



TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Applied and Health Sciences

DEPARTMENT OF MEDICAL SCIENCES

DIPLOMA IN PHARMACEUTICAL TECHNOLOGY

(DPT 11M)

APM 2212: PHARMACOLOGY AND THERAPEUTICS II

SUPPLEMENTARY/SPECIAL EXAMINATIONS

SERIES: FEBRUARY 2013

TIME: 2 HOURS

INSTRUCTIONS:

- Answer **ALL** questions in Sections **A** and **B**. then answer any **THREE** questions in Section **C**.

This paper consists of Seven printed pages.

SECTION A (40 MARKS) Answer All questions

1. High blood glucose is known as _____ whereas low blood glucose is known as _____
 - A. Glucosuria, Gluconura
 - B. Hyperglycemia, Hypoglycemia
 - C. Hyperglycemia, Fasting sugar
 - D. Glucose tolerance, Glucose intolerance
2. Hyperglycemia can be diagnosed using the following signs and symptoms EXCEPT
 - A. Increased thirst
 - B. Fatigue
 - C. Blurred vision
 - D. Dark skin
3. Treatment can have the following characteristics EXCEPT
 - A. Curative
 - B. Final
 - C. Symptomatic
 - D. Supportive
4. Basic components of clinical pharmacy include which 2 of the following:
 - A. Counselling
 - B. Microscopic detection of disease
 - C. Preventing medication errors
 - D. Reconstruction of prosthetic devices
5. Complications in pregnancy include all the following EXCEPT
 - A. Twins
 - B. Back pain
 - C. Contractions
 - D. Edema
6. An autoimmune disorder will NOT result in which of the following:
 - A. Destruction of one or more types of body tissue
 - B. Abnormal growth of an organ
 - C. Changes in organ function
 - D. Decrease in intellectual function
7. The role of anticholinergic drugs in the management of parkinsonism is to:
 - A. Prevent nausea and vomiting
 - B. Control extrapyramidal side effects
 - C. Increase dopamine levels in the brain
 - D. Inhibit metabolism of dopamine
8. Phase II metabolic reactions involve:
 - A. Conjugation
 - B. Reduction
 - C. Hydrolysis
 - D. Oxidation

9. Status epilepticus is effectively managed using
 - A. Valproate
 - B. Ethosuccimide
 - C. Carbamazepine
 - D. Diazepam

10. Pralidoxime is used as an antidote in organophosphate poisoning because it:
 - A. Inhibits acetylcholinesterase
 - B. Regenerates active acetylcholinesterase
 - C. Regenerates active acetylcholine
 - D. Stimulates production of acetylcholine

11. Vomiting is not recommended following ingestion of a corrosive acid because of:
 - A. Risk of more injury to esophageal mucosa
 - B. Chances of aspiration pneumonia
 - C. It may not precipitate convulsions
 - D. It may precipitate convulsions

12. Addition of adrenaline to a local anesthetic causes all of the following EXCEPT
 - A. Reduces systemic toxicity
 - B. Makes injection less painful
 - C. Prolongs duration of action
 - D. Provides a bloodless field for surgery.

13. The first pass effect occurs most often after which route of administration:
 - A. Oral
 - B. Sublingual
 - C. Intravenous
 - D. Subcutaneous

14. Which of the following properties would characterize a drug when it is bound to plasma albumin
 - A. It is biologically inactive
 - B. It can pass through the glomerulus
 - C. It usually can become unbound
 - D. It is promptly metabolized

15. Tissues that often are not readily accessible to drugs include which of the following?
 - A. Fetus
 - B. Kidney
 - C. Brain
 - D. Testes

16. A 15 year old girl presents with complaints of frequent migraine headaches. Which 2 of the following drugs might help to prevent them?
 - A. Aspirin
 - B. Propranolol
 - C. Ibuprofen

