CH 880 Inclass activity Ch 7.

Q1. A

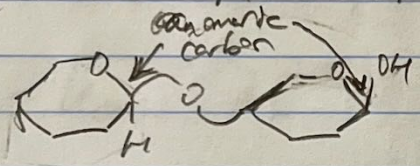
Q2. D

Q3. (a) β, β (b) pyranose

Q4 (a) ketose (b) aldose (c) neither (d) aldose (e) neither

Q5 anomeric: B and E
epimeric: A and C.

Q6 (a) They are both pyranoses. (b) This is a β-1 → 4 linkage.



(d) This is a reducing sugar as it does not involve both anomeric carbons in the acetal bond.

Q7. (C)

Q8. These molecules have a lot of OH groups and are small enough to interact with water to dissolve in it.

Q9. (a) glycogen: Carbohydrate storage in animals liver
(b) starch: carbohydrate storage in plants
(c) trehalose: transport/storage in insects.
(d) chitin: exoskeleton of insects
(e) cellulose: structural component of plant cell walls
(f) peptidoglycan: structural component of bacterial cell wall
(g) hyaluronate: viscosity, lubrication of extracellular spaces
(h) proteoglycan: extracellular matrix of animal tissues.

Q10. Hollows for storage of more glucose molecules in a smaller volume compared to linear polymers only.

Q11. Level: e (The large blue objects)
Glycoprotein: b and d, in leukocytes as well.
Glycolipid: c (inside the bi-layer) d (the blue balls)