



SIR ARTHUR LEWIS COMMUNITY COLLEGE
ACADEMIC YEAR (2024/2025) – SEMESTER TWO
END OF SEMESTER EXAMINATION

COURSE CODE : BIO225
COURSE TITLE : Pathophysiology
LECTURER(S) : Keva Joseph
DATE : 22 April 2025
TIME : 1:00pm – 3:00pm
DURATION : 2 hours
STUDENT ID # : _____

GENERAL INFORMATION AND INSTRUCTIONS

- Students must sign **IN** and **OUT** on the examination class list.
- Write your ID number on the question paper.
- This paper has 80 multiple choice questions.
- Circle the correct answer on the question paper.

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO

Instruction: Answer all questions by circling the most appropriate answer on the question paper.

1. 50% of patients with deep vein thrombosis (DVT) will also have which of the following conditions?
 - a) protein c deficiency
 - b) Pulmonary emboli
 - c) Sick cell anaemia
 - d) occult cancer
2. A 39-year-old company driver presents with shakiness, sweating, anxiety, and palpitations and tells the nurse he has type 1 diabetes mellitus. Which of the following actions should the nurse do first?
 - a) Give 4 to 6 oz (118 to 177 mL) of orange juice
 - b) Inject 1 mg of glucagon subcutaneously
 - c) Administer 50 mL of 50% glucose I.V
 - d) Give the client four to six glucose tablets
3. A chemotherapeutic agent known to cause alopecia is prescribed for a patient. To maintain the patient's self esteem, the nurse plans to
 - a) Just tell the patient that the hair loss is not permanent, and it will grow back
 - b) Suggest that the patient avoids social contact until the hair grows back
 - c) Ask the patient to use a mild shampoo to avoid hair loss
 - d) Encourage the patient to buy a wig or a hat to wear once the hair loss begins
4. A client arrives at the ER after slipping on a patch of ice and hitting her head. A CT scan of the head shows a collection of blood between the skull and dura mater. Which type of head injury does this finding suggest?
 - a) Subarachnoid haemorrhage
 - b) Subdural hematoma
 - c) Epidural hematoma
 - d) Contusion
5. Cancer cells are usually classified by the tissue it originates from. Which pairing is CORRECT,
 - a) Erythrocytes- leukemias
 - b) Pigment cells – adenocarcinomas
 - c) Lymphocytes- lymphomas
 - d) Leucocytes – gliomas
6. Cancer cells are usually classified by the tissue it originates from. Which pairing is INCORRECT.
 - a) Pigment cells – sarcomas
 - b) brain/spinal tissue – gliomas
 - c) Lymphocytes – lymphomas
 - d) Leukocytes- leukemias
7. Dark tarry stools indicate bleeding in which location of the GI tract
 - a) Upper colon
 - b) Rectum
 - c) Upper GI tract
 - d) Lower colon
8. During a home visit, you are helping a patient develop a list of foods they should avoid due to GERD. Which item in the pantry would you not avoid
 - a) Chocolate fondue
 - b) Ginger tea
 - c) Orange juice
 - d) Tomato soup

9. Dysmenorrhoea and Menorrhagia are symptoms that represent, these disorders EXCEPT
 - a) Uterine fibroids
 - b) Adenomyosis
 - c) Poly cystic ovarian disease
 - d) Endometriosis
10. Findings during an endoscopic exam reveals a cobblestone appearance of the colon in your patient. This is a characteristic of which disorder.
 - a) Crohn's disease
 - b) Gastric ulcer
 - c) Ulcerative colitis
 - d) Gastritis
11. A five-year-old presents to a routine paediatric clinic and his mother complains that she is unable to retract the foreskin for cleaning. His diagnosis is
 - a) Phimosis
 - b) Urethritis
 - c) Paraphimosis
 - d) Cystitis
12. Identify the patient most likely to adapt better to stress and achieve homeostasis.
 - a) An 89-year-old with a bleeding peptic ulcer
 - b) A 2-year-old with profuse vomiting and diarrhoea
 - c) A 73-year-old with multiple lacerations.
 - d) A 25-year-old with gastroenteritis.
13. Identify the pattern of stressors in the following case. A 23-year-old Pamela Antoine after having a myriad of symptoms including joint pains and lethargy was diagnosed with Lupus. Is it
 - a) Acute Sustained
 - b) Chronic intermittent.
 - c) Chronic sustained
 - d) Acute
14. Identify the pattern of stressors in the following case: A four-year-old was recently diagnosed with viral onset of acute gastroenteritis Is it
 - a) Chronic sustained
 - b) Acute sustained
 - c) Acute
 - d) Chronic intermittent
15. Identify the pattern of stressors in the following case: The chief ENT consultant has decided to perform a tonsillectomy for 14-year-old Bradley Yung who has had an average of 7 tonsillitis infections in the year. Is it
 - a) Acute sustained
 - b) Acute
 - c) Chronic Intermittent
 - d) Chronic sustained
16. Lead toxicity would result in which of the following
 - a) Motoneuropathies
 - b) Myasthenia gravis.
 - c) Peripheral neuropathies
 - d) Upper motor lesion

