

ANSWERS ARE ON THE END  
**KEEP THIS CLOSED ON YOUR DESK UNTIL THE START OF THE TEST**

**NO NOTES or BOOKS PERMITTED**

**BCH 2333A**

Test 1

Professor: Mezl, Figeys<sup>A</sup>

Tuesday February 7, 2011

**16 QUESTIONS - 30 MINUTES**

Materials needed: One computer answer sheet  
This exam

Two carbon atoms and Faculty of Science approved calculators are permitted.

INSTRUCTIONS

Pick the **BEST** answer for each multiple choice question

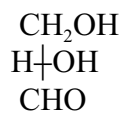
AT THE END - Verify that your name (just your last name in the Surname section!) and especially your student number are on the answer sheet.

Keep the test.

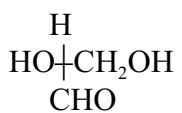
Hand in just the computer answer sheet.



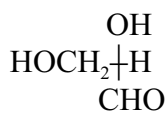
8. D-glyceraldehyde is :



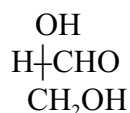
(A)



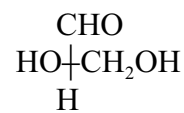
(B)



(C)



(D)



(E)

9. The molecule on the right is:

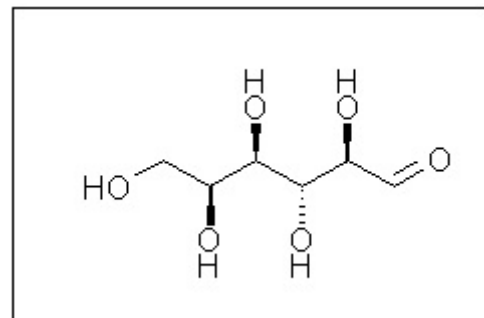
A) D-Glucose

B) L-mannose

C) D-galactose

D) A L-sugar but not one of the ones to know by heart

E) A D-sugar but not one of the ones to know by heart



10. A hemiacetal is

A) more reduced than an aldehyde

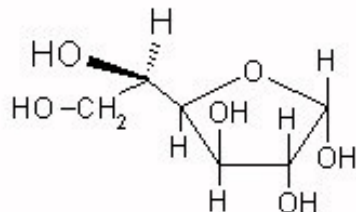
B) more oxidized than an aldehyde

C) a molecule that contains an aldehyde group linked to an alcohol group

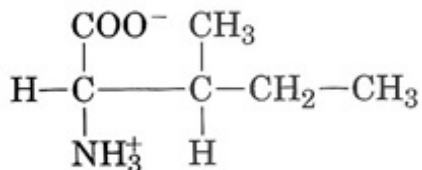
D) a molecule that contains an aldehyde group linked to two alcohol groups

E) a hidden ketone

Call this sugar Testose  
and use it for the next three questions.



11. Testose is a:
- A) D-furanose                      B) L-furanose  
C) D-pyranose                      D) L-pyranose  
E) D-pentanose
12. In terms of anomers, Testose is a:
- A)  $\alpha$ -pentose                      B)  $\beta$ -pentose  
C)  $\alpha$ -hexose                      D)  $\beta$ -hexose  
E) sugar that does not have an anomeric group
13. Testose is :
- A) Fructose                      B) Glucose  
C) Mannose                      D) Galactose  
E) a sugar that you do not have to know by heart
14. 1 L of a 50 mM weak acid ( $pK = 7$ ) was adjusted to pH 7. If you add 10 millimoles of acid, the pH will be :
- A) 6.2              B) 6.4              C) 6.6              D) 6.8              E) 6.0
15. What is the one letter amino acid code corresponding to the following structure?



- A) V              B) G              C) L              D) I              E) F

16. Which one of the following amino acids can have one, two, or three methyl groups attached on its epsilon (  $\epsilon$  ) amino group?

- A) R                      B) K                      C) M                      D) L                      E) E

17. This question identifies the version of the test that you are writing.

Verify that it says **A** on your answer sheet as the answer to this question.  
**IF IT DOES NOT INFORM THE PROCTOR IMMEDIATELY!**

3.  $40,000 = 2 \pi r = 2 \times 3 \times r \rightarrow r = 7,000\text{-km}$

6.  $\log H^+ = -6.7 = -6 + (-0.7) = -7 + (1 - 0.7) \rightarrow H^+ = 2 \times 10^{-7}$

7.  $H^+ = 10^{-9} \rightarrow OH^- = 10^{-5} M = 10 \times 10^{-6} M$

11-12-13: testose is  $\alpha$ DGlucopyranose pg S-14 Q#243a in notes

14.  $= 7 + \log (25 - 10/25 + 10) = 7 - 0.37 = 6.6$

Estim:  $15/35 \approx 0.5 \quad \log 0.5 = \log 10^{-1} + \log 5 \approx -1 + 0.6 \approx -0.4$

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A .....  
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 .....  C .....  
 A .....  
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**X-----VERSION-A--**  
**!**

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 .....  C .....  
 .....  C .....

**---X-VERSION-B--**  
**!**

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 .....  B .....

**VER-C-X---VER-C-**  
**!**

Exam:A  
 ....120123\_

Exam:Date:File:  
 ..... \\_\_ans\_

Exam:Date:File:  
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