

BE Semester- Vth (Biomedical Department) Question Bank

(BIOMATERIALS & IMPLANTS)

All questions carry equal marks (10 marks)

Q.1	Enlist different Bio compatibility Factors and explain performance of Biomaterials.
Q.2	Describe the biomaterial testing procedure in detail.
Q.3	Compare different mechanical heart valves in detail.
Q.4	Explain vena cava filters & stents in detail.
Q.5	Explain ceramics as a drug delivery devices or materials.
Q.6	What are the considerations for a biomaterial which is to be used as an orthopedic implant?
Q.7	Explain tissue adhesives & bioactive coatings in detail.
Q.8	Give properties of nitinol & related applications related to each property.
Q.9	Write a short note on knee joint replacement.
Q.10	Write a short note on IABP & Stents.
Q.11	Explain blood-biomaterial interaction and corrosion & wear of Biomaterials.
Q.12	Write a short note on IOLs & Contact lenses.
Q.13	Describe the Heart valves in detail.
Q.14	Explain any two ocular implants in detail.
Q.15	Write a short note on HIP implants.
Q.16	Write a short note on pacemaker.
Q.17	Write a short note on Calcium phosphate.
Q.18	Explain polymers as a drug delivery biomaterial in detail.
Q.19	Explain the bioinert ceramics in detail.
Q.20	Write a short note on Tissue response to Implants.
Q.21	Enlist the biomaterials used in dental implants and explain any two of them in detail.
Q.22	Explain surface properties of biomaterials & their testing.
Q.23	What is a composite? Explain fibrous and particulate composites in orthopedic implants.
Q.24	Describe considerations for the design of heart valves.
Q.25	What is Biodegradable ceramics? Explain any two Biodegradable ceramics.
Q.27	Define the following terms: Shape memory effect, biological materials, Implants, tensile strength.

Q.28	Define following terms: Biocompatibility, Xenografts, Biological material, Prosthesis, allografts.
Q.29	Write a short note on biomaterial Hydrogel.
Q.30	Explain in detail the applications of polymers as a biomaterial.
Q.31	Explain polymerization in detail.
Q.32	Explain the material selection criteria for biomaterials in detail.
Q.33	Write a short Note: Titanium and Titanium alloys as biomaterial.
Q.34	Explain manufacturing process of Stainless steel based Implants.
Q.35	Give the properties of Glass Ceramic & explain its applications.
Q.36	Short Note: NITINOL
Q.37	Short Note: PMMA
Q.38	Give the properties & uses of Hydroxy apatite.
Q.39	Short Note: Knee Joint Replacement
Q.40	Explain manufacturing process of Co based Implants.