

On my Honor I pledge that I have neither given or received help on this examination.

Your Signature

- 1) Which of the following statements about oxidation-reduction reactions (redox reactions) is(are) true?
 - a) when a compound gains electrons it is reduced
 - b) when a compound loses electrons it is oxidized
 - c) when compound A donates electrons to compound B, then B is reduced
 - d) when compound A receives electrons from compound B, then A is oxidized
 - e) all of the above are true

- 2) True or False Dehydrogenation (removal of a hydrogen atom from a compound) is the usual means of oxidation in living cells. a) true b) false

- 3) Which of the following statements about electron carriers is(are) true?
 - a) NAD⁺ is the reduced and NADH is the oxidized form of nicotinamide adenine dinucleotide.
 - b) these compounds transfer electrons to the citric acid cycle.
 - c) when NAD⁺ is reduced to NADH it carries two electrons and a proton.
 - d) FADH₂ is the oxidized form of flavin adenine dinucleotide
 - e) none of the above

- 4) Glycolysis ?
 - a) requires the presence of oxygen
 - b) takes place in the mitochondria
 - c) is a series of reactions converting glucose into pyruvate
 - d) produces alcohol in bacteria
 - e) none of the above

- 5) All of the following compounds are metabolites in the glycolytic pathway EXCEPT?
 - a) glucose-6-phosphate
 - b) α-ketoglutarate
 - c) glyceraldehyde-3-phosphate
 - d) phosphoenolpyruvate
 - e) choose this answer if all of the above are glycolytic

- 6) True or False NADH is the oxidized form of nicotinamide adenine dinucleotide?
 - a) true
 - b) false

- 7) A proton gradient is established in aerobic metabolism ?
 - a) in fermentation
 - b) across the mitochondrial membranes
 - c) in the cytoplasm only
 - d) when pyruvate is converted to lactate
 - e) choose this answer if all of the above are correct

- 8) If a molecule that contains phosphate donates it to ADP the process may be called ?
 - a) substrate level phosphorylation
 - b) oxidative phosphorylation
 - c) photosynthetic phosphorylation
 - d) impossible