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**JOMO KENYATTA UNIVERSITY**

**OF AGRICULTURE AND TECHNOLOGY**

**University Examinations 2012/2013**

**YEAR II EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN MEDICAL LABORATORY SCIENCE**

**MLS 2204: PHARMACOLOGY AND PHARMACOGNOSY**

## DATE: AUGUST 2012 TIME: 2 HOURS

**INSTRUCTIONS:**

* **ANSWER ALL QUESTIONS IN SECTION A AND B AND ONLY ONE QUESTION IN SECTION C.**
* **A WRONG ANSWER OR GUESS WORK WILL RESULT IN A PENALTY OF 0.5 MARKS**

**SECTION A - ANSWER ALL QUESTIONS**

1. Define pharmacology;

a) Is the study of drugs

b) Is the science of drugs

c) Is the kinetics of drugs

d) Is the history of drugs

2. What is a USA pharmacopoeia?

a) A USA book

b) A book on drug description and formulation

c) A pharmacodynamic book

d) None of the above

3. The following are drug brand names except:

a) Dawanol

b) Calpol

c) 2-Isopranol-3-ethyl

d) Synadol

4. Which of the following statements is false?

a) Suramin is an orphan drug

b) Topical is a local route of drug administration

c) Solid is a physical property of a drug

d) None of the above

5. The following are chemical properties of a drug except:

a) Tablet

b) pH

c) Solubility

d) Stability

6. Which of the following statements is true?

a) Essential drugs are multiple compounds

b) Suppositories are administered by topical route

c) Elimination is a pharmaco-kinetic parameter

d) b and c

7. Drugs are transported across the biological membrane by:

a) Passive diffusion

b) Pinocytosis

c) Filtration

d) All the above

8. Which of the following statements is false

a) Active transport is classified as carrier transport

b) Concentration gradient affects transport across the membrane

c) Oxidation is a synthetic reaction

d) All the above

9. Tetracyclines are bound to ----------------plasma a proteins

a) Globulin

b) Albumin

c) a and b

d) P-glycoprotein

10. Apparent volume of distribution (V) is equal to:

a) V = 

b) V = 

c) 

d) None of the above

11. Which of the following statements is false?

a) Tetracyclines accumulates in the liver

b) Chloroquine accumulates in the retina

c) Iodine accumulates in the thyroid

d) Chloramphenicol binds to teeth

12. Half life (t½) is equal to;

a) t½ = 0.693 x 

b) t½ = 0.693 x 

c) t½ = 0.593 x 

d) t½ = 0.593 x 

13. Antagonist is defined as:

a) A receptor activator

b) A specific binding site

c) A preventor of action of an agonist on a receptor

d) None of the above

14. Which of the following statements is true?

a) Aligand is a molecule which attaches selectively to particular receptor or sites.

b) Aligand is a molecule which attaches non-selectively to particular sites

c) Type I receptors are located in plasma membrane

d) a and c

15. Loading dose is equal to:

a) 

b) 

c) 

d) None of the above

16. Type II receptors are located in?

a) Cells

b) Cytoplasm

c) a and b

d) Nucleus

17. Which of the following is a mode of drug action?

a) Non specific inhibition of enzymes

b) Specific inhibition of enzymes

c) a and b

d) Minimum inhibition

18. Drugs frequently causing allergic reactions are?

a) Augmentin

b) Penicillins

c) Tetracyclines

d) b and c

19. Which of the following statements is true?

a) Idiosyncrasy is genetically determined normal reactivity to a chemical

b) Idiosyncrasy is genetically determined abnormal reactivity to a chemical

c) Chloroquine may cause vomiting in some patients

d) b and c

20. Types of adverse effects include:

a) Predictable

b) Type A

c) Unpredictable

d) All the above

**SECTION B – ANSWER ALL QUESTIONS**

21. Outline factors governing volume of drug distribution. (6 marks)

22. Describe procedures of drug development from herbs. (6 marks)

23. Describe clearance of septrin from the body. (6 marks)

24. Outline the mechanisms of drug action. (6 marks)

25. Outline methods for prolonging antimalarial action. (6 marks)

**SECTION C – ANSWER ONLY ONE QUESTION**

26. Discuss synthetic and non synthetic reactions. (20 marks)

27. Discuss the role of microsomal and non microsomal enzymes in drug metabolism. (20 marks)

28. Discuss kinetics of drug elimination. (20 marks)