Name:	
Enrolment No:	UPES UNIVERSITY OF TOMORROW

UPES

End Semester Examination, May 2025

Course: Pharmacotherapeutics II   Semester: 6 th

Program: Integrated (B.Sc.) - (M.Sc.) Clinical Research   Duration: 3 Hours

Course Code: HSCR3016   Max. Marks: 100

Instructions: Attempt all the questions and draw flow charts and diagrams where required.

S. No.	Section A Short answer questions/ MCQ/T&F (20Qx1.5M= 30 Marks)	Marks	COs
Q 1	Name the enzyme that converts angiotensin I to angiotensin II?	1.5	CO1
Q2	Identify the hormone in the RAAS system that causes sodium and water retention?	1.5	CO1
Q3	Name one prostaglandin analog used in glaucoma treatment.	1.5	CO1
Q4	List the first-line class of drugs used for mild to moderate pain	1.5	CO1
Q5	Name the layer of skin primarily affected in eczema	1.5	CO1
Q6	Mention the neurotransmitter mainly involved in the pathophysiology of schizophrenia.	1.5	CO1
Q7	Write the name of the disease for which these drugs are used i.Levodopa ii. Carbidopa iii. Entacapone iv. Tolcapone	1.5	CO1
Q8	Identify the cranial nerve affected in glaucoma?	1.5	CO1
Q9	What is the causative organism of scabies?	1.5	CO1
Q10	List any one drug that acts as a GABA transporter blocker.	1.5	CO1
Q11	Name one plant derived anticancer drug.	1.5	CO2
Q12	Explain the mechanism of action of Memantine and its therapeutic use.	1.5	CO2
Q13	Describe the mechanism of action of Imipramine?	1.5	CO2
Q14	Define the term for thickened skin due to repeated scratching in eczema.	1.5	CO2

Q15	Classify the following as symptoms of Epilepsy or not
	    i. Bradykinesia
	    ii. Violent Jerking
	    iii. Masked face
	    iv. Postural instability
		1.5	**CO2**

Q16	Classify the following as symptoms of Alzheimer's disease or not i.Bradykinesia ii Masked face iii Postural Instability iv Memory loss	**1.5**	**CO2**
Q17	Differentiate between the roles of Levodopa and Carbidopa in Parkinson's disease.	**1.5**	**CO3**
Q18	Identify the form of angina that occurs at rest and is caused by coronary artery spasm.	**1.5**	**CO3**
Q19	Write the name of one plant derived anticancer drugs.	**1.5**	**CO3**
Q20	Write the name of the drug used as GABA transporter blocker.	**1.5**	**CO3**

Section B
(4Qx5M=20 Marks)

| Q 1 | Mr. A visits the clinic with complaints of **persistent sadness, loss of interest in activities, fatigue, and difficulty concentrating** for the past **three months**. His wife reports that he has become withdrawn, avoids social interactions, and often expresses feelings of **worthlessness and guilt**.
History of Present Illness:
Symptoms started gradually **after a job loss** six months ago.

  • He reports **sleep disturbances** (difficulty falling and staying asleep).
  • Experiences **low energy levels** despite resting.
  • Has frequent **negative thoughts and feelings of hopelessness**.
  • No history of previous psychiatric illness.

    Answer the following questions

1. Identify the disease condition.
2. Suggest a treatment plan for patients
3. Classify the drugs for this disease | **5** | **CO4** |

Q2	A 22-year-old male is brought to the emergency department after experiencing a sudden loss of consciousness followed by jerking movements of his arms and legs lasting for about 2 minutes. He was confused and drowsy for several minutes after the episode. His family reports similar episodes in the past. He is not on any regular medications and has no history of head injury or drug abuse. **a)** What is the most likely diagnosis? **b)** What type of seizure is described in this case? **c)** Briefly explain the possible causes of epilepsy. **d)** What diagnostic tests are used to confirm epilepsy? **e)** Describe the treatment options available for epilepsy.	5	CO4
Q3	Discuss the mechanisms of action of antiepileptic drugs sodium channel blockers, GABA enhancers.	5	CO4
Q4	Write the mechanism of action of any 5 1. Celecoxib 2. Tramadol 3. Betamethasone 4. Methotrexate 5. Leflunomide	5	CO4

Section C
(2Qx15M=30 Marks)

Q 1	Explain the pathophysiology of Rheumatoid Arthritis with a focus on the inflammatory mechanisms involved. Analyze the role of genetic factors— HLA alleles and other susceptibility genes—in the development and progression of the disease. Illustrate how the interaction between inflammation and genetic predisposition contributes to joint damage and systemic manifestations."	5+5+5	CO3
Q2	Define secondary hypertension and distinguish it from primary hypertension. Analyze how modifiable lifestyle factors contribute to the development or exacerbation of secondary hypertension. Also, classify the major classes of antihypertensive drugs used in the treatment of secondary hypertension.	5+5+5	CO3

Section D
(2Qx10M=20 Marks)

Q 1	A 35-year-old male presents with red, raised, and scaly patches on his elbows, knees, and scalp. The lesions are itchy and have well-defined borders with silvery-white scales. He	10	CO4

	reports a family history of similar skin problems. The condition worsens in winter and improves with sunlight exposure. Nail pitting is also observed during examinations. **a)** What is the most likely diagnosis? **b)** Briefly explain the underlying pathophysiology of psoriasis. **c)** What are the treatment options (topical, systemic, and biologic)? **d)** classify the drugs for the treatment of this condition		
Q2	Describe the pathophysiology of Alzheimer's disease, focusing on the role of amyloid-beta plaques and tau neurofibrillary tangles in neurodegeneration.	**10**	**CO4**