

(Please write your Exam Roll No.)

Exam Roll No.

END TERM EXAMINATION

SECOND SEMESTER [B.TECH] APRIL - MAY 2019

Paper Code: ETEN-114

Subject: Environmental Studies

(Batch 2013 Onwards)

Time: 3 Hours

Maximum Marks: 75

Note: Attempt all questions as directed. Internal choice is indicated.

- Q1 Attempt all the parts of the following questions:- (2.5x10=25)
- (a) What do you understand by 'sustainable development'. Give one main cause of environmental crisis. (3)
 - (b) What are the main components of an ecosystem? (3)
 - (c) What steps can be taken to save biodiversity in the area. (3)
 - (d) What is 'waste' product in chemical reaction? Given at least two examples. (2)
 - (e) How toxic elements affect the working of the enzymes? (2)
 - (f) What are the main air pollutants? What do you understand by the term 'sink' with respect to pollution? (2)
 - (g) "Dose makes the poison". Comment. (2)
 - (h) What are photodegradable polymers? Give examples. (2)
 - (i) What are the three forms of ocean energy? (2)
 - (j) What do you understand by 'carbon credits'? What are its merits and demerits? (2)

- Q2 (a) How does an Ecosystem get established? What do you understand by the term Ecological succession? (3)
- (b) What is the "edge effect" and what is its importance. (3)
 - (c) Discuss the consumptive and productive values of biodiversity. (4)
 - (d) What is the need for public awareness to understand the different environmental issues? (2.5)

OR

- Q3 (a) Explain the ecological pyramid. Is it different from energy pyramid? (4)
- (b) How did the 'Green Revolution' affect the diversity of food plants? (3)
 - (c) What do you understand by "ecological niche" of a species? (3)
 - (d) Why are many environmental problems so different to solve. Give at least one example. (2.5)

- Q4 (a) What are green fuels? Why are these considered non polluting and clean fuels. (4)
- (b) How are the minerals classified? (4)
 - (c) Write short notes on:- (1.5x3=4.5)
 - (i) Limitations of Geothermal energy.
 - (ii) Water logging
 - (iii) Ocean thermal energy conservation.

OR

- Q5 (a) What are the different types of energies that are derived from the ocean? (4)
- (b) Write short notes on the following:- (1.5x4=6)
 - (i) Land subsidence.
 - (ii) Surface and subsurface mining
 - (iii) Man induced landslides
 - (iv) Salt water intrusion
 - (c) What is the consequence of overexploitation of water resources? (2.5)

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- Q6 (a) How do the green starting materials help to improve the environmental conditions? (2)
- (b) Justify "Prevention is better than cure" in context to green chemistry. (2)
 - (c) Illustrate with examples how biopolymers are extracted from living organisms. (2)
 - (d) What type of polymers are known as hydro-biodegradable polymers. (1.5)
 - (e) What is the chemistry of photochemical smog? (2)
 - (f) What do you understand by (i) NOAEL (ii) LOAEL (iii) Bioremediation (1x3=3)

OR

- Q7 (a) Write short notes on- (1.5x3=4.5)
- (i) (BOD)₅ (ii) Activated sludge process (iii) Chemical Sog (2)
 - (b) How are hazardous wastes classified? (2)
 - (c) What are the biochemical effects of Arsenic? (3)
 - (d) What do you understand by 'Atom Economy'? (1.5)
 - (e) Discuss the methods used to produce bioplastics. (1.5)

- Q8 (a) Identify three major mitigation methods to reduce earthquake risk. (3)
- (b) What are the various objectives of EIA (Environment Impact Assessment). (3)
 - (c) Why are ISO:14000 standards revised on 5-year cycle. (3)
 - (d) What are the factors responsible for depletion of ozone layer? What are the chemical reactions involved. (3.5)

OR

- Q9 (a) Distinguish between 'magnitude' and 'intensity' of an earthquake. How are they measured? (4)
- (b) What are the effects of consumerism on present society? (4)
 - (c) Write short notes on:- (1.5x3=4.5)
 - (i) Ozone depletion
 - (ii) Climate change
 - (iii) Green Bench

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