

Biology 1A Lecture Exam 2: Grading Rubric

PART II

Questions 1-5: (2 pts each)

Answers must be as in key.
No partial credit.

PART III

Question 1: (3 pts)

-1pt If all correct sequence, but cap and polyA tail missing or at wrong ends.

If the sequence was wrong, partial credit given and noted as follows:

U: if substituted U for T (+0.5pt)

I: if introns not coded (+0.5pt)

P: if promoter not coded (+0.5pt)

Question 2: (4 pts)

+2pts if correct order but no distances

-1/2pt for each incorrect distance between a pair (if correct order)

If incorrect order: +1/2pt per each correct order pair with correct distance

Question 3: (4 pts)

Points	For	Answer
+ 1 pt	Genotype.	If you linked wild-type nose with wild-type antennae: (Sn+ Fa+).
+ 1 pt	Genotype.	If you linked mutant nose with mutant antennae: (Sn Fa).
+ 1 pt	Genotype.	If you your genes were sex-linked. (X^{Sn+Fa+} / X^{SnFa}).
+1/2 pt	Phenotype.	For short nose.
+1/2 pt	Phenotype.	For forked antennae.
- 1 pt	Genotype.	If your notation was incorrect. Examples of faulty notation: <ul style="list-style-type: none">• X^{sn+fa+} / X^{snfa}• X^{ln+sa+} / X^{lnsa}

Question 4: (3 pts)

No partial credit. (If you wrote too much and wrote something wrong, you did not get credit.)

Points	Temperature (°C)	What happens in PCR?
+ 1 pt	80-95	Denature / Melt. If you wrote any other answer, it had to include at least one of the following to get credit: <ul style="list-style-type: none"> • Breakage of hydrogen bonds. • Separation of DNA <u>strands</u>. • dsDNA → ssDNA.
+ 1 pt	50-65	Anneal.
+ 1 pt	65-80	Extend / Elongate.

Question 5: (4 pts)

No partial credit.

Points	Answer (Mutation)
+ 2 pts	Sense.
+ 2 pts	Silent. (A silencer is not a mutation.)

Question 6: (8 pts)

- A. Two parts at **+1pt** each (**changed from 1/2 pt each**). As key. No partial credit
- B. Four parts at **+1pt** each.
- 1) As key. **+1/2pt** if only “primer” without “poly-T”.
 - 2) As key. No partial credit.
 - 3) As key. No partial credit.
 - 4) As key. No partial credit.
- C. Two parts at **+1pt** each.
- 1) Step: As key. No partial credit.
 - 2) “Tool”: As key. **+1/2pt** if only “methylase” without “EcoR1”.

Question 7: (3 pts)

- A. **Point Value Changed from 2pts to 1pt.**
As key. No partial credit

Question 8: (3 pts)

Order must be as in key. No partial credit

Question 9: (3 pts)

Order must be as in key. No partial credit

Question 10: (3 pts)

+1pt for correctly naming phases of action potential, 1/3 pt for each

+1pt for correctly labelling phases, 1/3 pt each

+1pt for correctly drawing action potential with the correct values,

-70 mV, +35 mV, -90 mV

Additional points deducted for adding things that are incorrect or drawing incorrect graph of action potential.

Question 11: (2 pts)

+1pt for correctly drawing sarcomere contracted.

+1pt for correctly drawing the thick and thin filaments staying the same in length (**-1pt** if thick filaments shortened)