



NATIONAL OPEN UNIVERSITY OF NIGERIA
PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI - ABUJA
FACULTY OF SCIENCES
DEPARTMENT OF PURE & APPLIED SCIENCES
OCTOBER/NOVEMBER 2019_2 EXAMINATION

COURSE CODE: CHM 318

COURSE TITLE: NATURAL PRODUCT CHEMISTRY

CREDIT: 2 UNIT

TIME ALLOWED: 2 HOURS

INSTRUCTION: Answer question 1 and any other three.

Question One

1. (a) Enumerate any five importance of Terpenes **5 marks**
- (b) How are Terpenes biosynthesized? **6 marks**
- (c) With appropriate examples and number of carbon atoms, give the structural classification of steroids **5 marks**
- (d) With typical examples, give the taxonomical classification of steroids **3 marks.**
- (e) What are the properties of alkaloid? **6 marks**

(Total for Question one = 25 marks)

2. (a) Vividly classify terpenes according to the number of isoprene units and carbon atoms **6 marks**
 - (b) Explain the two metabolic pathways for creating terpenoids **(4 marks)**
 - (c) Discuss the functional classifications of vertebrate steroids **(5 marks)**
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3. (a) Define Terpenes and Terpenoids **5 marks**
 - (b). In a tabular form, show the pathways of the various terpenes organisms **5 marks**
 - (c). Discuss the various types of monoterpenes **5 marks**

4. (a) Discuss the sources and uses of Farnesol and Nerolido **(6 marks)**
(b) What is steroid? **3 marks**
(c) Discuss the extraction of alkaloids? **6 marks**
5. (a).With appropriate definition of steroidogenesis, give the products of human steroidogenesis. **5 marks**
(b) How are steroids oxidized and eliminated? **4 marks**
(c)Describe the distribution of alkaloids in nature. **6 marks**