

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

APPLIED PHYSICS DEPARTMENT

SPH 4201 - Management & Quality Assurance

BSc HONOURS PART IV: MAY 2005

DURATION: 3 HOURS

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

SECTION A

1. (a) In the Sunday News issue dated March 11th 2001 Enoch Jonathan was quoted as saying, "ISO 9 000 is not compulsory and so neither is business survival compulsory. Justify the growing importance of quality. [10]
- (b) Phillip Crosby declared, " Quality is for free". Explain the statement with the aid of a diagram. [10 marks, 7 marks for the Diagram]
- (c) J Whitworth stated, "You can only make as well as you can measure ". Explain the statement with respect to the manufacture of a quality product. [5]
- (d) Justify the claim, "Quality is everyone's bussiness" [4]
- (e) Provide definitions of the term "quality" by P Crosby, J M Juran and the ISO 9000 standard. [3]
- (f) Distinguish between "Quality of Design" and "Quality of Conformance" [8]

SECTION B

2. Write briefly on the Quality loss causation model. [20]
3. (a) State two advantages of lot sampling over 100% inspection. [4]
- (b) Give the definition of:
 - (i) Single Sampling plan (SSP) [8]
 - (ii) Double Sampling Plan (DSP) [8]

Explain all the symbols in each case.

4. Write briefly on the 4 categories of quality costs. [20]
5. (a) List down the six steps of quality control process. [12]
(b) How can a company insure that the worker builds quality into a product. Include a diagram with your explanation
[8 marks, 5 marks for the diagram]
6. (a) Distinguish between "defective" and defect. [4]
(b) Explain the three classes of "defects". [6]
(c) Compare between Craftmanship Theory and the Indifferent Theory. [10]

- END OF EXAMINATION -