

**SES'S L.S.RAHEJA COLLEGE OF ARTS AND COMMERCE**

Course: ENVIRONMENTALSCIENCE

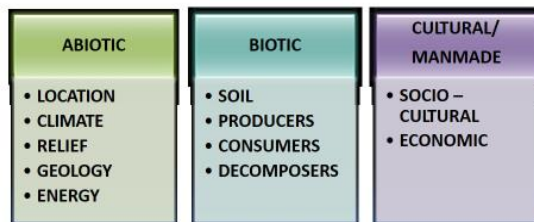
Unit: I

Prepared by: MS. DIVYA KANCHAN

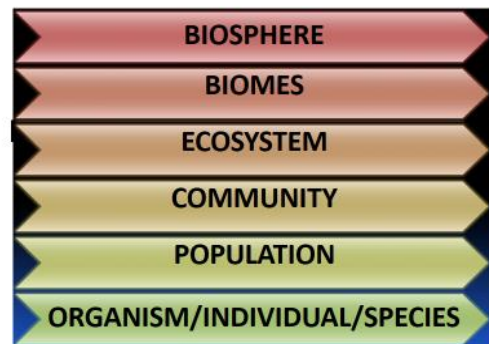
### DEFINITION OF ENVIRONMENT

THE TERM ENVIRONMENT HAS BEEN DERIVED FROM A FRENCH WORD "ENVIRONIA", WHICH MEANS "TO SURROUND". IT IS A COMPOSITE TERM REFLECTING THE CONDITIONS IN WHICH THE ORGANISMS CONSISTING OF AIR, WATER, FOOD, SUNLIGHT, etc THRIVE AND BECOME LIVING SOURCE OF LIFE FOR ALL THE LIVING AND NON – LIVING BEINGS INCLUDING PLANT LIFE

#### COMPONENTS OF ENVIRONMENT



#### LEVELS OF ORGANISATION



### MEANING OF ECOSYSTEM

AN ECOSYSTEM IS A COMMUNITY OF ORGANISMS INTERACTING WITH EACH OTHER AND WITH THEIR ENVIRONMENT IN SUCH A WAY THAT THE ENERGY IS EXCHANGED AND CYCLING OF ELEMENTS EMERGE.

### TYPES OF BIODIVERSITY

- GENETIC DIVERSITY
- SPECIES DIVERSITY
- ECOSYSTEM DIVERSITY

### BENEFITS ARISING FROM BIOLOGICAL DIVERSITY

#### ☐ ECOSYSTEM SERVICES

- PROTECTION OF WATER RESOURCES
- SOILS FORMATION AND PROTECTION
- NUTRIENT STORAGE AND CYCLING
- BREAKDOWN AND ABSORPTION OF POLLUTANTS
- CONTRIBUTION TO CLIMATE STABILITY
- RECOVERY FROM UNPREDICTABLE EVENTS

## BIOLOGICAL RESOURCES

- FOOD
- MEDICINAL RESOURCES
- WOOD PRODUCTS
- ORNAMENTAL PLANTS
- BREEDING STOCKS, POPULATION RESERVOIRS
- FUTURE RESOURCES

## SOCIAL BENEFITS

- RESEARCH, EDUCATION AND MONITORING
- RECREATION
- CULTURAL VALUES

## THREATS TO BIODIVERSITY LOSS

- HABITAT LOSS
- CLIMATE CHANGE
- OVER EXPLOITATION OR UNSUSTAINABLE USE
- INVASIVE ALIEN SPECIES
- POLLUTION

## RESTORATION & CONSERVATION OF BIODIVERSITY

**EX - SITU  
CONSERVATION**

**IN - SITU  
CONSERVATION**

## SOLUTION TO BIODIVERSITY LOSS

**NOTE: THESE POINTS ARE INDICATIVE AND NOT EXHAUSTIVE. PLEASE ELABORATE THE ANSWERS WITH PROPER EXAMPLES WHEREVER APPLICABLE. PLEASE REFER BOOKS AND QUESTIONS AS INFORMED IN THE CLASS.**

