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Roll No.

3rd Sem.

Branch : Medical Electronics

Sub.: Bio-Mechanics & Bio Materials

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple choice Questions. All Questions are compulsory. (6x1=6)

Q.1 Which of the followings are examples of Biomaterials _____?

- a) Titanium b) Ceramics
- c) Both d) None of these

Q.2 Example of Bio material for cardiovascular system is :

- a) Vascular grafts b) Stents
- c) Both d) None of these

Q.3 Newton's third law is related to :

- a) Inertia b) Act
- c) Force d) Action & Reaction

Q.4 Newton's Second law is related to :

- a) Inertia b) Act
- c) Force d) All of these

Q.5 Property of Bio- material should be:

- a) Bio compatible b) Non allergic
- c) Non carcinogenic d) All of these

Q.6 One of bio material property is :

- a) Suitable for body
- b) Not matter
- c) Any material can be taken
- d) All of these

SECTION-B

Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)

- Q.7 What is metal Biomaterial?
- Q.8 How many numbers of laws are defined by Newton?
- Q.9 Define skelatal joint.
- Q.10 Define Cartilage.
- Q.11 Define Airway.
- Q.12 Heart consists of how many number of chambers?

SECTION-C

Note: Short answer type Questions. Attempt any eight questions out of ten Questions. (8x4=32)

- Q.13 Explain Biomechanics of elbow and shoulder.
- Q.14 Explain Dental implant.
- Q.15 Define vascular grafts.
- Q.16 Write a note on requirements of Bio-Materials?
- Q.17 Explain role of gamma radiation as sterilization.
- Q.18 Explain ETO.
- Q.19 Write any 5 applications of Bio materials?
- Q.20 Explain mechanical property of bone.
- Q.21 Explain breathing mechanism.
- Q.22 Write a note on Artificial Pacemaker, as an application of Biomaterial?

SECTION-D

Note: Long answer questions. Attempt any two questions out of three Questions. (2x8=16)

- Q.23 Explain Alveoli mechanics inside lung with suitable diagram.
- Q.24 Write a note on Sterilization and its effect on Biomaterials.
- Q.25 Write a note on all laws of newton's and their role in Biomechanics?