

RAYAT-BAHRA UNIVERSITY

Bridge course is designed for understanding of the concept of basic and applied Biology and complexities of plants and animals, ending with a basic understanding of Ecology and Conservation.

1. **Course Code: BDC 105**
2. **Course Name: Knowing Biological Sciences**
3. **Duration: 30 Hrs**

Knowing Biological Sciences

Unit-I (7 hrs)

Introductory Biology: History of Biology, Origin of life, Chemical basis of life; diversity of life forms, Characteristic features of living organisms-Plants, Animals, Microbes and viruses, Hierarchical levels of organization in living organisms, Prokaryotes and Eukaryotes, Modes of nutrition, Photosynthesis, Ingestion and absorption, Cellular basis of inheritance and their pattern.

Unit-II (6 hrs)

Developmental Biology & Evolution: Basic concepts in developmental biology with reference to plants and animals, Introduction to evolution: Theories-Theory of Lamarck, Weismann and De Vries, Darwinism & Neo- Darwinism, Organic evolution and Cambrian Explosion, Evolution of man.

Unit-III (5 hrs)

Biochemistry: Brief history of biochemistry, Carbohydrates, Lipids & Fats, Proteins, Amino Acids, Enzymes as Biological Catalysts, DNA, RNA

Unit-IV (6 hrs)

Microbiology: Bacteriology- General characteristics, nomenclature, classification, structure, Virology- General characteristics, nomenclature, classification, structure, Plant-Microbe interactions, Animal-Microbe interactions, Various methods of control of microorganisms, Microbiology of Environment

Unit-V (6 hrs)

Ecology & Conservation: Various Ecosystems-Biotic and Abiotic component, Population Ecology, Host-Parasite Interactions-Symbiosis, Mutualism, Predation, Biogeochemical cycles, Ecological succession, Biodiversity & Conservation, Environment Pollution-Causes, effects & control measures