

Bio Tech and Bio Medical Engg. 2nd Semester, CT-13 (Sub: Environment and Ecology)

Time -75 minute

Date 15.03.2017

Total Marks-15

Answer any three

- Q 1 Explain the various components of ecosystem and discuss forest ecosystem in detail. [2+3]
Q 2 Describe the food chain, food web and ecological pyramids with suitable examples. [5]
Q 3 Discuss the solid waste and its management. [1+4]
Q 4 Write a note on (i) Secondary waste water treatment, and (ii) Acid rain. [3+2]
Q 5 Describe the air pollution in details. [5]

B. TECH Second SEM.

Second EXAM, BRANCH-Biotech+Biomed.(C) Engg.-II Sem, Jan-May-2017, 23/03/17,
Sub - Environment and Ecology,

Max. Marks-15

Attempt any three. (3x5), each question carries equal marks.

- Q.1- Discuss the principle, instrumentation and application of atomic absorption spectrophotometer.
Q.2- Sketch and explain carbon and sulphur cycle.
Q.3- Discuss different mineral resources and their availability in India.
Q.4 - Differentiate between COD and BOD determination.
Q.5- Discuss the determination of DO with its significance.

B. Tech, 2nd Semester (Chemical Engg.) C.T.-1st Exam, 2018 (Subject: Env. & Eco.)

Time -75 min

Date: 16.02.2018

Total Marks-15

Answer any three.

- Q.1 Define Environmental impact assessment (EIA). Discuss various steps involve in methodology of EIA. [5]
- Q.2 Define and Classify types of Ecosystem. Define forest ecosystem in details. [5]
- Q.3 Define and explain all the components of Environment. [5]
- Q.4 Write notes on Acid Rain and Ozone Layer Depletion. Discuss their harmful effects. [5]
- Q.5 Discuss different techniques used in Waste water treatment process. [5]
- Q.6 Explain different steps of Solid waste management and disposal methods. [5]

Time: Three Hours

Max. Marks: 70

Min. Pass Marks: 25

Answer any two parts from each Unit. Each question carries equal marks.

Unit I

1. (a) Define and explain all the components of Environment. (7)
- (b) Discuss the energy flow through an ecosystem. (7)
- (c) Write notes on Environmental Impact Assessment. (7)

Unit II

2. (a) Sketch and explain Nitrogen cycle. (7)
- (b) Discuss different Mineral resources and their availability in India. (7)
- (c) Hydrogen as alternative future source of Energy. Explain the term. (7)

Unit III

3. (a) Write notes on Acid Rain and Ozone Layer Depletion. Discuss their harmful effects. (3+4)
- (b) Discuss different techniques used in Waste Water Treatment process. (7)
- (c) Explain different steps of Solid Waste Management and Disposal Methods. (7)

Unit IV

4. (a) Discuss different Air Quality Standards and Water Quality Standards. (3+4)
- (b) Explain the importance and determination of Hardness of water sample. (7)
- (c) Compare BOD and COD of waste water. (7)

Unit V

5. (a) Discuss the principle, instrumentation and applications of Atomic Absorption Spectroscopy. (7)
- (b) Explain the determination of Pesticides and Disinfectants in aqueous medium. (7)
- (c) Write notes on Nephelometry and Turbidimetry. (7)

B. Tech. II Semester Examination April-May 2016

Subject: Environment & Ecology

Branch: E. & TC, Elect., Biotech., Biomed., Cheml. and IT

Time: Three Hours

Max. Marks: 70

Min. Pass Marks: 25

Answer any two parts from each Unit. Each question carries equal marks.

Unit I

1. (a) Write Notes on Environmental Degradation and its effects. (7)
(b) Define Food Chain, Food Web and Ecological Pyramids with Examples. (7)
(c) What is Environmental Impact Assessment and explain the design of EIA. (7)

Unit II

2. (a) Sketch and explain Nitrogen Cycle. (7)
(b) Discuss different Non Conventional sources of Energy with their advantages. (7)
(c) Discuss different Mineral resources and their availability in India. (7)

Unit III

3. (a) Describe the sources and effects of CO_x and Photochemical Smog as air pollutants. (4+3)
(b) Acid Rain and Ozone Layer Depletion. How these occur and explain the effects. (7)
(c) Describe different techniques used in Waste Water Treatment. (7)

Unit IV

4. (a) Explain the importance and determination of Dissolved Oxygen content of water sample. (7)
(b) Compare BOD and COD of water. (7)

(c) Discuss the determination and estimation of Iron and Manganese in water. (7)

Unit V

5. (a) Explain principle, instrumentation and applications of Atomic Absorption Spectroscopy. (7)

(b) Discuss the determination of disinfectants and pesticides in water sample. (7)

(c) Write notes on Nephelometry and Turbidimetry. (7)

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Answer any two parts from each unit. Each question carries equal marks.

