



(University of Choice)

**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)**

MAIN CAMPUS

UNIVERSITY REGULAR EXAMINATIONS

2021/2022 ACADEMIC YEAR

FOURTH YEAR SECOND SEMESTER EXAMINATIONS

FOR THE DEGREE

OF

**BACHELOR OF SCIENCE (CHEMISTRY, INDUSTRIAL
CHEMISTRY)**

COURSE CODE: SCH 400

COURSE TITLE: INDUSTRIAL CHEMISTRY

DATE: 20TH APRIL 2022

TIME: 3.00 PM - 5.00 PM

INSTRUCTIONS TO CANDIDATES

Attempt all questions

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 4 Printed Pages. Please Turn Over. ▶

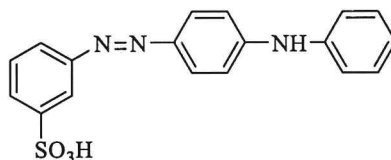
QUESTION ONE (16 MARKS)

- a) Explain the following terms as used in Industrial Chemistry
- i. Petroleum 2 marks
 - ii. Tacticity 1 mark
- b) Before separation of petroleum into its various constituents, there is the need to clean the petroleum. Why and how is the cleaning done? 3 marks
- c) Explain the three basic groups of products produced when crude oil is fractionated 3 marks
- d) Sketch a simple atmospheric distillation unit in a petroleum industry and explain how the group of products stated in (c) above are obtained from crude oil 7 marks

QUESTION TWO (19 MARKS)

- a) Describe the two types of cracking processes used in oil refinery industries, stating their strengths or shortcomings. 3 marks

- b) Consider the structure of a dye given below



- i. Classify the dye above according to its chemical structure 1 mark
 - ii. State any two fabrics in which the dye is applied to 1 mark
 - iii. Describe the dyeing process of the fabric mentioned in b (ii) above with the dye specified above 3 marks
- c) Give the products for the chemical reactions below, which take place in the reactor chamber of the dye manufacturing unit 2 marks

