

B.Tech. SEM -V Bio Medical 2014 Course (CBCS) : WINTER - 2018
SUBJECT- BIOMATERIALS

Day: Saturday
Date: 01/12/2018

W-2018-2434

Time: 02.30 PM TO 05.30 PM
Max. Marks: 60

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw the figures **WHEREVER** necessary.

Q.1 What are the factors affecting the success of joint replacement? Give examples of each. **(10)**

OR

Q.1 Write notes on :
a) Electrical properties of biomaterials. **(05)**

b) Acoustic & Ultrasonic properties of biomaterials. **(05)**

Q.2 List the types of stainless steel alloys & its applications in biomedical. Also give the composition of stainless steel alloy. **(10)**

OR

Q.2 What is mean by corrosion? How do you measure the corrosion rate? What are the effects of corrosion products on implants? **(10)**

Q.3 a) Draw & explain temperature-time cycle of Glass ceramic. **(05)**

b) What are the resorbable ceramics? Explain with example. **(05)**

OR

Q.3 a) What are the structure-property relationships of ceramics? **(05)**

b) Write a note on " Analysis of ceramic surfaces". **(05)**

Q.4 Explain polymerization. Discuss in detail about its structural modification. **(10)**

OR

Q.4 a) Explain in brief the properties of rubbers. **(05)**

b) How does a rubber finds its place as biomaterials. Discuss in detail about its medical application. **(05)**

Q.5 Explain normal wound healing process and body response to implants. **(10)**

OR

Q.5 Explain blood compatibility and carcinogenicity with regard to implants **(10)**

Q.6 i) Explain about sutures and tissue Adhesives. **(10)**
ii) Explain in brief the biomaterials used for manufacturing wires, pins, screws and fracture plates.

OR

Q.6 Explain biomaterials used to manufacture various implants. **(10)**