

Answer the following questions (10 points/each question):

1. What is the essential difference between Darwin's theory of evolution and that of Lamarck?
2. (a) Describe the factors used in classifying organisms.
(b) Describe the five kingdoms of organisms, and give one representative organism in each.
3. Describe the endogenous factors influencing the regulation of plant growth.
4. What is a "HORMONE" and its role in animals ?
5. Outline the structure and function of mitochondria and chloroplasts.
6. What limits the passage of most polar molecules and ions through the cell membrane? Describe any possible routes.
7. ATP is a principal energy carrier in living cells. How do cells make it?
8. Distinguish between genotypic variability and phenotypic variability. Which is acted upon by natural selection? Which is necessary for evolution?
9. Define genetic isolation. Why is it such an important factor in classification?
10. Distinguish among the following terms:
 - (a) code/codon
 - (b) restriction enzyme/DNA ligase