

# UNIVERSITY OF OSLO

Faculty of Mathematics and Natural Sciences

Exam in: **MBV2010 Molecular Biology**

Day of exam: **June 2, 2005**

Exam hours: **(3 hours)**

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. In which molecular processes are the following proteins involved

DnaB helicase  
RecBCD  
RNA polymerase III  
Release factor-1 (RF-1)  
SR proteins  
MAP (mitogen-activated protein)  
Cleavage stimulation factor (CstF)  
Reverse transcriptase  
RNase E  
Guanine methyl transferase

2.
  - a) Describe the events involved in initiation of translation in eukaryotes.
  - b) Give an example in which initiation of translation is regulated.
  - c) What is an internal ribosome entry site (IRES)?
  
3.
  - a) Describe mechanisms by which genomes or portions of genomes can be silenced.
  - b) What is genomic imprinting?
  
4.
  - a) Explain how replication is terminated in *E. coli*.
  - b) What is the function of DNA polymerase I in replication of bacterial DNA?
  - c) Describe how the ends of nuclear DNA shorten with each round of replication and how shortening of the ends is prevented.