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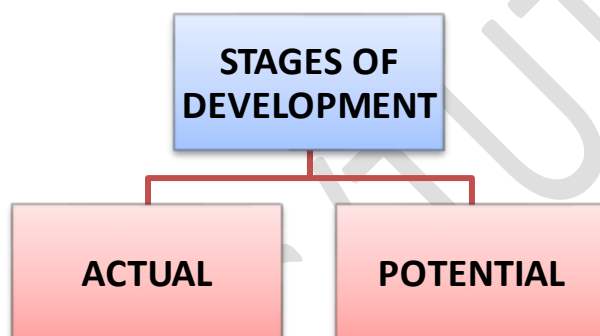
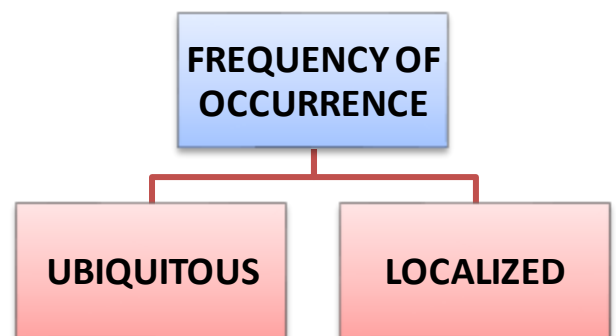
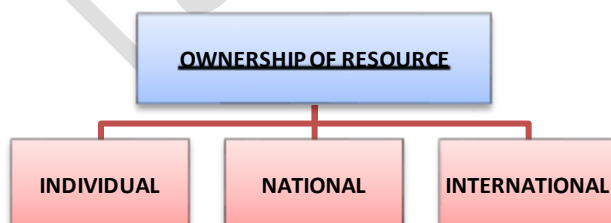
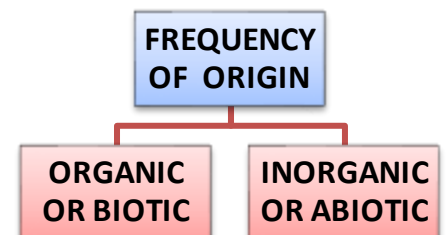
Course: ENVIRONMENTLSCIENCE

Unit: II

Prepared by: MS DIVYA KANCHAN

**MEANING OF RESOURCES**

ENVIRONMENT PROVIDES US A VARIETY OF PRODUCTS WHICH WE UTILIZE FOR OUR DAY TO DAY REQUIREMENTS. THE TERM RESOURCE MEANS ANY MATERIAL IN THE ENVIRONMENT WHICH HAS UTILITY. NATURAL RESOURCES ARE DERIEVED FROM THE ENVIRONMENT .MANY NATURAL RESOURCES ARE ESSENTIAL FOR HUMAN SURVIVAL, WHILE OTHERS ARE USED FOR SATISFYING HUMAN DESIRE.

**ENDOWMENT AND RESOURCES****CLASSIFICATION OF RESOURCES****ON THE BASIS OF STAGES OF DEVELOPMENT****ON THE BASIS OF FREQUENCY OF OCCURANCE****ON THE BASIS OF OWNERSHIP OF RESOURCE****ON THE BASIS OF FREQUENCY OF ORIGIN**

### ON THE BASIS OF DURABILITY, AVAILABILITY AND REGENERATION

- NATURAL OR PHYSICAL RESOURCES
  - INEXHAUSTIBLE OR RENEWABLE OR FLOW RESOURCES
  - EXHAUSTIBLE OR NON RENEWABLE OR FUND RESOURCES
- HUMAN OR CULTURAL RESOURCES

### **WATER RESOURCES**

#### IMPORTANCE OF WATER

- FUNDAMENTAL IMPORTANCE
- HIGH SURFACE TENSION
- TRANSPARENT BODY
- ABSORPTION CAPACITY
- HUMAN CIVILATIONS
- A SOURCE OF CLEAN POWER
- INDUSTRIAL DEVELOPMENT
- DOMESTIC PURPOSE
- WATER DISPOSAL
- NAVIGATION

