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VEERMATA JIJABAI TECHNOLOGICAL INSTITUTE
[Central Technological Institute, Maharashtra State]
Matunga, Mumbai-400 019

SEMESTER EXAMINATION *April 2014*
SEMESTER & PROGRAM *S. Y. B. Tech, SEM IV*
Mechanical, Production,
Electronics, Electronic &
Telecommunication, Civil
Engineering
TIME ALLOWED *3 HRS.*
COURSE (Course Code) : *Environmental Studies*

DATE OF EXAM *28/04/2014*
TIME : *1:30 pm to 4:30 pm*

MARKS *100*

- 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 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