



UNIVERSITY OF EMBU

2017/2018 ACADEMIC YEAR

TRIMESTER EXAMINATION

SECOND YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE
(NURSING)

HNS 216: CLINICAL PHARMACOLOGY AND THERAPEUTICS I

DATE: AUGUST 6, 2018

TIME: 2:00-5:00PM

INSTRUCTIONS :

Answer:

All MCQs in Section A;

All Short-answer Questions in Section B

All Long-answer Questions in Section C

Cancelled work should be done neatly by crossing with a single line in the essay and by use of X in the MCQs

SECTION A: MULTIPLE CHOICE QUESTIONS (TOTAL: 20 MARKS)

1. One of the following is true:
 - a) Intravenous administration provides a rapid response only when administered as an infusion
 - b) Intramuscular administration requires non-sterile technique
 - c) Inhalation provides slow access to the general circulation
 - d) Subcutaneous administration may cause local irritation

2. What is the type of drug-to-drug interaction which is connected with processes of absorption, biotransformation, distribution and excretion?
 - a) Pharmacodynamic interaction
 - b) Physical and chemical interaction
 - c) Pharmaceutical interaction

- d) Pharmacokinetic interaction
3. Which is the main inhibitory nonadrenergic_noncholinergic (NANC) neurotransmitter in the airway?
- a) Noradrenaline.
 - b) Excitatory peptides
 - c) Nitric Oxide (NO)
 - d) Adrenaline
4. Which one of the following is a correct statement
- a) Half-life refers to the time taken for drug plasma concentration to reduce by 50%.
 - b) Half-life is the same as shelf-life of a drug
 - c) Drugs get metabolized by active and passive diffusion.
 - d) toxic concentration is the same as maximum plasma concentration
5. Which of the following characteristics is detrimental to oral drug activity?
- a) stability to digestive enzymes
 - b) susceptibility to metabolic enzymes
 - c) stability to stomach acids
 - d) Good lipophilicity enabling good absorption
6. Which of the following adrenergic receptor activation mechanisms is involved with tricyclic antidepressants and cocaine?
- a) Direct binding to the receptor
 - b) Promoting release of norepinephrine
 - c) Inhibiting reuptake of norepinephrine
 - d) Inhibiting inactivation of norepinephrine
7. Half-life refers to
- a) Time taken to reduce concentration of a drug by half

- b) Shelf life
 - c) Time taken to absorb drugs
 - d) Time taken to have 50% of effects
8. A client with flu is prescribed OTC cough suppressant containing codeine. What information should you teach concerning this medication?
- a) Take every 4-8 hours as needed
 - b) Medication can cause addiction if taken for too long
 - c) Do not drive or operate machinery while taking the drug
 - d) Do not take a β -blocker while on this medication
9. Muscarinic receptors
- a) M1, M2 and M3 are excitatory
 - b) M2 and M4 are inhibitory
 - c) Are stimulated by muscarine
 - d) All the above
10. Parasympathetic drugs cause
- a) Bronchodilation
 - b) Mydriasis
 - c) Bradycardia
 - d) Constipation
11. Mucolytics
- a) Aid in removal of mucus from the airways
 - b) Aid the mucus production in the airways
 - c) Are contraindicated in COPD
 - d) Work by strengthening polypeptide links in mucus
 - e) Act on the central nervous system to suppress a cough.
12. The following contribute to irrational use of medicines.
- a) The government in policy making and effecting only
 - b) Drug companies only
 - c) Healthcare professionals only
 - d) Multiple sectors involved in handling of drugs

13. Which statement closely describes affinity of drugs.
- a) A measure of how tightly a drug binds to plasma proteins
 - b) A measure of how tightly a drug binds to a receptor
 - c) A measure of inhibiting potency of a drug
 - d) A measure of bioavailability of a drug
14. Select the antihistamine which is a H₂ receptor antagonist
- a) Loratadine
 - b) Cetirizine
 - c) Ranitidine
 - d) Azelastine
15. Prostaglandins, histamines and serotonin all belong to a group of endogenous compounds called
- a) Biogenic amines
 - b) Autacoids
 - c) Neurotransmitters
 - d) None of the above
16. Drug used to treat helminthes infestation
- a) Omeprazole
 - b) Antacids
 - c) Amoxicillin
 - d) Albendazole
17. Expectorants
- a) Decrease viscosity of respiratory secretions
 - b) Stimulate secretions to increase volume of secretions and flow
 - c) Facilitate removal of productive coughs
 - d) All the above
 - e) None of the above

18. Drugs that inhibit the liver cytochrome P450 enzymes
- a) Lead to elevated plasma levels of another drug and toxicity/bleeding
 - b) Lead to increased metabolism of another drug hence sub-therapeutic plasma levels
 - c) Increase excretion of another drug
 - d) Increase release of another drug from protein binding
19. Which one is an antiviral drug active against Herpes Zoster virus
- a) Aciclovir
 - b) ketoconazole
 - c) Clotrimazole
 - d) Tinidazole
20. Antimalarial drugs include
- a) Griseofulvin
 - b) ergotamine
 - c) Mefloquine
 - d) Propranolol

SECTION B: ANSWER ALL THE QUESTIONS IN THIS SECTION (40 MARKS; USE THE ANSWER BOOKLET PROVIDED)

1. Define a toxin and what sets it apart from a poison. (5 marks)
2. What is the mechanism of action of atropine (antagonist) in acetylcholine (against) toxicity and what are its side effects (5 marks)
3. List **Three** uses of drugs and classify sources of drugs (5 marks)
4. Describe 5 types of complementary and alternative therapy (5 marks)
5. Explain how PH influences kinetics of drugs (5 marks)
6. Name 5 classes of antibiotics and common mechanisms by which bacteria of develop drug resistance (10 marks)
7. Describe scheduling of medicinal substances (drugs) under Cap 244. (5 marks)

Reg No.

SECTION C: ANSWER ALL THE QUESTIONS IN THIS SECTION (40 MARKS; USE THE ANSWER BOOKLET PROVIDED)

1.
 - a) Classify drug regimen used to manage tuberculosis (10 marks)
 - b) Drug regimen used for postexposure prophylaxis and the reasons behind using combined drug regimens (10 marks)

2.
 - a) Discuss pathogenesis of HIV (5 marks)
 - b) Classify drugs used to manage HIV with examples and discuss their mechanism of action (15 marks)

--END--