

**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**APPLIED PHYSICS DEPARTMENT**

**SUPPLEMENTARY EXAMINATION**

**SRA 3106 IMAGING OF THE NEURO-ENDOCRINE SYSTEM 2**

**BSc HONOURS RADIOGRAPHY PART 111**

**AUGUST 2013**

**DURATION: 3 HOURS**

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

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**SECTION A**

- 1a). Compare and contrast the signs and symptoms of Cushing's syndrome and those of hyperthyroidism. [8]
- b) Describe the role of myelography in the imaging of the spine. [10]
- c) Explain the importance of discography in the imaging of the spine. [4]
- c) Justify radiographic technique modifications undertaken on a patient with head injuries from road traffic accident. [10]
- d) Explain the role of ultrasound scanning in fetal brain imaging. [8]

**SECTION B**

- 2a) Explain the formation and circulation of cerebrospinal fluid. [10]
- b) Discuss the role of CT scan and plain radiography in the imaging of obstructive hydrocephalus. [10]
- 3) Evaluate the role of CT, MRI and myelography and radionuclide imaging in the of imaging discovertebral osteomyelitis of the spine. [4x3marks]
- b) Explain the importance of Hounsfield numbers and windowing during CT scan imaging of the head. [8]

4) A sixty year old patient is referred to the imaging department for a radionuclide examination, with an indication querying glioma in the brain.

Discuss the patient management necessary during imaging of this patient. [20]

5. Discuss the role of RNI and ultrasound in imaging pathology of the endocrine glands.

[20]

6) Describe the radiological appearances of the following pathologies on plain radiography and CT scan;

i) meningocele, [4]

ii) osteogenesis imperfecta, [4]

iii) cleidocranial dysostosis, [4]

iv) macrocephaly and [4]

v) aqueduct stenosis. [4]

**END OF EXAMINATION**