



KIBABII UNIVERSITY

2021/2022 ACADEMIC YEAR

SECOND YEAR SECOND SEMESTER

MAIN EXAMINATIONS

FOR THE DEGREE OF BACHELOR OF SCIENCE IN RENEWABLE ENERGY AND
BIOFUELS TECHNOLOGY

COURSE CODE: REN 222

COURSE TITLE: MATERIAL SCIENCE 1

DATE: 13/05/2022

TIME: 9:00AM-11:00AM

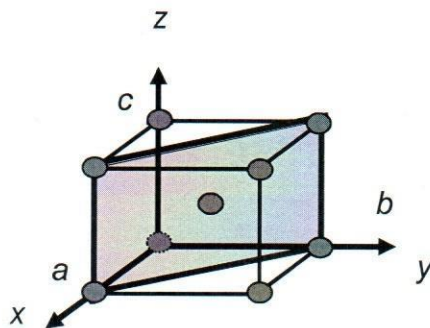
INSTRUCTIONS TO CANDIDATES

Answer question ONE and any other two questions

This paper consists of 4 printed pages. Please Turn over

QUESTION ONE

- a. Define the following terms as used in materials study:
- Materials (1mk)
 - Material science. (2mks)
 - Materials engineering (2mks)
 - Matter (1mk)
- b. What do you understand by following types of materials as used in material science
- Crystalline solids (2mks)
 - Amorphous solids (2mks)
 - Composite materials (2mks)
- c. Name four different types of Bonds responsible for holding atoms together in material formation. (4mks)
- d. Briefly explain ANY four characteristics of metal metals that make them suitable for material engineering applications. (4mks)
- e. State ANY Four applications of ceramic materials in materials engineering (4mks)
- f. If $a=b=c=1$, Give the planar coordinate for the cubic structure in the diagram below (3mks)



- g. If $a=1/2$, $b=c=1$. Calculate the Miller indices for the cubic structure shown below (3mks)

