## 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. Time allowed: 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.
(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?
(c) Discuss the connecting role of Operations Management in organisations.

## Question 2

(a) In view of an organisation of your choice, discuss how the Vision and Corporate Strategy are cascaded to the Operations level.
(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?
(c) Explain the three main functions in any business organisation that are the backbone of success.

## Question 3

(a) In Strategic Capacity Planning, it is important to consider the whole Supply Chain network. How is this done and why is it important?
(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.
(c) What methods can be used to determine factory location

## Question 4

(a) Under what conditions is it appropriate to employ each of the following forecasting methods?
i. Subjective forecasting methods
ii. Causal forecasting methods
iii. Time-series forecasting methods
(b) What are some of the problems and drawbacks of the moving average forecasting model?
(c) What is Mean Absolute Deviation (MAD), and why is it important in the selection and use of forecasting models?
(d) What is the impact of demand forecast accuracy in Operations Management?

## Question 5

(a) Outline the relationship between MRP, MRP II and ERP in an organisation.
(b) Does ERP implementation require organisational preparation? Discuss this statement and the challenges that the organisation may encounter
(c) Why is data accuracy important in ERP and How can it be improved

## End of Exam

