

UNIVERSITY COLLEGE LONDON

UNIVERSITY OF LONDON

EXAMINATION FOR INTERNAL STUDENTS

FOR THE FOLLOWING QUALIFICATIONS:

M.Sc.

Health Sciences C101: Connective Tissue Biology

COURSE CODE	:	HESCC101
UNIT VALUE	:	0.5
DATE	:	10-MAY-04
TIME	:	10.00
TIME ALLOWED	:	3 Hours

Answer **FOUR** questions out of **SIX** (20 marks for each question)
Answer each question in a **SEPARATE** book

Use diagrams to illustrate your answers where possible.

1. Compare and contrast elastin and the fibrillar collagens in terms of synthesis and aggregation.

2. Is an understanding of limb development important in the field of Orthopaedics? Discuss.

3. Describe:
 - a) Frost's mechanostat model on bone regulation;
 - b) Wolf's Law of bone remodelling and the Trajectorial Theory of bone maintenance.

Describe one experiment which you believe demonstrates a mechanical basis for bone maintenance.

4. Discuss the implications of changes in the structural units of an energy storing tendon on the functional efficiency of locomotion.

5. Discuss giving examples, different roles for matrix metalloproteinases in the maintenance of skeletal tissues.

6. What are glycosaminoglycans and what role do they play in cartilage tissue?