

**(3 Hours)**

**Total Marks: 80**

**N.B.**

1. Question No. 1 is Compulsory.
- 2 Attempt any **Three** Questions from remaining **Five** Questions
3. Assume Suitable Data if needed and Justify the Same
4. Figures to the right indicate full marks.

**Que.1**

- a) Write short note on Preparation for reuse, recycling [05]
- b) Write short note on Textile effluent and its Environmental threats [05]
- c) Explain environmental hazards due to e-waste [05]
- d) Write short note on Recycling of Glass [05]

**Que.2**

- a) Explain Advantages and Limitations of Waste Valorization [10]
- b) Explain Upflow Anaerobic Sludge Blanket Reactor (UASB) with neat sketch [10]

**Que.3**

- a) Write Opportunities and challenges of Agro-based sugarcane industry wastes for production of high-value products [10]
- b) Explain Recent trends and challenges in bioleaching technologies [10]

**Que.4**

- a) Explain Hazards of leather industry solid waste [10]
- b) Explain in details membrane separation technologies for downstream processing [10]

**Que.5**

- a) Explain in detail Recycling Technologies for Paper [10]
- b) Explain Environmental impacts of waste recycling [10]

**Que.6**

- Write short note on [20]
- a) Recycling Technologies for Plastic
- b) Conventional method of desulfurization
- c) Classification of e-waste
- d) Limitations of hydrodesulfurization

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