SUGGESTED ANSWERS (with some explanation)

A. True and False

1. **True**. Carbon is the foundation of all life on Earth, required to form complex molecules like proteins and DNA

2. **False**. The amount of carbon does not change, however, where the carbon is located is constantly changing via the Carbon Cycle.

3. **False**. Most Carbon is stored in rocks and sediments.

4. **True.** The ocean is a carbon sink. Carbon is circulated between the oceans and atmosphere and can be is stored for a long time in the deep ocean. As a storage, oceans hold about 50 times more carbon than the atmosphere. Too much carbon lowers the ocean's pH which impacts marine organisms.

5. **True**. Carbon dioxide is an important greenhouse gas, helping Earth's atmosphere to retain heat from the Sun. Too much carbon dioxide going into the atmosphere can lead to a planet that gets unnaturally hot – Enhanced Greenhouse Effect.

6. **True**. Natural processes in the lithosphere move carbon between storages. Erosion releases carbon back into the atmosphere slowly and volcanic activity releases it quickly. This movement of carbon from storage to storage is the carbon cycle. Other natural processes transferring carbon are respiration and photosynthesis.

7. **True**. Hydrocarbons are compounds comprising Hydrogen and Carbon atoms. Oil and gas are hydrocarbons formed through natural processes.

8. **True**. Natural processes move carbon from the atmosphere into the biosphere through food chains via photosynthesis. Another example of natural processes is the trapping of dead plants and animals over time through geologic processes such as deposition, trapping carbon in the lithosphere. For millions of years natural processes effectively recycled carbon through the carbon cycle.

9. **Partly false**. Carbon reduction technologies are both experimental and existing solutions to removing carbon from the atmosphere. Examples of experimental technologies include those capturing and storing carbon through geoengineering such as turning carbon into rock and blue hydrogen. An example of an existing technology used the remove carbon from the atmosphere is carbon sequestration into soils and biomass (plants).

10. **Personal response**