



**KISII UNIVERSITY**  
**UNIVERSITY EXAMINATIONS**

**SECOND YEAR EXAMINATION FOR THE AWARD OF THE DEGREE OF  
BACHELOR OF SCIENCE IN CLINICAL MEDICINE AND SURGERY  
THIRD SEMESTER 2022/2023  
[MAY-AUGUST, 2023]**

**PHAM 202: PHARMACOLOGY OF AUTONOMIC, ENDOCRINE, ANTIRETROVIRALS  
AND ANTICANCER**

**STREAM: Y2S3**

**TIME: 2 HOURS**

**DAY: THURSDAY, 2:00 – 5:00 PM**

**DATE: 27/07/2023**

**INSTRUCTIONS**

**1. Do not write anything on this question paper.**

**SECTION A: Answer ALL the questions (30 marks)**

1. A 40-year-old man with a history of major depression is admitted to the emergency department following a suicide attempt with a drug overdose. Which of the following signs or symptoms would be consistent with an overdose of a ganglion-blocking drug?

- (A) Increased blood pressure
- (B) Miosis
- (C) Urination
- (D) Tachycardia

2. 1. A 42-year-old businessman visits a psychiatrist for what he describes as a very “embarrassing problem.” The patient has found it difficult to make it to work on time because he keeps driving back to his house to make sure that the garage door is shut. He has begun waking up 2 hours early to facilitate these obsessions and compulsions. He is otherwise without additional complaints. The psychiatrist is concerned that the patient has developed obsessive-compulsive disorder (OCD) and has him try which of the following?

- (A) Imipramine
- (B) Clomipramine
- (C) Atomoxetine

- (D) Propranolol
- (E) Desipramine

3. 10. A 16-year-old patient visits his dentist for a routine checkup. He finds that his wisdom teeth are severely impacted and need to be removed. The oral surgeon to whom he is referred plans on using an agent that has good analgesic and sedative properties but does not cause skeletal muscle relaxation. Which agent has these ideal properties?

- (A) Enflurane
- (B) Nitrous oxide
- (C) Thiopental
- (D) Halothane
- (E) Isoflurane

4. An anesthesia resident is on his first case alone. The surgeons are preparing the patient's abdomen for their eventual incision when the attending physician enters the operating room and asks the anesthesia resident if the patient is anesthetized. Which of the following is the most reliable sign that surgical anesthesia has been reached?

- (A) Analgesia
- (B) Amnesia
- (C) Loss of consciousness
- (D) Maximum papillary dilation
- (E) Loss of eyelash reflex

5. Methotrexate is:

- a) A purine antagonist
- b) A folic acid antagonist
- c) An antibiotic
- d) An alkylating agent

6. Tick the anticancer drug belonging to inorganic metal complexes:

- a) Dacarbazine
- b) Cisplatin
- c) Methotrexate
- d) Vincristine

7. Choose from the following drug belonging to aromatase inhibitors:

- a) Octreotide
- b) Anastrozole
- c) Flutamide
- d) Tamoxifen

8. Select an endocrine drug which is a steroidal derivative:

- a) Gonadorelin
- b) Insulin
- c) Levothyroxine
- d) Hydrocortisone

9. Which of the following hormones is produced by the anterior lobe of the pituitary?

- a) Thyrotropin-releasing hormone (TRH)
- b) Corticotropin-releasing hormone (CRH)
- c) Growth hormone (somatotropin, GH)
- d) Growth hormone-releasing hormone (GHRH)

10. Indications of bromocriptine are following, EXCEPT:

- a) Prolactin-secreting adenomas
- b) Amenorrhea-Galactorrhea
- c) Prolactin deficiency
- d) Acromegaly

11. Which of the following hormones is produced by the thyroid gland?

- a) Thyroxine
- b) Thyroid-stimulating hormone
- c) Thyrotropin-releasing hormone
- d) Thyroglobulin

12. Sulphonylureas act by:

- a) Reducing the absorption of carbohydrate from the gut
- b) Increasing the uptake of glucose in peripheral tissues
- c) Reducing the hepatic gluconeogenesis
- d) Stimulating the beta islet cells of pancreas to produce insulin

13. Alpha-glucosidase inhibitors act by:

- a) Diminishing insulin resistance by increasing glucose uptake and metabolism in muscle and adipose tissues
- b) Competitive inhibiting of intestinal alpha-glucosidases and modulating the postprandial digestion and absorption of starch and disaccharides
- c) Reducing the absorption of carbohydrate from the gut
- d) Stimulating the beta islet cells of pancreas to produce insulin

14 . Which of the following oral hypoglycaemic drugs stimulates both synthesis and release of insulin from beta islet cells:

- a) Glibenclamide
- b) Phenformin
- c) Buformine
- d) Metformin

15. Insulin cannot be administered by:

- a) Oral route
- b) Intravenous route
- c) Subcutaneous route
- d) Intramuscular route.

