



VEERMATA JIJABAI TECHNOLOGICAL INSTITUTE

[Central Technological Institute, Maharashtra State]

Matunga, Mumbai-400 019

SEMESTER EXAMINATION
SEMESTER & PROGRAM

April 2014 (Re-exam)

DATE OF EXAM

20th May 2014

TIME :

1:30 - 4:30 pm

S. Y. B. Tech, SEM IV
Mechanical, Production,
Electronics, Electronic &
Telecommunication, Civil
Engineering

TIME ALLOWED

3 HRS.

MARKS

100

COURSE (Course Code) :

Environmental Studies

Instructions

1. All Questions are compulsory.
2. Figures to the right indicate full marks
3. Use of scientific calculators is allowed

Q.1 [A] Fill in the blanks.

[5x1]

- i) Illegal killing of prohibited endangered animals is called -----
- ii) The organisms which feed directly on producers are called -----
- iii) Terrace farming is practiced as a soil conservation measure in ----- areas.
- iv) Blue baby syndrome is caused by the presence of ----- in drinking water.
- v) DDT stands for-----.

[B] Write the correct option as answer to the following objective questions

[5x1]

- i) Effluent discharge standards of BOD -----
i) 20 mg/l ii) 30 mg/l iii) 50 mg/l iv) 100 mg/l
- ii) The shape of pyramid of biomass for a pond or any aquatic ecosystem is
i) inverted ii) upright iii) linear iv) not certain
- iii) Chernobyl disaster is associated with
i) nuclear accident ii) water pollution iii) air pollution iv) none of these
- iv) Which one of the following is not associated with reducing the run-off loss of water
i) contour cultivation ii) chemical wetting iii) surface crop residues iv) fallow soil
- v) The overnourished lakes with 'algal blooms' are called
i) Eutrophic ii) oligotrophic iii) Dystrophic iv) Meromictic

[C] Answer the following questions in short.

[5x2]

- i) Explain extinct & endangered species.
- ii) Write the acceptable limit for the following drinking water quality parameters viz. pH, Chlorides, Turbidity & Nitrates.
- iii) What is food security?

- iv) What was the objective of Kyoto Protocol?
- v) What is a wasteland?
- Q2
- What are the major threats to biodiversity? explain 8
 - Define ecological succession. Explain the process stating various stages involved. 8
 - What is the need for solid waste management? 4
- Q3
- What is watershed? How can it solve the problem of depletion of ground water table? What are the benefits of watershed management? 8
 - Define noise pollution. State its sources, effects and control measures. 6
 - Explain food web and a food chain using sketches. 6
- Q4
- Explain the functions of following units in wastewater treatment. 8
 i) Primary Sedimentation tank ii) Aeration Tank iii) sludge digester iv) screens
 - What are biogeochemical cycles, what is their significance? Explain Carbon Cycle. 8
 - Write a brief note on Arsenic pollution. 4
- Q.5 Write short notes on following (Any 4) [5x4]
- Consumerism and waste products
 - Electrostatic precipitators
 - E-waste
 - Value Education
 - The Wildlife Protection Act, 1972
 - Sustainable development



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MARKS 100

COURSE (Course Code) :

Instructions

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Q.1 [A] Fill in the blanks.

[5x1]

- i The ultimate stable and culminating community during the process of ecological succession is called -----.
- ii The pyramid which cannot be inverted in a stable ecosystem is a pyramid of -----.
- iii The land area from which the water drains under gravity to a common drainage channel is called -----.
- iv The process of conversion of electricity from waste is called -----.
- v The species restricted only to a particular area are called-----.

[B] Write the correct option as answer to the following objective questions

[5x1]

- i The great Indian Bustard is a -----
i) vulnerable species ii) endangered species iii) rare species iv) endemic species
- ii The tropical grasslands in Africa with tall grasses scattered with shrubs or stunted trees are called ----
i) savannas ii) pampas iii) Steppes iv) Prairies
- iii Any material that can be transformed into more valuable & useful product or service is called ----
i) Resource ii) Mineral iii) Product iv) All of these
- iv Acid rain is any rain with pH
i) below 5.6 ii) above 5.6 iii) equal to 5.6 iv) exactly equal to 7
- v Stack emission & ambient air quality are
i) modes of causing air pollution ii) modes to determine ambient air quality
ii) used to determine various air pollutants in ppm iv) All of these

[C] Answer the following questions in short.

[5x2]

- i) Enlist causes of soil pollution.

- ii) Write the acceptable limit for the following drinking water quality parameters viz. pH, Hardness, Turbidity & Nitrates.
- iii) What is Red Data book? Who publishes it?
- iv) What was the objective of Kyoto Protocol?
- v) What is Eutrophication with respect to water pollution?
- Q2 a. What is the need to conserve water? Explain the different strategies that can be adopted to conserve water. 8
- b. Explain the structural and functional components of ecosystem. 8
- c. What is the need for solid waste management? 4
- Q3 a. Write the use and distribution of following minerals found in India 6
i) Aluminium ii) Copper iii) iron ore
- b. What is ground water pollution? What are detrimental effects of toxic metals present in water? 6
- c. What are cooling towers? Explain using appropriate diagram. 4
- d. Write note on Cauvery water dispute. 4
- Q4 a. Explain the functions of following units in water treatment. 10
i) Sedimentation tank ii) Flash Mixer iii) Chlorination tank iv) screens v) Rapid Sand Filter
- b. What are biogeochemical cycles? Explain Nitrogen Cycle with the help of a neatly labeled diagram. 6
- c. What are the problems associated with construction of dams? 4
- Q.5 Write short notes on following (Any 4) [5x4]
- a. Grassland ecosystem
- b. Fabric filters
- c. Man-wildlife conflict
- d. Acid rain
- e. Rain water harvesting
- f. Incineration