UNIVERSITY OF JAFFNA, SRI LANKA
FACULTY OF ALLIED HEALTH SCIENCES
THIRD YEAR SECOND SEMESTER EXAMINATION IN BPharmHons - 2020
PHAMC 3214 MEDICINAL CHEMISTRY II
PART II

Date: 10 OCT 2022 **Time: 02 Hours**

Answer all six questions.

1.	1.1	Name three (03) endogenous compounds which promote gastric acid release.	(15 Marks)
	1.2	Briefly explain how an agonist is converted to an antagonist.	(35 Marks)
	1.3	Describe the H_2 receptor binding site with suitable diagram.	(50 Marks)
2.	2.1	What is chiral switching?	(20 Marks)
	2.2	**2.2.1** Draw the structure of the lead compound of omeprazole development.	(20 Marks)
		2.2.2 Briefly explain the reasons for the selectivity of proton pump inhibitors.	(60 Marks)
3.	3.1	Draw the structure of morphine.	(15 Marks)
	3.2	State the potential binding groups of morphine.	(10 Marks)
	3.3	**3.3.1** Briefly explain the multiple analgesic receptors theory.	(30 Marks)
		3.3.2 Compare the characters of μ, κ and δ opioid receptors.	(45 Marks)
4.	4.1	Name the two (02) main classes of local anaesthetic agents.	(20 Marks)
	4.2	State one (01) local anaesthetic agent from each of the classes mentioned in 4.1 and draw their structures.	(40 Marks)
	4.3	Describe the mechanism of action of local anaesthetic agents.	(40 Marks)
5.	5.1	State the structural requirements for the activity of anti-epileptic agents.	(15 Marks)
	5.2	Describe the Structure Activity Relationship (SAR) of hydantoin derivatives type of anti-epileptic agents.	(30 Marks)
	5.3	**5.3.1** Name and draw the structure of a prodrug of phenytoin.	(25 Marks)
		5.3.2 Briefly explain the advantages of the prodrug mentioned in **5.3.1** over phenytoin.	(30 Marks)
6.	6.1	Name two (02) oral hypoglycemic agents which cause low risk of hypoglycemia.	(20 Marks)
	6.2	Describe the mechanism of action of the following oral hypoglycemic agents.	
		6.2.1 Sulphonyl ureas	(50 Marks)
		6.2.2 Thiazolidinediones	(30 Marks)