



NATIONAL OPEN UNIVERSITY OF NIGERIA
14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS
MARCH/APRIL 2016 EXAMINATION

SCHOOL OF SCIENCE AND TECHNOLOGY

COURSE CODE: CHM421 **CREDIT UNIT:** 2
COURSE TITLE: HETEROCYCLIC CHEMISTRY

TIME: 2 HRS

INSTRUCTION: *Answer any 4 questions*

1. Describe the Reissert synthesis for Benzopyrrole and show its reaction scheme. 17½mks
2. Write briefly on the use of the following and show their chemical structures:
 - i. Sertoconazole (8mks)
 - ii. Raloxifene (9 ½ mks)
3. (a) How is Coumarin synthesized from 2-hydroxybenzaldehyde? Include the reaction mechanism. 14 ½ mks
(b) Identify a physical property of Coumarin and state its uses. 3mks
4. Write the chemical structure for the following compounds:
 - i. 2-aminoquinoline 3mks
 - ii. Benzopyrylium 2 ½ mks
 - iii. Chromone 3mks
 - iv. Flavylum 3mks
 - v. Flavone 3mks
 - vi. Isoflavone 3mks
5. (a) Illustrate schematically the reaction of Quinoline with fuming Nitric acid in concentrated sulphuric acid. 12mks
(b) Highlight the general properties of Quinoline. 5 ½ mks
6. (a) Discuss and show schematically the synthesis of Nicotinic acid from Quinoline. 11 ½ mks
(b) Mention two medical applications of Niacin. 2mks
(c) Enumerate four medicinal properties of Quinine. 4mks

