

# NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

## APPLIED PHYSICS DEPARTMENT

SPH 4201 – MANAGEMENT AND QUALITY ASSURANCE / SRA 4113 –  
QUALITY MANAGEMENT

BSc HONOURS PART IV: APRIL 2014

DURATION: 3 HOURS

ANSWER **ALL** PARTS OF QUESTION **ONE** IN SECTION A AND ANY **THREE** QUESTIONS FROM SECTION B. SECTION A CARRIES 40 MARKS AND SECTION B CARRIES 60 MARKS.

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### SECTION A

1. (a) (i) Outline the definitions of the term “quality” as presented by various scholars. [6]
- (ii) Phillip Crosby declared, “Quality is for free”. Explain the statement with the aid of a diagram [6]
- (b) Differentiate between quality assurance and quality control. [6]
- (c) (i) Explain the term organisation as applied in management. [2]
- (ii) Why must organisations emphasise on having a structure? List three ways of structuring a business. [6]
- (d) Distinguish between “Quality of Design” and “Quality of Conformance” [6]
- (e) (i) Explain why it is important for Organisations to have ISO accreditation? [2]
- (ii) “ISO 9 000 is not compulsory and so neither is business survival compulsory” Comment on the above statement and justify the growing importance of quality. [6]

### SECTION B

2. (a) Write down the six steps of quality control process. [6]
- (b) Define and explain the acronym TQM and outline two advantages to a business of implementing TQM. [5]
- (c) With reference to quality assurance, discuss the responsibility of management. [9]
3. (a) Differentiate between internal failure costs and appraisal costs. [6]
- (b) Using a diagram, show how a company can ensure the worker builds quality into products. [4]
- (c) (i) State the eight quality management principles as defined in ISO 9000:2005 and ISO 9004:2000. [4]
- (ii) Show how customer focus can be used by senior management as a framework to guide their organisation towards improved performance. [6]

4. (a) Explain the relationship between corporate strategy, operations strategy, marketing strategy. [6]  
(b) Give four examples of transformations that can occur in a production system. [2]  
(c) Outline and explain the basic steps to problem solving. [12]
5. (a) Describe the Deming cycle with the aid of a diagram. [3]  
(b) Discuss how any seven of Deming's 14 point plan may be applied to ensure that quality is everyone's responsibility. [14]  
(c) "Quality improvement is a process, not a program." Comment on the statement. [3]
6. (a) Productive companies tend to win out over less productive competitors since their costs are lower for the same level of output. How can management act to increase productivity? [12]  
(b) Outline the role of marketing in the design of products and services. [5]  
(c) Discuss the role of field service in both quality and service improvement? [3]

**END OF PAPER**