



NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

FACULTY OF INDUSTRIAL TECHNOLOGY

DEPARTMENT OF INDUSTRIAL AND MANUFACTURING ENGINEERING

Master of Engineering in Manufacturing Systems and Operations Management

MANUFACTURING STRATEGIES

TIE 6211

First Semester Supplementary Examination Paper

August 2015

This examination paper consists of 4 pages

Time Allowed: 3 hours + Thirty (30) minutes reading time

Total Marks: 100

Special Requirements: None

Examiner's Name: S Mhlanga

INSTRUCTIONS

1. Answer **all** questions in **Section A, which** carries **20 marks**
2. Answer **all** questions in **Section B, which** carries **20 marks**
3. Answer any other **three (3)** questions **Section C**, each carries 20 marks.
4. Use of calculators is permissible

MARK ALLOCATION

QUESTION	MARKS
1.	20
2.	20
3.	20
4.	20
5.	20
6.	20
7.	20
TOTAL	100

Section A: CASE STUDY A

Question 1

Chemical Ltd., a quoted chemical company, has until recently achieved a steady increase in profitability over a number of years. It faces stern competition and the directors are concerned about the dissatisfaction expressed by major shareholders regarding performance over the last two years. During this period, it has consistently increased dividends, but its share price has not grown at the same rate as it did previously

Khemco Ltd., a direct competitor, is similarly experiencing a reduction in profitability. Its shareholders are diverse, with the majority being financial institutions. Khemco Ltd. has been criticised for under-investment and has achieved no product development over the last-two years. Following a concerted media campaign, Khemco Ltd. is facing prosecution for discharging untreated pollutants into a river.

Chemical Ltd. is seriously considering making a bid to acquire Khemco Ltd. The directors of Chemicals Ltd., however, are divided as to whether Khemco Ltd. should be closed down or permitted to continue production post-acquisition, if a bid is made. In either situation significant staff redundancies would follow: Required:

- a) State the strategic factors which Chemical Ltd. would need to consider before making a bid to acquire Khemco Ltd. [4]
- b) Discuss the social and ethical implications for the managers and staff of both the companies, if the acquisition goes ahead. [8]
- c) Discuss the environmental issues which would face the directors of Chemical Ltd. if it proceeds with the acquisition of Khemco Ltd. [8]

Section B: CASE STUDY B

Question 2

Case Study B: Jack in the Box: Combating the Breakfast War in US

Jack in the Box was the fifth largest hamburger chain in the US. The company operated in 2100 locations across the US with revenues of \$2766 million for the year 2006. But the company had been overshadowed by rivals like McDonald's and Burger King, which were far greater in size. The fast food market of US was in a slump after decades of over expansion. But the breakfast market was emerging as the silver lining, accounting for 8% of the \$500 million in restaurant sales in the US. As a result, all the major fast food chains competed for a share of the breakfast market with even speciality coffee chains like Starbucks joining the fray by offering different breakfast products. Jack in the Box also decided to defend its share of the breakfast market and thought of promoting its breakfast products, which it had been serving all day since the last 20 years with help of an advertising campaign. As competition among various fast food chains intensifies with different companies adopting strategies like menu innovation, advertising and better restaurant experience, whether a regional chain like Jack in the Box would be able to fight the goliaths of the fast food market remains to be seen.

- a) What are the competitive performance objectives in the fast food industry? [4]
- b) What are the strategies to be adopted to survive in an over crowded and fragmented fast food market? [4]
- c) Discuss the various strategies adopted by companies in the fast food segment specifically the breakfast market. [4]
- d) Analyse the strategies adopted by Jack in the Box to survive in the breakfast market. [4]
- e) Analyse the challenges faced by Jack in the Box and evaluate the future trends for the fast food industry. [4]

Section C

Question 3

- a) What are the five (5) factors expected in a manufacturing strategy for it to be acceptable by the company? [10]
- b) Describe briefly five basic causes of potential conflict that can affect the overall goal of the company and five possible ways to mitigate them. [10]

Question 4

- a) What are the stages of product development? [5]
- b) Communication between product development stages must be continuous and effective. Discuss briefly the three types of bridges that can be used. [15]

Question 5

Responsiveness involves the whole order cycle. Discuss briefly the four order cycles. Use examples to aid your answer. [20]

Question 6

- a) Discuss how Business Process Engineering contributes to the competitive advantage of a manufacturing company in the market? [10]
- b) Discuss how Six-Sigma contributes as a strategy to the competitiveness of a manufacturing company in the market? [10]

Question 7

With reference to a company of your own choice, answer the following:

- a) What would be the result of a SWOT analysis? [10]
- b) Does manufacturing strategy link with objectives at business level? [5]
- c) What recommendations would you give for survival of the company? [5]

END OF EXAMINATION