320842(20)

B. E. (Eighth Semester) Examination, April-May 2021

(New Scheme)

(Civil Engg. Branch)

ADVANCED ENVIRONMENTAL ENGINEERING

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Attempt all questions. Part (a) from each question is compulsory. Attempt any two parts from part (b), (c) and (d) of each question.

Unit-I

1. (a) Define the "International Institutions" of "Environmental Management".   2

(b) Describe the importance of drinking water quality. Give in detail the physical, chemical and bacterio-logical drinking water quality parameters.　　7

(c) Describe the development of environmental pollution control technologies.　　7

(d) Differentiate beween natural ecosystem and man made ecosystem.

Unit-II

2. (a) Define adiabatic lapse rate.　　2

(b) Explain the methods of agglomeration and coagulation. Give in detail the particle ranges that are most affected by these processes.　　7

(c) Explain the sources and effects of air pollutants like CO and Nitrogen dioxide.　　7

(d) What are the advantages and disadvantages of electrostatic precipitators?　　7

Unit-III

3. (a) List the factors affecting self-purification of streams.　　2

(b) Discuss in detail the suitability of oxidation ponds for the treatment of liquid waste in tropical countries. Also discuss the algal-bacterial symbiosis.　　7

(c) With a neat sketch, explain the working of a trickling filter for waste water treatment, its advantages and operational difficulties.　　7

(d) Explain in brief Sludge Age and Sludge volume index (SVI).　　7

Unit-IV

4. (a) State the limitations of Box Model.　　2

(b) What are the major pollutant emitted from the tail pipe of an automobile? What is the relevance of each pollutant with respect to human health? Name one control method or device used on present-day automobiles to control each of them.　　7

(c) Write short notes on :　　7

　(i) Effects of any three primary air pollutants on human health

　(ii) Monitoring of Air pollutants

(d) Enlist the different types of air pollution models. Describe any one model in brief. 7

Unit-V

5. (a) Name three gass causing global warming. 2

(b) Explain the various Indoor Air Pollution control measures. 7

(c) Explain in detail the radioactive waste management techniques. 7

(d) What is green house effect? Explain the working of green house and sources of green house effect. 7