECHNOLOGY  
INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ**

**Semester 1 Examinations 2010/11**

**Module Title:     Animal Physiology and Nutrition**

**Module Code:**       AGRI6011

**School:**               School of Business

**Programme Title:**   Bachelor of Science in Agriculture

**Programme Code:**   BAGRI\_7\_Y2  
                              SNHSC\_8\_Y2

**External Examiner(s):**   Dr. Anne Nelson

**Internal Examiner(s):**   Ms Karen O' Connell, Mr Keith Kennedy

**Instructions:** Answer four out of the following five questions.

**Duration:**       2 Hours

**Sitting:**         Winter 2010

**Requirements for this examination:**

**Note to Candidates:** Please check the Programme Title and the Module Title to ensure that you have received the correct examination.  
If in doubt please contact an Invigilator.

Q. 1

Discuss the factors affecting the rates of protein accretion and fat deposition throughout the lifetime of a pig.

25 marks

Q 2

A. What is compensatory growth?

7 marks

B. Discuss the rationale for inducing a compensatory growth response in pigs.

8 marks

C. Outline two ways in which a compensatory growth response can be achieved in pig production.

10 marks

Q 3

A. Outline the heat cycle of a cow.

15 marks

B. Discuss the benefits of heat synchronisation and embryo transfer.

10 marks

Q 4

Describe the nutritional management of a spring-calving dairy cow in Ireland during the 3 stages of her lactation from calving to drying-off

25 marks

Q 5

A. Discuss the causes of four metabolic and nutritional disorders of ruminants

16 marks

B. Outline management steps can farmers take to avoid these problems and treat affected cattle and sheep

9 marks

Q 6

Scenario: a 600kg dairy cow is in early lactation. She is losing 0.5kg of her bodyweight per day and is yielding 24kgs of milk with 31g of protein.

Calculate:

- |                                     |          |
|-------------------------------------|----------|
| A. Her daily Net Energy requirement | 12 marks |
| B. Her daily PDI requirement        | 11 marks |