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UNIVERSITY OF JAFFNA, SRI LANKA
FACULTY OF ALLIED HEALTH SCIENCES
THIRD YEAR FIRST SEMESTER EXAMINATION IN BPharmHons - 2023
PHAMC 3114 MEDICINAL CHEMISTRY I - PAPER II

Date: 04.12.2024 **Time: 02 Hours**

Answer all six (06) questions.

1.	1.1	Name two (02) secondary messengers that are produced in the G_q protein coupled receptor signal transduction pathway.	**(20 Marks)**
	1.2	Briefly explain the actions of secondary messengers mentioned in **1.1.**	**(40 Marks)**
	1.3	Describe the signal transduction of tyrosine kinase receptors.	**(40 Marks)**
2.	2.1	Give the steps involved in the signal transmission at nerve synapses.	**(20 Marks)**
	2.2	Name two (02) receptors that can be activated by acetylcholine.	**(20 Marks)**
	2.3	**2.3.1** Draw the structure of acetylcholine.	**(10 Marks)**
		2.3.2 Explain the Structure Activity Relationship (SAR) of acetylcholine.	**(50 Marks)**
3.	3.1	List the drug targets in the adrenergic neurotransmission.	**(30 Marks)**
	3.2	Name two (02) catecholamines and draw their structures.	**(20 Marks)**
	3.3	Describe the Structure Activity Relationship (SAR) of catecholamines.	**(50 Marks)**
4.	4.1	Name two (02) analogues of physostigmine.	**(20 Marks)**
	4.2	Describe the structure activity relationship of physostigmine.	**(40 Marks)**
	4.3	Write a short note on anticholinesterases as smart drugs.	**(40 Marks)**
5.	5.1	Name two drugs that are combined in co-trimoxazole.	**(20 Marks)**
	5.2	Describe the mechanism of action of sulphonamides.	**(30 Marks)**
	5.3	Explain how sulfathiazole	
		5.3.1 causes toxicity?	**(30 Marks)**
		5.3.2 can be modified to reduce toxicity?	**(20 Marks)**
6.	6.1	Name two (02) natural sources of cardiac glycosides.	**(20 Marks)**
	6.2	Describe the mechanism of action of cardiac glycosides.	**(30 Marks)**
	6.3	Discuss the chemical structure of cardiac glycosides.	**(50 Marks)**