

Course No: DNTS2310
Course Title: Biochemistry I
Date: 17/11/2013
No. of Questions: (9)
Time: 1hours
Using Calculator (No)

University of Palestine



Midterm Exam
2013/2014
Total Grade:

Instructor Name: _____
Student No.: _____
Student Name: _____
College Name: _____
Dep. / Specialist: _____
Using Dictionary (No)

ANSWER ALL QUESTIONS

1) DRAW THE HAWORTH AND THE FISHER PROJECTIONS FOR AN ALDOSE AND A KETOSE OF YOUR CHOICE. (2 MARKS)

2) EXPLAIN WHY GLUCOSE MUST UNDERGO PHOSPHORYLATION AND ISOMERISATION BEFORE SPLITTING INTO TWO TRIOSSES DURING GLYCOLYS (2 MARKS)

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3) MONOSACCHARIDES COMBINE TO PRODUCE
DISACCHARIDES: (4 MARKS)

A. NAME THE TYPE OF LINKAGE FORMED.

B. WHAT IS THE REACTION INVOLVED IN THIS PROCESS.

C. DRAW THE STRUCTURE OF THE DISACCHARIDE LACTOSE
NAMING THE MONOSACCHARIDES AND THE LINKAGE
INVOLVED.

4) WHICH ENZYME CATALYSES THE CLEAVAGE OF
FRUCTOSE 1,6-BISPHOSPHATE? NAME AND GIVE THE
STRUCTURE OF THE PRODUCTS. (4 MARKS)

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5) IN WHICH PART OF THE CELL DOES GLYCOLYSIS OCCUR AND WHAT ORGANISMS ARE CAPABLE OF PERFORMING IT? (2 MARKS)

6) PYROVATE IS FORMED AT THE FINAL STEP OF GLYCOLYSIS: (5 MARKS)

A. WHAT POSSIBLE FATE COULD PYROVATE TAKE?

B. WHICH ENZYME CATALYSES THIS REACTION?

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C. WHAT OTHER PRODUCT IS ALSO RESULTED AT THE SAME PROCESS?

D. SHOW THE STRUCTURE OF PYROVATE.

7) IDENTIFY THE ENERGY CONSUMING STEPS IN GLYCOLYSIS AND NAME THE ENZYMES INVOLVED. (NO STRUCTURE REQUIRED). (3 MARKS)

8) WHAT FUNCTIONS DO CARBOHYDRATES SERVE? (3 MARKS)

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- 9) COMPARE THE STRUCTURES OF CELLULOSE AND GLUCOGEN AND EXPLAIN WHY CELLULOSE CAN NOT BE METABOLISED BY HUMANS. (5 MARKS)