17. Mr. Wesley is newly diagnosed with Type I DM and is being seen by the home health nurse. The doctor's orders include: 1200 calorie ADA diet, 15 units NPH insulin before breakfast, and check blood sugar QID. When the nurse visits the patient at 5 pm, the nurse observes the man performing blood sugar analysis. The result is 50 mg/dL. The nurse would expect the patient to be:
- Alert and cooperative with BP of 130/80 mm Hg and respirations of 12 breaths per minute
 - Lethargic with hot dry skin and rapid deep respirations
 - Anxious, diaphoretic, and pulse of 110 bpm
 - Short of breath, with distended neck veins and bounding pulse of 96 bpm
18. On an ECG strip, each small square represents how many seconds of time
- 0.04 secs
 - 0.02 secs
 - 0.20 secs
 - 0.12 secs
19. Once electrical signals pass through the bundle of HIS, they next travel to
- Purkinje fibres
 - Bundle branches
 - SA node
 - Av node
20. Pneumoconiosis diseases of the lung
- Produce antibodies to the causative agent
 - Damage alveolar walls from the macrophage action
 - Are effectively treated with antibiotics
 - Productive severe symptoms starting in the early stages

21. The following strip represents



- Sinus bradycardia
- Atrial fibrillation
- Tachycardia
- Atrial flutter

22. The following strip represents



- Atrial flutter
- Tachycardia
- Atrial fibrillation
- Sinus bradycardia

23. The first heart sounds represent

- Contraction of the ventricles
- Closure of the atrioventricular valves
- Closure of the semilunar valves
- Turbulent flow through the valves

24. The most common cause of peripheral arterial disease is
- Deep vein thrombosis
 - Diabetes
 - Atherosclerosis
 - Pregnancy
25. The nurse is assessing an ECG strip and counts 7 LARGE squares between consecutive R waves. How many seconds of time did the nurse count?
- 63 beats per minute
 - 43 beats per minute
 - 102 beats per minute
 - 53 beats per minute
26. The p wave in an ECG represents
- Ventricular Depolarisation
 - Ventricular depolarisation
 - Atrial depolarisation
 - Atrial repolarisation
27. The process that causes heart cells to contract is known as
- Polarization.
 - Depolarisation
 - Contraction
 - Repolarisation
28. The QRS complex in an ECG represents
- Atrial depolarisation
 - Ventricular depolarisation
 - Ventricular repolarisation
 - Atrial repolarisation
29. Tony is a night shift nurse who is assigned to a patient whose glucose levels remain normal at bedtime but experiences hypoglycaemia at 3 am and hyperglycaemia at 7 am. The patient is likely experiencing what kind of complication of insulin therapy?
- Somogyi phenomenon
 - Insulin lipohypertrophy
 - Dawn phenomenon
 - Insulin resistance
30. What are the five cardinal signs of inflammation
- Calor, rubarbo, tamar, dolor, functio laesa
 - Caliente, rubarbo, tamar, dola, functioner
 - Calor, rubor, tumor, dolor, functio laesa
 - Caliente, rubor, tumor, dola, functioner
31. What is the classic triad of diabetic symptoms
- Polyphagia, polyuria, polydipsia
 - Polymyalgia, polyphagia, polyurea
 - Polyphagia, polydipsia, polymenorrhoea
 - Polycythaemia, polyurea, polyphagia
32. What is the pathophysiology which affects the lungs in cystic fibrosis
- An inherited condition affecting the cells that produce mucous.
 - Macrophages destroying the alveoli
 - Bronchoconstriction in the airways
 - Development of histamine release
33. What is the right term for inflammation of the gallbladder
- Cholelithiasis
 - Cystitis
 - Nephrolithiasis
 - Cholecystitis

