BT 618 Biomaterials 3 0 0 6

Prerequisites: None

Introduction and importance of biomaterials; Types of biomaterials: Metallic, ceramic, polymeric and composite biomaterials. Classification according to physiological response of biomaterials: bioinert, bioactive and bioresorbable biomaterials; Surface modifications; Surface analysis; Surface-protein interactions; Material-cell interactions: biocompatibility and rejection; Implants and infection; Applications of biomaterials in Tissue engineering, Drug delivery, Biosensing and Diagnostics.

Texts/ References Books:

1. J.B. Park and J.D. Bronzino. *Biomaterials: Principles and Applications*. CRC Press. 2002. ISBN: 0849314917

2. K.C. Dee, D.A. Puleo and R. Bizios. *An Introduction to Tissue-Biomaterial Interactions.* Wiley 2002. ISBN: 0-471-25394-4.

3. T.S. Hin (Ed.) *Engineering Materials for Biomedical Applications.* World Scientific. 2004. ISBN 981-256-061-0

4. B. Rolando (Ed.) *Integrated Biomaterials Science*. Springer. 2002. ISBN: 0-306-46678-3