CHEM 2325 Exam 4 Name:

December 12, 2019 UTEP ID #:

If required, the Exam 4 retake homework will be due ***tomorrow***, Friday, December 13, before 5 pm through <http://organic.utep.edu/quiz>, no exceptions or excuses. Expect an email from me this evening. ***Put your name and ID on your scantron, and show your picture ID as you turn it in.***

1. The following Fischer projection for sure is? 

a. *d* b. *D* c. *l* d. *L* e. not a.-d.

1. The following compound can form a? 
2. furanose b. pyranose c. both a. and b. d. not a.-c.
3. The following nucleic acid subunit is a derivative of? 
4. *D*-2-deoxyribose b. *D*-ribose c. *L*-2-deoxyribose d. *L*-ribose e. not a.-d.
5. Classifying the nitrogen like an oxygen, the structure in question 3 is which anomer?

a. alpha b. beta c. gamma d. delta e. not a.-d.

1. In question 3, the two hydroxyl groups are?

a. erythro b. erythrose c. threo d. threose e. not a.-d.

1. Which compound reacts with acid and water to make the next intermediate in the Fischer Synthesis of a carbohydrate. Not all structures are part of the Fischer Synthesis.

a.  b.  c.  d.  e. 

1. Which carbohydrate is being synthesized (Fischer) in question 6?

a. galactose b. glucose c. fructose d. ribose e. not a.-d.

1. Using the applicable structures from question 6, which compound reacts with acid and water to make the next intermediate in the Ruff degradation of a carbohydrate? Not all structures are part of the Ruff degradation.
2. 6. a. b. 6. b. c. 6. c. d. 6. d. e. 6. e.
3. The product of the Ruff degradation in question 6, if treated with sodium borohydride (NaBH4) would be?

a. optically active b. optically inactive c. both a. and b. d. cannot be determined e. not a.-d.

1. Which disaccharide can be drawn with all slashes (not wedges) at the 4 arrows? 

a. cellobiose b. lactose c. maltose d. sucrose e. not a.-d.

11.-13. Match each reaction sequence to a product? Assume any necessary workup. Answers may be repeated.

1.  a. leucine b. lysine
2.  c. methionine d. valine
3.  e. not a.-d.
4. What is B in the following sequence of reactions?  

a. b.  c.  d. e. not a.-d.

1. What is the major product of the following reaction using structure 14.a.? 

a.  b.  c. d.  e. not a.-d.

1. Without protecting groups, the reaction of Val and Leu with DCC would make how many different tripeptides?

a. 2 b. 4 c. 6 d. 8 e. not a.-d.