34. What is the TNM staging of cancer
- a) T- tumour, N-node sizes, M-Metastases
 - b) T- tumour size, N- involvement of lymph nodes, M – metastases
 - c) T- tumour size, N - involvement of nodes, M- metabolic effects
 - d) T- tumour suppressor, N - nodes present, M - metabolic effects
35. What type of heart failure does this statement describe: The ventricle is unable to fill properly because it is too stiff. Therefore, blood backs up in the lungs causing the patient to experience shortness of breath.
- a) Left ventricular diastolic dysfunction
 - b) Left ventricular systolic dysfunction
 - c) Right ventricular diastolic dysfunction
 - d) Left ventricular right sided dysfunction
36. What will be the characteristic of an ECG strip which display Sinus Bradycardia?
- a) A missing QRS complex
 - b) A rate less than 60 beats/min
 - c) No discernible p waves
 - d) A rate more than 60 beats/min
37. Which disorder would most likely be responsible for those symptoms
- a) Ulcerative colitis
 - b) Diverticulitis
 - c) Crohn's disease
 - d) Irritable bowel syndrome
38. Which endocrine disorder would most likely be responsible for a 25-year-old having missed periods, with associated symptoms of milky breast discharge and headaches
- a) Hyperprolactinaemia
 - b) Hypothyroidism
 - c) Cushing's disease
 - d) Hyperthyroidism
39. Which factor is not known to increase heart rate
- a) Stress response
 - b) Exercise
 - c) Smoking marijuana
 - d) Hyperthyroidism
40. Which form of hepatitis can be passed on through contaminated food or water?
- a) Hepatitis A
 - b) Hepatitis A and E
 - c) Hepatitis C
 - d) Hepatitis B
41. What is the main action of oxytocin?
- a) Stimulates the development of oocytes
 - b) Stimulates ovulation
 - c) Stimulates uterine contractions during labour
 - d) Reduces volume of urine produced
42. A diabetic patient comes to the doctor complaining about sever pain in his legs brought on by ambulation. The nurse suspects which of the following conditions?
- a) Atherosclerosis
 - b) Peripheral Artery Disease
 - c) Arteriosclerosis
 - d) Myocardial Ischemia

43. A patient complains of pain and discomfort in his upper chest. He describes the pain as burning and says it gets worse at night when he goes to sleep. Diagnose this patient:
- Peptic ulcers
 - Heartburn
 - IBS
 - None of the above
44. The decrease in oxygen levels in all brain tissue is
- Hypoxic
 - Ischemic
 - Excitotoxic
 - Increased intracranial volume and pressure
45. An abnormal increase in cerebrospinal fluid volume in any part or all of the ventricular system
- Excitotoxic
 - Increased intracranial volume and pressure
 - Brain herniation
 - Hydrocephalus
46. Functions of antidiuretic hormone (ADH) include
- Decreasing urine production
 - Increasing urine production
 - Decreasing stress response
 - Increasing stress response
47. How long is a typical human pregnancy?
- One trimester
 - Two trimesters
 - Three trimesters
 - Four trimesters
48. Goitre is a pathology of the
- Ovaries
 - Thyroid
 - Parathyroids
 - Adrenals
49. What is the function of the testes?
- Mitosis
 - Osmoregulation
 - Oogenesis
 - Spermatogenesis
50. What characterizes menopause?
- The appearance of secondary sexual characteristics
 - The start of menstruation
 - The cessation of ovulation and menstruation
 - The start of ovulation
51. _____ is inflammation of the mucus membrane linings of the sinus cavities, causing pressure, pain and headache.
- Sinusitis
 - Common cold
 - Flu
 - Emphysema

52. A middle-aged female comes to the doctor with complaints of a sudden painful, pulsating mass in the midline of her abdomen...upon further assessment, the presence of bruit is confirmed. Which of the following conditions is consistent with the findings?
- a) Aneurysm "Circle of Willis"
 - b) Abdominal aorta aneurysm
 - c) Abdominal aorta thrombus
 - d) None of the above
53. Absorption is best described as:
- a) When food is brought into the body through the mouth
 - b) When food is broken down into smaller pieces
 - c) When nutrients are absorbed into the bloodstream
 - d) None of the above
54. Dialysis helps kidney patients by:
- a) Filtering out waste from the blood
 - b) Reducing blood sugar levels
 - c) Strengthening bladder control
 - d) None of the above
55. Pneumonia is caused by _____.
- a) Bacteria
 - b) Viruses
 - c) respiratory syncytial virus (RSV)
 - d) All the above
56. This is the actual carrier of oxygen found within a protein structure.
- a) Heme
 - b) Plasma clotting protein
 - c) Platelets
 - d) None of these
57. Causes of menorrhagia include all the following EXCEPT:
- a) uterine tumours
 - b) PID
 - c) cervical stenosis
 - d) hormone imbalance
58. Laboratory tests performed to diagnose diseases or disorders of the male reproductive system include all the following EXCEPT:
- a) PSA
 - b) a Pap smear
 - c) a sperm count
 - d) testosterone levels
59. The external organs of the male reproductive system include the:
- a) scrotum and penis
 - b) penis and prostate
 - c) scrotum and epididymis
 - d) urethra and vas deferens
60. A neurogenic bladder may be caused by:
- a) a stroke
 - b) a tumour
 - c) a spinal cord accident
 - d) all the above

