

GUJARAT TECHNOLOGICAL UNIVERSITY

B.E. Sem-I Remedial examination March 2009

Subject code: 110007

Subject Name: ENVIRONMENTAL STUDIES

Date: 20 / 03 /2009

Time: 10:30am To 1:00pm

Instructions:**Total Marks: 70**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks

Q-1

- (a) What are biogeochemical cycles ? Explain Nitrogen Cycle with the help of a diagram. **08**
- (b) Choose the most correct answer of the following multiple choice questions: **06**
- i. Which one of the following is not a primary pollutant?
 - (a) Carbon Monoxide (b) Nitrogen Oxide (c) Sulfuric Acid (d) Sulfur Dioxide
 - ii. Carbon Monoxide is hazardous to health because
 - (a) it causes loss of sense of smell.
 - (b) it carcinogenic in nature.
 - (c) it reduces oxygen carrying capacity of blood.
 - (d) it may cause conjunctivitis.
 - iii. Decomposers play an important role in ecosystems because they help in
 - (a) recycle nutrients (b) reflect heat (c) increase rainfall (d) all the above
 - iv. An energy pyramid
 - (a) depicts the loss of energy that occurs at each trophic level.
 - (b) depicts the number of organisms at each trophic level.
 - (c) depicts the biomass at each trophic level.
 - (d) all of the above.
 - v. Noise is expressed in
 - (a) lux (b) db (c) Pascal (d) km
 - vi. Discharge of organic wastewater into river will
 - (a) reduce Dissolve Oxygen
 - (b) reduce pH
 - (c) increase Total Dissolve Solids
 - (d) toxic to humans

Q-2

- (a) Define water pollution and enlist various sources of water pollution. Explain any one in detail. **06**
- (b) What are renewable and nonrenewable resources ? Give examples. **04**

OR

- (b) Write and explain IPAT equation **04**
- (c) Define the following terms : **04**
- (i) Food Chain (ii) Food Web (iii) Heterotrophs (iv) Environment

OR

- (c) Define the following terms : **04**
(i) Water Table (ii) Porosity (iii) Pellicular Water (iv) Specific Yield

Q-3

- (a) Neatly draw and explain Hydrological Cycle **07**
(b) Enlist natural and human sources of Air Pollution. Explain any one briefly and list out the common atmospheric pollutants. **07**

OR

Q-3

- (a) Define noise. Enlist major sources of noise pollution and explain any one briefly. **07**
(b) What are the major sources of land pollution? How does land pollution affect soil productivity ? **07**

Q-4

- (a) (i) Write advantages and disadvantages of solar energy. **07**
(ii) What are environmental problems of nuclear power plants.
(b) What is deforestation ? What are the major causes of deforestation ? **07**

OR

Q-4

- (a) Write a short note on environmental problems associated with coal based thermal power plants. **07**
(b) Enlist the functions of forest and explain any one briefly **07**

Q-5

- (a) What is 'Acid Rain' ? Write a brief note on effects of acid rain on environment. **07**
(b) What is global warming? Enlist its consequences. **07**

OR

Q-5

- (a) Explain 'Green House Effect' with the help of a neat sketch. Enlist Green House Gases. **07**
(b) (i) Explain the equation : $N_t = N_0 e^{rt}$ **07**
(ii) Enlist the assumptions of Malthusian Theory of maximum population
