

Dr. Gaurapati

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- OCT 2018

B.Tech (Biotech), VII Semester

COURSE CODE: 14B1WBT731

MAX. MARKS: 25

COURSE NAME: Bioenergy and Biofuels

COURSE CREDITS: 03

MAX. TIME: 1.5 h

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

1. (a) Explain the various sustainable feedstock's available today for biofuel industry? Which one do you think is most suitable pertaining to Shimla and Solan regions of Himachal Pradesh? Justify your answers? (4 M) (CO I)
(b) What is a carbon neutral cycle (1 M) (CO I)
2. Write in about the key factors for an effective pretreatment of lignocellulosic biomass? What are different procedures conducted to assess the pretreatment technique? (5M) (CO II)
3. What are the different substrate-related factors which limit the enzymatic hydrolysis of lignocellulosic biomass? Discuss about the hydrolysis and fermentation strategies of "SSCF" and "CBP"? (5 M) (CO II)
4. Discuss the features of FT oil or green motor fuel from biomass? What are the requirements needed for the reduced costs of biomass to ethanol technology? (5 M) (CO III)
5. What are the advantages of algae-based biofuels over other types of biofuels? Write about the SWOT analysis of microalgal technology for biofuels production? (5 M) (CO III)

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