

BT620 BIOSENSORS

Instructor: Prof. Pranab Goswami

Department: BSBE

Session: July-November 2024

BT 620 BIOSENSORS (3-0-0-6)

Syllabus

Introduction; General configuration of biosensor; Generations of biosensors; Basic principle and instrumentation of different biosensors: electrochemical, optical, acoustic, piezoelectric, and calorimetric biosensors; Biological recognition systems: enzyme, antibody, nucleic acid, cell, and tissue; Properties of ideal materials for biosensors; Classes of materials for biosensors: polymers, material containing metal complex, sol-gel materials, nanomaterials, composite materials, metal oxides, photonic crystals, and zeolite materials; Application of biosensors for food and fermentation processes, environment monitoring, and clinical diagnostics.

Advanced Materials and Techniques for Biosensors and Bioanalytical Applications, (ed) Pranab Goswami, CRC Press Taylor & Francis, New York, London (2020)



<https://www.amazon.com/Materials-Techniques-Biosensors-Bioanalytical-Applications/dp/0367539659>

<https://www.taylorfrancis.com/books/9781003083856>

https://books.google.co.in/books/about/Advanced_Materials_and_Techniques_for_Bi.html?id=f3-JzQEACAAJ&redir_esc=y

<https://drukkerijmiddelburg.nl/advanced-materials-and-techniques-for-biosensors-and-bioanalytical-applications-9780367539658>

https://www.saxo.com/dk/advanced-materials-and-techniques-for-biosensors-a_pranab-goswami_hardback_9780367539658

Hardcover
from £155.00

EVALUATION

Total marks: 100

Quiz 1:	10	: 28 th August (Wednesday)
Quiz II:	10	: 30 th October (Wednesday)
Assignments:	10	: after midsem
Midsem:	30	: as per institute TT
Endsem:	40	: as per institute TT

- ✓ Must comply institute rule on attendance.
- ✓ Attendance will not be recorded after TA collected the attendance and left the class.
- ✓ No mobile phone, laptop /palmtop etc. allowed during the class.

THANKS