



NATIONAL OPEN UNIVERSITY OF NIGERIA
14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS
SEPTEMBER/OCTOBER 2015 EXAMINATION
SCHOOL OF SCIENCE AND TECHNOLOGY

COURSE CODE: CHM 318

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) Enumerate five major classes of terpenes and indicate the number of isoprene units in the basic molecular skeleton of each. (10 marks)
- (b) Define steroids? (3 marks)
- (c) List the products of human steroidogenesis (7 marks)
- (d) State five properties of alkaloids. (5 marks)
- (2) (a) What are alkaloids? (3 marks)
- (b) State six alkaloids that have application in clinical practice and the action performed. (12 marks)
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- (3) (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. (10 marks)
- (4) (a) List five examples of dimeric alkaloids. (5 marks)
- (b) Explain the modes of extraction of alkaloids (10 marks)
- (5) Write short notes on the following:
- (i) Gossypol (3 marks)
- (ii) Capsidiol (3 marks)
- (iii) Cadalene (3 marks)
- (iv) Absciscic 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)