



MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY

UNIVERSITY EXAMINATIONS 2022/2023 ACADEMIC YEAR

SECOND YEAR MAIN EXAMINATION

FOR THE DEGREE OF

BACHELOR OF SCIENCE IN INDUSTRIAL CHEMISTRY

COURSE CODE: SCI 265

COURSE TITLE: TOTAL QUALITY MANAGEMENT (TQM) IN THE
MANUFACTURING INDUSTRY

DATE: TUESSDAY, 25TH APRIL 2023

TIME: 3.00-5.00PM

INSTRUCTIONS

- Answer **ALL** Questions within **TWO (2) Hours**.
- Candidates are encouraged to provide chemical equations, relevant examples or illustrations (where necessary) for clarity of their answers.

This paper consists of 3 printed pages. Please turn over.

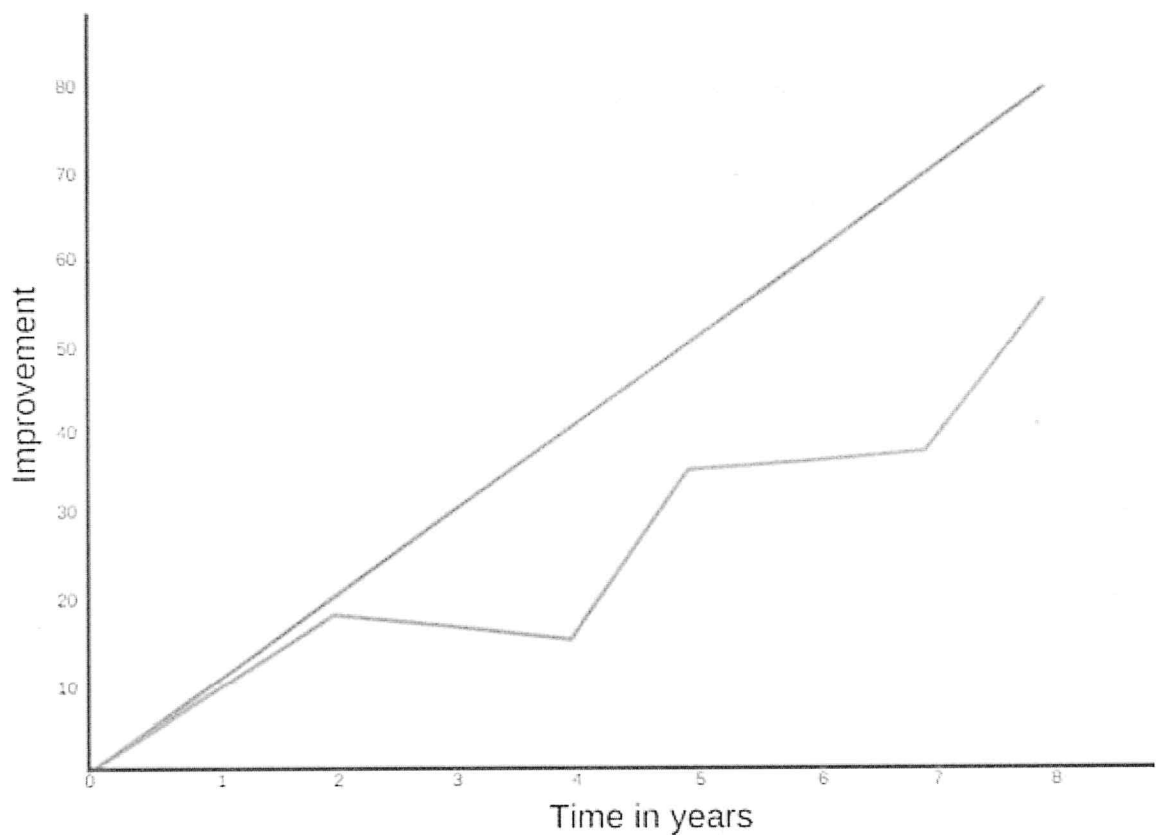


Q1.**(Total marks = 18)**

- (a) Explain why West Kenya Sugar Company as an organisation has chosen to implement a quality management framework. [6]
- (b) What is the differentiate between an external customer and an internal customer [3]
- (c) List Six (6) external customers of West Kenya Sugar Co. [3]
- (d) What are two (2) levels under which quality in an organization is implemented? [2]
- (e) Differentiate between functional quality and technical quality [4]

Q2.**(Total marks = 17)**

- (a) Study the graphs given below and explain what quality concept is relayed here. [4]



- (b) Explain six (6) perspectives of quality important for every implementor to strive to achieve. [9]
- (c) According to Genichi Taguchi, one of the quality gurus, risks and opportunities must be managed in TQM? Explain. [4]

Q3.**(Total marks = 17)**

- (a) Give the formula for calculation of 'Customer satisfaction' in quality management. What is your interpretation of a negative value of satisfaction? [1]
- (b) (i) Explain the difference between a process and a system in TQM. [2]
- (ii) Give all the six (6) elements of a complete and functional process. [3]
- (c) Outline any FOUR (4) examples of industrial processes most applied in manufacturing industry citing definition, principle and application of the specific process. [12]

Q4.**(Total marks = 18)**

- (a) Quality is expensive. Discuss. [6]
- (b) With relevant examples and or illustrations, explain what you understand by the term 'ISO Standards' [4]
- (c) (i) Explain why manufacturing industries choose to implement ISO 9000 series of standards. [1½]
- (ii) What are the key quality principles in 9001:2015 standard? [3½]
- (iii) As an employee in your company **P**, develop an SOP for either 'Manufacturing a new detergent brand' or 'Safety and Security in the factory'. [5]