Oral Qualifying Exam - Biomaterials

STUDY REFERENCES


Other suggested reference books:


TOPICS

Basic cell biology, cell adhesion and the extracellular matrix (suggested reading: Chapter 3 of Reference Book-2; Chapter 1-3 and Chapters 18-19 of Reference Book-3)
Chemical, Physical and Mechanical properties of biomaterials. (suggested reading: Chapter 1-4 of Reference Book-1; Part-I of Reference Book-2)
Biomaterials degradation (suggested reading: Chapter 5 of Reference Book-1; Chapter 6 of Reference Book-2)
Biomaterials Synthesis: bioceramics, biometals and biopolymers (Suggested reading: Part-I of Reference Book-2; Chapter-5 of Reference Book-1)
Surface properties of materials and characterization methods (suggested reading: Chapter 7 of Reference Book-1)
Protein and cell interactions with biomaterials (suggested reading: Chapter 8 and 9 of Reference Book-1)
Biological testing of biomaterials (suggested reading: Chapter 5 of Reference Book-2)
Applications of biomaterials (suggested reading: Section 2.5, 2.6, Chapter 7 and Chapter 8 of Reference Book-2); in particular biomaterials for orthopedic, dental, drug and gene delivery, sensing and diagnosis and tissue engineering applications.