

S. V. Kumar

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
T3 Examinations- May 2018
BTDD / M.Tech Final Sem

COURSE CODE: 14M11BT211
COURSE NAME: Industrial Biotechnology
COURSE CREDITS: 3

MAX. MARKS: 35

MAX. TIME: 2 h

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

1. Differentiate the chemical transesterification with lipase-catalyzed transesterification? Mention the methods used to assess the pretreatment of lignocellulosic biomass as a part of 2nd generation bioethanol production? (5 M)
2. What are the advantages of enzymes usage in organic media and enzymatic reactions under solvent-free conditions? Write about the degumming operation used in crude oil refining? (5 M)
3. Tabulate the application of enzymes in pulp and paper processes with the details of application, process benefits, enzymes and challenges? (5 M)
4. Discuss the role of enzymes in soaking, liming and dehairing and dewooling operations of leather manufacturing with the process advantages (5 M)
5. With a neat sketch explain the role of systems biology in the up gradation of industrial biotechnology research discipline? (5 M)
6. Compare the rational protein design and directed evolution schematically and describe their role in altering the properties of enzymes? (5 M)
7. Write about the following one's (2 x 2.5 = 5 M)
 - (a) Xylanase-aided bleaching
 - (b) Gecko adhesives

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