#### ISSUES RELATED TO WATER

- OVERUTILISATION OF WATER
- POLLUTION OF SURFACE AND GROUNDWATER
- WATER CRISIS

#### RAINWATER HARVESTING

- ARTIFICIAL RECHARGING OF GROUND WATER
- ROOF TOP RAINWATER HARVESTING

### **FOREST RESOURCES**

#### IMPORTANCE OF FOREST

- PROTECTIVE FUNCTIONS:
  - WATERSHED PROTECTION
  - EROSION CONTROL
  - LAND BANK
  - ATMOSPHERIC REGULATION

- **PRODUCTIVE FUNCTION:**
  - **FOOD**
  - **MARKET USE**
- **DEVELOPMENTAL FUNCTION**

#### **CAUSES OF DEFORESTATION**

- **AGRICULTURE EXPANSION**
- **ANIMAL GRAZING**
- **COMMERCIAL LOGGING**
- **CASH CROP ECONOMY**
- **MINING**
- **OTHER FACTORS**

#### **EFFECTS OF DEFORESTATION**

- **ATMOSPHERIC POLLUTION**
- **DEFORESTATION AND GLOBAL WATER CYCLE**
- **DEFORESTATION AND GLOBAL CARBON CYCLE**
- **LOSS OF BIODIVERSITY**
- **INCREASE IN SOIL EROSION**

#### **MEASURES TO CONSERVE FOREST**

- **REGULATED AND PLANNED CUTTING OF TREES**
- **CONTROL OVER FOREST FIRE**
- **REFORESTATION AND AFFORESTATION**
- **CHECK OVER FOREST CLEARANCE FOR AGRI – CULTURAL AND HABITATION PURPOSES**
- **PROTECTION OF FOREST**
- **PROPER UTILISATION OF FOREST AND FOREST PRODUCTS**
- **RECYCLING AND REPLACING FOREST PRODUCTS**
- **NATURE CONSERVATION**

## SOIL RESOURCES

### IMPORTANCE OF SOIL

- FARMING AND FOOD PRODUCTION
- FORESTRY
- FILTER
- FOUNDATION FOR STRUCTURES
- PRESERVER
- REGULATES CLIMATE
- ECOLOGY
- AFFECTS WATER CYCLE

### THREATS TO SOIL

- SOIL EROSION
- DESERTIFICATION
- ACID RAIN
- FERTILIZERS
- POLLUTANTS
- DEFORESTATION
- IMPACT ON BIODIVERSITY
- SALINISATION
- LOSS OF ORGANIC MATTER

## ENERGY RESOURCES

- NON RENEWABLE ENERGY
  - COAL
  - PETROLEUM
  - NATURAL GAS
  - NUCLEAR ENERGY
- RENEWABLE ENERGY

- SOLAR ENERGY
- WIND ENERGY
- BIOMASS
- HYDRO ELECTRIC POWER
- TIDAL ENERGY

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Course: ENVIRONMENTALSCIENCE

Unit: III

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**ENVIRONMENT AND ECONOMIC  
ACTIVITIES****ECONOMIC ACTIVITES****ENVIRONMENTAL PROBLEMS ASSOCIATED WITH ECONOMIC ACTIVITIES****PRIMARY SECTOR****ENVIRONMENTAL IMPACT OF AGRICULTURE**

- CLIMATIC CHANGE
- DEFORESTATION
- GENETIC ENGINEERING
- OVER IRRIGATION
- POLLUTANTS
- SOIL DEGRADATION
- WASTE

**PRIMARY SECTOR****ENVIRONMENTAL IMPACT OF MINING**

- WATER POLLUTION



- ACID ROCK DRAINAGE
- EFFECTS OF MINING ACTIVITY ON BIODIVERSITY
- AQUATIC ORGANISMS
- EFFECTS ON AGRICULTURE
- EFFECTS ON ANIMALS
- EFFECT OF MINE POLLUTION ON HUMANS

