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**NATIONAL OPEN UNIVERSITY OF NIGERIA**

**14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS**

**MARCH/APRIL 2016 EXAMINATION**

 **SCHOOL OF SCIENCE AND TECHNOLOGY**

**COURSE CODE: CHM318**

**COURSE TITLE: Natural Products Chemistry I**

**COURSE UNIT: 2 units**

**TIME: 2 hours**

**INSTRUCTION: Answer question 1 (COMPULSORY) and any other three questions.**

1. (a) Explain the modes of extraction of alkaloids (10 marks)

(b) List the products of human steroidogenesis (7 marks)

(c) What are alkaloids? (3 marks)

 (d) List five examples of dimeric alkaloids. (5 marks)

(2) (a) Define steroids? (3 marks)

 (b) State six alkaloids that have application in clinical practice and the action performed.

1. marks)
2. (a) Distinguish between steroid synthesis and steroidogenesis. (2 marks)

(b) Describe the structure of gonane. (3 marks)

 (c) Based on chemical composition, state five classes of steroids with one example each.

1. marks)
2. (a) Enumerate five major classes of terpenes and indicate the number of isoprene units in the basic molecular skeleton of each. (10 marks)
3. State five properties of alkaloids. (5 marks)

(5) Write short notes on the following:

(i) Gossypol (3 marks)

(ii) Capsidiol (3 marks)

(iii) Cadalene (3 marks)

(iv) Abscisic acid (3 marks)

(v) Retene (3 marks)

 (6) (a) Write short notes on degradation and elimination of steroids. (4 marks)

 (b) Give one example each of the following:

 (i) Plant steroids (2 marks)

 (ii) Fungus steroids (2 marks)

 (iii) Insect steroids (2 marks)

 (c) Write short notes on the use of alkaloids as psychoactive drugs. (5 marks)