



NATIONAL OPEN UNIVERSITY OF NIGERIA
DEPARTMENT OF PURE AND APPLIED SCIENCES
2021_2 EXAMINATIONS

COURSE CODE: CHM 417

CREDIT UNIT: 2

COURSE TITLE: INDUSTRIAL CHEMICAL PROCESSES 11

TIME: 2 HRS

INSTRUCTION: ANSWER QUESTION ONE AND ANY OTHER THREE QUESTIONS

Question 1

- 1a. **State** Faraday's laws of electrolysis **(5 marks)**
- 1b. Outline any 5 significance of calcination in chemical process **(5 marks)**
- 1c. Mention and explain the steps involved in the contact process. **10 marks**
- 1d. Briefly explain the Lead-Chamber process. **5 marks**

Question 2

- 2a. What is the basic principle involved in the electrolysis of brine? **8 marks**
- 2b. For a material to serve as an electrode, what are its requirements? **7 marks**

Question 3

- 3a. Describe briefly the manufacture of magnesium by electrolysis of MgO **6 marks**
- b. What are the Industrial applications of electrochemistry? **9 marks**

Question 4

- 4a. Outline the types of Portland cements and discuss each type. **10 marks**
- b. What is Cement? **5 marks**

Question 5

5a. Define fertilizer and state the reasons why the addition of fertilizer is needed. **10 marks**

b. What are the requisites for a compound to be used as a fertilizer? **5 marks**