UNIT-I

1. a. Define Environmental impact assessment (EIA). Discuss various steps involve in methodology of EIA. 7
- b. Discuss how human activities responsible to disturb our environment. 7
- c. Define and classify Ecosystem. Discuss any one in details. 7

UNIT-II

2. a. Discuss how hydrogen act as an alternative future sources of energy. 7
- b. Discuss in detail about sulphur cycle with its significance. 7
- c. Define energy. Discuss in detail about conventional sources of energy. 7

UNIT-III

3. a. Discuss the sources, effect and control of green house effect. 7
- b. Define solid waste. Discuss in detail about solid waste management. 7
- c. Define and classify waste water treatment discuss in detail about tertiary waste water treatment. 7

UNIT-IV

4. a. Determine Sulphate and phosphate in water sample. 7
- b. Discuss the determination and importance of dissolve oxygen determination. 7
- c. Differentiate between chemical oxygen demand and biochemical oxygen demand. 7

UNIT-V

- 5. a. Discuss the principle, instrumentation and applications of atomic absorption spectrophotometry. 7
- b. Define and determine disinfectants. 7
- c. Write notes on pesticides determination. 7

HANO TIYA

April - May 2014

NIT Scheme

Subject Code: 0020212(CII)

B.Tech. (First / Second Semester), Regular and Supplementary Exam, 2014

Subject: Environment and Ecology

Time: Three Hours

Total Marks: 70

Answer any two from each Unit. Each question carries equal marks.

UNIT I

- Q.1.(A) Describe different components of ecosystem. Describe components of forest ecosystem. (5+2)
- (B) Explain the different segments of our environment. How mining and transportation activities affect health of our environment. (3+4)
- (C) Define Food chain and Food web with one example each. Describe the Energy flow in an ecosystem. (4+3)

UNIT II

- Q.2. (A) Draw and narrate nitrogen cycle. (4+3)
- (B) What are the different mineral resources. Discuss their availability in India and their quality. (7)
- (C) Write brief note on different types of non-conventional sources of energy. (7)

UNIT III

- Q.3. (A) What is air pollution? Discuss the different air pollutants in detail. (1+6)
- (B) What do you understand by Acid rain? Explain how it occurs along with reactions. What are the harmful effects of acid rain and? How acid rain can be controlled? (1+3+2+1)
- (C) Explain in detail Solid waste management. (7)

UNIT IV

- Q.4.(A) What is hardness? Give its types and cause. (2+5)
- One gm of CaCO_3 was dissolved in dil HCl and the solution was diluted to one litre. 50 ml of this solution required 25 ml of EDTA solution while 50 ml of unknown water sample required 18 ml of EDTA solution. On the other hand, 50 ml of boiled unknown water sample consumed 9 ml of EDTA solution. Calculate each type of hardness in ppm.
- (B) Discuss the determination BOD and COD in a given water sample. (3+4)
- (C) Discuss the determination of sulphates, phosphates and iron. (2+2.5+2.5)

UNIT V

- Q.5.(A) Explain the principle, instrumentation and applications of Atomic Absorption Spectroscopy. (2+3+2)
- (B) Discuss the principle, instrumentation and applications of Nephelometry and differentiate nephelometry from Turbidimetry. (6+1)
- (C) Give the detailed classification of pesticides. Explain different methods for determination of pesticides. (3+4)

***** ALL THE BEST *****

Time: Three Hours

Total Marks: 70

Answer any two parts from each Unit. Each question carries equal marks.

Unit I

1. (a) Write Notes on Food Chain, Food Web and Ecological Pyramids with Examples. (3+2+2)
- (b) Explain the term 'Environmental Degradation'. How it occurs and what are the effects. (7)
- (c) Discuss the elements and factors to design Environment Impact Assessment. (7)

Unit II

2. (a) Draw and narrate Nitrogen Cycle. (7)
- (b) Describe different types and quality of conventional energy resources available in India? (7)
- (c) Explain the term "Hydrogen as an alternative future source of Energy". (7)

Unit III

3. (a) "Global Warming", how it occurs, what are the effects and its remedial measures? (7)
- (b) Explain secondary treatment methods for Waste Water Treatment. (7)
- (c) Discuss different methods used for Solid Waste Management. (7)

Unit IV

4. (a) Explain importance and determination of free Residual Chlorine in water. (7)
- (b) Describe different water quality standards with permissible limits. (7)

(c) Compare BOD and COD of water.

(7)

Unit V

5. (a) Explain instrumental techniques and applications of Atomic Absorption Spectroscopy.

(7)

(b) Describe types of pesticides and its determination.

(7)

(c) Write notes on Turbidimetry and Conductometry.

(7)