

UNIVERSITY OF JAFFNA, SRI LANKA
BACHELOR OF PHARMACY
THIRD YEAR SECOND SEMESTER EXAMINATION – MARCH 2019
PHAMC 3214 MEDICINAL CHEMISTRY II – PAPER II

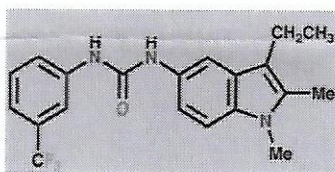
Date: 25.03.2019

Time: 02 Hours

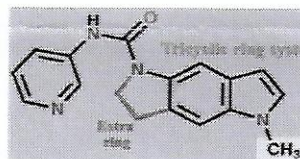
Answer all six questions

1.
 - 1.1 Draw the structure of morphine and discuss its structure activity relations hip (SAR). (70 Marks)
 - 1.2 Give three examples of antagonist of morphine and draw the chemical for each of them. (30 Marks)

2.
 - 2.1 Draw the structure of serotonin. (20 Marks)
 - 2.2 2.2.1 Structure 'X' is lead compound for 5- HT_{2c} receptor. Explain how structure 'X' is converted to structure 'Y' through drug optimization process.



Structure 'X'



Structure 'Y'

(40 Marks)

- 2.2.2 Discuss the ring variation strategy for activity of structure 'Y'. (20 Marks)
- 2.2.3 Draw the schematic diagram of molecular modelling studies for receptor binding of structure 'Y' (20 Marks)

3.
 - 3.1 Describe the structure activity relationship of aryl alkanolic acid containing anti inflammatory drugs. (70 Marks)
 - 3.2 Draw synthetic route of carbimazole. (30 Marks)

4.
 - 4.1 Describe the different mechanisms of action of antiepileptic drugs. (60 Marks)
 - 4.2 Classify antiepileptic drugs based on their chemical structure with one example for each. (10 Marks)
 - 4.3 Draw the chemical structures of antiepileptic drugs that are mentioned in 4.2. (30 Marks)

- 5.
- 5.1 Explain why N^α - Guanyl histamine acts as a partial agonist? (40 Marks)
 - 5.2 Illustrate the mechanism of inhibition of proton pump by Omeprazole with the help of curly arrows. (60 Marks)
- 6.
- 6.1 Give two examples with chemical structure of
 - 6.1.1 ester based local anaesthetics. (20 Marks)
 - 6.1.2 amide based local anaesthetics. (20 Marks)
 - 6.2 Illustrate the structural characteristics of a local anaesthetic using a diagram. (30 Marks)
 - 6.3 Describe the mode of action of local anaesthetics. (30 Marks)