Instructions and Clarifications:
- You have 50 minutes to finish this exam and the computer exploration of protein structure. The Exam portion is composed of Section I and II and is worth 30% of the overall score. The Computer Exploration portion is composed of Section III and is worth 30% of the overall score.
- Each participant may bring one 8.5” x 11” sheet of paper that contains information about this event without any annotations or labels affixed along with writing utensils for each participant.
- You may split the exam but you are responsible for placing them in the correct order afterwards.
- Write your team number in every page of the answer sheet.
- There are 5 tiebreakers in this exam. They are marked as TB#.
- Anything written on the exam will not be graded. Only the answer sheet will be graded.
- If you have any comments or questions about this exam, feel free to contact us at the emails below. Happy testing!
I. General Biochemistry and CRISPR-Cas Systems

Multiple Choice: Each question is worth two points.

1. __________ 4. __________ 7. __________
2. __________ 5. __________ 8. __________
3. __________ 6. __________ 9. __________

10. 
   a. ______________________________________
   b. ______________________________________
   e. ______________________________________

Each question is worth one point.

11. ________________________________
12. ________________________________
13. ________________________________
14. ________________________________
15. ________________________________
16. ________________________________

(Grader’s Use Only - Total Points in this page: _____________)
17. (4 points)

Extra credit: 3 points. TB#1.

18. ____________________________
II. DNA, RNA, and CRISPR-Cas Systems^2

Multiple Choice: Each question is worth two points.

1. __________  6. __________  11. __________
2. __________  7. __________  12. __________
3. __________  8. __________  13. __________
4. __________  9. __________
5. __________ TB#2 10. __________

Identification: Each letter is worth two points. TB#3 (30)

A. ____________________________________  I. ____________________________________
B. ____________________________________  J. ____________________________________
C. ____________________________________  K. ____________________________________
D. ____________________________________  L. ____________________________________
E. ____________________________________  M. ____________________________________
F. ____________________________________  N. ____________________________________
G. ____________________________________  O. ____________________________________
H. ____________________________________
Short Answer: Point values are addressed in each answer.

1.
   a. __________________________
   b. __________________________
   c. __________________________
   d. __________________________
   e. __________________________

2.
   a. __________________________
   b. __________________________
   c. __________________________
   d. __________________________
   e. __________________________
3. **TB#4**

   a.
   i. ___________________________________
   ii. ___________________________________

   b.
   i. ___________________________________
   ii. ___________________________________
   iii. ___________________________________

   c.
   i. ___________________________________
   ii. ___________________________________
   iii. ___________________________________

   e.
   i. ___________________________________
   ii. ___________________________________
   iii. ___________________________________

   d.  

   i.  

   e.
   i. ___________________________________
   ii. ___________________________________
   iii. ___________________________________
f.

i. ______________________________________________________________________

ii. ______________________________________________________________________

iii. ______________________________________________________________________

Diagram-based Questions: Point values are addressed in each question. Question 9 is TB#5.

1. ______________________________________________________________________

2. ______________________________________________________________________

3. ______________________________________________________________________

4. ______________________________________________________________________

5. ______________________________________________________________________

6. ______________________________________________________________________

7. ______________________________________________________________________

8. ______________________________________________________________________

9. ______________________________________________________________________

10. ______________________________________________________________________

(Grader’s Use Only - Total Points in this page: _____________)
III. Computer Exploration²

1.
   a. __________________________________________

   b. __________________________________________

   c. __________________________________________

   d. __________________________________________

   e. __________________________________________

2.
   a. __________________________________________

   b. __________________________________________

   c. __________________________________________

   d. __________________________________________

   e. __________________________________________

3.
   a. __________________________________________

   b. __________________________________________

   c. __________________________________________

   d. __________________________________________

   e. __________________________________________

4.
   a. __________________________________________

   b. __________________________________________

   c. __________________________________________

   d. __________________________________________

   e. __________________________________________
5.
   a. ________________________________
   b. ________________________________
   c. ________________________________
   d. ________________________________
   e. ________________________________

6. ________________________________

7. ________________________________

8. ________________________________

9. ________________________________

10._______________________________

   a. ________________________________
   b. ________________________________
   c. ________________________________
   d. ________________________________
   e. ________________________________
11.

a. 

b. 

c. 

d. 

e. 

(Grader’s Use Only - Total Points in this page: __________)