

**UNIVERSITY OF ESWATINI**  
**FACULTY OF HEALTH SCIENCES**  
**DEPARTMENT OF COMMUNITY HEALTH NURSING SCIENCE**  
**MAIN EXAMINATION**  
**NOVEMBER, 2021**

**COURSE TITLE: PSYCHOPHARMACOLOGY**

**COURSE CODE: CHN 404**

**TIME ALLOWED: 2 HOURS**

**TOTAL MARKS ALLOCATED: 75**

**INSTRUCTIONS:**

- 1. PLEASE WRITE CLEARLY AND LEGIBLY**
- 2. PLEASE ANSWER ALL QUESTIONS**
- 3. USE THE PROVIDED ANSWER BOOKLET FOR ALL YOUR ANSWER**
- 4. START ANEW QUESTION ON A NEW PAGE**
- 5. MAKE SURE THAT ALL YOUR ANSWERS ARE NUMBERED CORRECTLY**

**DO NOT OPEN THE QUESTION PAPER UNTIL PERMISSION HAS BEEN  
GRANTED BY THE CHIEF INVIGILATOR OR HIS/HER REPRESENTATIVE**

## QUESTION 1.

**Multiple Choice.** For each of the following questions, each question has only one correct option as an answer. Choose the most correct answer. Write clearly the question number and the letter that corresponds with the most appropriate or correct answer, e.g. 20. B. Each correctly answered question has one (1) mark.

1. Which of the following **are not common responses** of the body to Psychotropic drugs?
  - A. Transient decrease in intracellular free calcium levels causing muscle contraction
  - B. Activation of enzymes for various biochemical reactions
  - C. Flow of neurotransmitters from one neuron to another.
  - D. Secretion of neurotransmitters and hormones
  
2. The time course and effects of drugs and their metabolites in the body is called:-
  - A. Pharmacogenetics
  - B. Pharmacodynamics
  - C. Pharmacokinetics
  - D. All of the above are true
  
3. Which of the following is true about Biotransformation?
  - A. It is a process by which drugs are chemically changed in the body.
  - B. It facilitates excretion of drugs by rendering them more polar or by conjugating it with highly polar molecules.
  - C. It assists in terminating the pharmacological activity of drugs
  - D. All of the above are true
  
4. Which one of the following is **not true**?
  - A. Pharmacodynamics is the study of biochemical and physiological effects of the drugs.
  - B. Pharmacodynamics deals with what the drug does to the body
  - C. Pharmacodynamics deals with what the body does to the drug
  - D. Drugs do not create effects but modulate intrinsic physiological functions
  
5. Which patients are at risk of developing drugs withdrawal syndrome?
  - A. Patients who have been taking drugs with a short half-life.
  - B. Patients who have been taking anti-depressant for less than 8 weeks.
  - C. Patients who develop symptoms of anxiety at the start of the therapy.

- D. All of the above are true
- E. A and C

6. Most clinically efficacious anxiolytic agents:-

- A. Are believed to be associated with decreasing noradrenergic neurotransmission as their end result.
- B. Have the capacity to enhance serotonergic transmission in the central nervous system.
- C. Are believed to be associated with increasing noradrenergic neurotransmission as their end result.
- D. A and B

7. A major neurotransmitter in regions of the brain that plays a major role in modulating anxiety is:-

- A. Nor-epinephrine
- B. Serotonin
- C. GABA
- D. Dopamine

8. Which of the following is **not true** about barbiturates?

- A. Produce dose dependent effect.
- B. More selective in their actions than benzodiazepines
- C. Phenobarbitone is the long acting barbiturates commonly used for treatment of seizures.
- D. All of the above are true.

9. The adverse effects of barbiturates include all **except**:-

- A. Drowsiness and decrease motor control
- B. Respiratory depression and coma at high dose
- C. Allergic reactions in patients with asthma
- D. Tremor of the upper extremities.

10. The reasons why benzodiazepines gained popularity over barbiturates are:-

- A. Benzodiazepines have a high therapeutic index.
- B. Benzodiazepines produce less physical dependence.

- C. Benzodiazepines do not alter the disposition of other drugs.
- D. All of the above are true

11. All of the drugs below are from class of newer sedative hypnotics **except:-**

- A. Zolpidem
- B. Zaleplon
- C. Buspirone
- D. Flumazenil

12. Select the false sentence about Buspirone

- A. It is newer sedative hypnotics
- B. Partial agonist at serotonin receptor
- C. Relief from anxiety without causing marked sedative, hypnotic, or euphoric effects
- D. All of the above are true

13. Which of the following antipsychotic drug has the highest extrapyramidal side effects?

- A. Olanzapine
- B. Haloperidol
- C. Clozapine
- D. Risperidone

14. Low potent antipsychotics drugs are characterized by:

- A. Lower binding ability to D2 receptor.
- B. Present with more cognitive problems
- C. Present with less extrapyramidal side effects
- D. All of the above are true.

