

UNIVERSITY COLLEGE LONDON

UNIVERSITY OF LONDON

EXAMINATION FOR INTERNAL STUDENTS

FOR THE FOLLOWING QUALIFICATIONS:

M.Sc.

M.Sc. Orthopaedics: Paper III (Basic Sciences)

COURSE CODE	:	ORTH0007
DATE	:	06-MAY-04
TIME	:	10.00
TIME ALLOWED	:	3 Hours

Answer **FOUR** questions out of **SIX**
(maximum of 20 marks for each answer)

Answer **EACH** question in a **SEPARATE** book

Use diagrams to illustrate your answers where possible.

1. In designing a custom-made hip stem, how would you determine the centre of the femoral head (offset and height), and what would be the clinical consequences of differences in these parameters.
2. In treating fractures of long bones, how does axial micromotion at the fracture site affect the healing process, compare and contrast the healing pattern with that seen in the rigid fixation.
3. Describe types of polymers used in orthopaedic surgery, and their common clinical applications.
4. Compare and contrast joint stability and movements of the hip and knee, outline the role of the related ligaments.
5. Describe the key differences between rheumatoid arthritis and osteoarthritis
6. Discuss the importance of the structural hierarchy and functional role of tendon in terms of a tissue engineering approach to tendon repair.