



QUIZ TIME

Bio- chemistry

Done by:

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Which GAG is found in synovial fluid?

- A. Heparin
- B. Chondroitin sulfate
- C. Hyaluronic acid
- D. Dermatan sulfate

Which is an amino sugar?

- A. Sorbitol
- B. Glucosamine
- C. Cellulose
- D. Glucoset

Which sugar enters RNA structure?

- A. Glucose
- B. Deoxyribose
- C. Ribose
- D. Mannose

Which polysaccharide helps increase food bulk and peristalsis?

- A. Glycogen
- B. Cellulose
- C. Amylopectin
- D. Inulin

Which disaccharide is non-reducing?

- A. Lactose
- B. Maltose
- C. Sucrose
- D. Cellobiose

Lactose is found in:

- A. Plants
- B. Fruits
- C. Milk
- D. Liver

Oxidation of glucose produces:

- A. Mannitol
- B. Galactose
- C. Gluconic acid
- D. Sucrose

Amylopectin has which type of bonds?

- A. α -1,4 only
- B. β -1,4 only
- C. α -1,4 and α -1,6
- D. β -1,6

13. What is the function of heparin?

- A. Lubricant
- B. Shock absorber
- C. Anticoagulant
- D. Supportive matrix

What is the result of reducing glucose?

- A. Glucuronic acid
- B. Galactose
- C. Sorbitol
- D. Ribose

Fructose is important in:

- A. Milk
- B. Synovial fluid
- C. Seminal fluid
- D. Urine

Glycogen is mainly stored in:

- A. Kidney
- B. Heart
- C. Liver and muscle
- D. Lungs

A 45-year-old male presents to the ER with dizziness and sweating. His blood glucose is 49 mg/dL. Which of the following explains why the brain is the first organ to show symptoms

- Brain uses fatty acids for energy in fasting
- Brain depends almost exclusively on glucose for energy
- Brain stores large amounts of glycogen for emergencies
- Brain converts amino acids directly

A dental patient consumes large amounts of glucose and fructose daily. Considering their metabolism and storage, which of the following is correct

- Both sugars are stored directly as amylose in human tissues.
- Fructose is converted to inulin, while glucose is stored as glycogen in liver and muscle.
- Glucose forms glycogen via α -1,4 and α -1,6 linkages; fructose enters disaccharides and polysaccharides but not glycogen.
- Both are stored as dextran, a mucilage-forming polysaccharide.

*:All of the following are functions or fates of glucose EXCEPT

- It is the principal sugar in the blood and the main energy source for the brain and RBCs.
- It is absorbed in the intestine and can be converted to glycogen, galactose
- tis converted into glucuronic acid, which is used in DNA synthesis.
- It can be oxidized by glucose oxidase to form gluconic acid, used in diagnostic test strips

During a lab test, glucose oxidase is used to measure blood glucose. If the enzyme oxidized the last carbon instead of the ?carbonyl group, what would be the product and its function

- Gluconic acid, used in energy production
- Glucuronic acid, used in detoxification and mucopolysaccharide formation
- Sorbitol, stored in the liver
- Dextrin, used as infant mucilage

Which of the following explains why 2-deoxy-D-ribose is used in v DNA but not in RNA, while glucuronic acid is used in GAGs, not ?nucleic acids

- 2-deoxy-D-ribose lacks an OH group at C-2; glucuronic acid has extra oxidation at C-6 for mucopolysaccharide formation.
- Both are identical derivatives but differ in enzyme localization.
- 2-deoxy-D-ribose is an amino sugar, while glucuronic acid is a deoxy sugar.
- RNA uses glucuronic acid because of its hydroxyl group.

Answers

C B C B. C C. C. C
C. C. C C. C. B C. B A