

S.E/Sem III/Biomed./Choice Based/R-2017/BPO
1/6/18

Biomaterials, Prosthetics & Orthotics

MAY-18

20

Q.P. Code : 37616

[Time: Three Hours]

[Marks: 80]

Please check whether you have got the right question paper.

- N.B:
1. Question No.1 is compulsory.
 2. Answer any three out of remaining five questions.
 3. Figures to right indicate full marks.
 4. Assume suitable data wherever necessary.

- Q.1.1. How are biomaterials classified. 05
2. How is Prosthesis different from Orthosis. 05
3. Explain biocompatibility of biomaterials. 05
4. What are joints? Explain their function. 05
- Q.2.a) Explain the types of levers with the help of neat anatomical sketches. 10
b) With the help of neat diagram explain the gait cycle. 10
- Q.3.a) Explain the method, ESCA for studying the surface property of a material. 10
b) Explain the InVitro types of Biological Testing of Biomaterials. 10
- Q.4.a) What are polymers and how are they classified. Also explain what are biodegradable polymers. 10
b) Comment on stainless steel, its properties and applications as an implant. 10
- Q.5.a) Explain in detail the HCTO with the help of neat diagram. 10
b) Explain the composition and application of Ti and based alloy. 10
- Q.6.a) Write Short notes on any FOUR : 20
- 1) Shape memory effect
 - 2) Transradial prosthetic system
 - 3) Wear and corrosion
 - 4) Sutures
 - 5) Below knee prosthetic system.
