

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
SCHOOL OF ENVIRONMENTAL TECHNOLOGY,
DEPARTMENT OF ARCHITECTURE.

SECOND SEMESTER EXAMINATION 2017/2018 SESSION

COURSE CODE: ARC 228

TIME ALLOWED: 1HR.30 MINS.

COURSE TITLE: CONSTRUCTION MATERIALS II

Course Lecturer: DR. J. C. EZE

Head of Department: DR. P. AYUBA

INSTRUCTIONS:

Attempt Three Questions in All. Each Question carries 20 marks.

1. (a) Define Concrete? **3 marks**
(b) With the aid of annotated diagram, discuss the procedures for three methods of workability test on fresh concrete. **12 marks**
(c) Write short notes on the properties of fresh concrete. **5 marks**

2. (a) What do you understand by the term Reinforced Concrete? **2 marks**
(b) Write short notes on the following:
(i) Aerated/Cellular Concrete
(ii) Lightweight Aggregate Concrete
(iii) No-fines Concrete
Sketches for illustration are necessary where applicable. **10 marks**
(c) Discuss various methods of joining Metals. **8 marks**

3. (a) Differentiate between Metal and an Alloy. **4 marks**
(b) Mention alloying elements of the following listed metals and underline the predominant ingredients in each alloy:
(i) Gunmetal
(ii) Aluminum Bronze
(iii) Brass
(iv) Bronze **6 marks**
(c) What is corrosion and how can it be prevented? **10 marks**

4. (a) Define Plastic. **4 marks**
(b) Discuss two (2) ways in which plastic can be classified? **8 marks**
(c) What are the merits and demerits of plastic? **8 marks**