15. Grouping of antipsychotic medications is based on the following characteristics **except:**

- A. Efficacy against negative symptoms
- B. Incidence of extrapyramidal side effects.
- C. Efficacy in 'treatment-resistant' patients
- D. None of the above is true

16. Which atypical antipsychotic medication doesn't virtually causes extrapyramidal side effects?

- A. Olanzapine
- B. Quetiapine
- C. Clozapine
- D. Risperidone

17. Which of the following is **not true** about haloperidol?

- A. It is approximately 50 times more potent than chlorpromazine
- B. It possesses a strong activity against delusions and hallucinations
- C. It is classified as low potent anti-psychotic drugs.
- D. It has no anticholinergic effects

18. Which of the following is **not true** about Amitriptyline:-

- A. It is the most widely use TCAs drug.
- B. It is the one of the most effective TCAs drug.
- C. It has more sedative effect than Imipramine
- D. None of the above is not true

19. Major limitations of Tricyclic antidepressant drugs are:

- A. Longer time 2-4 weeks before antidepressant action manifests
- B. Contraindicated for bipolar disorders
- C. A and B
- D. None of the above is correct

20. Which one of the statements below is **not true** about Selective Serotonin Re-uptake Inhibitors (SSRIs)?

- A. They are the most widely prescribed anti-depressants.
- B. They have no anticholinergic effects
- C. They are the first rationally designed class of drugs.
- D. All of the above are true

21. Patients who experience Gastro-intestinal upset benefit by taking which one of the following drug?

- A. Fluoxetine
- B. Sertraline
- C. Proxetine
- D. Fluvoxamine

22. Which atypical antidepressant is used to treat Nicotine dependence (for smoking cessation)?

- A. Bupropion.
- B. Trazodone
- C. Mianserin
- D. Tianeptine

23. Lithium is clinically used for:-

- A. Treatment of acute mania
- B. As prophylaxis in bipolar disorder
- C. Treatment of cluster Headache
- D. All of the above are correct.

24. Lamotrigine is used for the treatment of the following conditions except

- A. Simple partial seizure
- B. Grand mal seizure
- C. Bipolar I Disorder
- D. Anxiety disorder

25. Which one of the following is true about Carbamazepine?

- A. It is considered as a primary drug for the treatment of partial and tonic-clonic seizures
- B. It produce therapeutic responses in manic depressive patients.
- C. Both A and B
- D. None of the above is true

**[Sub-total: 25 marks]**

## QUESTION TWO (2)

A. State whether the statement below are true or false. Write the alphabet representing your answer against the question, e.g 5=T. Each correct answer has 1 mark.

1. Drug elimination is more efficient in new-born babies and in old people.
2. Serotonin (5-HT) in major brain regions plays a major role in modulating anxiety.
3. Barbiturates are no longer or rarely used as sedative hypnotics
4. Long-term use of hypnotics is rational and not dangerous medical practice.
5. Serotonergic neurons originate in the brainstem raphe nucleus and project widely throughout the entire CNS
6. Bromocriptine decreases dopamine level in the brain.
7. Benzodiazepines have low abuse potential
8. Atypical antipsychotics have less affinity for D<sub>2</sub>
9. High potent antipsychotic drugs have less cognitive problems.
10. Risperidone is effective in treating mania and in augmenting antidepressants.
11. Drugs do not create effects but instead modulate intrinsic physiological functions.
12. SSRIs produces anticholinergic side effects
13. TCAs drugs are contraindicated for bipolar disorders.
14. Valproic- Acid used for treatment of absence seizure, myoclonic, partial, and tonic-clonic seizures.
15. Most barbiturates have anti-seizure properties.

**B. Matching, Write the alphabet letters that represents your answer from column B against the question number in column A. e.g. 12= C. Each correct answer has 1 mark.**

	<b>Column A</b>	<b>Column B</b>
1	Anticholinergic agent	A. Bromocriptine
2	Dopaminergic agent	B. Occurs when there is relative deficiency of neurotransmitters in the synapse
3	Up regulation of receptors	C. Increase frequency of GABA mediated chloride ion channel opening
4	Down regulation of receptors	D. Diazepam
5	Mechanism of action of benzo-diazepines	E. Increase duration of GABA mediated chloride ion channel opening
6	Mechanism of action of Barbiturates	F. Carbamazepine
7	Drug of choice for status epilepticus	G. Thioridazine
8	Stevens-Johnson Syndrome is the adverse effect of	H. Fluphenazine
9	High potent antipsychotic medication	I. Occurs when there is too much neurotransmitters in the synapse
10	Low potent antipsychotic medication	J. Benzotropine

**[Sub-total: 25 marks]**

### **QUESTION THREE**

1. List the three major neurotransmitters associated with anxiety disorders **(3 marks)**
2. What are factors affecting pharmacodynamics and pharmacokinetics of the drugs **(6 marks)**
3. List the clinical indications of antidepressant medications **(6 marks)**
4. Describe the presentation of five most frequently described extrapyramidal side effects of antipsychotic medications **(10 marks)**

**[Sub-total: 25 marks]**

**Grand-Total: 75 marks**