

**ITESM-ESBIN  
BIOLOGY, FIRST YEAR  
STUDY GUIDE FOR THE  
FIRST PERIOD  
OCTOBER, 2007**

**COMPARISON OF THE COMMON  
CHARACTERISTICS OF LIVING BEINGS**

- Stages of the life cycle
- Irritability
- Homeostasis
- Metabolism
- Respiration and photosynthesis

**IMPORTANCE OF CLASSIFICATION AS A  
COMPARISON METHOD**

- The works of: Carl Linnaeus, Jean Lamarck, Aristotle, John Ray.
- Binomial nomenclature and its importance
- Taxonomy science and taxonomic levels
- The 5 Kingdoms: characteristics, similarities, differences and examples
  - Monera
  - Protista
  - Fungi
  - Plantae
  - Animalia

**EVOLUTION**

- Lamarck's theory
- Darwin's theory
- Natural selection
- Artificial selection
- Adaptations
- Mutations
- Fossils
- Science and faith

**THE MICROSCOPIC WORLD AND CELLS**

- Leeuwenhoek's microscope, modern microscope parts
- Hooke's discovery
- Cell theories: Schleiden, Schwann and Virchow.
- The Koch's postulates
- Pasteur's contributions
- The structure and organelles of an animal cell

- The structure and organelles of a plant cell
- DNA: structure and functions

**TEACHER ADVICE:**

- Answer all questions from all the powerpoint presentations that include the information related to this page's contents.
- Study the questions from your quizzes.
- Carefully read the presentation reviews.
- Listen to the podcasts, and print their transcripts.
- Review the procedures and results from the lab practices and the beans activity.

Good luck!

**REMEMBER: THE CONTENTS OF THIS PAGE  
ARE THE ONLY CONTENTS THAT WILL BE  
INCLUDED IN THE BIOLOGY EXAM.**