Goalapati Vijay

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- 2016

BT DD, VIIIth Semester

COURSE CODE: 14I11BT811 MAX. MARKS: 25

COURSE NAME: Bioprocess Plant Design

COURSE CREDITS: 3 MAX. TIME: 1Hr 30 Min

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

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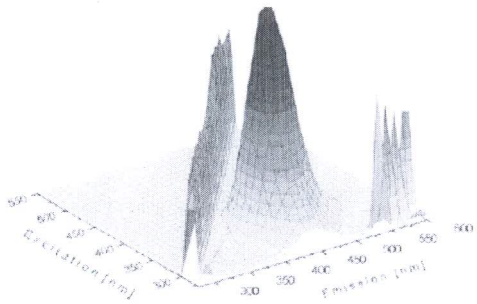
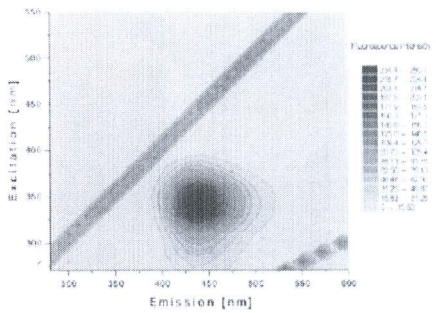
1. What is the main basis for fluorescence techniques for bioprocess monitoring? What are the precautions need to be taken for going fluorescence monitoring? Mention the different phenomenon, which can be studies via fluorescence monitoring? (4 M)
2. Describe the below two plots? Write about the applications of two-dimensional fluorescence spectroscopy? (4 M)





3. What are the advantages and disadvantages of different hosts used for production of recombinant products and of different measurement principles used for *insitu* biomass sensors? (4 M)
4. What information we will get from metabolic flux analysis in bioprocess monitoring? Describe in detail about the Metabolic Control Analysis (MCA) concept? (4 M)
5. Mention the familiar problems encountered in plant cell cultivation? Discuss in detail about the shear sensitivity problem in plant cell cultivation by mentioning the importance of Kolmogorov scale? (4 M)
6. Mention the different reactions by which covalent immobilization will take place? Write about the CNBr- , and 3-aminopropyltriethoxysilane- coupling techniques used for covalent immobilization of enzymes with reaction mechanisms? (5 M)

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