

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATIONS-2022

B.Tech-4 Semester (Civil)

COURSE CODE(CREDIT): Sustainable Technologies and waste management(3) MAX. MARKS: 35

COURSE NAME: 19B1WBT731

COURSE INSTRUCTOR: Dr Hemant Sood /Dr Garlapati

MAX. TIME: 2Hrs

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

Q1. What is "microbial fuel cell technology"? What are the different components needed to establish the MFC technology? Differentiate "Plant Microbial Fuel Cell" with "Phototropic biofilm microbial fuel cell"? CO2 (6)

Q2. What are the different approaches used in dealing with hazardous waste? Write in detail about the "Phytoremediation" approach for handling hazardous waste management with the typical examples along with the advantages and disadvantages of the phytoremediation for execution? (CO3&4) (6)

Q3. How would you like to use organic raw materials for the development of sustainable structures? Which different factors should be considered for the production of more durable and sustained products? (CO5) (6)

Q4. What are the different technologies used for the production of Biodiesel? How you can evaluate its safe usage in the present automobile scenario and for its large-scale commercialization in the future? (CO3 &4) (6)

Q5. How would you like to carry out the safe disposal of municipal solid waste? What are the advantages and disadvantages of using secure landfills for waste disposal? How you can carry out treatment by developing sustainable products out of the same? CO5 (6)

Q6. How safe sewage treatment processes are carried out in planned cities? Draw a process and highlight the treatments and neutralization for safe disposal.CO3 (5)