

**UNIVERSITY OF ESWATINI**  
**FACULTY OF HEALTH SCIENCES**  
**DEPARTMENT OF GENERAL NURSING**  
**MAIN EXAMINATIONS, October, 2021**

**COURSE TITLE: PHARMACOTHERAPEUTICS ACROSS THE LIFESPAN**

**COURSE CODE: GNS 606**

**TIME: 2HOURS**

**MARKS: 75**

**INSTRUCTIONS:**

- 1. ALL QUESTIONS ARE COMPULSORY**
- 2. SECTION ONE IS A MULTIPLE CHOICE QUESTION**
- 3. SECTION TWO IS FILL IN THE WORDS**
- 4. ANSWER ALL YOUR QUESTIONS IN THE PROVIDED ANSWER BOOKLET**

**DO NOT OPEN THE QUESTION PAPER, UNTIL YOU ARE TOLD TO DO SO !!!**

**Multiple Choice (1 Mark each)**

Identify the choice that best completes the statement or answers the question.

\_\_\_\_ 1. A client asks the NP about the differences in drug effects between men and women. What is known about the differences between the pharmacokinetics of men and women?

|   |  |
|---|--|
| 1 | Body temperature varies between men and women.       |
| 2 | Muscle mass is greater in women.                     |
| 3 | Percentage of fat differs between genders.           |
| 4 | Proven subjective factors exist between the genders. |

\_\_\_\_ 2. The first step in the prescribing process according to the World Health Organization is:

|   |  |
|---|--|
| 1 | Choosing the treatment                     |
| 2 | Educating the patient about the medication |
| 3 | Diagnosing the patient's problem           |
| 4 | Starting the treatment                     |

\_\_\_\_ 3. Patient education regarding prescribed medication includes:

|   |   |
|---|---|
| 1 | Instructions written at the high school reading level |
| 2 | Discussion of expected adverse drug reactions         |
| 3 | How to store leftover medication such as antibiotics  |
| 4 | Verbal instructions that are always in English        |

\_\_\_\_ 4. Vitamin B<sub>2</sub> (riboflavin) may be prescribed to:

|   |                                    |
|---|------------------------------------|
| 1 | Decrease the incidence of beriberi |
| 2 | Reduce headaches and migraines     |
| 3 | Prevent pernicious anemia          |
| 4 | Treat hyperlipidemia               |

\_\_\_\_ 5. A potential harmful effect on patients who take some kinds of herbal medication is:

|   |                       |
|---|-----------------------|
| 1 | Constipation          |
| 2 | Lead poisoning        |
| 3 | Diarrhea              |
| 4 | Life-threatening rash |

6. John has been prescribed clonidine, a centrally acting adrenergic blocker, for his hypertension. He should:

|   |  |
|---|--|
| 1 | Not miss a dose or stop taking the drug because of potential rebound     |
| 2 | Increase fiber in his diet to treat any diarrhea that may occur          |
| 3 | Reduce fluid intake to less than 2 L per day to prevent fluid retention  |
| 4 | Avoid sitting for long periods, as this can lead to deep vein thrombosis |

7. Which of these drugs is considered as a treatment for hypertension in women during pregnancy?

|   |                   |
|---|-------------------|
| 1 | Atenolol          |
| 2 | Methyldopa        |
| 3 | Guanfacine        |
| 4 | None of the above |

8. Carbamazepine has a black box warning due to life threatening:

|   |   |
|---|---|
| 1 | Renal toxicity, leading to renal failure                              |
| 2 | Hepatotoxicity, leading to liver failure                              |
| 3 | Dermatologic reaction, including Steven's Johnson and toxic epidermal |
| 4 | Cardiac effects, including supraventricular tachycardia               |

9. An adult female is taking valproate for seizures and would like to get pregnant. What advice would you give her?

|   |  |
|---|--|
| 1 | Valproate is safe during all trimesters of pregnancy.                                    |
| 2 | She can get pregnant while taking valproate, but she should take adequate folic acid.    |
| 3 | Valproate is not safe at any time during pregnancy.                                      |
| 4 | Valproate is a known teratogen, but may be taken after the first trimester if necessary. |

