

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST -3EXAMINATION- 2023

B.Tech-VII Semester (CSE/IT/ECE/CE)

COURSE CODE (CREDITS):19B1WBT731 (03)

MAX. MARKS: 35

COURSE NAME: Sustainable Technologies for Waste Management

COURSE INSTRUCTOR: Dr. Garlapati Vijay Kumar

MAX. TIME: 2 Hours

Note: (a) All questions are compulsory.

(b) Marks are indicated against each question in square brackets.

1. Discuss in detail about the “Green Composites” by mainly focusing on the definition, necessity, advantages, disadvantages and applications? Summarize briefly the structural components of “Green Composites”? (CO II & CO III) (6 Marks)
2. Explain the “Industrial Ecology” concept by discussing the “Linear Vs closed loop systems? Summarize the sustainable aspects & applications of “Industrial ecology? (CO V) (6 Marks)
3. What are the different steps associated with the lignocellulosic bioethanol production? Explain the purpose and approach of each step with a neat sketch? (CO IV) (6 Marks)
4. Explain in detail about the transesterification of waste oils to Biodiesel technology by giving more focus on the reaction and the utilized catalysts? How chemical-based transesterification differs with the lipase-catalyzed transesterification? (CO IV) (6 Marks)
5. What do you know about the MFC technology? Discuss in detail about the machinery and basic components of the MFC technology with any two applications? (CO V) (6 Marks)
6. Write about the following one’s (CO I & CO V) (5 Marks)
 - (a) Goals, purpose and components of LCA (2.5 M)
 - (b) Whole-crop biorefinery concept under biodiesel production (2.5 M)

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