MANUFACTURING ENGINEERING TRIPOS PART II

Thursday 28 April 2005

9 to 12

PAPER 2

Answer not more than four questions.

All questions carry the same number of marks.

The approximate percentage of marks allocated to each part of a question is indicated in the right margin.

There are no attachments.

You may not start to read the questions printed on the subsequent pages of this question paper until instructed that you may do so by the Invigilator

Version 2 (TURN OVER

Using your knowledge of leadership, identify the distinctive characteristics of the leadership practices of effective entrepreneurs. How do their problem-solving methods diverge from traditional managerial practice? Does this give rise to any weaknesses that may have to be remedied as the company grows? Provide examples of the ways in which entrepreneurs have shown leadership in starting and growing their companies, drawing on case studies with which you are familiar.

[100%]

Why is it difficult to gain acceptance of innovations in some companies? Describe the characteristics of organisations or innovations that may hinder acceptance. What can be done to build the support of those needed to make an innovation effective? Discuss these questions using case examples to support your arguments.

[100%]

- 3 (a) Define and discuss the concept of manufacturing strategy. [30%]
- (b) Compare and contrast the *market-based view* and the *resource-based view* of manufacturing strategy. [40%]

40%

(c) Describe and critique the manufacturing strategy aspects of one of your MET Industrial Projects, making use of the concepts and views discussed in parts (a) and (b) above. [30%]

Version 2 (TURN OVER

- 4. (a) Discuss the case for government intervention to support high technology manufacturing in the UK and explain the forms this intervention could take. What particular case might be made for support for the aerospace industry? [40%]
- (b) Explain a strategy that might be adopted by the Director of a major aerospace engine manufacturer in the UK in discussions with the UK Government on support for the aerospace industry. [30%]
- (c) Describe the arguments that might be made by the Strategic Director of Airbus for continued government support for R&D (research and development) costs and launch costs. [30%]

5. You are the Vice President for Strategy and Marketing of a large independent manufacturer of display systems. The company has three main product lines: CRT (cathode ray tubes), LCD (liquid crystal displays) and OLED-LEP (organic light emitting diodes – light emitting polymers).

You are preparing a presentation for a major board-level business review meeting and have decided to base your arguments on the KANO model and the BCG (Boston Consulting Group) matrix.

- (a) Describe the KANO model and how it is applied. [15%]
- (b) Describe the BCG Matrix and how it is applied. [15%]
- (c) Plot the current (2005) position of each of the three product lines on a BCG Matrix and draw a KANO diagram showing the key features of LCDs, explaining your reasoning in each case. [30%]
- (d) Using the BCG Matrix only, plot the possible positions of each product line in five years time. What strategy should the company follow in each case? What role

will each product line be expected to play in the overall business in five years time? [40%]

Version 2 (TURN OVER

- 6. A growing number of U.K. manufacturing firms are moving part of their operations to China.
- (a) List three of the perceived benefits and three possible challenges for such firms in moving operations to China. Discuss possible strategies for UK manufacturing firms that might increase the likelihood of success and reduce the risks of failure in transferring part of their operations to China. [40%]
- (b) Discuss at least four emerging trends in China with respect to each of the following:
 - (i) non-Chinese multinational companies operating in China;
 - (ii) local (Chinese) formerly state-owned manufacturing companies;
 - (iii) local (Chinese) start-up or entrepreneurial companies. [60%]

END OF PAPER