## PRIMARY SECTOR

### ENVIRONMENTAL IMPACT OF FISHING

- OVERFISHING
- ECOLOGICAL DISRUPTION
- BY – CATCH

## SECONDARY SECTOR

### ENVIRONMENTAL IMPACT OF INDUSTRIES

- WATER POLLUTION
- AIR POLLUTION
- WILDLIFE EXTINCTION
- GLOBAL WARMING
- SOIL POLLUTION AND DEGRADATION OF LAND QUALITY
- OTHER EFFECTS

## TERTIARY SECTOR

### ENVIRONMENTAL IMPACT OF TRANSPORT

- RESOURCE USE
- CLIMATE CHANGE
- AIR POLLUTION
- NOISE AND RELATED POLLUTION
- LAND TAKE
- WATER IMPACTS

**TERTIARY SECTOR****ENVIRONMENTAL IMPACT OF TOURISM**

- WATER RESOURCES
- LOCAL RESOURCES
- LAND DEGRADATION
- POLLUTION
- SOLID WASTE AND LITTERING
- SEWAGE
- PHYSICAL SYSTEM

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**SES'S L.S.RAHEJA COLLEGE OF ARTS AND COMMERCE**

Course: ENVIRONMENTAL SCIENCE

Unit: IV

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**ENVIRONMENT MANAGEMENT****DEFINITION:**

ENVIRONMENTAL MANAGEMENT IS THE PROCESS OF ALLOCATING NATURAL AND ARTIFICIAL RESOURCES SO AS TO MAKE OPTIMUM USE OF THE ENVIRONMENT IN SATISFYING THE BASIC HUMAN NEEDS AT THE MINIMUM, AND MORE IF POSSIBLE, ON A SUSTAINABLE BASIS.

**FEATURES OF ENVIRONMENT MANAGEMENT:**

- GENERIC TERM
- SYSTEMATIC PROCESS
- SUSTAINABLE MANAGEMENT
- MULTI – DISCIPLINARY
- WIDE RANGE
- GAINING SIGNIFICANCE

**SCOPE OF ENVIRONMENT STUDIES**

- ENVIRONMENTAL SCIENCE
- ENVIRONMENTAL ENGINEERING
- ENVIRONMENTAL MANAGEMENT

**AIMS AND OBJECTIVES OF ENVIRONMENTAL IMPACT ASSESSMENT**

- SYSTEMATICALLY AND EXPLICITLY ASSESS
- PROJECT DEVELOPMENT
- DEVELOPMENT CONTROL
- PLAN DEVELOPMENT
- POLICY DEVELOPMENT

**ROLES AND PERSPECTIVE IN EIA**

- ENVIRONMENTAL SCIENTIST
- SOCIOLOGIST
- MEMBER OF THE LOCAL COMMUNITY
- CONSULTANT
- POLITICAL SCIENTIST
- POLITICIAN
- ECONOMIST

### FEATURES OF ENVIRONMENTAL AUDIT

- MANAGEMENT TOOL
- SYSTEMATIC PROCESS
- PERIODIC EVALUATION
- ENVIRONMENTAL PERFORMANCE
- DIFFERS FROM EIA
- ENVIRONMENTAL AUDIT REPORT
- REQUIRES SPECIALIZED PEOPLE
- WIDE SCOPE

### TYPES OF ENVIRONMENTAL AUDITS

- CORPORATE AUDIT
- LIABILITY AUDIT
- TECHNICAL AUDIT
- COMPANY INTERNAL AUDITS
- PRODUCT AUDIT
- ENERGY AUDIT

### ROLE OF TECHNOLOGY IN ENVIRONMENT MANAGEMENT

- ENVIRONMENTAL INFORMATION SYSTEM (ENVIS)
- GEOGRAPHICAL INFORMATION SYSTEM (GIS)
- GLOBAL POSITIONING SYSTEM (GPS)
- REMOTE SENSING

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