

UNIVERSITY COLLEGE LONDON

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EXAMINATION FOR INTERNAL STUDENTS

FOR THE FOLLOWING QUALIFICATIONS:

M.Sc.

Orthopaedics 3003: Skeletal Tissue Biology

COURSE CODE : ORTH3003

DATE : 27-MAY-05

TIME : 10.00

TIME ALLOWED : 3 Hours

05-C1008-3-50

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TURN OVER

SECTION A

Answer **TWO** questions out of the following **THREE** (25 marks per question)
Use diagrams to illustrate your answer where appropriate

Answer each question in a **SEPARATE** book

1. "The correct synthesis and aggregation of fibrillar collagen molecules is essential for skeletal tissue integrity." Discuss this statement. Refer to collagen related diseases to illustrate your answer.
2. Compare and contrast the molecular events associated with degenerative and inflammatory joint disease.
3. Discuss the role of mechanical forces in the bone repair process.

SECTION B

Answer **SIX** questions out of the following **EIGHT** (5 marks per question)
Use diagrams to illustrate your answer where appropriate

In a **NEW ANSWER BOOK** answer each question starting on a **NEW PAGE** of the book.

1. What role do cells play in skeletal tissues? List five main functions briefly describing each.
2. Outline the steps involved in formation of an elastic fibre and give the term used to describe this process.
3. List the requirements of cells to grow in an *in vitro* system and give an example of how each might be provided.
4. Draw a diagram to outline the role of the plasminogen activator (PA) / plasmin system in wound healing.
5. How does an osteoclast resorb bone?
6. List the differences between the matrix of a repaired versus normal tendon stating the effect on tendon function.
7. What are the common characteristics of the family of collagen molecules?
8. How does the proteoglycan aggrecan change in cartilage with ageing?

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