

**FACULTY OF HEALTH SCIENCES
DEPARTMENT OF NURSING SCIENCE**



PROGRAMME : POST BASIC PHARMACOLOGY FOR NURSING SCIENCE

SUBJECT : MODULE 3: SPECIFIC DRUGS PART 3
MODULE 4: POST BASIC PHARMACOLOGY IN NURSING-
SPECIFIC DRUGS PART 4

CODE : FAR0003/FAR02B2

DATE : NOVEMBER EXAMINATION 2016

DURATION : 3 HOURS

TOTAL MARKS : 100

EXAMINER : MS PS ZIBI

MODERATOR : MR BS MATLALA

NUMBER OF PAGES: THIS PAPER CONSISTS OF SIX (6) PAGES

INSTRUCTIONS : ANSWER ALL QUESTIONS.
(1) MARK PER FACT UNLESS OTHERWISE INDICATED

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MODULE 3

QUESTION 1

Match the drug in **Column A** with the mode of action in **Column B**. Write only the number and alphabet e.g. **1.11 (a)**. The answer in column B can be used only once. ***[10]**

COLUMN A	COLUMN B
1.1 Ganisetron	(a) Blocks the Histamine ₁ receptors for nausea and vomiting
1.2 Promethazine	(b) Is classified as a corticosteroid
1.3 Lorazepam	(c) Blocks the Dopamine receptors in the CTZ
1.4 Dexamethasone	(d) Is a benzodiazepam that treats anticipation nausea and vomiting
1.5 Metoclopramide	(e) is not an antiemetic
1.6 Nabilone	(f) Blocks Histamine ₂ receptors
1.7 Aprepitant	(g) Leads to achlohydria
1.8 Chlorpromazine	(h) Is a phenothiazine
1.9 Ranitidine	(i) Is a cannabis drug that doctors prefer to use for nausea and vomiting
1.10 Cyclizine	(j) Is used both for psychosis and vomiting

QUESTION 2

Please write the correct answer on the multiple choice questions in your answer book. Only one (1) answer is correct ***[10]**

- 2.1 Which one of the following drugs is an anticonvulsant? (1)
- Lithium
 - Loperamide
 - Sucralfate
 - Carbamazepine
- 2.2 The following drugs are neuroleptic drugs except: (1)
- Theoridazone
 - Clozapine
 - Haloperidol
 - Lamotrigine
- 3/...

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- 2.3 Which drug is prescribed as a mood stabiliser? (1)
- a. Risperidone
 - b. Aripiprazole
 - c. Lithium
 - d. Levodopa
- 2.4 A patient with status epilepticus should receive the following drug immediately. (1)
- a. Lamotrigine
 - b. Spironolactone
 - c. Diazepam
 - d. Valproic acid
- 2.5 Rohypnol the so called date rape drug: (1)
- a. is classified as a narcotic analgesic.
 - b. is classified as a benzodiazepine
 - c. has no central nervous system effects.
 - d. is freely available as an over the counter medication
- 2.6 Carbidopa. (1)
- a. Interacts directly with the dopamine receptors to increases dopamine levels.
 - b. Is used in the treatment of psychosis
 - c. Causes sedation
 - d. Prevents the decarboxylation of Levodopa.
- 2.7 Bromocriptine: (1)
- a. Promotes bowel action
 - b. Relieves pain
 - c. Is a dopamine agonist
 - d. Sedation
- 2.8 Which of the following is not a side effect of Phenothiazine (1)
- a. Extra Pyramidal Signs
 - b. Gynaecomastia
 - c. Pseud Parkinsonism
 - d. Insomnia

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- 2.9 A patient who is on MAO inhibitor should avoid the following: (1)
- a. Cheese and red wine
 - b. Ice cream, milk and butter
 - c. Beer and bread
 - d. Bananas
- 2.10 Omeprazole: (1)
- a. Is a proton pump inhibitor
 - b. Is a histamine₂ antagonist
 - c. An antacid
 - d. None of the above

QUESTION 3

Answer the following questions by stating whether the question is **TRUE** or **FALSE**. **Do not rewrite the whole sentence just answer 3.1= K** ***[10]**

- 3.1. Histamine₂ antagonists reduce the formation of gastric acid (1)
- 3.2 Proton pump inhibitors block the sodium/ potassium ATPase (1)
- 3.3 Stimulants that cause a release of dopamine in the induction of nausea and vomiting are oestrogens and progesterone (1)
- 3.4. Fluoxetine inhibits the reuptake of both serotonin and nor adrenaline (1)
- 3.5 Amitriptyline is a selective serotonin reuptake inhibitor (1)
- 3.6 Lorazepam can be used for a patient diagnosed with anxiety (1)
- 3.7 Haloperidol is a low potency antipsychotic drug (1)
- 3.8 Chlorpromazine is a high potency antipsychotic drug (1)

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3.9 Phenobarbitone is not effective in the treatment of psychosis (1)

