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Question Paper Code: 31177

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2016

Elective

Civil Engineering

01UCE925 - ENVIRONMENTAL SCIENCE AND ENGINEERING

(Common to all branches)

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. What is meant by energy flow in an ecosystem?
2. Define sustainable development.
3. List out the water borne diseases.
4. Mention any four sources of air pollution.
5. Define biodiversity.
6. What is green house effect?
7. What are the objectives of waste water treatment?
8. Write 3R principle.
9. What are the objectives of water act, 1974?
10. Define environmental impact assessment.

PART - B (5 x 16 = 80 Marks)

11. (a) (i) Explain in detail about the structure and functional components of ecosystem. (8)

(ii) Briefly explain water cycle and oxygen cycle. (8)

Or

(b) (i) Discuss the natural and manmade impacts on water and air. (12)

(ii) What are the concepts of sustainable development? (4)

12. (a) Explain the physical, chemical and biological characteristics of water and air. (16)

Or

(b) Explain about the policies on development projects and their impacts. (16)

13. (a) Explain the primary and secondary treatment of municipal sewage with flow diagram. (16)

Or

(b) Discuss about causes, effects and preventive measures of global warming and ozone layer depletion. (16)

14. (a) Briefly explain the engineering interventions to reduce the stress on air. (16)

Or

(b) Explain in detail about clean technology options and standards of performance of the interventions. (16)

15. (a) Explain the goals, methodology and preparation of Environment Impact Assessment (EIA). (16)

Or

(b) Explain in detail about the water act 1974 and air act 1981. (16)