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## UNIVERSITY OF JAFFNA, SRI LANKA

## BACHELOR OF PHARMACY

## FOURTH YEAR FIRST SEMESTER EXAMINATION — February 2017

## PHANP 4104 NATURAL PRODUCT CHEMISTRY — PAPER II

Date: 20.02.2017

Time: 2 Hours

Answer all six questions.

- 1
  - 1.1 Give four examples for naturally occurring purines. (20 Marks)
  - 1.2 How would you detect the structure of uric acid by oxidation reactions? (40 Marks)
  - 1.3 Show how do you synthesize caffeine from N,N-dimethyl urea and ethyl cyanoacetate. (40 Marks)
- 2 Write a note on
  - 2.1 Sterols (30 Marks)
  - 2.2 A<sup>1</sup> corticoids. (30 Marks)
  - 2.3 Nomenclature of steroids (40 Marks)
- 3
  - 3.1 List the beta lactam antibiotics other than penicillin. (20 Marks)
  - 3.2 Draw the structure of penicillins and indicate the possible variations in structures which may occur in natural penicillins. (45 Marks)
  - 3.3 Discuss the chemical instabilities of penicillins. (35 Marks)
- 4
  - 4.1 Name three steroidal alkaloids and give a medicinal use for each. (25 Marks)
  - 4.2 Briefly discuss about the steroidal glycosides. (35 Marks)
  - 4.3 Write down the steps involve in the isolation of cardiac glycosides from a plant source and give the conditions which used at each step with explanation. (40 Marks)
- 5
  - 5.1 Classify the antifungals with an example. (30 Marks)
  - 5.2 Draw the structure of an antifungal drug having only fungistatic activity. (20 Marks)
  - 5.3 Elucidate the structure of chloramphenicol. (50 Marks)
- 6
  - 6.1 Write 3 natural estrane derivative sex hormones. (15 Marks)
  - 6.2 Comment on their structure and activity differences. (30 Marks)
  - 6.3 Give the synthesis of one of the above mentioned hormone from cholesterol (55 Marks)

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