3.10 Prochlorperazine is used as an antiemetic and as an antipsychotic (1)

QUESTION 4

4.1. Design health education strategies that will help a patient who is on anti-depressants for the first time *[10]

QUESTION 5

Use the following table to answer the questions below. Fill in the rest of the table with the correct answers: *[10]

NAME OF DRUG	MODE OF ACTION
5.1 Lamotrigine	(2)
5.2 Diazepam	(2)
5.3 Falmate	(2)
5.4 Carbamazepine	(2)
5.5 Phenobarbital	(2)

MODULE 4

QUESTION 6

6.1 Relate the pharmacological action of the following drugs to the pathophysiology of HIV/AIDS

6.1.1 Zidovudine

6.1.2 Emtricitabine

6.1.3 Ritonavir

6.1.4 Maraviroc

6.1.5 Enfuvirtide (10)

6.2 Explain the health education you would give to a patient who is on ARVS for the first time to promote adherence (10)

***[20]**

6/...

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QUESTION 7

Match the statements in **Column A** to the drugs in **Column B**. Write only the number and alphabet e.g. **7.3 (a)**. The answer in column B can be used only once. ***[10]**

COLUMN A	COLUMN B
7.1 Closely related to penicillin	(a) Penicillin
7.2 Inhibit protein synthesis	(b) Cephalosporin
7.3 Is a broad spectrum antibiotic	(c) Ampicillin
7.4 Treats urinary tract infections	(d) Erythromycin
7.5 Beta- Lactamase Inhibitor	(e) Ciprofloxacin
7.6 Is used to treat serious infections	(f) Isoniazid
7.7 Used to treat UTI, bones, joints and skin infections	(g) Metronidazole
7.8 Kills anaerobic infections only	(h) Tetracycline
7.9 Very reliable anti TB treatment	(i) Trimethoprim
7.10 Narrow spectrum antibiotic	(j) Vancomycin

QUESTION 8

Explain how you would manage the complications arising from continuous insulin injection for a sixteen year old teenager ***[10]**

QUESTION 9

Explain the benefits of the following drugs in the treatment of migraine: ***[10]**

- | | | |
|-----|---------------|-----|
| 9.1 | Beta blockers | (4) |
| 9.2 | Sumatriptan | (2) |
| 9.3 | Ergotamine | (2) |
| 9.4 | Naproxen. | (2) |

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MODULE 3

QUESTION 1

Use the following table to answer the questions below. Fill in the rest of the table with the correct answers: *[20]

NAME OF DRUG	MODE OF ACTION
1.1 Carbidopa	2 marks
1.2 Levodopa	2 marks
1.3 Chlorpromazine	2 marks
1.4 Aripiprazole	2 marks
1.5 Risperidone	2 marks
1.6 Haloperidol	2 marks
1.7 Fluphenazine	2 marks
1.8 Amitriptyline	2 marks
1.9 Venlafaxine	2 marks
1.10 Olanzapine	2 marks

QUESTION 2

Please write the correct answer in your answer sheet. Only one answer is correct. Do not rewrite the whole sentence, only write the correct answer next to the number of the question, e.g. 1.2.1 = e *[10]

- 2.1. What is the realistic outcome for the patient receiving drug therapy for Parkinson's disease (PD)?
- Absence of tremor
 - A normal gait
 - Improved ability to perform activities of daily living
 - Reversal of neurodegeneration

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- 2.2. Why treatment with levodopa alone is no longer recommended?
- Effects are not long-lasting and dyskinesia can occur
 - Research suggest that the drug is not effective.
 - Significant relief takes years to occur.
 - The drug does not cross the blood-brain barrier.
- 2.3. How does Selegiline improve mild PD symptoms?
- Block acetylcholine simulation of GABA release
 - Inhibit the enzyme that breaks down dopamine
 - Blocks the effect of GABA on skeletal muscles
 - Increase dopamine
- 2.4. Carbidopa combination now prescribed instead of levodopa (L-Dopa) alone. What is the effect of the addition of carbidopa to the regimen?
- It adds to the therapeutic effects because carbidopa more readily crosses the blood-brain barrier than levodopa.
 - It allows for an increase in levodopa dosage without significant adverse effects
 - It decreases adverse effects such as nausea and vomiting.
 - It inhibits the conversion of levodopa to dopamine in the intestines and in tissue outside the CNS.
- 2.5. What is the mechanism of action of Phenytoin)?
- Bind to sodium channels when they are in the inactive state
 - Block the action of glutamate at NMDA and AMPA receptors
 - Impair influx of calcium in axon terminal to prevent transmitter release
 - Inhibit the action of the neurotransmitter GABA
- 2.6. Which problem is most likely to occur with carbamazepine (Tegretol) therapy?
- Sedation
 - Sodium dilution in plasma
 - Swelling and discoloration of the hands and arms
 - Swollen gums

