**Pakistan School , Kingdom of Bahrain**

**E- Support and Learning Material / Session 2020-2021**

**Subject: Biology Grade: 9**

**Book: Biology 9 –PLD Publishers FIRST TERM**

**Unit No. 1 Introduction of Biology Page No. 2-3**

**Short Questions**

**Q1. What is Science?**

Ans. Science is the study in which observations are made, experiments are done and logical conclusions are drawn in order to understand the principles of nature.

Q2 . Define Biology;

Ans. Biology is the scientific study of life. The word Biology is derived from two Greek words ‘Bios’ meaning life and ‘logos’ meaning thought or reasoning. In Biology we study about living things i.e. plants and animals.

Q4. What are the major Divisions of Biology?

Ans. There are three major divisions of Biology;

1. Zoology: This division of Biology deals with the study of ~animals~
2. Botany: This division of Biology deals with the study of Plants.
3. Microbiology: This division of Biology deals with the study of microorganisms such as Bacteria etc.

**Detailed Answer.**

**Q5. What are the further divisions of Biology?**

 (Refer page no. 3. Morphology, Anatomy, Histology, Cell biology, Physiology, Genetics, Embryology, Taxonomy, Paleontology, Environmental Biology, Socio-Biology, Parasitology, Biotechnology, Immunology, Entomology, Pharmacology. (Study the definitions given in the Text book.)

 **Unit No. 1 Introduction of Biology Page No. 4**

 **Relationship of Biology to other Sciences.**

**Short Questions**

Q6. How does Biology relate to the other branches of science?

Ans. Biology includes information on various aspects of living things but this information relates to the other branches of science as well. For example;

When studying the process of movement in animals, the Biologists have to refer to the ~Laws of Motion~ in Physics. This forms the basis of Inter disciplinary sciences.

Q7. Write the relationship f Biology to Bio physics and Bio chemistry.

Ans. **Biophysics;** It deals with the study of the Biological phenomena. For example, when there is a similarity between the working principles of lever in physics and limbs of animals in Biology.

 **Biochemistry:** It deals with the study of chemistry of different compounds and processes

occurring in the living organisms. For example the study of basic metabolism of photosynthesis and respiration involves the knowledge of Chemistry.

Q8. How does Biomathematics Biometry help Biologist?

Ans. It deals with the study of Biological processes, using Mathematical techniques and

 Tools. For example, to analyze the data gathered after experimental work, biologists

 have to apply the ~rules~ of ~Mathematics. ~

Q9. Which branch of science deals with characteristics of Geographical region to determine

 the types of living organisms.

Ans. **Biogeography;** It deals with study of the occurrence and distribution of different species

 of living organisms in different geographical region of the world. It applies the knowledge

 of characteristics of particular geographical regions to determine the characteristics of

 living organism found there.

Q10. How is Bio economics important from economical point of view?

Ans. It deals with the study of organisms from economical point of view. For example the

 cost value and profit value of yield of wheat can be calculated through Bio economics

 and benefits **or** losses can be determined.



**Assessment Sheet**

**Choose the correct Answer**

1. If the scientist is studying the methods of inserting human insulin gene in bacteria,

 Which branch of Biology may this be?

1. Anatomy b) Physiology c) Biotechnology d) Pharmacology
2. Which branch of biology deals with molecules of life?
3. Anatomy b) palaeontology c) Cell Biology d) Molecular Biology

**Give answers to the following questions .**

1. Define Biotechnology.
2. Draw a table to showing the branches of Biology and the studies they deal with.
3. Give points to address that Biology is linked with Physics, chemistry, mathematics, geography and economics.