

**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. [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**

- (a) In Strategic Capacity Planning, it is important to consider the whole Supply Chain 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?
- (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 statement 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**