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B. Tech.
(SEM-VII) THEORY EXAMINATION 2017-18
INDUSTRIAL POLLUTION CONTROL AND ENVIRONMENTAL AUDIT

*Time: 3Hours**Max. Marks: 100***Note:** Attempt all Sections. Assume missing data, if any.**SECTION-A****1. Attempt all parts in brief.****10x2=20**

- (a) What are the different types of solid wastes?
- (b) How would you differentiate between Industrial Waste and Municipal Waste?
- (c) Mention the name of industries which require high quantity of water.
- (d) What do you understand by e-waste?
- (e) Give the effect of radiation emission on human being.
- (f) What do you understand by Zero Discharge System?
- (g) What are the risks with hazardous waste?
- (h) Differentiate between absorption and adsorption.
- (i) What do you understand by neutralization during industrial waste water treatment?
- (j) What is greenbelt development?

SECTION-B**2. Attempt any three of the following:****10x3=30**

- (a) How would you estimate demand of water for an industry? What are the main steps which must be taken to reduce water consumption?
- (b) How would you determine the oil and grease in a wastewater sample? Draw a neat sketch of an Oil/Grease Trap and discuss its functioning.
- (c) Draw a neat and clean diagram of gravity settling chamber (GST) and discuss its merits and demerits.
- (d) Discuss the purpose of life cycle analysis (LCA). Discuss various steps involved in a LCA study.
- (e) What are internal and external objectives of an Environmental Management System (EMS)? Explain each point with reference to ISO14001-2004.

SECTION-C**3. Attempt any one part of the following:****10x1=10**

- (a) What are the basic properties of industrial wastes? Discuss its physical and chemical properties.
- (b) What are various reasons for contamination of drinking water from industrial effluents? Discuss in detail.

4. Attempt any one part of the following: 10x1=10

- (a) How is the control and removal of chemicals such as cyanide, fluoride, toxic organics performed? Give detail.
- (b) What are two commonly used systems for biological waste treatment? Explain them.

5. Attempt any one part of the following: 10x1=10

- (a) What is landfill? Which type of waste should be disposed off into a landfill as per solid waste management rule (2000)? What are main pathways involved for environmental contamination?
- (b) What are the standards for noise control? What are the various air pollution control technologies?

6. Attempt any one part of the following: 10x1=10

- (a) What are the recent trends in industrial waste management? Explain.
- (b) Write down characteristics of liquid effluent from a sugar mill. Draw a flow diagram for the treatment of the same. Also give some detail of each unit shown in the flow diagram.

7. Attempt any one part of the following: 10x1=10

- (a) What do you understand by Environmental Audit? Give checklist of activities for an environmental audit work.
- (b) Write short notes on:
 - (i) Environment Protection Act.
 - (ii) Forest Conservation Act.