

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
SCHOOL OF TECHNOLOGY EDUCATION
DEPARTMENT OF INDUSTRIAL AND TECHNOLOGY EDUCATION
SECOND SEMESTER 2012/2013 EXAMINATION

COURSE CODE: ITE 221

COURSE TITLE: MATERIAL TECHNOLOGY

TIME ALLOWED: 2 HOURS

**INSTRUCTION: ATTEMPT QUESTION FOUR (4) (IS COMPULSORY)
AND ANY OTHERS THREE (3)**

Q1(a) Materials can be grouped into three main classes. State down the three classes and give two examples under each class.

1(b) Mention and define three properties we can use to distinguish one metal from another.

Q2. Briefly explain the four major steps for the production of glass. And mention four types of glasses and their areas of application.

Q3(a) Oil contains compounds derived from the pigments of living organisms – Discuss!

3(b) Relate the following to petroleum products

(i) Fertilizer (ii) Paint (iii) Plastics (iv) Electricity Generation

Q4 (a) Functional Performance of Materials:-

A product or part when researched, planned, designed and produced should meet a set of functional objectives or requirements – Discuss and enumerate the expected requirements.

4(b) Define the following: (i) Fracture of Material (ii) Failure of Material

(iii) Toughness of Material (iv) Fatigue property of material.

Q5(a) Oxygen is the most abundant chemical element in the earth's biosphere – air, sea and land – Briefly discuss the production of Oxygen and its areas of application.

5(b) Identify and complete the following chemical formulae/reactions.

