



KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS
2017/2018 ACADEMIC YEAR

THIRD YEAR FIRST SEMESTER
MAIN EXAMINATIONS

FOR THE BACHELOR OF RENEWABLE ENERGY AND BIOFUELS
TECHNOLOGY

COURSE CODE: IPT 325

COURSE TITLE: PLANT ENGINEERING

DURATION: 2 HOURS

DATE: 15/10/ 2018 **TIME:** 3 – 5pm

INSTRUCTIONS TO CANDIDATES

- Answer **QUESTION ONE** (Compulsory) and any other two (2) Questions.
- Indicate **answered questions** on the front cover.
- Start every question on a new page and make sure question's number is written on each page.

This paper consists of 4 printed pages. Please Turn Over



QUESTION ONE

i) Discuss the two types of plant maintenance (3mks)

Preventive maintenance and corrective maintenance

ii) Define the term industry and describe any three types of industry (8mks)

iii) Describe how to determine the required number of machines of each type in a plant. (10mks)

iv) Discuss the following types of plant layout (4mks)

Product layout

Process layout

Group technology layout

Fixed position layout

vii) Discuss the various flow patterns used in plant layout (5mks)

QUESTION TWO

a).List safety tips to be followed in order to prevent accidents in manufacturing plant. (10mks)

b).Explain the safety concerns in any manufacturing plant setup (10mks)

QUESTION THREE

a).Discuss the principles of plant layout. (5mks)

b).Describe the various steps followed in plant layout planning. (5mks)

c).List the major activities for which the space has to be provided in a production plant. (5mks)

QUESTION FOUR

a).Define plant layout and discuss the factors that influence plant layout.(8mks)

b).Discuss any three forms of industrial pollution and their effects to human healthy,
environmental degradation, global warming, ozone layer depletion and infertile land (12mks)

c).Discuss the importance of plant layout planning, (5mks)