



UNIVERSITY OF SWAZILAND
Faculty of Health Sciences
Department of General Nursing Science

FINAL EXAMINATION PAPER MAY 2018

TITLE OF PAPER : PHARMACOLOGY FOR NURSES
COURSE CODE : GNS 208
DURATION : 2 HOURS
MARKS : 75

INSTRUCTIONS : READ THE QUESTIONS & INSTRUCTIONS CAREFULLY
: ANSWER **ALL THREE** QUESTIONS
: WRITE NEATLY & CLEARLY
: QUESTION 1 HAS TWO SECTIONS (SECTION A AND SECTION B).
: BEGIN EACH QUESTION ON A SEPARATE SHEET OF PAPER.
: THIS PAPER HAS SIX PRINTED PAGES

DO NOT OPEN THIS QUESTION PAPER UNTIL PERMISSION IS GRANTED BY THE CHIEF INVIGILATOR.

QUESTION 1

SECTION A: MULTIPLE CHOICE

Choose one response that best answers the question, e.g. 17. D(1 mark / correct response)

1. This 72-year-old bedridden patient had been taken to the Radiology department for an abdominal ultrasound scan at 14h00. Hence, he did not receive his medication which was due to him in the ward at that time. The most appropriate nursing diagnosis in this case is:
 - A. Ineffective therapeutic regimen management
 - B. Noncompliance to therapeutic regimen
 - C. Impaired physical mobility
 - D. Ineffective health maintenance

2. According to the W.H.O Analgesic Ladder, the treatment of moderate pain is as follows:
 - A. Opioid ± Non opioid ± Adjuvant
 - B. Opioid + Non opioid + Adjuvant
 - C. Opioid ± Non opioid + Adjuvant
 - D. Opioid + Non opioid ± Adjuvant

3. In this pregnancy category, fetal risk arising from the drug use cannot be ruled out, and the drug is given only when the benefits of giving the drug outweigh the risks of not giving the drug
 - A. Pregnancy Category B
 - B. Pregnancy Category A
 - C. Pregnancy Category C
 - D. Pregnancy Category D

4. In the general drug schedules, prescription drugs are listed as:
 - A. Schedule 3 to Schedule 5 drugs
 - B. Schedule 0 to schedule 2 drugs
 - C. Schedule 3 to schedule 8 drugs
 - D. Schedule 1 to schedule 9 drugs

5. Narcotic analgesics such as morphine are classified as:
 - A. Schedule III controlled drugs and schedule 7 general drug schedule
 - B. Schedule III controlled drugs and schedule 6 – 7 general drug schedule
 - C. Schedule II controlled drugs and schedule 7 general drug schedule
 - D. Schedule II controlled drugs and schedule 6 general drug schedule

6. Which type of drug is likely to be included as part of pharmacotherapy for Mandla who has the grand mal type of epilepsy?
- A. Chlopromazine
 - B. Chlorthiazide
 - C. Epilim
 - D. Diazepam
7. In synergistic drug to drug interaction,
- A. the combined effect of two drugs is equal to the sum of each drug given alone.
 - B. drugs interact with each other and produce an effect that is greater than the sum of their separate actions
 - C. one drug interferes with the action of another, causing neutralization or a decrease in the effect of one drug
 - D. one drug overtakes the other during distribution
8. 'Active transport' implies:
- A. Transport of drugs through a membrane by means of diffusion.
 - B. Transport without energy consumption.
 - C. Chemical structure of medical agent.
 - D. Distribution of drugs in the organisation.
9. Drug distribution is influenced by all of the following, except:
- A. Oxygen saturation
 - B. Blood flow
 - C. Protein binding
 - D. Tissue availability
10. One of the following statements is not true about diazepam:
- A. It is used as a muscle relaxant
 - B. It is classified as an anticonvulsant drug
 - C. It is a GABAergic drug
 - D. It has sedative properties
11. The FDA approved the use of stimulants in the treatment of all of the following, except:
- A. Attention deficit hyperactivity disorder (ADHD)
 - B. Narcolepsy
 - C. Weight reduction
 - D. Depression