16. Indicate an effective antidepressant with minimal autonomic toxicity:

- a) Amitriptyline
- b) Fluoxetine
- c) Imipramine
- d) Doxepin

17. The principal mechanism of action of antidepressant agents is:

- a) Stabilization of dopamine and beta-adrenergic receptors
- b) Inhibition of the storage of serotonin and epinephrine in the vesicles of presynaptic nerve endings
- c) Blocking epinephrine or serotonin reuptake pumps
- d) Stimulation of alpha<sub>2</sub>-norepinephrine receptors

18. Lithium carbonate is useful in the treatment of:

- a) Petit mal seizures
- b) Bipolar disorder
- c) Neurosis

d) Trigeminal neuralgia

19. Which of the following antipsychotic agents is preferable in patients with coronary and cerebrovascular disease?

a) Chlorpromazine

b) Fluphenazine

c) Haloperidol

d) Perphenazine

20. Indicate the non-narcotic analgesic, which lacks an anti-inflammatory effect:

a) Naloxone

b) Paracetamol

c) Metamizole

d) Aspirin

21. Narcotics analgesics should:

a) Relieve severe pain

b) Induce loss of sensation

c) Reduce anxiety and exert a calming effect

d) Induce a stupor or somnolent state

22. Alcohol causes an acute increase in the local concentrations of:

a) Dopamine

b) Opioid

c) Serotonin

d) All of the above

23. Which of the following antiparkinsonian drugs has also been used to treat hyperprolactinemia?

a) Benztropine

b) Bromocriptine

c) Amantadine

d) Levodopa

24. The drug of choice in the treatment of petit mal (absence seizures) is:

a) Phenytoin

b) Ethosuximide

c) Phenobarbital

d) Carbamazepine

25. Which of the following hypnotic drugs is used intravenously as anesthesia?

a) Thiopental

b) Phenobarbital

c) Flurazepam

d) Zolpidem

26. Which of the following agents is preferred in the treatment of insomnia?

a) Barbiturates

b) Hypnotic benzodiazepines

c) Ethanol

d) Phenothiazide

27. Hypnotic drugs are used to treat:

a) Psychosis

b) Sleep disorders

c) Narcolepsy

d) Parkinsonian disorders

28. Indicate an anti-absence drug:

a) Valproate

b) Phenobarbital

c) Carbamazepine

d) Phenytoin

29. The most effective drug for stopping generalized tonic-clonic status epilepticus in adults is:

a) Lamotrigine

b) Ethosuximide

c) Diazepam

d) Zonisamide

30. The most common dose-related adverse effects of carbamazepine are:

a) Diplopia, ataxia, and nausea

b) Gingival hyperplasia, hirsutism

c) Sedation, physical and psychological dependence

d) Hemeralopia, myasthenic syndrome

**SECTION B: Answer ALL the questions**

**(40 marks)**

1. Briefly classify drugs acting on endocrine system based on chemical nature giving an example in each (3 marks)
2. Briefly describe the classes of Group two (2) hormones citing an example in each (3 marks)
3. Outline the types of human insulin with a viable example (4 marks)
4. Briefly describe any four (4) Oral hypoglycemics (8 marks)
5. highlight any five (5) drugs pituitary drugs (5 marks)
6. Outline three (3) indications of ethinyl estradiol (3 marks)
7. Outline four (4) Progestin-Only Contraceptives (4 marks)
8. Short notes on selective serotonin (5marks)
9. Briefly describe drugs used in management of Gout (5 marks)
- SECTION C: Choose any two questions (40 marks)
- 10)(a) What do understand by the term SERMS (2marks)
  - b) Outline any three (3) examples of (i) (3 marks)
  - c) Classify drugs acting on the central nervous system (15 marks)
11. Describe the classes of drugs used in the management of epilepsy (20marks)
12. Describe citing appropriate examples
  - (i) Classification of cytotoxic drugs (10marks)
  - (ii) Antiretrovirals (10marks)