

# NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

## APPLIED PHYSICS DEPARTMENT

### SPH 4201 – MANAGEMENT AND QUALITY ASSURANCE SUPPLEMENTARY EXAMINATION

BSc HONOURS PART IV: JULY 2013

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) Distinguish between quality assurance and quality control. [8]
- (b) (i) Explain the term organisation as applied in management. [2]  
(ii) List three ways of structuring a business. [3]  
(iii) Why must organisations emphasise on having a structure? [4]
- (e) Explain what is meant by the term specialisation in the concept of organisational structure. [7]
- (e) Distinguish between “Quality of Design” and “Quality of Conformance”. [6]
- (f) Phillip Crosby declared, “Quality is for free”. Explain the statement with the aid of a diagram. [10]

#### SECTION B

2. (a) List down and explain the six steps of quality control process [10]
- (b) (i) “Process capability is different from batch performance”. Discuss. [4]  
(ii) Explain with the aid of a diagram the process capability indices. In your diagram clearly show the lower and upper specification limits, target value and aim of process. [6]
3. You have been offered a job at the Physics Laboratories at NUST as QA officer. It is your duty to see to it that in 5 years time, the laboratories will have to undergo the process of accreditation. You need a comprehensive Quality Assurance Plan in order to achieve this.
  - (a) Explain what you understand by accreditation and why is it important for any laboratory to undergo this process. [2]
  - (b) Outline a draft QA plan that would help you get accredited. [10]
  - (c) Discuss the role of Science Technicians in ensuring quality in laboratories and manufacturing processes. [8]

- 4 (a) With reference to quality assurance, discuss the responsibility of management. [10]  
(b) Outline the role of marketing in the design of products and services. [10]
5. (a) Discuss the role that an organisation can adopt to ensure that quality is everyone's responsibility . [12]  
(b) How can companies use the Quality vaccine to prevent non-conformance. [8]
6. (a) Explain why it is important for Organisations to have ISO accreditation? [6]  
(b) "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. [14]

**END OF PAPER**