

NATIONAL OPEN UNIVERSITY OF NIGERIA
PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI - ABUJA
FACULTY OF SCIENCES
DEPARTMENT OF PURE & APPLIED SCIENCES
JANUARY 2018 EXAMINATION QUESTIONS

CHM318: NATURAL PRODUCT CHEMISTRY I.

CREDIT: 2 UNIT

TIME: 2 HOURS

INSTRUCTION: ANSWER QUESTION ONE & ANY OTHER THREE QUESTIONS.

QUESTION 1 (a). i). Write short note on the following:

- Monoterpenes, (3 marks)
- Sesquiterpenes (4 marks)
- Diterpenes (3 marks)

(b). What is Steroid?. (5 marks)

(c). What are the properties of Alkaloids? (10 marks)

QUESTION 2. (a). Give three examples each for monocyclic monoterpenes and bicyclic monoterpenes. (6 marks)

(b). What are the sources and uses of the following terpenes? (9 marks)

➤ Farnesol, Farnesene, Nerolidol and Cadalene

QUESTION 3. (a) (i). Discuss the general structure of steroid. (3 marks)

(ii). Discuss the skeleton of steroid (gonane) (3 marks)

(b). (i). Differentiate between the two types of corticosteroids. (3 marks)

(ii). What are the functions of anabolic steroid and cholesterol. (2 marks)

(c). (i). What is steroidogenesis? (1 mark)

(ii). Write short note on degradation and elimination processes of steroids. (3 marks)

QUESTION 4 (a). Write on the history of alkaloids. (7 ½ marks)

(b). How can alkaloids be extracted? (5 marks)

(c). List five methods for synthesis of alkaloids. (2 ½ marks)

QUESTION 5. (a). (i). What are the biological roles of alkaloids? (2 marks)

(ii). Give the medicinal application of the following alkaloids: (5 marks)
Vinblastine, Codeine, Cocaine, Colchicine, Reserpine, Quinine, Quinidine, Morphine, Tubocurarine and Emetine.

(iii). Give five examples of pseudoalkaloids. (2 ½ marks)

(b). What is an alkaloid? (3 marks)

(c). Describe the psychoactive drug use of alkaloids. (2 ½ marks)