

Lib.

UNIVERSITY OF JAFFNA, SRI LANKA
BACHELOR OF PHARMACY
FOURTH YEAR FIRST SEMESTER EXAMINATION – FEBRUARY 2018
PHANP 4104² NATURAL PRODUCT CHEMISTRY

Date: 21.02.2018

Time – 2 hours

Answer all Six questions.

- 1 Write a note on naturally occurring
 - 1.1 Purines. (35 Marks)
 - 1.2 Testosterone. (30 Marks)
 - 1.3 Tetracyclines. (35 Marks)

- 2
 - 2.1 Draw the oxidation products of theobromine. (20 Marks)
 - 2.2 Describe the position of third methyl group in caffeine. (40 Marks)
 - 2.3 Determine how theophylline could be synthesized from uric acid? (40 Marks)

- 3
 - 3.1 Name the starting compounds and important intermediates in the synthetic pathway of penicillin and cephalosporin semisynthetic production. (20 Marks)
 - 3.2 List the essential requirements for antibacterial activity of penicillin. (25 Marks)
 - 3.3 Give the reactions of penicillin with their relevant structures. (55 Marks)

- 4
 - 4.1 Name the glycon and aglycon of streptomycin. (20 Marks)
 - 4.2 Give the structures of two antibiotics having isoxazole ring with halogen/s. (30 Marks)
 - 4.3 Show how Chloramphenicol synthesized from benzaldehyde by using relevant chemical structures. (50 Marks)

- 5
 - 5.1 Give two (02) natural glucocorticoids and two (02) natural mineralocorticoids. (20 Marks)
 - 5.2 Draw the structures of steroid hormones mentioned in 5.1. (40 Marks)
 - 5.3 Describe the structural modifications of adrenocorticosteroids. (40 Marks)

- 6
 - 6.1 List the natural estrogen hormones. (15 Marks)
 - 6.2 Discuss the chemical inter-relationship of the above mentioned hormones. (30 Marks)
 - 6.3 Name a pregnane derivative sex hormone and give its' synthesis from a glycoside. (55 Marks)