

## **OAI551 ENVIRONMENT AND AGRICULTURE**

### DETAILED SYLLABUS

#### **OBJECTIVE:**

- To emphasize on the importance of environment and agriculture on changing global scenario and the emerging issues connected to it.

#### **UNIT I ENVIRONMENTAL CONCERNS**

Environmental basis for agriculture and food – Land use and landscape changes – Water quality issues – Changing social structure and economic focus – Globalization and its impacts – Agro ecosystems.

#### **UNIT II ENVIRONMENTAL IMPACTS**

Irrigation development and watersheds – mechanized agriculture and soil cover impacts – Erosion and problems of deposition in irrigation systems – Agricultural drainage and downstream impacts – Agriculture versus urban impacts.

#### **UNIT III CLIMATE CHANGE**

Global warming and changing environment – Ecosystem changes – Changing blue-green-grey water cycles – Water scarcity and water shortages – Desertification.

#### **UNIT IV ECOLOGICAL DIVERSITY AND AGRICULTURE**

Ecological diversity, wild life and agriculture – GM crops and their impacts on the environment – Insects and agriculture – Pollination crisis – Ecological farming principles – Forest fragmentation and agriculture – Agricultural biotechnology concerns.

#### **UNIT V EMERGING ISSUES**

Global environmental governance – alternate culture systems – Mega farms and vertical farms – Virtual water trade and its impacts on local environment – Agricultural environment policies and its impacts – Sustainable agriculture.

#### **OUTCOMES:**

- Students will appreciate the role of environment in the current practice of agriculture and concerns of sustainability, especially in the context of climate change and emerging global issues.

SSLC, HSE, DIPLOMA, B.E/B.TECH, M.E/M.TECH, MBA, MCA

*Notes*

*Syllabus*

*Question Papers*

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- Ecological context of agriculture and its concerns will be understood

**TEXTBOOKS:**

1. M.Lakshmi Narasaiah, Environment and Agriculture, Discovery Pub. House, 2006.
2. Arvind Kumar, Environment and Agriculture, ABH Publications, New Delhi, 2005.

**REFERENCES:**

1. T.C. Byerly, Environment and Agriculture, United States. Dept. of Agriculture. Economic Research Service, 2006.
2. Robert D. Havener, Steven A. Breth, Environment and agriculture: rethinking development issues for the 21st century: proceedings of a symposium, Winrock International Institute for Agricultural Development, 1994
3. Environment and agriculture: environmental problems affecting agriculture in the Asia and Pacific region; World Food Day Symposium, Bangkok, Thailand. 1989