10. Angiotensin-converting enzyme (ACE) inhibitors are the drug of choice in treating hypertension in diabetic patients because they:

|   |   |
|---|---|
| 1 | Improve insulin sensitivity             |
| 2 | Improve renal hemodynamics              |
| 3 | Reduce the production of angiotensin II |
| 4 | All of the above                        |

11. Donald has been diagnosed with hyperlipidemia. Based on his lipid profile, atorvastatin is prescribed. Rhabdomyolysis is a rare but serious adverse response to this drug. Donald should be told to:

|   |  |
|---|--|
| 1 | Become a vegetarian because this disorder is associated with eating red          |
| 2 | Stop taking the drug if abdominal cramps and diarrhea develop.                   |
| 3 | Report muscle weakness or tenderness and dark urine to his provider immediately. |
| 4 | Expect 1 hot flash 1d sensations during the first 2 weeks of therapy.            |

12. Recombinant influenza vaccine may be administered annually to:

|   |                                     |
|---|-------------------------------------|
| 1 | Patients with an egg allergy        |
| 2 | Pregnant adolescent patients        |
| 3 | Patients age six weeks or older     |
| 4 | Patients with acute febrile illness |

13. An elderly person has been prescribed lactulose for treatment of chronic constipation. Monitoring with long-term treatment would include:

|   |  |
|---|--|
| 1 | Electrolytes, including potassium and chloride |
| 2 | Bone mineral density for osteoporosis          |
| 3 | Magnesium level                                |
| 4 | Liver function                                 |

14. Nonselective beta blockers and alcohol create serious drug interactions with insulin because they:

|   |  |
|---|--|
| 1 | Increase blood glucose levels                                |
| 2 | Produce unexplained diaphoresis                              |
| 3 | Interfere with the ability of the body to metabolize glucose |
| 4 | Mask the signs and symptoms of altered glucose levels        |

15. When is metformin typically initiated for glucose metabolism issues?

|   |  |
|---|--|
| 1 | Only after the HgA1C is greater than 8.0         |
| 2 | When the patient is diagnosed with prediabetes   |
| 3 | When metabolic syndrome ensues                   |
| 4 | When true diabetes mellitus type II is diagnosed |

16. Absolute contraindications that clinicians must consider when initiating oestrogen therapy include:

|   |   |
|---|---|
| 1 | Undiagnosed dysfunctional uterine bleeding                |
| 2 | Deep vein or arterial thromboemboli within the prior year |
| 3 | Endometriosis   |
| 4 | 1 and 2   |

17. Both men and women experience bone loss with ageing. The bones most likely to demonstrate significant loss that results in major impairment are:

|   |                    |
|---|--------------------|
| 1 | Cortical bones     |
| 2 | Femoral neck bones |
| 3 | Cervical vertebrae |
| 4 | Pelvic bones       |

18. Tetracyclines are safe to use in:

|   |                                   |
|---|-----------------------------------|
| 1 | Pregnant women                    |
| 2 | Adolescents                       |
| 3 | Patients with renal dysfunction   |
| 4 | Patients with hepatic dysfunction |

19. When prescribing acyclovir, patients should be educated regarding the:

|   |   |
|---|---|
| 1 | High risk of developing diarrhea                                |
| 2 | Need to drink lots of fluids during treatment                   |
| 3 | Risk for life-threatening rash such as Stevens-Johnson syndrome |
| 4 | Eccentric dosing schedule                                       |

20. Before beginning IM vitamin B<sub>12</sub> therapy, which laboratory values should be obtained?

|   |  |
|---|--|
| 1 | Reticulocyte count, hemoglobin, and hematocrit |
| 2 | Iron   |
| 3 | Vitamin B <sub>12</sub>                        |
| 4 | All of the above                               |

