# NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

# FACULTY OF INDUSTRIAL TECHNOLOGY

### DEPARTMENT OF INDUSTRIAL AND MANUFACTURING ENGINEERING

Masters in Engineering: Manufacturing Systems and Operations Management

### SUPPLEMENTARY EXAMINATION – OCTOBER 2009

#### **OPERATIONS MANAGEMENT: TIE 6134**

### **Instructions to Candidates**

## 1. <u>Time allowed</u>: 3 hours

- 2. Answer Question 1 and any other 3 questions.
- 3. Each question carries 25 marks and a further breakdown is indicated for your guidance.

### Question 1

- (a) Discuss the difference between Production Process and Operations System. [10]
- (b) Consider the potential contribution of information science to Production/Operations management. Why is the management of Information of such great importance in the management of production? [10]

(c) Discuss the connecting role of Operations Management in organisations. [5]

### Question 2

- (a) In view of an organisation of your choice, discuss how the Vision and Corporate Strategy are cascaded to the Operations level. [15]
- (b) A company reviewing its Strategic Implications establishes that in line with their Corporate strategy, some of their performance objectives are in conflict with each other in a particular market segment. What and how would you advise the company to resolve this problem? [5]
- (c) Explain the three main functions in any business organisation that are the backbone of success. [5]

### Question 3

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(a)	In Strategic Capacity Planning, it is important to consider the whole Supply Chai	n
	network. How is this done and why is it important?	[10]
(b)	What are the major contributing factors to a decision to locate a factory? Explain	how
	these will affect the overall capacity of the factory.	[10]
(c)	What methods can be used to determine factory location	[5]

### **Question 4**

- (a) Under what conditions is it appropriate to employ each of the following forecasting methods?
  - i. Subjective forecasting methods [2]
  - ii. Causal forecasting methods [2]
  - iii. Time-series forecasting methods [2]

(b)	What are some of the problems and drawbacks of the moving average forecasting model?	[10]	
(c) '	What is Mean Absolute Deviation (MAD), and why is it important in the selection and use of forecasting models?	n	
(d) '	What is the impact of demand forecast accuracy in Operations Management?	[9]	
Question 5			
(a) (	Outline the relationship between MRP, MRP II and ERP in an organisation.	[6]	
(b) ]	Does ERP implementation require organisational preparation? Discuss this staten	nent	
1	and the challenges that the organisation may encounter .	[12]	
(c) '	Why is data accuracy important in ERP and How can it be improved	[7]	

### End of Exam