



Roll No:

BTECH
(SEM VII) THEORY EXAMINATION 2024-25
BIOMATERIALS

TIME: 3 HRS

M.MARKS: 100

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt all questions in brief.

Q no.	Question	Marks	CO
a.	What do you understand by the term Carcinogenicity?	2	2
b.	Write the importance of skin implants.	2	1
c.	Which devices are used for lung implants?	2	3
d.	Write the use of optical bio transducers.	2	1
e.	Write some problems associated with metallic biomaterials.	2	1
f.	Write the importance of composite biomaterials.	2	2
g.	Define "fatigue" in connection with the biomaterials.	2	2
h.	Define growth factor delivery with Nano biomaterials.	2	2
i.	Define tribology.	2	1
j.	Write the functions of alumina.	2	2

SECTION B

2. Attempt any three of the following:

a.	Write the applications of stainless steel as biomaterial.	10	2
b.	Write the biomedical importance of composite biomaterials.	10	2
c.	Which thermoplastic material is used as implant? Where it can be used?	10	3
d.	Write a note on tissue specific biomaterials.	10	4
e.	Describe various legal issues related to development of biomaterials.	10	2

SECTION C

3. Attempt any one part of the following:

a.	Why compatibility analysis is important in case of biomaterials?	10	4
b.	Write the classification of biomaterials with examples.	10	3

4. Attempt any one part of the following:

a.	What do you understand by "extracorporeal devices" used in tissue engineering?	10	4
b.	Write a note on bone replacement with biomaterials.	10	1

5. Attempt any one part of the following:

a.	Write a note on corrosion of biomaterials.	10	4
b.	Describe recent development of biomaterials with examples of new molecules.	10	2

6. Attempt any one part of the following:

a.	Describe brittle to ductile transition of biomaterials.	10	3
b.	Write a note on quality testing of biomolecules.	10	3

7. Attempt any one part of the following:

a.	Describe Nano biomaterials.	10	2
b.	Write the applications of polymeric Nano biomaterials.	10	2