

Sem III - (Biomed) ^{Rev} CBGS

Extra

Bio - Materials

28/5/14

May-2014

17 QP Code: NP-18687

(3 Hours)

[Total Marks : 80

- N. B. : (1) Draw the appropriate diagrams required.
(2) Attempt any four out of six questions.

1. Write any four out of five :-

- (a) Explain the difference between biological material and biomaterial. 5
 - (b) Classify biomaterials. 5
 - (c) Explain the composition of stainless steel. 5
 - (d) Explain different types of Co-based alloys listed by ASTM for surgical implants with its composition. 5
 - (e) Explain the properties of biomaterials used in urological practice. 5
2. (a) Explain the properties of materials used in biological heart valves. 10
(b) Classify Ceramics. Explain the properties of Alumina and state its applications. 10
3. (a) Explain the composition of bioglass and its application. 10
(b) Explain the different fabrication processes of composites. 10
4. Write a short note on :-
(a) Biodegradable polymers 20
(b) Biodegradable ceramics.
5. Write a short note on (any four) :- 20
(a) Polyethylene
(b) Polypropylene
(c) PMMA
(d) Hydrogels.
(e) Silicon Rubber
(f) Collagen.
6. (a) Explain the different biomaterials used in bulk space fillers and its properties. 10
(b) Explain the different materials used in drug delivery systems and give a detailed description of its properties. 10