BIOLOGY FOR ENGINEERS

SNS COLLEGE OF TECHNOLOGY

COIMBATORE – 35

DEPARTMENT OF BIOMEDICAL ENGINEERING (UG & PG)

Final Year Agricultural Engineering, 7th Semester

2 Marks Question and Answer

Subject Code & Name: 19GET277 – BIOLOGY FOR ENGINEERS

Prepared by: Mr. G.Hari Pranesh/AP/AGE

UNIT 1

INTRODUCTION TO LIFE

1. What are the seven characteristics of living organisms?

A: The seven characteristics of living organisms are organization, metabolism, growth, adaptation, reproduction, response to stimuli, and evolution.

2. What are the five kingdoms of living organisms?

A: The five kingdoms of living organisms are Monera, Protista, Fungi, Plantae, and Animalia.

3. What is the cell theory, and who proposed it?

A: The cell theory is a scientific theory that states that all living organisms are made up of cells. It was proposed by Matthias Schleiden and Theodor Schwann in the 1830s.

4. What are the three main parts of a prokaryotic cell?

A: The three main parts of a prokaryotic cell are the cell membrane, cytoplasm, and genetic material.

5. What are the four main parts of a eukaryotic cell?

A: The four main parts of a eukaryotic cell are the cell membrane, cytoplasm, nucleus, and membrane-bound organelles.

6. What are the four main types of biomolecules?

A: The four main types of biomolecules are carbohydrates, lipids, proteins, and nucleic acids.

7. What are the three important functions of carbohydrates in living organisms?

A: The three important functions of carbohydrates in living organisms are providing energy, serving as structural components, and aiding in cell communication.

8. What are the three important functions of lipids in living organisms?

A: The three important functions of lipids in living organisms are energy storage, insulation, and serving as structural components.

9. What are the four main functions of proteins in living organisms?

A: The four main functions of proteins in living organisms are catalyzing chemical reactions, providing structural support, facilitating cell communication, and transporting molecules.

10. What are the two main types of nucleic acids, and what are their functions?

A: The two main types of nucleic acids are DNA and RNA. DNA stores genetic information, while RNA helps to translate genetic information into proteins.

11. What are the two main types of vitamins, and what are their functions?

A: The two main types of vitamins are fat-soluble and water-soluble vitamins. Fat-soluble vitamins are important for vision and bone health, while water-soluble vitamins are important for energy metabolism and immune function.

12. What is the function of enzymes in living organisms?

A: Enzymes are proteins that catalyze chemical reactions in living organisms, allowing these reactions to occur more quickly and efficiently.

13. What is a gene, and what is its function?

A: A gene is a segment of DNA that contains the instructions for building a particular protein. Genes are the basic units of heredity and determine many of an organism's traits.

14. How many chromosomes do humans have, and what is their function?

A: Humans have 46 chromosomes, which contain DNA and are responsible for transmitting genetic information from one generation to the next.

15. What are the key differences between prokaryotic and eukaryotic cells?

A: Prokaryotic cells are smaller and simpler in structure than eukaryotic cells, and they lack a nucleus and membrane-bound organelles. Eukaryotic cells are larger and more complex, and they have a nucleus and various membrane-bound organelles that perform specific functions.