



MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY  
(MMUST)

UNIVERSITY EXAMINATIONS 2021/2022 ACADEMIC YEAR

SECOND YEAR SEMESTER II MAIN EXAMINATION

FOR THE DEGREE  
OF  
BACHELOR OF SCIENCE IN INDUSTRIAL CHEMISTRY

COURSE CODE: SCI 265

COURSE TITLE: Total Quality Management (TQM) in Manufacturing Industry

DATE: FRIDAY, 29<sup>TH</sup> APRIL 2022

TIME: 3.00PM - 5.00PM

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#### INSTRUCTIONS TO CANDIDATES

*Answer all the Questions.*

*Candidates are encouraged to provide equations, relevant examples or illustrations (where necessary) for clarity of their answers.*

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 3 Printed Pages. Please Turn Over.

**Question 1****(18 Marks)**

- (a) Explain the difference between QC and TQM. Which is superior? [5]
- (b)
- (i) The customer is central to the implementation of a quality system in organizations.  
Explain what you understand by term 'customer'. [2]
- (ii) Differentiate between an internal customer and external customer. [2]
- (iii) List five (5) key customers of Masinde Muliro University of Science and  
Technology as an organization. [5]
- (c) Illustratively, explain the term 'product' in TQM. [2]
- (d) Quality implementation takes place at two key levels. Which are these two levels? [2]

**Question 2****(16 Marks)**

- (a) What are the key responsibilities of a Quality Assurance Officer in an organization? [6]
- (b) If you are a Quality Assurance Officer (QA), what objectives will you set in the company  
you are working in to ensure quality adherence. [7]
- (c) For a successful GMP implementation in a company, what are the irreducible minimums? [3]

**Question 3****(18 Marks)**

- (a) Quality management has evolved with landmark developments owing to contributions of  
quality Gurus. Discuss the concepts of Philip Crosby, Sir. Edwards Deming and Joseph M.  
Juran on:
- (i) Definition of quality [3]
- (ii) Degree of senior management responsibility [3]
- (iii) Quality Performance Standard and [3]
- (iv) General Approach to Quality Implementation [3]
- (b) Explain what and how PDCA concept is applied in organizations. [6]

**Question 4**

**(18 Marks)**

- (a) What is a SOP? Give three (3) relevant examples of SOPs [5]
- (b) Develop a SOP on delivery of manufactured medicines to suppliers of your company called DAWA Chemicals. [6]
- (c) Explain seven (7) quality management principles on which the ISO 9001:2015 standard is based on. [7]