

### SECTION-D

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

- Q.23 What is hard tissue replacement implant ? Explain dental implants in detail.
- Q.24 What is joint bio mechanics? Explain forces and stresses in human joints.
- Q.25 Define and explain cardiovascular system in detail.

No. of Printed Pages : 4  
Roll No. ....

223232

**3rd Sem / Branch : Medical Electronics**

**Subject : Biomechanics and Biomaterials**

Time : 3 Hrs.

M.M. : 60

### SECTION-A

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

Q.1 Bio mechanics is a branch of.

- a) Physics                      b) English
- c) Civics                        d) Zoology

Q.2 \_\_\_\_\_ are a connective tissue which connects two bones to each other.

- a) Tendons                      b) Muscles
- c) Ligaments                   d) Cartilages

Q.3 The blood vessels which carry blood from the various parts of the body to the heart are called.

- a) Septum                        b) Veins
- c) Arteries                       d) Capillaries

Q.4 Newton's first law is also known as.

- a) Law of inertia
- b) Balance of linear momentum
- c) Law of action
- d) None of these

Q.5 Which of these is the location where bones and cartilage meet?

- a) Tendons                      b) Ligaments
- c) Fascia                        d) Joints

Q.6 \_\_\_\_\_ is a part of cardiovascular system.

- a) Kidney                        b) Bone
- c) Heart                         d) None of these

### SECTION-B

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

Q.7 Write name of any one soft Tissue.

Q.8 A \_\_\_\_\_ is a place where two bones meet.

Q.9 Write one function of cardiovascular system.

Q.10 Blood is an example of \_\_\_\_\_ Tissue.

Q.11 Implants are mostly made up of \_\_\_\_\_.

Q.12 \_\_\_\_\_ is an example of bio ceramics.

### SECTION-C

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

Q.13 Write a short note on the bone composition.

Q.14 Write a short note on bio ceramics

Q.15 Explain viscoelasticity in a short note.

Q.16 Write a short note on the breathing mechanism.

Q.17 Explain gamma radiation type of sterilization in a short note.

Q.18 Write five properties of bio materials.

Q.19 Write a short note on the orthopedic implants.

Q.20 Write a short note on the polymers.

Q.21 Explain 3<sup>rd</sup> law of newton in a short note.

Q.22 Write a short note on the artificial heart valves.