

**SEMESTER I EXAMINATIONS 2000/01**

**MANAGERIAL ECONOMICS (EC209/208)**

2<sup>nd</sup> B.Comm., 2<sup>nd</sup> B.Comm. with Language, 2<sup>nd</sup> B. Corp. Law,  
3<sup>rd</sup> Ind. Engineering

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**TIME ALLOWED: 3 Hours**

**INSTRUCTIONS - PLEASE READ CAREFULLY**

Sections	No. of Questions to be attempted	% of total marks available
A	10 out of 10	20
B	4 out of 6	40
C	2 out of 3	40

**All questions within each section carry equal weight**

**Attempt the correct number of questions in each section: If you attempt MORE THAN the correct number indicate clearly those questions which you wish to be graded. If you make no such indication the appropriate number of lowest-numbered questions of those you answered will be graded.**

**Write your Name, Student Number and Examination Number on each answer book.**

**The use of calculators is permitted - programmable calculators may not be used.**

## SECTION A

**Instructions: Answer ALL of the following questions by choosing the best answer from those given. Please write your answers clearly in a straight line down the page in your exam book.**

**Each question is worth TWO marks. This section is worth 20 marks.**

**A1.** Reputational concerns are more likely to be effective in monitoring contract compliance if:

- (a) Information about cheating is specific.
- (b) The cost of information transfer is relatively low.
- (c) The gains from cheating are relatively large.
- (d) The relationship is short-lived.

**A2.** The three components of organisational architecture are:

- (a) Ranked according to importance.
- (b) Independent.
- (c) Interdependent.
- (d) Not dependent on accounting systems.

**A3.** A decision right is more likely to be centralised:

- (a) In rapidly changing environments.
- (b) If the firm is more diversified.
- (c) If the firm is larger.
- (d) When the coordination of activities is more important.

**A4.** An efficiency wage:

- (a) Is the least-cost compensation contract.
- (b) Is below the market wage.
- (c) Is a wage premium to motivate employees.
- (d) Tends to increase employee turnover.

**A5.** In the basic principal / agent model:

- (a) Agents are risk neutral.
- (b) Principals are risk averse.
- (c) Output depends on a random effect.
- (d) Effort is observable.

**A6.** The REMM view of behaviour asserts that individuals:

- (a) Only care about personal wealth.
- (b) Are infallible decision makers.
- (c) Possess all the relevant information necessary to make choices.
- (d) Choose what is best for themselves, given constraints on resources and knowledge.

**A7.** According to Ronald Coase, firms:

- (a) Exist to economise on transaction costs.
- (b) Require too much coordination to be effective.
- (c) Must be very large in order to avoid transaction costs.
- (d) Cannot be more efficient than markets in allocating resources.

**A8.** Relative performance evaluation:

- (a) Is used to punish those who exceed the average output of the group.
- (b) Means using the output of other employees to provide additional motivation to an employee.
- (c) Means using the output of other employees to adjust the output in an employee's compensation contract.
- (d) Increases the risk that uncontrollable factors will affect performance evaluation.

**A9.** Higher ethical standards will generally:

- (a) Result in fewer contracts.
- (b) Increase agency costs.
- (c) Increase the level of expected opportunistic behaviour.
- (d) Increase the prices paid to agents.

**A10.** Corporate culture:

- (a) Consists only of explicit contracts.
- (b) Is easy to change.
- (c) Does not depend on organisational architecture.
- (d) Includes many aspects of organisational architecture.

## **SECTION B**

**Instructions: Answer FOUR questions.**

**This section is worth 40 marks.**

- B1. (a)** Describe two different types of transaction costs (*3 marks*).
- (b)** “The Internet will eliminate transaction costs and create a perfect market.”  
Critically evaluate this statement (*7 marks*).
- B2.** Galway Shoe Ltd. is considering going to a piece rate system, where manufacturing employees are paid based on their level of output.
- (a)** Discuss what factors the firm should consider in deciding whether or not this idea should be implemented (*5 marks*).
- (b)** How should the initial piece rate be set? (*5 marks*).
- B3.** Signalling and screening are two means of mitigating the adverse selection problem. Using examples, differentiate fully between these two concepts (*10 marks*).
- B4.** A U.S. software company has two facilities in Ireland producing different software components for the telecommunications industry – one in Mayo, the other in Limerick. Employees in the Mayo facility are observed to be industrious and very productive. Workers in the Limerick plant, however, are observed to be relatively lazy and unproductive.
- Outline three alternative views of human behaviour and discuss briefly how each might suggest different explanations for this observed behaviour (*10 marks*).
- B5.** In the Wall Street Journal (June 4, 1996), Michael Roszkowski, a professor of economic psychology was quoted:  
“When you get a bull market like this one, people’s risk tolerance goes up. But if the market – and corporate profits – go down we’ll get a shake-out and we’ll find out who the real risk takers are.”
- If this is true, are there any lessons about when incentive pay may work better? Use examples where appropriate (*10 marks*).

