

**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**FACULTY OF INDUSTRIAL TECHNOLOGY**

**DEPARTMENT OF INDUSTRIAL & MANUFACTURING ENGINEERING**

**Bachelor of Engineering Honours Degree Industrial & Manufacturing**

**Quality & Reliability Engineering – TIE 2211**

**2<sup>nd</sup> SEMESTER EXAMINATIONS – AUGUST 2009**

**Instructions to candidates**

1. Time allowed 3hours
2. Answer any 4 Questions
3. All questions carry 25marks.

**Question 1**

- (a) What is a Quality policy? Give an example for a company of your choice. [10]
- (b) How is the Quality Policy related to the Quality Management System? [5]
- (c) Explain the general structure of ISO9001. [10]

**Question 2**

- (a) How would you define quality in a service organisation like a hotel? [5]
- (b) Do organisations incur costs in exceeding quality requirements? Discuss. [5]
- (c) Describe using examples the two major types of quality failure costs. [10]
- (d) Why is it important for an organisation to incur quality prevention costs in relation to the other costs of quality? [5]

**Question 3**

- (a) A company manufacturing goods can compete on the eight dimensions of Quality. Discuss the eight dimensions of quality and how they impact delivery of quality. [16]
- (b) Explain how quality in service is different from quality on goods? [4]
- (c) How does the following affect product quality
  - i. Product specifications [1]
  - ii. Suppliers [1]
  - iii. The manufacturing process [1]
  - iv. Inspection and testing [1]

**Question 4**

- (a) What is the difference between Quality Control and Quality Assurance? [2]
- (b) From Deming's 14 points of Quality Improvement, choose any 5 and explain what they mean in achieving quality improvement. [15]
- (c) In modern organisations, what initiatives can be used to achieve "zero defects"? [4]

- (d) Would you agree with the notion that training is very important in quality improvement? How does this happen? [4]

**Question 5**

- (a) How did the work of the Quality Gurus transform the subject of quality? [5]  
(b) Explain the Department Purpose Analysis (DPA) process using an example of an organisation of your choice. [10]  
(c) How does knowing the purposes of each department in an organisation help in problem solving? [4]  
(d) Phil Crosby alluded to the notion of forming Quality Improvement teams that span across departments. How effective do you think this initiative can be? [6]

**END OF EXAM**