



KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS 2017/2018 ACADEMIC YEAR FORTH YEAR SECOND SEMESTER SUPPLEMENTARY EXAMINATIONS

FOR THE DEGREE OF B.ED (SCIENCE) AND BSC CHEMISTRY
COURSE CODE: SCH 400
COURSE TITLE: INDUSTRIAL CHEMISTRY

DURATION: 2 HOURS

DATE: 17/10/2018

TIME: 3:00-5:00PM

INSTRUCTIONS TO CANDIDATES

- (i) Answer all questions
- (ii) Do not write on this question paper
- (iii) Show your working clearly

This paper consists of 4 printed pages. Please Turn Over



KIBU observes ZERO tolerance to examination cheating

QUESTION ONE (20 MARKS)

- a) Define the following terms; (5 mks)
- i) Energy balance
 - ii) Unit operation
 - iii) Production cost
 - iv) Tanning
 - v) Reactor
- b) Describe the importance of annealing as a stage in glass manufacturing (3 mks)
- c) State raw materials used for the synthesis of Sodium carbonate (Na_2CO_3) (4 mks)
- d) Describe shell-and-tube heat exchanger (4 mks)
- e) State five factors that affect fermentation yields (5 mks)

QUESTION TWO (20 MARKS)

- a) Define and give importance of the following to an industrial chemist;
- i) Quality control (3 mks)
 - ii) Research and development (3 mks)
- b) State three disadvantages of continuous processing (3 mks)
- c) Outline four major industrial uses of sulphuric acid (4 mks)
- d) Differentiate between catalytic cracking and catalytic reforming (4 mks)
- e) State three main functions of catalytic cracking process (3 mks)

QUESTION THREE (15 MARKS)

- a) State two main methods of cement processing (2 mks)
- b) i) What are insecticides (2 mks)
- ii) State three important classes of insecticides (3 mks)

- iii) Describe mode of action of insecticides (3 mks)
- c) Explain agglomeration as a step in ore dressing (5 mks)

QUESTION FOUR (15 MARKS)

- a) i) Define polymers (2 mks)
- ii) State three types of polymers (3 mks)
- b) Name three main processes involved in contact process (3 mks)
- c) State any three uses of urea (3 mks)
- d) Name four major stages in the manufacture of glass (4 mks)