12. Nontobeko is going to Nigeria for a workshop. She will need to start prophylactic treatment of:
- A. Metronidazole
 - B. Ampicillin
 - C. Chloroquine
 - D. Tetracycline
13. Aspirin is contraindicated in the third trimester of pregnancy because:
- A. It causes patent ductus arteriosus after delivery
 - B. It causes constriction of the ductus arteriosus
 - C. It inhibits the development of the ductus arteriosus
 - D. It inhibits the formation of red blood cells in the foetus
14. Which of the following drugs is effective in the management of pain that is associated with rheumatoid arthritis?
- A. Diclofenac
 - B. Paracetamol
 - C. Pethidine
 - D. Tramadol
15. Corticosteroids as adjuvant analgesics act by
- A. Preventing the reuptake of serotonin at the synaptic cleft
 - B. Reducing oedema and inflammation
 - C. Inhibiting prostaglandin synthesis
 - D. Blocking sodium channels in cells
16. Sulphonamides are bacteriostatic. This means that:
- A. They actually kill the bacteria
 - B. They slow and retard the bacteria
 - C. They should be given with caution in order to be effective
 - D. They may cause bacterial resistance to antibiotics

SECTION B - DOSAGE CALCULATIONS

Show your working in all calculations

1. Thobisa, a three-year-old infant has been prescribed erythromycin oral suspension Q.I.D during her stay in your ward. Using Young's rule, calculate the amount of erythromycin she should receive each time. (3)
2. The physician has ordered 25mg of gentamycin. The label reads *add 1.3mL sterile water to yield 50mg/1.5mL.* Calculate the volume of gentamicin you will administer to your patient. (3)
3. The family nurse practitioner has ordered 1L Sodium Chloride 0.9% q6h x $\frac{1}{7}$. Calculate the drip rate. (3)

(TOTAL = 25 MARKS)

QUESTION 2

(For question 2.1 and 2.2, $\frac{1}{2}$ for correct fact, and $\frac{1}{2}$ mark for correct explanation)

- 2.1 Oral drug absorption depends on the gastric emptying time and intestinal transit time. Describe the factors that influence the gastric emptying time, as it relates to drug absorption. (4)
- 2.2 Explain why geriatric patients are highly susceptible to drug toxicity. (3)
- 2.3 Wandile, a 23 year old male is a post appendectomy day 3 patient admitted in your ward. His post-op orders were as follows: morphine 10mg I.M. q6h x $\frac{2}{7}$, ibuprofen 400mg t.d.s x $\frac{5}{7}$, metronidazole 500mg I.V. tds x $\frac{2}{7}$ as well as R/L 1000 ml I.V. 8 hrly x $\frac{2}{7}$. He reports that he is feeling a lot better since the operation site is no longer painful, but he has persistent epigastric pain.
 - a. What could be the possible explanation for the persistent epigastric pain experienced by Wandile? (2)
 - b. Describe any two common side effects of morphine likely to be experienced by Wandile (2)
 - c. Explain why metronidazole has been prescribed for Wandile (2)
- 2.4 Typical antipsychotic drugs have been traditionally used in the treatment of Schizophrenia.
 - a. Describe the pharmacodynamics of typical antipsychotics. (3)
 - b. Explain, using a clear example, what is meant by extrapyramidal effects of typical antipsychotics (3)
 - c. Mention one drug (including its class) commonly used in Swaziland to manage the extrapyramidal effects of typical antipsychotics (1)

2.5 Susceptible TB treatment involves two treatment phases, according to the WHO treatment guidelines. Using examples of drugs in each phase, explain the following phases of TB treatment:

- a. Intensive phase (3)
- b. Continuation phase (2)

(TOTAL = 25 MARKS)

QUESTION 3

3.1 Differentiate between the following concepts

- i. Pharmacodynamics and pharmacokinetics (4)
- ii Adverse drug reaction and adverse event (4)

3.2 Briefly describe the receptor regulation theory and give examples (6)

3.3 With the use of examples describe the following effects of drugs

- i Stimulation (1)
- ii Inhibition (1)
- iii Cytotoxic (1)

[1/2 mark for description of effect, 1/2 mark for example]

3.4 Drugs are administered to patients with the knowledge that they will elicit positive response on the patient. Discuss the four (4) factors that influence drug response.(8)

[1 mark for correct factor identified, 1 mark for any correct explanation under each factor]

(TOTAL = 25MARKS)

GRAND TOTAL = 75 MARKS