- D. Methysergide
17. Dopamine can be used to treat which 2 of the following:
- A. Parkinson's disease
 - B. Cardiogenic shock
 - C. Side effects of phenothiazines
 - D. Congestive heart failure
18. B-Adrenergic agonists include ALL of the following EXCEPT
- A. Epinephrine
 - B. Isoproterenol
 - C. Norepinephrine
 - D. Phentolamine
19. Characteristics of amphetamine include which of the following?
- A. It is a sympatholytic agent
 - B. It causes mood elevation
 - C. It stimulates MAO
 - D. It depresses hunger centres in the hypothalamus
20. Characteristics of carbachol include which 2 of the following?
- A. It is a parasympathetic agent
 - B. It is purely muscarinic in action
 - C. It is resistant to acetylcholinesterase
 - D. It causes mydriasis
21. The least likely side effect seen in patients taking chlorpromazine for 2 months would be:
- A. Extrapyrmidal symptoms
 - B. Hypotension
 - C. Weight gain
 - D. Nausea and vomiting
22. Side effects most frequently seen with benzodiazepines include all the following EXCEPT
- A. Drowsiness
 - B. Ataxia
 - C. Lithargy
 - D. Seizures
23. Drugs that are useful in the treatment of schizophrenixia include which 2 of the following?
- A. Diphenhydramine
 - B. Fluphenaine
 - C. Promethanize
 - D. Haloperidol
24. The local anesthetic with the shortest duration of action is
- A. Procaine
 - B. Bupivacaine
 - C. Lidocaine
 - D. Mepivaccaine

25. Lidocaine has all of the following properties EXCEPT
- A. It is a therapeutically useful local anesthetic
 - B. It has a rapid onset of action
 - C. It is metabolized in the liver
 - D. Epinephrine is not required when lidocaine is administered
26. All of the following agents are frequently used as preanesthetic medication EXCEPT
- A. Diazepam
 - B. Morphine
 - C. Neostigmine
 - D. Scopolamine
27. Match each type of anesthesia with the correct anesthetic agent in questions 21 – 24
- A. Ketamine
 - B. Halothane
 - C. Droperidol [plus fentanyl plus nitrous oxide and oxygen
 - D. Thiopental
28. Dissociative anesthesia
29. Inhalation anesthesia
30. Intravenous induction anesthesia
31. Swallowing a single tablet of 500mg paracetamol means having 500mg paracetamol in the body according to
- A. Single compartment model
 - B. Double compartment model
 - C. Fick's law
 - D. Newton's law
32. Mania and depression are similar symptoms
- A. True
 - B. False
33. Increase in weight in pregnancy is not good
- A. True
 - B. False
34. Health of a patient is a responsibility of
- A. The nurse
 - B. Availability of food
 - C. The patient
 - D. Both Doctor and nurse
35. Vomiting can cause one of the following
- A. Increase in chest size

- B. Decrease in intellectual function
- C. Mallory weiss tears
- D. Elongation of the esophagus

SECTION B (40 MARKS)

- 41. Explain the difference between chronotropic and inotropic effects of drugs. **(4 marks)**
- 42. Define Therapeutic Index (TI) and write its formula. **(4 marks)**
- 43. What is biotransformation and list 4 types of biochemical reactions involved in drug metabolism. **(6 marks)**
- 44. Outline 2 therapeutic uses of epinephrine. **(4 marks)**
- 45. Write 2 synonyms of sympathetic antagonists. **(4 marks)**
- 46. Classify propranolol and write 2 adverse effects of this drug. **(4 marks)**
- 47. Explain the effects of Acetylcholine on the GIT and eye. **(4 marks)**
- 48. Outline 3 factors that affect drug absorption from the GIT. **(6 marks)**
- 49. Name 2 neuromuscular blocking drugs. **(2 marks)**

SECTION C (Answer any THREE questions) 60 marks)

- 50. a) Explain enhancement of drug effects under the following headings with suitable examples
 - i) Additive drug effects
 - ii) Synergism
 - iii) Potentiation **(12 marks)**
- b) Explain 4 adverse effects of amphetamine. **(8 marks)**
- 51. a) Classify neuromuscular blockers with 2 examples each. Explain their mechanisms of action. **(10 marks)**
- 52. Classify barbiturates with one example of each and explain the mechanism of action. **(10 marks)**
- 52. a) Outline 4 adverse effects of vomiting. **(10 marks)**
- b) Explain 4 complications in pregnancy. **(10 marks)**
- 53. Outline 4 examples of alimentary routes of drug administration and 4 examples of parenteral routes of administration explaining 4 advantages and 4 disadvantages of parental route of administration. **(20 marks)**
- 54. Explain the mechanism of action of organophosphate drugs list 3 examples of the drugs. Outline 5 adverse effects of these drugs and explain the treatment of organophosphate poisoning. **(20 marks)**