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<b>QUALIFICATION : BACHELOR OF SCIENCE IN HEALTH INFORMATION SYSTEMS MANAGEMENT</b>	
<b>QUALIFICATION CODE: 07BHIS</b>	<b>LEVEL: 5</b>
<b>COURSE: BASIC PATHOPHYSIOLOGY</b>	<b>COURSE CODE: BPP521S</b>
<b>DATE: NOVEMBER 2023</b>	<b>SESSION: 1</b>
<b>DURATION: 3 HOURS</b>	<b>MARKS: 100</b>

**FIRST OPPORTUNITY: EXAMINATION QUESTION PAPER**

**EXAMINER:** Dr Roswitha Mahalie

**MODERATOR:** Dr Elizabeth Van Der Colf

**INSTRUCTIONS:**

1. Answer all questions on the separate answer sheet.
2. Please write neatly and legibly.
3. Do not use the left side margin of the exam paper. This must be allowed for the examiner.
4. No books, notes and other additional aids are allowed.
5. Mark all answers clearly with their respective question numbers.

**PERMISSIBLE MATERIALS:**

1. Non-Programmable Calculator

**ATTACHMENTS**

1. None

**This paper consists of 7 pages including this front page**

**QUESTION 1: MULTIPLE CHOICE QUESTIONS****(20 MARKS)**

Evaluate the statements in each numbered section and select the most appropriate answer or phrase from the given possibilities. Fill in the appropriate letter next to the number of the correct statement/phrase on your ANSWER SHEET.

1.1 Symptoms indicative of cervical cancer include:

- A. Irregular vaginal bleeding.
- B. Bloating.
- C. Weight gain and nausea.
- D. Dyspareunia.

1.2 Study of all factors that cause a disease, is called:

- A. Clinical Manifestation.
- B. Pathology.
- C. Aetiology.
- D. Prognosis.

1.3 The main action of Lutening hormone is:

- A. Beginning of menses.
- B. Menopause.
- C. Ovulation.
- D. Pregnancy.

1.4 Trudie was diagnosed with hyperparathyroidism after a work-up to determine the cause of her elevated calcium levels. The greatest concern in a patient with hypercalcemia would be:

- A. Cardiac arrhythmia and sinus arrest.
- B. Nausea and vomiting.
- C. Constipation and dehydration.
- D. Kidney stones and muscle weakness.

1.5 Monthly menstrual flow is an example of death of unwanted cells that results from activation of intracellular signalling cascades and is referred to as:

- A. Anaplasia.
- B. Apoptosis.
- C. Chloasma.
- D. Melasma.

1.6 A patient with a second-degree burn wound has greater risk for:

- A. Constipation.
- B. Infection.
- C. Hypotension.
- D. Hyperglycemia.

- 1.7 The nearsightedness happens when the eyeball is too long and is referred to as:
- A. Myopia.
  - B. Presbyopia.
  - C. Astigmatism.
  - D. Nystagmus.
- 1.8 Patient teaching for risk reduction of skin cancer should include:
- A. Having suspicious moles checked by a dermatologist.
  - B. Daily sun exposure every one-half hour.
  - C. Daily sun exposure of 1 hour to build tolerance
  - D. Applying moisturizer.
- 1.9 Symptoms of prostate cancer include:
- A. Nocturia and intermittent stream of urination.
  - B. Diminished force of urinary stream and urgency.
  - C. Difficulty initiating stream of urine and frequency.
  - D. All of the above.
- 1.10 Linea has just been diagnosed with diabetes insipidus. The most common presenting sign is:
- A. Body wasting.
  - B. Hyperglycemia.
  - C. Hypoglycemia.
  - D. Increase urination.
- 1.11 Detached intravascular solid, liquid, or gaseous mass that is carried in the circulation to a site distant from its point of origin where it often causes tissue dysfunction is referred to as:
- A. Thrombosis.
  - B. Embolism.
  - C. Infarction.
  - D. Oedema.
- 1.12 A replacement of a mature cell type by a different mature cell type, is called:
- A. Dysplasia.
  - B. Hyperplasia.
  - C. Hypertrophy.
  - D. Metaplasia.
- 1.13 Mr Zee has been diagnosed with a brain tumour. You are told that the patient is unable to speak. Based on this sign, where do you expect the tumour is located?
- A. Frontal lobe.
  - B. Occipital lobe.
  - C. Cerebellum.
  - D. Parietal lobe.

- 1.14 Ringing, buzzing or whistling noise heard in the ear resulting when the acoustic nerve transmits nerve impulses to the brain in the absence of vibrations from external sources is called:
- A. Hearing Loss.
  - B. Tinnitus.
  - C. Tinalgia.
  - D. Otitis Media.
- 1.15 \_\_\_\_\_ occurs when the placenta is implanted over the cervical os is called:
- A. Abruptio placentae.
  - B. Placenta absentia.
  - C. Placenta previa.
  - D. Placentarhagia.
- 1.16 The most common clinical manifestations of Thrombophlebitis are as follows except:
- A. Oedema.
  - B. Tenderness.
  - C. Lodged clot may result in dyspnoea.
  - D. Positive Homan's sign.
- 1.17 You are diagnosed with an aortic aneurysm and ask why the condition didn't show up on your annual physical examination. The best response is:
- A. It did show and your physician did not want to alarm you.
  - B. Aortic aneurysms are asymptomatic.
  - C. You probably don't remember that your physician told you about your condition.
  - D. Aortic aneurysms are always asymptomatic.
- 1.18 A low arterial oxygen concentration is called:
- A. Hypoxemia.
  - B. Hypercarbia.
  - C. Hypothyroidism.
  - D. Tidal volume.
- 1.19 The five R's in the inflammatory response is generally referred to as all following except:
- A. Recognition of the injurious agent.
  - B. Recruitment of leukocytes.
  - C. Removal of the agent.
  - D. Regulation and Readjustment.
- 1.20 The adult person has approximately \_\_\_\_ bones of various shapes and sizes:
- A. 306
  - B. 206
  - C. 300
  - D. 250



**QUESTION 2: TRUE/FALSE QUESTIONS****(10 MARKS)**

Evaluate the statements and select whether the statement is true or false. Write the word 'True' or 'False' next to the corresponding number on your ANSWER SHEET. Each question earns 1 mark.

