UNIVERSITY OF OSLO

Faculty of Mathematics and Natural Sciences

Exam in MBV4320 Advanced physiology and cell biology
Day of exam: Wedensday July 1 2009
Exam hours: 09.00 – 12.00
This examination paper consists of 1 page.
Appendices:None
Permitted materials: None

Make sure that your copy of this examination paper is complete before answering.

1. Describe the following for MHC I and MHC II:
a. structure
b. folding and assembly
c. accessory proteins
d. antigenic peptide generation and trimming
e. transport to the cell surface

2. To signalize protein degradation is an important role for ubiquitin. Give examples of other functions of ubiquitination and for modifications by ubiquitin-like molecules.

3. Why do coral reef fish larvae need to be super fast swimmers, and why can they not be hypoxia tolerant at the same time?

4. How does the nerve control muscle plasticity?

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.