

**SOFT
CORE
COURS 39hrs
ES**

**BSS
552ENVIRONMEN
TALPHYSIOLOG
Y**

After successful completion of the course, students will be able to:

- CO 1. Enhance the knowledge how the organisms are physiologically adapted to various environmental conditions.
- CO 2. Know the basic principles of plant responses to environment.
- CO 3. Understand the physiology of flowering, senescence and abscission.
- CO 4. Gain the knowledge about stress physiology; how the plants response to various biotic and abiotic stress. how plant adapted to the radiation environment.
- CO 5. Comprehend the physiology of circulation and respiration, including under special environmental conditions, such as high altitude and deep sea diving.
- CO 6. Know how some respiratory diseases are caused.

Unit I (13 hours)

Principles of plant responses to environment; Problems of environment; Ecotypes - the role of genetics. Photoperiodism and its significance, endogenous clock and its regulation and development. Physiology of flowering, Senescence- types, causes, physiology of senescence and its significance, Abscission.

Unit II (13 hours)

Stress physiology: Plant response to biotic and abiotic stress. Stress tolerance, heat resistance, HR and SAR, water deficit and drought resistance, salinity stress, metal toxicity, freezing and heat stress, oxidative stress; Plant adaptation to the radiation environment.

Unit III (13 hours)

Circulation: Types of heart and body fluids (blood and lymph); buffering properties of blood; blood circulation; Physiology and patterns of circulation; Circulatory physiological features in special environment viz., high altitude, deep seadiving. Respiration: Transport of oxygen and carbon dioxide; regulatory mechanisms of respiration, **respiratory physiological features in special environments viz. high altitude, deep sea diving;** respiratory diseases.