

# SYLLABUS

## BIOLOGY (044) (THEORY) CLASS XII (2021-22)

### TERM-II

Time : 2 Hours		Max. Marks : 40
Units		Marks
I.	Biology and Human Welfare : Chapter – 8 and 10	14
II.	Biotechnology and its Applications : Chapter – 11 and 12	11
III.	Ecology and Environment : Chapter – 13 and 15	10
	<b>Total</b>	<b>35</b>
	Practical	15
	<b>Grand Total</b>	<b>50</b>

### UNIT VIII : BIOLOGY AND HUMAN WELFARE

#### Chapter 8 : Human Health and Disease

Pathogens; parasites causing human diseases (malaria, dengue, chikungunya, filariasis, ascariasis, typhoid, pneumonia, common cold, amoebiasis, ring worm) and their control; Basic concepts of immunology - vaccines; cancer, HIV and AIDS; Adolescence - drug and alcohol abuse.

#### Chapter 10 : Microbes in Human Welfare

Microbes in food processing, industrial production, sewage treatment, energy generation and microbes as bio-control agents and bio-fertilizers. Antibiotics; production and judicious use.

### UNIT IX : BIOTECHNOLOGY AND ITS APPLICATIONS

#### Chapter 11 : Biotechnology - Principles and Processes

Genetic Engineering (Recombinant DNA Technology).

#### Chapter 12 : Biotechnology and its Applications

Application of biotechnology in health and agriculture : Human insulin and vaccine production, stem cell technology, gene therapy; genetically modified organisms - Bt crops; transgenic animals; biosafety issues, biopiracy and patents.

### UNIT X : ECOLOGY AND ENVIRONMENT

#### Chapter 13 : Organisms and Populations

Organisms and environment : Habitat and niche, population and ecological adaptations; population interactions - mutualism, competition, predation, parasitism; population attributes - growth, birth rate and death rate, age distribution.

#### Chapter-15 : Biodiversity and Conservation

Biodiversity - Concept, patterns, importance; loss of biodiversity; biodiversity conservation; hotspots, endangered organisms, extinction, Red Data Book, Sacred Groves, biosphere reserves, national parks, wildlife, sanctuaries and Ramsar sites.