

UNIVERSITETET I OSLO
DET MATEMATISK-NATURVITENSKAPELIGE FAKULTET

Exam in: MBV 4320 ADVANCED PHYSIOLOGY AND CELLBIOLOGY

Day and time of exam: Friday 23 February 2007, 09.00 – 12.00

The set contains 1 page

Approved aids: none

6 questions are given

All 6 questions are given the same weight

You must answer each of the 6 questions on separate sheets of paper

Check that the set of questions is complete before you start

1. Give a brief description of the three main groups of NO synthase. How is enzyme activity regulated?

2. What is the role of Hrs in the intracellular transport of EGFR (and other growth factor receptors)?

- 3
 - a. Mention the different mechanisms by which the cytosolic Ca^{2+} -level may be elevated. (The mechanisms should not be described in detail).
 - b. Describe the different mechanisms for reducing the cytosolic Ca^{2+} -level back to normal after a transient elevation. When comparing the various mechanisms, affinity and capacity should be emphasized.

4. What are the skeletal muscle fiber types in rodents and man. Describe with keywords the most important characteristics of the types

5. Explain what is meant by an active (another word for this is proactive) and a passive (reactive) stress coping style. Describe the physiological and behavioral hallmarks of the active and passive coping response.

6. What is the main glycolytic end product in an anoxic crucian carp? In what tissue is it produced and how does it leave the fish?