

# **ACHARYA NAGARJUNA UNIVERSITY - UG SYLLABUS**

**Group:** B.Sc **Subject:** PLANT ECOLOGY& PHYTOGEOGRAPHY **Year:** III **Sem:** V

## **Unit-I:**

### **Elements of Ecology:**

1. Ecology: definition, branches and significance of ecology.
2. Climatic Factors: Light, Temperature, precipitation.
3. Edaphic Factor: Origin, formation, composition and soil profile.
4. Biotic Factor: Interactions between plants and animals.

## **Unit-II:**

### **Ecosystem Ecology:**

1. Ecosystem: Concept and components, energy flow, Food chain, Food web, Ecological pyramids.
2. Productivity of ecosystem-Primary, Secondary and Net productivity.
3. Biogeochemical cycles- Carbon, Nitrogen and Phosphorous.

## **Unit-III:**

### **Population &Community Ecology:**

1. Population -definition, characteristics and importance, outlines –ecotypes.
2. Plant communities- characters of a community, outlines – Frequency, density, cover, life forms, competition.
3. Interaction between plants growing in a community.

## **Unit-IV:**

### **Phytogeography:**

1. Principles of Phytogeography, Distribution (wides, endemic, discontinuous species)
2. Phytogeographic regions of India.
3. Phytogeographic regions of World.
4. Endemism – types and causes

## **Unit-V:**

### **Plant Biodiversity and its importance:**

1. Definition, levels of biodiversity-genetic, species and ecosystem.
2. Biodiversity hotspots- Criteria, Biodiversity hotspots of India.
3. Loss of biodiversity – causes and conservation (In-situ and ex-situ methods).
4. Seed banks - conservation of genetic resources and their importance

### **Reference Books:**

1. 1. Daubenmire, R.F. ( ): Plants & Environment (2nd Edn.,) John Wiley & Sons., New York