

## **JSS Academy of Higher Education and Research**

**SS Nagar, Mysuru.**

### **Certificate program on Environmental studies module**

**Introduction:** The importance of environmental science and environmental studies and the need for sustainable development are important aspects which every health care professional should be aware of. These are key to the future of mankind. It is clear that no citizen of the earth can afford to be ignorant of environment issues. Environmental management has captured the attention of health care managers.

**Rationale:** There is a need to create awareness among dental practitioners about key issues in environmental studies and the importance of contributing towards sustainable development goals. Hence, the certificate course on environmental studies module will be an introduction to the students of dentistry.

**Course outcomes:** At the end of the course, participating students will be able to enumerate the various Renewable and non-renewable natural resources, explain the environmental pollution and methods for preventing pollution. local levels the multidisciplinary nature of environmental studies.

**Participants:** Third year BDS students at JSS Dental College and Hospital.

**Offered by:** Department of Public Health Dentistry in collaboration with Faculty of Life Sciences, JSS Academy of Higher Education and Research.

**Duration: Six months**

**Hours: 30 hours**

## **Curriculum and syllabus:**

### **Unit 1 : Multidisciplinary nature of environmental studies - 2 hours**

Definition, scope and importance

Need for public awareness.

### **Unit 2 : Natural Resources :**

#### **Renewable and non-renewable resources : 8 hours**

Natural resources and associated problems.

- a) Forest resources : Dams and their effects on forest and tribal people.
- b) Water resources : Use and over-utilization of surface and ground water,
- c) Mineral resources : Environmental effects of extracting and using mineral resources, case studies.
- d) Food resources : World food problems,
- e) Energy resources : Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources. Case studies.
- f) Role of an individual in conservation of natural resources.
- g) Equitable use of resources for sustainable lifestyles.

#### **Unit 3 : Ecosystems 2 hours**

- Concept of an ecosystem.
- Structure and function of an ecosystem.

#### **Unit 4 : Biodiversity and its conservation 3 hours**

- Introduction – Definition : genetic, species and ecosystem diversity.
- Biogeographical classification of India
- Biodiversity at global, National and local levels.

## **Unit 5 : Environmental Pollution 5 hours**

Definition

Cause, effects and control measures of :-

- a. Air pollution
  - b. Water pollution
  - c. Soil pollution
  - d. Noise pollution
  - e. Nuclear hazards
- Solid waste Management : Causes, effects and control measures of urban and industrial wastes.
  - Role of an individual in prevention of pollution.
  - Disaster management : floods, earthquake, cyclone and landslides.

## **Unit 6 : Social Issues and the Environment 5 hours**

- From Unsustainable to Sustainable development
- Water conservation, rain water harvesting, watershed management
- Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies.
- Environment Protection Act.
- Air (Prevention and Control of Pollution) Act.
- Water (Prevention and control of Pollution) Act

## **Unit 7 : Human Population and the Environment 1 hours**

- Population growth, variation among nations.
- Population explosion – Family Welfare Programme.

## **Unit 8 : Field work 4 hour**

- Visit to a local area to document environmental assets-  
river/forest/grassland/hill/mountain

**Evaluation:** This will be done using MCQ based test.