61. The most common bacteria to cause urinary tract infections are:
- a) E. coli
 - b) Klebsiella
 - c) Proteus
 - d) Staphylococcus
62. The purpose of performing a cystoscopy is to find all the following EXCEPT:
- a) normal tissue
 - b) tumours
 - c) stones
 - d) infection
63. What is it called when a catheter is placed through an incision into the pelvic wall?
- a) Suprapubic
 - b) Indwelling
 - c) Residual
 - d) in-and-out
64. Which X-rays require the injection of dye into the bloodstream?
- a) KUB
 - b) Cystogram
 - c) Chest
 - d) IVP (intravenous pyelogram)
65. Which nursing intervention would the nurse expect to implement in a patient with isotonic fluid excess?
- a) Provide a 2- to 4-gram sodium diet.
 - b) Encourage fluid intake.
 - c) Monitor intake and output.
 - d) Position the patient flat in bed.
66. A urine culture helps determine which _____ is causing the infection.
- a) Bacterium
 - b) Virus
 - c) Protein
 - d) Parasite
67. Blood tests performed to determine if waste products are being adequately filtered include:
- a) CBC, ESR
 - b) BUN, KUB
 - c) BUN, FANA (fluorescent antinuclear antibody), creatinine
 - d) creatinine, ESR, CBC
68. Signs and symptoms of glomerulonephritis include:
- a) Afebrile
 - b) Increased appetite
 - c) Swollen eyes and ankles
 - d) Polyuria
69. The functions of the nephron are:
- a) Filter
 - b) Excrete
 - c) Reabsorb
 - d) All the above
70. Signs and symptoms of urethritis may include:
- a) urethral discharge
 - b) swelling of the urethra
 - c) dysuria
 - d) All the above

71. The nurse notes a child scratching the scalp and observes dry, brittle hair and bald patches. The nurse tells the parent that the child has:
- tinea capitis
 - tinea pedis
 - tinea corporis
 - tinea cruris
72. A pregnant woman with a primary genital infection HSV-2 is seen at the health clinic for prenatal care at 12 weeks. What is the best response by the nurse when the client begins crying and asks how her baby will be affected?
- "HSV-2 can severely affect your baby. Let's talk about it."
 - "Why did you get pregnant while you had an active infection?"
 - "I'll come back when you are done crying, and we can discuss this."
 - "I am sure things will be fine."
73. When taking the health history of a young client with newly diagnosed guttate psoriasis, the nurse would expect to find:
- a history of life-threatening complications
 - recent trauma
 - the abrupt removal of corticosteroid medication
 - a recent beta-haemolytic streptococcal upper respiratory infection
74. How should a nurse respond when a patient with human immunodeficiency virus (HIV) asks about the course of the disease?
- "The disease will progress to AIDS within a few years."
 - "You will probably be relatively asymptomatic for 20 years."
 - "The disease has a variable progression, so it's hard to know right now."
 - "Death typically occurs within 10 to 15 years."
75. Treatment of asthma includes all the following EXCEPT:
- Desensitization
 - Sensitization
 - avoidance of causative allergens
 - medication
76. Secondary organs of the immune system include:
- the spleen
 - the liver
 - the lymph nodes
 - all the above
77. Examinations used to diagnose disorders of the musculoskeletal system include:
- computerized axial tomography
 - magnetic resonance imaging
 - X-rays
 - all the above
78. Bone-building cells are called:
- Osteoblasts
 - Osteoclasts
 - Osteocytes
 - Osteitis
79. Lordosis is:
- a humped curvature of the thoracic spine
 - an exaggerated anterior or inward curvature of the lumbar spine
 - an inward curvature of the cervical spine
 - a lateral curvature of the back

80. Symptoms of hallux valgus include:

- a) Pain
- b) Redness
- c) Swelling
- d) all the above

END OF EXAMINATION