Introduction to Biology: Quiz 2

Course outcomes: CO-1, CO-4 Time: 40 min, Marks: 20

1. Cells that rarely divide, if at all, will spend most of their time in what phase of the cell cycle? [1 mark]
2. Which phase of mitosis is characterized by the reappearance of the nuclear envelope? [1 mark]
3. How Cdk1 is inactivated during mitotic exit? [1 mark]
4. Where does Q-cycle occur? Why it occurs? [2 marks]
5. How checkpoints control G2 to M and metaphase to anaphase transitions? [2 marks]
6. Why DNA replication occurs in the discontinuous way in the lagging strand? [2 marks]
7. Why DNA polymerase require a primer? [2 marks]
8. What contributes to switch-like activation of Cdk1? [3 marks]
9. How redox potential and free energy of electron changes along the mitochondrial electron transport chain? Provide an explanation for your answers [3 marks]
10. When bidirectional replication forks from adjacent origins meet, a leading strand always runs into a lagging strand. True or False. Draw and explain. [3 marks]