

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST -3 EXAMINATIONS-2022

B.Tech-VII Semester (CS/IT/ECE/Civil/BT)

COURSE CODE (CREDITS): 19B1WBT731(3)

MAX. MARKS: 35

COURSE NAME: Sustainable Technologies for Waste Management

COURSE INSTRUCTOR: Dr. Garlapati Vijay Kumar

MAX. TIME: 2 Hours

Note: All questions are compulsory. Marks are indicated against each question in square brackets.

- Q1. What do you understand from the “Industrial Ecology” concept? How the IE approach provides the sustainable way of human activities? What are the benefits of Industrial ecosystems explain the process by taking example of developed “Kalundborg Eco-industrial park”?
(CO V) (7 M)
- Q2. Why biomass energy is considered as carbon-neutral? What do you know about the “Sustainability of Biomass feedstock? How the biofuels are classified into different generations and mention the advantages & disadvantages?
(CO IV) (7 M)
- Q3. With a neat sketch depict the “lignocellulosic biomass to Bioethanol” scheme? Mention the purpose of different steps utilized in bioethanol production? What are the main obstacles facing by the bioethanol technology for commercialization?
(CO IV) (7 M)
- Q4. What is “Microbial Fuel Technology” and summarize the machinery utilized in MFC technology? With a neat sketch depict the MFC setup by writing the corresponding reactions takes place? What are the advantages and disadvantages of MFC’S. (CO V) (7 M)
- Q5. How the “Waste oils” have detrimental effect on environment? Explain in detail about the waste oil conversion approach to Biodiesel production? Write about the “Super critical methanol transesterification” and “Ultrasound-assisted transesterification” utilized biodiesel production?
(CO I & CO II& CO III) (7 M)

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