1. Record Nr. UNINA9911040919203321

Autore	Verma Sandeep
Titolo	Technology and Innovation in Medical Sciences : Breakthroughs from Gangwal School of Medical Sciences and Technology, IIT Kanpur / / edited by Sandeep Verma
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2025
ISBN	9789819686063 9789819686056
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (188 pages)
Collana	IITK Directions, , 2509-6605 ; ; 7
Disciplina	620
Soggetti	Bioengineering Medical sciences Biomedical engineering Biological and Physical Engineering Health Sciences Biomedical Devices and Instrumentation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1: GSMST: Bridging the Gap Between Medicine and Technology -- Chapter 2: Digital Twins in Medicine -- Chapter 3: Assistive and POC Health Devices -- Chapter 4: Engineered Materials in Medicine -- Chapter 5: Development of Indigenous LVAD and PVAD -- Chapter 6: Optical Tools for Healthcare -- Chapter 7: Cancer Technologies -- Chapter 8: Platform Technologies for Infection -- Chapter 9: Medical Robotics.
Sommario/riassunto	This comprehensive volume explores the dynamic intersection of medicine and technology, emphasizing innovative advancements and their impact on healthcare. It covers a broad range of topics, including Concept of digital twins, Assistive and point-of-care health devices, Creation and application of engineered materials that are designed to improve medical treatments and patient outcomes, Development of indigenous left ventricular assist devices (LVAD) and percutaneous ventricular assist devices (PVAD) , Optical tools for healthcare are examined including advancements in imaging, diagnostics, and

minimally invasive surgical techniques, Cancer technologies that are showcasing cutting-edge innovations in detection, treatment, and research that is transforming oncology. The book also covers platform technologies aimed at combating infectious diseases, such as rapid diagnostic tools, antimicrobial surfaces, and novel therapeutic strategies. Integration of robotics in healthcare is discussed, detailing advancements in surgical robots, rehabilitation devices, and robotic-assisted care. Together, these topics provide a detailed overview of how emerging technologies are revolutionizing traditional medicine and shaping the future of healthcare. This book will be valuable for the students and professionals working on the cutting-edge point-of-care biomedical devices, medical robotics, disease biology, and technology in medicine. It will be a useful resource for scientists and engineers interested in biomedical research problems.