21. The most common cause of angina is:

|   |                                    |
|---|------------------------------------|
| 1 | Vasospasm of the coronary arteries |
| 2 | Atherosclerosis                    |
| 3 | Platelet aggregation               |
| 4 | Low systemic oxygen                |

22. Prior to starting antidepressants, patients should have laboratory testing to rule out:

|   |                     |
|---|---------------------|
| 1 | Hypothyroidism      |
| 2 | Anemia              |
| 3 | Diabetes mellitus   |
| 4 | Low estrogen levels |

23. Jaycee has been on escitalopram for a year and is willing to try tapering off of the SSRI. What is the initial dosage adjustment when tapering off antidepressants?

|   |  |
|---|--|
| 1 | Change dose to every other day dosing for a week.                    |
| 2 | Reduce dose by 50% for three to four days.                           |
| 3 | Reduce dose by 50% every other day.                                  |
| 4 | Escitalopram (Lexapro) can be stopped abruptly due to its long half- |

24. Middle-aged women report the following side effect of taking SNRIs and other antidepressants:

|   |                                   |
|---|-----------------------------------|
| 1 | Increased libido                  |
| 2 | Reduction of hot flashes          |
| 3 | Easier weight reduction           |
| 4 | Easier glucose metabolism control |

25. The most cost-effective treatment for two or three impetigo lesions on the face is:

|   |                              |
|---|------------------------------|
| 1 | Mupirocin ointment           |
| 2 | 1% Corticosteroid cream      |
| 3 | Topical clindamycin solution |
| 4 | Oral amoxicillin/clavulanate |



26. Non-pharmacologic therapy for tension headaches includes:

|   |                   |
|---|-------------------|
| 1 | Biofeedback       |
| 2 | Stress management |
| 3 | Massage therapy   |
| 4 | All of the above  |

27. Which of the following classes of drugs is contraindicated in heart failure?

|   |                              |
|---|------------------------------|
| 1 | Nitrates                     |
| 2 | Long-acting dihydropyridines |
| 3 | Calcium channel blockers     |
| 4 | Alpha-beta blockers          |

28. Heart failure patients frequently take more than one drug. When are anticoagulants typically used?

|   |                                    |
|---|------------------------------------|
| 1 | When the patient enters stage III  |
| 2 | Only in cases of diastolic failure |
| 3 | When there is concurrent AFib      |
| 4 | In all cases                       |

29. Women with an intact uterus should be treated with HRT with both oestrogen and progestin due to:

|   |  |
|---|--|
| 1 | Increased risk for endometrial cancer if estrogen alone is used                |
| 2 | Combination therapy providing the best relief of menopausal vasomotor symptoms |
| 3 | Reduced risk for colon cancer with combined therapy                            |
| 4 | Lower risk of developing blood clots with combined therapy                     |

30. Ongoing monitoring for women on oestrogen replacement includes:

|   |  |
|---|--|
| 1 | Lipid levels, repeated annually if abnormal      |
| 2 | Annual health history and review of risk profile |
| 3 | Annual mammogram                                 |
| 4 | All of the above                                 |

31. Phil is a 54-year-old male with multiple risk factors who has been on a high-dose statin for three months to treat his high LDL level. His LDL is still higher than his goal and his triglycerides are elevated. A reasonable change in therapy would be to:

|   |  |
|---|--|
| 1 | Discontinue the statin and change to a fibric acid derivative.   |
| 2 | Discontinue the statin and change to ezetimibe.                  |
| 3 | Continue the statin and add in ezetimibe.                        |
| 4 | Refer him to a specialist in managing patients with recalcitrant |

32. Chronic pain is a complex problem. Some specific strategies to deal with it include:

|   |  |
|---|--|
| 1 | Telling the patient to let pain be your guide to using treatment   |
| 2 | Prescribing pain medication on a pro re nata (PRN) basis to keep the amount used as low as possible                        |
| 3 | Scheduling return visits on a regular basis rather than waiting for poor pain control to drive the need for an appointment |
| 4 | All of the above   |