**B6.** Assume that there are two firms in an industry with entry barriers. Each firm can charge a high price (H) or a low price (L) for an identical product. The profits are given below in millions (£):

		Firm 2	
		Low Price	High Price
Firm 1	Low Price	$\pi_1=0, \pi_2=0$	$\pi_1=15, \pi_2=-5$
	High Price	$\pi_1=-5, \pi_2=15$	$\pi_1=10, \pi_2=10$

- (a) Is there a dominant strategy for firm 1? If so, why, or if not, why not? (2 marks).
- (b) Is there a secure strategy for firm 2? If so, why, or if not, why not? (2 marks).
- (c) What is a Nash equilibrium? Does one exist in this model? (3 marks).
- (d) A merger between the firms would not have been allowed because it creates a monopoly. Similarly, a formal cartel arrangement would violate antitrust laws.  
If a cartel were not illegal, would it likely survive in this case? Why or why not? (3 marks).

## SECTION C

**Instructions: Answer TWO questions.**  
**This section is worth 40 marks.**

- C1.** Suppose Paul and Catherine work on a production team. If they both work hard, they will earn a bonus. However, they cannot enforce a contract to this effect because their work efforts are not observed until after the work is complete.

Their payoffs in a single-period setting are as follows:

		Catherine	
		<i>Shirks</i>	<i>Works Hard</i>
Paul	<i>Shirks</i>	$P=90, C=90$	$P=200, C=0$
	<i>Works Hard</i>	$P=0, C=200$	$P=150, C=150$

- (a) Is there a Nash equilibrium in the single-period setting? If so, what is it? (4 marks).
- (b) Suppose that there is a probability,  $p$ , that Paul and Catherine will work together in the future and that they have two possible strategies – ‘always shirk’ and ‘tit-for-tat’.  
 Write out the generalised payoff matrix for the multi-period setting (6 marks).
- (c) If the probability,  $p$ , of working together in the future is 0.25, write out the actual payoffs for both team members. Is there a Nash equilibrium in this case? If so, what is it? (5 marks).
- (d) If, however, the probability,  $p$ , of working together in the future is 0.8, is there a different Nash equilibrium? Explain (5 marks).
- C2. (a)** “As economists, then, we view the corporate ethics problem as primarily a problem of reducing agency costs,” Brickley, J., Smith, C.S. and Zimmerman, J.L., ‘Ethics, Incentives, and Organizational Design,’ *Journal of Applied Corporate Finance* 7(2), Summer 1994, p.25.  
 Explain the rationale behind this economic approach to the corporate ethics problem (10 marks).
- (b) One recent instance of unethical behaviour involved traders at Salomon Brothers’ government-bond trading desk.  
 Describe clearly the main implications of this case for the relationship between ethics and economics in free markets (10 marks).

- C3.** Consider two firms, a paper factory and a boat rental company, that share a small lake. The paper factory dumps its waste by-products into the lake. It can reduce pollution only by restricting its output. The pollution damages the boat rental firm's business as people can rent boats in other, nearby lakes.

In the absence of property rights, the profit matrix for the two firms is as follows:

		Boat rental firm: Boats rented per day		
		0	1	2
Paper Factory Tons per day	0	P: £0; B: £0	P: £0; B: £12	P: £0; B: £14
	1	P: £9; B: £0	P: £9; B: £9	P: £9; B: £4
	2	P: £14; B: £0	P: £14; B: £3	P: £14; B: -£2

- Describe briefly the two dimensions of private property rights (4 marks).
- What is the Nash equilibrium in the absence of property rights? Is it efficient? (4 marks).
- Suppose that the two firms can negotiate and that the paper factory has the property right to dump in the lake.

Write out the profit matrix if the boat rental firm pays the paper factory £6 per ton for each ton less than 2 that it produces. Explain how this situation illustrates the Coase Theorem (8 marks).

- Coasian bargaining of this nature is rare in practice. Explain briefly why this is the case (4 marks).