

**UNIVERSITY OF KWAZULU-NATAL
SCHOOL OF AGRICULTURAL, EARTH & ENVIRONMENTAL SCIENCES
DIETETICS & HUMAN NUTRITION
EXAMINATION: NOVEMBER 2014
SUBJECT, COURSE & CODE: HPHY200 P2
ADVANCED HUMAN PHYSIOLOGY**

DURATION: 3 HOURS

TOTAL MARKS: 100 marks

**External Examiner: Dr N Wiles
Internal Examiner: Prof FJ Veldman**

NOTE: THIS PAPER CONSISTS OF TWO (2) PAGES.

SECTION A: is COMPULSORY (60 MARKS)

SECTION B: ANSWER ANY TWO (2) QUESTIONS (2 x 20 = 40 MARKS)

SECTION A: COMPULSORY

QUESTION 1: BONE AND MUSCLE

[40]

Question 1.1

Discuss the process of intramembranous ossification.

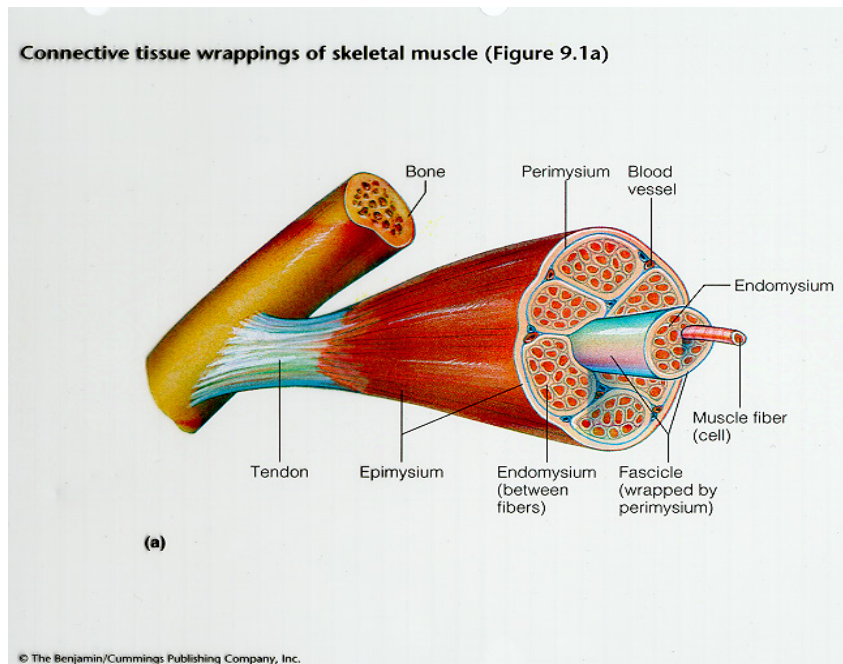
/10/

Question 1.2

Explain bone fracture repair.

/8/

Question 1.3



Provide names for numbers 1-10 in the above figure related to the connective tissue of skeletal muscle.

/9/

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Question 1.4

Explain the basic structure of the functional unit of skeletal muscle. /13/

QUESTION 2: THE DIGESTIVE SYSTEM [20]

Write an essay, in which you name all the components of the digestive system and discuss the function of each in relation to the digestion of carbohydrates, proteins and fats.

SECTION B: ANSWER ANY TWO (2) OUT OF THREE QUESTIONS

QUESTION 3: THE CARDIOVASCULAR SYSTEM [20]

Question 3.1

Explain the route of blood flow through the heart. /6/

Question 3.2

John is diagnosed with hypertension. Explain the physical factors that could lead to such a state. /9/

Question 3.3

Define vascular resistance and distinguish between SVR and PVR. /5/

QUESTION 4: THE IMMUNE AND LYMPHATIC SYSTEM [20]

Question 4.1

Describe the structure and function of the spleen. /8/

Question 4.2

Describe the movement of lymph in the lymphatic capillary. /6/

Question 4.3

Define and explain lymphadenitis. /6/

QUESTION 5: THE REPRODUCTIVE SYSTEM [20]

Write an essay in which you describe how some foods and over-the-counter products are believed to have aphrodisiac properties.
