

36



KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS
2019/2020 ACADEMIC YEAR

FOURTH YEAR SECOND SEMESTER
MAIN EXAMINATIONS

FOR THE DEGREE OF B.SC (RENEWABLE ENERGY AND BIOFUELS
TECHNOLOGY)

COURSE CODE: IPT434

COURSE TITLE: DISTILLERY OPERATIONS AND
MAINTENANCE

DATE: 11TH NOVEMBER, 2020

TIME: 2:00PM-5:00PM

INSTRUCTIONS TO CANDIDATES

TIME: 2 Hours

Answer question ONE and any TWO of the remaining

You observe Zr...ance to exam...

Question One (Compulsory)

- a) What does distillery industry entail? (3 marks)
- b) Differentiate between distillation and fermentation process in a distillery industry. (4 marks)
- c) Describe the distillation process. (5 marks)
- d) Name the types of distillation processes. (3 marks)
- e) Highlight the challenges caused by contamination in the fermentation process. (5 marks)
- f) Identify FIVE reasons necessitating the need for the maintenance of distillery equipment. (5 marks)
- g) State the reasons for undertaking quality control in a distillery. (5 marks)

Question Two

- a) Explain the FOUR types of fermentation. (8 marks)
- b) Discuss any SIX types of fermenters. (12 marks)

Question Three

- a) Discuss the processes and productions in a distillery industry. (10 marks)
- b) With the aid of production flow chart, describe the process of ethanol production. (10 marks)

Question Four

- a) Discuss how the boiling chamber, the pre-filter, the reservoir and the cooling/condensing coil of a filter are maintained. (20 marks)

Question Five

- a) State the distillery statutory requirements in terms of licenses, records of daily production and dispatches, excise formalities and safety requirements. (10 marks)
- b) Describe the quality control checks in a distillery with respect to the raw materials to the final product. (10 marks)