- 2.1 Hydrocephalus is a condition caused by abnormal accumulation of cerebrospinal fluid (CSF) in the cerebral ventricular system (associated with a congenital defect, usually a neural tube defect).
- 2.2 Cranial nerves take impulses to and from the brain while spinal nerves take impulses to and from the spinal cord.
- 2.3 When the cause of the disease is unknown it is called idiopathic.
- 2.4 Mineralocorticoids are involved in carbohydrate metabolism and the response to stress.
- 2.5 The exocrine system helps us in maintaining the homeostasis e.g., acid-base balance (ph.), temperature, metabolism.
- 2.6 Rickets is a disorders mostly found in children, interferes with the deposition of bone in the growth plates.
- 2.7 The nociceptors are a type of chemoreceptor which plays a protective role that responds to chemicals released by damaged tissues.
- 2.8 Norepinephrine functions as a neurotransmitter in the peripheral sympathetic nervous system.
- 2.9 Relaxin is responsible for softening the cervix and relaxing the pelvic ligaments.
- 2.10 Epispadias the urethra opens on the dorsal aspect of the penis at a point proximal to the glans.

**QUESTION 3 MATCHING QUESTIONS /DEFINITION OF CONCEPTS****(15 MARKS)**

3.1 Match the appropriate answer from Column A with a meaning in Column B. Write the appropriate letter next to the corresponding number on your ANSWER SHEET, e.g., 3.1.1 A. Each question earns 1 mark.

**(10)**

Nr.	Item A	Item B
3.1.1	Ptosis	A. Part of the stomach moves into the chest cavity through an enlarged diaphragmatic opening.
3.1.2	Tunica adventitia	B. Acts by binding to cell surface receptors.
3.1.3	Atherosclerosis	C. A sudden, violent, involuntary muscle contraction of a large group of muscles.
3.1.4	Odynophagia	D. The most common lethal form of dwarfism, results from diminished proliferation of chondrocytes and disorganization in the zone of proliferation.
3.1.5	Hiatal hernia	E. Probability or likelihood for recovery or other outcomes.

3.1.6	Peptide hormones	F. Hardening and narrowing of the arteries (silently and slowly blocks arteries, putting blood flow at risk).
3.1.7	Prognosis	G. A painful involuntary muscle twitch, a symptom of irritation that may be due to an ion or water imbalance within the muscle.
3.1.8	Spasm	H. Pain with swallowing.
3.1.9	Thanatophoric Dysplasia	I. The outermost layer consists of connective tissue.
3.1.10	Hypospadias	J. The urethra opens on the dorsal aspect of the penis at a point proximal to the glans.
		K. Paralysis of the upper eyelid caused by trauma to the cranial nerves.
		L. Acts by binding to intracellular receptors.
		M. The urethral meatus is located on the ventral under-surface of the penis or on the perineum.
		N. Chest pain which occurs when the heart muscle does not receive enough oxygenated blood.

3.2 Differentiate between the following terms

3.2.1 Nephrotic syndrome and Nephritic syndrome (3)

3.2.2 Hyperparathyroidism and Hypoparathyroidism (2)

**SECTION B SHORT/LONG ANSWER QUESTIONS [55 MARKS]**

**QUESTION 4 SHORT/LONG ANSWER QUESTIONS (25 MARKS)**

4.1 Describe different types of physiologic stresses or potentially injurious conditions that result in cell adaptation (8)

4.2 Identify the condition displayed in the figure 1 below and describe its clinical manifestations. (5)



Figure 1

4.3 Bone healing is to restore the normal anatomy and function of the fractured bone. Write notes on the remodeling phase of bone healing. (7)

4.4 List the five (5) clinical manifestations of Myocardial Infarction/heart attack. (5)

**QUESTION 5 SHORT/LONG ANSWER QUESTIONS (30 MARKS)**

5.1 Identify the pathological condition of the gastrointestinal tract which is depicted in figure 2 below. Respond to the following questions: (13)



Figure 2

- 5.1.1 Identify the condition. (1)
- 5.1.2 Define the condition. (3)
- 5.1.3 Outline the three (3) types of this condition and mention two (2) symptoms of each type. (9)

5.2 Ms. Portrait, a 33-year-old mother of 2 children, obtained burn wounds from the sole of her feet up to the upper/mid/low back, buttocks, and left arm. Her 10-year-old son obtained burn wounds on both legs and left arm whereby his epidermis and part of the dermis was destroyed. It was determined by the paramedics that Ms. Portrait had full-thickness burns and her son second degree burns. (17)

- 5.2.1 What measurement assessment will you use to determine the percentage area burnt in both Mrs. Portrait and her son? (2)
- 5.2.2 Calculate the approximate area of full-thickness burns on Ms. Portrait's body. (7)
- 5.2.3 Describe the degree of burn wounds sustained by Ms Portrait's son. (8)

**Total: 100 marks**

**All the best!!!!**