

**MTEE-301(B)**  
**M.E./M.Tech., III Semester Examination, June 2020**

**Advanced Treatment Methods**

**Time : Three Hours**

**Maximum Marks : 70**

- Note :** i) Answer any five questions.  
ii) All questions carry equal marks.

1. Define chemical oxidation and explain principle and theory of chemical oxidation.
2. a) Discuss different Land treatment systems.  
b) Discuss reuse of waste water in detail.
3. a) Explain about the ozone treatment.  
b) Mention its advantages and disadvantages of the treatment.
4. What is meant by Nitrification and Denitrification? How can we remove Nitrogen by chemical process?
5. Write short notes on the following:
  - a) Ozone as disinfectant
  - b) Removal of refractory
  - c) Advantages of aerobic microbial waste treatment method
6. a) Discuss the physico-chemical process for nitrogen removal from waste water.  
b) Explain the various land application of sludge.
7. Describe in brief about the method of dissolved inorganic substance removal.
8. Write short notes on any four of the following:
  - a) Effluent disposal and reuse.
  - b) Removal of dissolved substances.
  - c) Non-chemical method for disinfection.
  - d) Chlorine dioxide for chemical oxidation.
  - e) Permagnet chlorine.

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