NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

APPLIED PHYSICS DEPARTMENT

EXAMINATION

SRA 2104 – THE AXIAL SKELETON

BSc HONOURS PART II: *DECEMBER 2005* *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**

SECTION A

1 (a) Draw and label a typical vertebra. [5]

(b) State FIVE features that distinguish a typical cervical vertebra from a typical vertebra. [5]

(c) State FIVE clinical indications for radiography of the lumbar spine. [5]

(d) (i) What is sinusitis? [1]
(ii) Name and state the position of paranasal sinuses. [4]

(e) Explain the radiographic appearances of an Occipito - mental projection for facial bones. [5]

(f) Explain the following pathologies:
(i) spondylolisthesis,
(ii) spondylosis. [5]

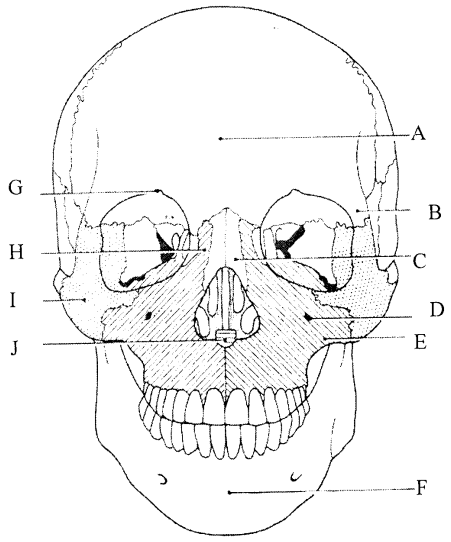
(g) State FIVE foramina of the base of skull and list one structure that passes through the foramina. [5]

(h) Describe the patient positioning for an open mouth C1 to C3 projection of the cervical spine. [5]

SECTION B

2. (a) State FIVE clinical indications for radiography of the skull. [5]

(b) Label the diagram below. [5]



(c) Describe the position of the patient and relevant equipment for Occipito – frontal basic projection to demonstrate the skull vault. [10]

3. (a) Explain the problems that radiography of the thoracic spine present. [6]

(b) Describe how an autero – posterior and lateral thoracic spine is produced in a co – operative patient. [14]

4. (a) What is a contra – coup injury? [2]

(b) Describe anatomical features of the mandible. [10]

(c) Describe the position of the patient and relevant equipment for an oblique projection of the mandible. [8]

5. (a) Explain the features of an X – ray tube that is used in a dedicated skull X – ray unit. [5]

(b) Distinguish an isocentric unit from a lyshom system. [15]

6. (a) Explain the management of a patient with suspected cervical spine injury. [5]

(b) Describe how two projections are achieved to demonstrate cervical spine injury. [15]