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- 2.7. The nurse instruct patients who have just received a prescription for carbamazepine (Tegretol) to avoid consuming grapefruit juice for which time period?
- a. Four hours after taking the medication
 - b. No more than twice a week when taking the medication
 - c. Not at all when taking the medication
 - d. Two hours before taking the medication
- 2.8. Which of these findings, in a patient who has been receiving a neuroleptic antipsychotic, is of highest priority and should be reported to the prescriber immediately?
- a. Agitation
 - b. Difficulty speaking
 - c. Involuntary movement of the tongue
 - d. Sudden, whole-body muscle contraction
- 2.9. When assessing a patient who is receiving an antidepressant, which question would be of greatest priority for the nurse to ask?
- a. "Are you concerned about weight gain when you take medication?"
 - b. Are you having any thoughts about doing anything that could harm yourself?"
 - c. Do you experience dizziness when you stand up?"
 - d. "Have you had any difficulty voiding?"
- 2.10. It would be of greatest priority for the patient to report which adverse effect of valproic acid?
- a. Abdominal pain
 - b. Belching
 - c. Hair loss
 - d. Weight gain

QUESTION 3

- 3.1 Classify the following anticonvulsants drugs according to their mode of action and indicate the similarities and differences in their mode of action. ***[10]**

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- 3.1.1 Topiramate
- 3.1.2 Lamotrigine
- 3.1.3 Valproic Acid
- 3.1.4 Ethosuximide
- 3.1.5 Gabapentin

QUESTION 4

Design health education strategies that you would identify for a patient who is on Non-Steroidal Anti-inflammatories

***[10]**

MODULE 4

QUESTION 5

Answer all the multiple choice questions (5.1- 5.10) in your examination book. Write down only the number and the correct alphabet) e.g. 1d.

***[10]**

5.1 Aldosterone:

- (a) promotes the reabsorption of sodium and water
- (b) is the hormone involved in Cushing's syndrome
- (c) causes sodium and water loss
- (d) is a releasing hormone.

(1)

5.2 Adverse effects of prednisone are:

- (a) moon face
- (b) peptic ulcers
- (c) hypertension
- (d) all of the above.

(1)

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- 5.3 Beclomethasone:
- (a) is well absorbed into the systemic circulation
 - (b) can be used for an acute attack of asthma
 - (c) has side-effects that are more important than the therapeutic effects
 - (d) none of the above. (1)
- 5.4 Concurrent intake of Aspirin and Prednisone can result in:
- (a) ulceration of gastric mucosa
 - (b) muscle weakness
 - (c) liver toxicity
 - (d) constipation. (1)
- 5.5 Hyperthyroidism can be treated with:
- (a) Lugol's iodine
 - (b) steroids
 - (c) levothyroxine
 - (d) all of the above. (1)
- 5.6 Foods that inhibit thyroid secretion are:
- (a) shell fish
 - (b) spinach
 - (c) salts
 - (d) all of the above. (1)
- 5.7 Levothyroxine sodium will:
- (a) increase the effect of warfarin
 - (b) increase the effect of digoxin
 - (c) decrease the effect of insulin
 - (d) none of the above. (1)
- 5.8 Metformin is used:
- (a) in overweight patients with Type II (Two) diabetes mellitus
 - (b) in patients with type 1 diabetes
 - (c) in pregnant patients
 - (d) in patients with liver failure. (1)

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- 5.9 Progesterone only pills:
- (a) are as effective as combination pills
 - (b) alter the endometrium by inhibiting implantation
 - (c) suppress the release of FSH and LH
 - (d) predispose to varicose veins. (1)
- 5.10 Testosterone:
- (a) is secreted by the luteinising hormone
 - (b) is responsible for the depth of the male voice
 - (c) regulates female hormones
 - (d) is a major female hormone. (1)

QUESTION 6

Mr. Jones is known to be suffering from diabetes mellitus. He is now admitted with abscesses on the thigh and abdomen where he usually injects himself with short acting Insulin 6-hourly. The doctor has prescribed Augmentin and Aspirin tablets.

- 6.1 Give a critical analysis of this case study regarding the reasons why the patient got abscesses and the reason why the patient was prescribed Augment and Aspirin. Write down all the conclusions you have made regarding the development of abscesses and the medication prescribed. (10)
- 6.2 Mr. Jones is now admitted with abscesses on the thigh and abdomen where he usually injects himself with short acting Insulin 6-hourly. The doctor has prescribed Augmentin and Aspirin tablets for pain.
- 6.2.1 Give a critical analysis of this case study regarding the medication given to the patient and write down all the conclusions you have made regarding the medication. (10)

***[20]**

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QUESTION 7

Use the following table to answer the questions below regarding anti-TB drugs. Fill in the rest of the table with the correct answers: *[20]

NAME OF DRUG	MODE OF ACTION
7.1 INH (Isoniazid)	2 marks
7.2 Rifampicin	2 marks
7.3 Ethambutol	2 marks
7.4 Pyrazinamide	2 marks
7.5 Pyridoxine	2 marks
7.6 Streptomycin	2 marks
7.7 Capreomycin	2 marks
7.8 Levofloxacin	2 marks
7.9 Rifabutin	2 marks
7.10 Kanamycin	2 marks

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