

Name:	 UPES UNIVERSITY WITH A PURPOSE
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Theory Examination, May 2021

Course: Pharmacology

Semester: IV

Program: B.Pharm

Course Code: BP 404T

Time 03 hrs.

Max. Marks: 75

Instructions: Read the Question Paper Carefully. All Sections are Compulsory

SECTION A

S. No.	CO	Multiple Choice Questions	Marks
Q1		All COs should be covered	20
1	CO1	The most important factor governing absorption of a drug from intact skin is (a) Molecular weight of the drug (b) Site of application (c) Lipid solubility of the drug (d) Nature of the base used in the formulation.	1
2	CO2	Which of the following best describes the mechanism of action of scopolamine? (a) Irreversible antagonist at nicotinic receptors (b) Irreversible antagonist at muscarinic receptors (c) Physiologic antagonist at muscarinic receptors (d) Reversible antagonist at muscarinic receptors	1
3	CO3	Following agent reduces the transmitter release by blocking nerve terminal calcium channels (a) Botulinum toxin (b) β -bungarotoxin (c) ω -conotoxin (d) All of the above	1
4	CO4	Following is a tertiary amine anti-muscarinic drug used for Parkinson's disease (a) Benztropine (b) Dicyclomine (c) Pirenzepine (d) Tropicamide	1
5	CO5	Atropine is antagonist to which type of muscarinic receptors (a) M1 (b) M2 (c) M3 (d) M4	1
6	CO1	β 3 receptor is present in (a) Adipose tissue (b) Smooth muscle (c) Heart (d) All of the above	1
7	CO2	What is symport?	1

		(a) Counter transport (b) Co-transport (c) Carrier mediated diffusion (d) Solvent drug	
8	CO2	Which of the following neurotransmitter is present in the central nervous system (CNS) (a) Acetylcholine (b) Noradrenaline (c) Dopamine (d) All of the above	1
9	CO3	Substances secreted into the blood by a neuron is (a) Neurohormone (b) Neuromodulator (c) Neuromediator (d) Neurotransmitter	1
10	CO4	Activation of metabotropic receptors located presynaptically causes inhibition by decreasing the inward flux of (a) Calcium (b) Chloride (c) Potassium (d) Sodium	1
11	CO5	To reduce the muscarinic side effects of oral forms of cholinesterase inhibitors they should be administered (a) On empty stomach (b) With food (c) With milk (d) With food or milk	1
12	CO1	Histamine (a) May be released from mast cells by a number of therapeutic agents (b) Causes sedation (c) Decreases the force of contraction of ventricular muscle (d) Can cause strong contractions of the gravid human uterus	1
13	CO2	Propranolol can be used to allay anxiety associated with (a) Chronic neurotic disorder (b) Schizophrenia (c) Short-term stressful situation (d) Endogenous depression	1
14	CO3	Pseudo-cholinesterase is present in (a) Membrane (b) Vesicles (c) Synaptic cleft (d) Plasma and tissue	1
15	CO4	Activity of which adrenergic receptor is linked to activation of G proteins (a) β_1 (b) β (c) α_1 (d) all of the above	1
16	CO5	Which of the following drugs has highest alfa agonist activity?	1

		(a) Epinephrine (b) Norepinephrine (c) Ephedrine (d) Amphetamine	
17	CO1	Redistribution is a feature of (a) Highly plasma protein bound drugs (b) Depot preparations (c) Poorly lipid soluble drugs (d) Highly lipid soluble drugs	1
18	CO2	The brain-stem centers affected most strongly by barbiturates are the (a) Respiratory centers (b) Vasomotor centers (c) Cardio-inhibitory centers (d) Cardio-acceleratory centers	1
19	CO3	Zolpidem is used as (a) Anticonvulsant drug (b) Anti-anxiety drug (c) Sedative and hypnotic drug (d) myorelaxant drug	1
20	CO4	Salicylates and barbiturates are more readily absorbed from the stomach because (a) They are weak bases and are ionized at gastric pH (b) They are weak acids and predominantly non-ionized in gastric pH (c) They are strong bases and are highly ionized at gastric pH (d) They are weak acids and are ionized at gastric pH	1

SECTION B

Attempt Any two out of three , 10 marks each

Q2			20
1	CO1, CO4	<p>A 4-year-old child is brought to the hospital with the complaint of fever, cough, difficulty in breathing and chest pain. On examination he is found to be dull, but irritable with fast pulse (118/min), rapid breathing (RR 55/min) and indrawing of lower chest during inspiration, wheezing, crepitations and mild dehydration. Body temperature is 40 °C(104 °F). The physician makes a provisional diagnosis of acute pneumonia and orders relevant haematological as well as bacteriological investigations. He decides to introduce antibiotic therapy.</p> <p>a) In case he selects an antibiotic which can be given orally as well as by i.m or i.v injection, which route of administration will be most appropriate in this case?</p> <p>b) Should the paediatrician administer the antibiotic straight away or should he wait for the laboratory reports?</p>	10 marks
2	CO2, CO5	<p>A 60 year lady complained of weakness, lethargy and easy fatigability. Investigation showed that she had iron deficiency anaemia (Hb. 8g/dl). She was prescribed cap. Ferrous fumarate 300 mg twice daily. She returned after one month with no improvement in symptoms. Her Hb. Level was unchanged. On enquiry she revealed</p>	10 marks

		that she felt epigastric distress after vtaking the level was unchanged. On enquiry she revealed that she felt epigastric distress after taking the iron capsules, and had started taking antacid tablets along with the capsules. What could be the possible reason for her failure to respond to the oral iron medication?	
3	CO3	Enlist out various neurotransmitters and receptors involved in signal transduction with special reference to central nervous system.	10 marks
			20
SECTION C			
Attempt any 7 out of 9 (7X5=35)			
Q3		All COs should be covered each question carry five marks	35
1	CO1	Elaborate on your understanding of the following terms with examples in context to drug action: a. Competitive vs. non-competitive antagonism b. Receptor selectivity vs. specificity	5 marks
2	CO2	What factors affect absorption of drugs?	5 marks
3	CO3	What is the drug of choice for the management of signs and symptoms of myasthenia crisis?	5 marks
4	CO4	Write synthesis, metabolism and release of Noradrenaline at different sites in adrenergic neuron.	5 marks
5	CO5	Name the drugs used in the treatment of Myasthenia Gravis and explain their mechanism.	5 marks
6	CO1	Explain Pharmacokinetic interactions with examples.	5 marks
7	CO2	Explain the role of Dopamine in Parkinson's Disease.	5 marks
8	CO3	How selective serotonin reuptake inhibitors functions in the treatment of depression?	5 marks
9	CO4	Discuss recent advances of drugs acting on cholinergic receptors.	5 marks
			35
		Total	75