

UNIVERSITY OF DUBLIN  
TRINITY COLLEGE

FACULTY OF ARTS, HUMANITIES AND SOCIAL SCIENCES

DEPARTMENT OF ECONOMICS

Senior Freshman  
BESS, TSM, BSL

ECONOMICS I  
FOUNDATION SCHOLARSHIP EXAMINATION  
SAMPLE PAPER  
NOVEMBER 2015

Professor F. O'Toole

Exam Instructions:

Please answer Question 1 and two other questions.  
Each question carries equal weight.

**Materials Permitted for this Examination:**

Standard calculator and graph paper (although neither is necessary).

**You may not start this examination until you are instructed to do so by the  
Invigilator.**

### Section A (Compulsory Question)

1. In games with few players each player must take other players' actions and reactions into account. Outline and evaluate some of the major contributions of game theory to economics.

### Section B (Please answer two of the following four questions)

2. (a) Within the incomes-in-two-periods model (i.e.  $Y_t > 0$  and  $Y_{t+1} > 0$ ), describe how an individual's choice between present consumption and savings (i.e. future consumption) is determined. Within the context of this model, are savings an increasing function of the interest rate? Explain your answer.  
  
(b) Discuss the theoretical and policy limitations of the above incomes-in-two-periods model.
3. (a) In a standard Cobb-Douglas production function framework where a firm attempts to maximise output subject to a specific cost constraint, derive the demand for labour and the demand for capital. In this same Cobb-Douglas framework, discuss the relative magnitudes of the output and substitution effects for the two factors following a change in the interest rate ( $r$ ).  
  
(b) Discuss the major characteristics/properties of the Cobb-Douglas production function.  
  
(c) Define and describe the elasticity of substitution between labour and capital. Discuss the possible economic policy significance of the elasticity of substitution between labour and capital.

4. From both a theoretical economics perspective and a public policy perspective, compare and contrast perfect competition and monopoly. Your discussion should include (but not be limited to) a discussion of the effects of: (i) the possibility of price discrimination; (ii) research and development/innovation; and, (iii) the presence of natural monopoly.
  
5.
  - (a) Outline and briefly describe the three efficiency conditions that must hold in the standard  $2 \times 2 \times 2$  general equilibrium model of the economy.
  
  - (b) Discuss the policy relevance of the First Fundamental Theorem of Welfare Economics.
  
  - (c) Discuss the policy relevance of the Second Fundamental Theorem of Welfare Economics.