



C20-BM-505

7616

BOARD DIPLOMA EXAMINATION, (C-20)

OCTOBER/NOVEMBER—2023

DBME – FIFTH SEMESTER EXAMINATION

MEDICAL IMPLANTS ENGINEERING

Time : 3 Hours]

[Total Marks : 80

PART—A

3×10=30

- Instructions :** (1) Answer **all** questions.
(2) Each question carries **three** marks.
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. Define biocompatibility.
2. Classify biomaterials.
3. Write the mechanical properties of materials.
4. Compare any three characteristics of various biomaterials.
5. List the problems with orthopedic implants.
6. What is bone cement?
7. Mention the types of artificial heart valves.
8. State the need for implantable defibrillator.
9. State the need for eye shields.
10. What are the safety precautions to be taken for cochlear implants.

PART—B

8×5=40

- Instructions :** (1) Answer **all** questions.
(2) Each question carries **eight** marks.
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. (a) Explain the wound-healing process.

(OR)

(b) Explain the systemic effects of implants.

12. (a) Explain bio reabsorbable and bioactive ceramics.

(OR)

(b) Explain co-based alloy metallic implants materials.

13. (a) Explain total shoulder joint replacement technique.

(OR)

(b) Explain the safety precautions to be taken with orthopedic implants.

14. (a) Explain the programmable internal pacemaker.

(OR)

(b) Explain the artificial arm prosthesis.

15. (a) Explain the cochlear implants in detail.

(OR)

(b) Explain the safety precautions to be taken for the eye implants.

PART—C

10×1=10

- Instructions :** (1) Answer the following question.
(2) The question carries **ten** marks.
(3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

16. Analyze the implants used for vascular problems.

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