Advanced materials for biomedical applications

Abstrak

The text discusses synthesis, processing, design, simulation and characterization of biomaterials for biomedical applications. It synergizes exploration related to various properties and functionalities in the biomedical field through extensive theoretical and experimental modeling. It further presents advanced integrated design and nonlinear simulation problems occurring in the biomedical engineering field. It will serve as an ideal reference text for senior undergraduate and graduate students, and academic researchers in fields including biomedical engineering, mechanical engineering, materials science, ergonomics, and human factors.

The book:

Employs a problem-solution approach, where, in each chapter, a specific biomedical engineering problem is raised and its numerical, and experimental solutions are presented
Covers recent developments in biomaterials such as OPMF/KGG bio composites, PEEK-based biomaterials, PF/KGG biocomposites, oil palm mesocarp Fibre/KGG biocomposites, and polymeric resorbable materials for orthopedic, dentistry and shoulder arthroplasty applications
Discusses mechanical performance and corrosive analysis of biomaterials for biomedical applications in detail
Presents advanced integrated design and nonlinear simulation problems occurring in the biomedical engineering field
Presents biodegradable polymers for various biomedical applications over the last decade owing to their non-corrosion in the body, biocompatibility and superior strength in growing state
Synergizes exploration related to the various properties and functionalities in the biomedical field through extensive theoretical and experimental modeling