

**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
APPLIED PHYSICS DEPARTMENT**

**SRA1204- APPENDICULA SKELETON
EXAMINATION
BSc HONOURS IN RADIOGRAPHY- PART I**

APRIL 2014

DURATION: 3HOURS

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

SECTION A

1. (a) Describe the articulations of the clavicle. [4]
- (b) Outline the articulations of the capitate bone. [6]
- (c) With respect to injuries of the ankle, compare and contrast an inversion injury and an eversion injury. [8]
- (d) With respect to the elbow joint, distinguish between the actions of extensor muscles and that of flexor muscles. [3]
- (e) Explain the role of ligaments and tendons in the musculoskeletal system. [2]
- (f) Identify the effect of extensor muscles of the wrist and the ankle joints. [1]
- (g) Distinguish between the actions of adductors and abductors muscles. [3]
- (h) Explain the difference in the characteristic radiographic appearance of a fracture whose fragments are distracted and that whose fragments overlap. [5]
- (i) With respect to radiographic demonstration of fractures, explain the criteria used to decide on the number of views to be taken. [5]
- (j) Fractures need to be described in a consistent style using accepted terminology. Describe the fracture illustrated in figure 1. [3]

Figure 1. For use with question 1.j)

SECTION B

2. (a) Contrast between a subluxation and a dislocation. [4]
- (b) With respect to characteristic radiographic appearance of vascular markings, explain how correlation of clinical findings with a particular radiographic appearance can avert pitfalls in reporting fractures. [8]
- (c) With the aid of a diagram outline the evaluation criteria for radiographic anatomy demonstrated in the axial view of the shoulder joint. [4]
- (d) The lateral view of the scapular is also called the Y-view. Explain the accuracy of this statement. [4]
3. (a) Define the condition “talipes equinovarus”. [3]
- (b) Explain the characteristic features associated with femoral shaft fractures. [5]
- (c) With respect to the treatment of femoral shaft fractures in adults, compare and contrast the traction approach and the internal fixation approach. [8]
- (d) Outline the variation in the treatment of femoral shaft fractures in children and infants compared to that in adults. [4]
4. (a) Explain the characteristic presentation of supracondylar fractures of the femur. [4]
- (b) Explain why subcapital fractures of the femur are more common in females than in man. [5]
- (c) Explain the use of Smith-Petersen nail in the treatment of subcapital fractures of the femur. [5]
- (d) Explain why, instead of using the Smith-Petersen nail, the femoral [5]

head is often excised and replaced by prosthesis.

5. (a) An accident and emergency patient presents with a radiology request for the right hip. Explain patient positioning for this patient. [4]
- (b) Describe the centring point for AP one hip projection. [2]
- (c) Outline the muscles that supinate and those that pronate the hand and fore arm. [14]
6. (a) An ambulant patient present with a request for a knee radiograph. [4]
- i. Explain how you would position the patient for a lateral knee projection.
- ii. Describe the centring point for the lateral knee projection. [2]
- (b) Describe the anatomy of the humerus [14]

END OF EXAMINATION