33. The first-line drug choice for a previously healthy adult patient diagnosed with community-acquired pneumonia would be:

|   |               |
|---|---------------|
| 1 | Ciprofloxacin |
| 2 | Azithromycin  |
| 3 | Amoxicillin   |
| 4 | Doxycycline   |

34. The first-line antibiotic choice for a patient with comorbidities or who is immunosuppressed who has pneumonia and can be treated as an outpatient would be:

|   |               |
|---|---------------|
| 1 | Azithromycin  |
| 2 | Amoxicillin   |
| 3 | Ciprofloxacin |
| 4 | Cephalexin    |

35. Drug resistant tuberculosis (TB) is defined as TB that is resistant to at least:

|   |                        |
|---|------------------------|
| 1 | Fluoroquinolones       |
| 2 | Rifampin and isoniazid |
| 3 | Amoxicillin            |
| 4 | Ceftriaxone            |



36. Patients who should be cautious about using decongestants for a URI include:

|   |                               |
|---|-------------------------------|
| 1 | School-age children           |
| 2 | Patients with asthma          |
| 3 | Patients with cardiac disease |
| 4 | Patients with allergies       |

37. Along with an antibiotic prescription, lifestyle education for a nonpregnant adult female who has had a UTI includes:

|   |  |
|---|--|
| 1 | Increasing her intake of vitamin C-containing orange juice |
| 2 | Voiding 10 to 15 minutes after intercourse                 |
| 3 | Avoiding ingesting urinary irritants, such as asparagus    |
| 4 | All of the above   |

38. Of all populations with human immunodeficiency virus (HIV) infection and acquired immunodeficiency syndrome (AIDS), women are the fastest growing. HIV-infected women:

|   |  |
|---|--|
| 1 | Are less likely to become pregnant or to carry a pregnancy to term                           |
| 2 | Have higher rates of cervical dysplasia and human papillomavirus (HPV)-concurrent infections |
| 3 | Are most often over 35 years of age  |
| 4 | Usually have not been immunized  |

39. Pharmacokinetic factors that affect prescribing include:

|   |                                 |
|---|---------------------------------|
| 1 | Therapeutic index               |
| 2 | Minimum effective concentration |
| 3 | Bioavailability                 |
| 4 | Ease of titration               |

40. Cost-effectiveness analysis compares two or more treatments or programs that are:

|   |   |
|---|---|
| 1 | Not necessarily therapeutically equivalent                              |
| 2 | Considered equal in efficacy  |
| 3 | Compared with the dollar value of the benefit received                  |
| 4 | Expressed in terms of patient preference or quality-adjusted life years |

\_\_\_\_ 41. To reduce mortality, all patients with angina, regardless of class, should be on:

|   |   |
|---|---|
| 1 | ASA 81 to 325 mg/day                            |
| 2 | Nitroglycerin sublingually for chest pain       |
| 3 | ACE inhibitors or angiotensin receptor blockers |
| 4 | Digoxin   |

\_\_\_\_ 42. Unlike most type 2 diabetics where obesity is a major issue, older adults with low body weight have higher risks for morbidity and mortality. The most reliable indicator of poor nutritional status in older adults is:

|   |  |
|---|--|
| 1 | Weight loss in previously overweight persons                   |
| 2 | Involuntary loss of 10% of body weight in less than six months |
| 3 | Decline in lean body mass over a 12 month period               |
| 4 | Increase in central versus peripheral body adiposity           |

\_\_\_\_ 43. A patient on metformin and glipizide arrives at her 11:30 a.m. clinic appointment diaphoretic and dizzy. She reports taking her medication that morning and having a bagel and coffee for breakfast. Blood pressure (BP) is 110/70 and random finger-stick glucose is 3.2 mmol/L. How should this patient be treated?

|   |                                    |
|---|------------------------------------|
| 1 | 12 oz apple juice with 1 tsp sugar |
| 2 | 10 oz diet soda                    |
| 3 | 8 oz milk or 4 oz orange juice     |
| 4 | 4 cookies and 8 oz chocolate milk  |

