



NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

FACULTY OF APPLIED SCIENCES

DEPARTMENT OF RADIOGRAPHY

BSc HONOURS IN RADIOGRAPHY PART 1

ANATOMY, PHYSIOLOGY AND PATHOLOGY II

SRA 1210

Second Semester Examination Paper

December 2024

This examination paper consists of 3 pages

Time Allowed: 3 hours

Total Marks: 100

Special Requirements: None

Examiner's Name: Mr A N Moyo

INSTRUCTIONS

ANSWER ALL PARTS OF QUESTION 1 IN SECTION A AND ANY THREE QUESTIONS FROM SECTION B. SECTION A CARRIES 40 MARKS AND SECTION B CARRIES 60 MARKS

MARK ALLOCATION

| QUESTION | MARKS |
|------------------------------|--------------|
| 1. | 40 |
| 2. | 20 |
| 3. | 20 |
| 4. | 20 |
| 5. | 20 |
| 6. | 20 |
| Maximum possible mark | 100 |

SECTION A

1 a) Define the following pathological terms;

- i) Atherosclerosis, [1]
 - ii) Imperforate hymen, [1]
 - iii) Seminoma, [1]
 - iv) Hydrocephalus, [1]
 - v) Cushing's syndrome. [1]
 - vi) Pyelonephritis, [1]
- b) With examples, compare the main chemical classes of hormones. [4]
- c) Describe the protection and coverings of the brain and spinal cord. [6]
- d) Describe the gross and microscopic anatomy of the mammary glands. [6]
- e) With respect to the male and female reproductive system outline the roles of the following; i) FSH, ii) LH, iii) Progesterone. [2x3]
- f) Explain the role of ECGs in diagnosing cardiac problems. [4]
- g) Compare and contrast the interstitial fluid and lymph. [4]
- h) With reference to the blood supply to the brain, explain the importance of the blood-brain barrier. [4]

SECTION B

2. (a) Identify 10 (ten) cranial nerves by name, number, type and function. [10]
(b) Describe the gross anatomy of the brain. [6]
(c) Using examples, describe the interaction of hormones with target cells. [4]
3. (a) With reference to special senses, explain the physiology of hearing. [14]
(b) Describe the three types of papillae that contain taste buds. [6]
4. (a) With reference to the cardiovascular system, describe:
(i) the structural characteristics of cardiac muscle, [4]
(ii) the functional characteristics of cardiac muscle tissue, [3]
(iii) the cardiac conduction system. [3]
(b) With reference to the lymphatic system explain the role of the following:
(i) lymph nodes, [4]
(ii) the spleen, [3]
(iii) the tonsils. [3]
5. (a) Relate the anatomy of the urinary system to its physiological processes. [12]
(b) Trace the path of blood flow through the kidneys. [8]
6. (a) Compare and contrast spermatogenesis and oogenesis. [10]
(b) Compare the major events of the ovarian and uterine cycles. [10]

END OF EXAMINATION