

**MSc2473-(Old-Paper-VII+CBCS Paper-XV, PSCENVT15.1(Core Elective-I)) :
Environmental and Energy Management**

P. Pages : 1

Time : Three Hours



GUG/S/18/5749

Max. Marks : 80

- Notes : 1. All questions are compulsory and carry equal marks.
2. Illustrate the answers with suitable diagrams and examples.

1. What are the types of industrial waste from pulp and paper and cement industries? 16
Describe their impacts on air and water.

OR

- a) Briefly describe industrial pollution abatement measures. 8
b) In what ways, the prevention of pollution and end of pipe technology are effective options for greening industry. 8

2. Discuss the structure of Environmental Management System (EMS) w.r.t. environmental policies, environmental auditing and environmental reporting. 16

OR

- a) How EMS in small scale industries can be established? 8
b) Give specification of ISO - 14001 8

3. Discuss in detail the conventional sources of energy. 16

OR

- a) What are the impacts of energy consumption on climate change? 8
b) What are the measures adopted to conserve energy? 8

4. Describe solar energy as a renewable source of energy. 16

OR

- a) How anaerobic digestion are effective to treat high solids containing organic wastes? 8
b) Write explanatory note on energy auditing. 8

5. a) Why industrialization is needed in India? 4
b) Give product specification of ISO guide 64. 4
c) What are the impacts of coal burning on environment? 4
d) Explain fuel switching as advanced technique. 4