\_\_\_\_ 44. A patient with mild GORD is started on \_\_\_\_\_ first.

|   |                                  |
|---|----------------------------------|
| 1 | Antacids                         |
| 2 | Histamine-2 receptor antagonists |
| 3 | Prokinetics                      |
| 4 | Proton pump inhibitors (PPIs)    |

\_\_\_\_ 45. Patients who are taking ART need to have the following monitored:

|   |                    |
|---|--------------------|
| 1 | Lipid levels       |
| 2 | Sexual functioning |
| 3 | Platelet count     |
| 4 | All of the above   |

46. When are statins traditionally ordered to be taken?

|   |                       |
|---|-----------------------|
| 1 | At bedtime            |
| 2 | At noon               |
| 3 | At breakfast          |
| 4 | With the evening meal |

47. What is a common side-effect concern with hypertensive medications and all individuals, but especially the elderly?

|   |                                     |
|---|-------------------------------------|
| 1 | Risk of falls                       |
| 2 | Triggering of a hypertensive crisis |
| 3 | Erectile priapism                   |
| 4 | Risk for bladder cancer development |

48. Which drug class is recommended for first-line treatment of hypertension in African decent?

|   |   |
|---|---|
| 1 | Beta blockers                                     |
| 2 | Angiotensin II receptor blocker (ARB) medications |
| 3 | Calcium channel blockers                          |
| 4 | Alpha blockers                                    |

49. Treatment of a patient with hypothyroidism and cardiovascular disease consists of:

|   |               |
|---|---------------|
| 1 | Levothyroxine |
| 2 | Liothyronine  |
| 3 | Liotrix       |
| 4 | Methimazole   |

50. Treatment for suspected gonorrhoea is:

|   |                                 |
|---|---------------------------------|
| 1 | Ceftriaxone 250 mg IM x 1       |
| 2 | Ceftriaxone 2 g IM x 1          |
| 3 | Ciprofloxacin 500 mg PO x 1     |
| 4 | Doxycycline 100 mg bid x 7 days |

51. Goals when treating TB include:

|   |  |
|---|--|
| 1 | Completion of recommended therapy                                |
| 2 | Negative purified protein derivative (PPD) at the end of therapy |
| 3 | Completely normal chest x-ray                                    |
| 4 | All of the above   |

52. First-line treatment for an afebrile 2-year-old with otitis media would include:

|   |                               |
|---|-------------------------------|
| 1 | Azithromycin                  |
| 2 | Amoxicillin                   |
| 3 | Ceftriaxone                   |
| 4 | Trimethoprim/sulfamethoxazole |

53. First-line therapy for a school-age child with group A streptococcal pharyngitis is:

|   |   |
|---|---|
| 1 | Azithromycin 10 mg/kg on day one, then 5 mg/kg/day on days 2 to 5 |
| 2 | Amoxicillin 80 mg/kg/day (maximum of 2 g/day) for 10 days         |
| 3 | Clindamycin 20 mg/kg/dose b.i.d. for 10 days                      |
| 4 | Amoxicillin 50 mg/kg/day (maximum 1,000 mg/day) for 10 days       |

### Short Answer

***Be succinct, write legibly and number accordingly.***

I. a. What is a dystonic reaction? **(2 Marks)**

b. Name 3 drugs which can cause this reaction. **(3 Marks)**

c. Name one medication given to reverse this reaction. **(1 Mark)**

d. What type of reaction is a dystonic reaction classified as? **(1 Mark)**

II. **(12 Marks)**

You diagnose Make Thandi with new onset diabetes mellitus type II as her random blood sugars have been greater than 11.1 mmol/L on three separate occasions. She has had uncontrolled hypertension for the past 5 years.

Outline her treatment plan including what first line medication for diabetes you plan to prescribe and any changes you might make regarding her medication treatment for hypertension.

III. Detail several ways to improve medication compliance. (3 marks)