



NATIONAL OPEN UNIVERSITY OF NIGERIA
PLOT 91 CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESS WAY, JABI
- ABUJA.

FACULTY OF SCIENCE

OCTOBER/NOVEMBER 2016 EXAMINATION

COURSE CODE: CHM 422
COURSE TITLE: Natural Products Chemistry II
CREDIT UNIT: 2
TIME: 2 Hours
INSTRUCTION: Answer any Four Questions.

QUESTION ONE

- 1a) Differentiate between primary and secondary metabolite. = (8 mks)
- 1b) Explain briefly the term “natural products”. = (6¹/₂ mks)
- (1c) List any three spectroscopic/analytical tools for the structural elucidation of natural products. = 3 (mks).

QUESTION TWO

Write short note on Terpenes.

= (17¹/2 mks).

QUESTION THREE

3ai) What are Steroids?

(5¹/₂ mks)

3aii) State two importance of Steroids.

(2 mks)

3b) List five classes of alkaloids based on the heterocyclic ring system they contain.

(5 mks)

3c) State one source of the following monoterpenes

i Myrcene

ii Menthol

(5 mks)

QUESTION FOUR

4a) In a tabular form, list the classes of terpenes with the number of isoprene units and carbon atoms contained in each class.

(10 ¹/₂ mks)

4b) Distinguish between Natural rubber and Gutta percha

(7 mks)

QUESTION FIVE

5a) State the common features of alkaloids.

(4¹/₂ mks)

5b) Explain the following laboratory methods of organic-solvent extraction of natural products/ compounds.

- i) Maceration
- ii) Hot continuous extraction (Soxhlet extraction)

(13 mks)

QUESTION SIX

Outline and explain briefly the procedures involved in isolation and structure determination of natural products.

17¹/₂ marks