

# NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

## APPLIED PHYSICS DEPARTMENT

SRA 3212 – RADIOGRPHY PRACTICE

*BSc HONOURS PART III - MAY 2006*

*DURATION: 3 HOURS*

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**ANSWER ALL QUESTIONS FROM SECTION A AND ANY THREE QUESTIONS FROM SECTION B. SECTION A CARRIES 40 MARKS WHILE SECTION B CARRIES 60 MARKS.**

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### SECTION A

1. (a) Differentiate between the terms geriatrics and gerontology and explain why it is important that radiographers study these aspects. [5]
- (b) A 3-year-old child has trapped his hand in a car door. He is referred for radiography of his right middle, ring and little fingers. Justify the methods you would employ in an attempt to gain the co-operation of the child. [5]
- (c) Justify your choice of exposure factors for an 80 – year old lady presenting for imaging of the right hip, query fracture neck of femur. [5]
- (d) With reference to the Zimbabwean Patient’s Charter, explain how you would deal with a visually impaired female patient of Muslim faith presenting for radiography of the abdomen. [7]
- (e) Explain the following pathologies indicating the role of imaging in their diagnosis.
  - (i) Parkinson’s Disease,
  - (ii) Oesophageal atresia,
  - (iii) Paget’s Disease. [6]
- (f) (i) Give 2 examples that may cause respiratory distress in the new born. [2]
- (ii) Evaluate the role of plain film radiography in demonstrating the conditions given above. [5]
- (g) Justify features of mobile equipment suitable for use in a neonatal unit. [5]

## **SECTION B**

2. The quality of service provided by an imaging department must meet the needs of its clients.
  - (a) Discuss the special needs of patients with physical disabilities. [15]
  - (b) Hence evaluate how one of the central hospitals in Bulawayo caters for this category of patient. [5]
3. Discuss the role of imaging in non-accidental injury (NAI). [20]
4. “Children are not simply small adults”. Discuss how children differ from adults and how the differences may affect the imaging of this category of patient. [20]
5. (a) With reference to ageing, briefly explain the following theories:
  - (i) immunological theory,
  - (ii) programmed ageing theory. [5]
- (b) Giving appropriate examples, discuss the changes that occur in the respiratory system with ageing, illustrating how the changes may affect the imaging process. [15]
6. You have been approached to help set up a well woman clinic offering appropriate imaging services. Justify the recommendations you would come up with for this clinic. [20]

**-END OF EXAMINATION-**