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3rd Sem / Branch : Medical Electronics
Sub.: Biomechanics and Biomaterials

Time : 3Hrs. M.M. : 60

SECTION-A

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

Q.1 Biomechanics helps in _____.

a) Treating injuries to sports person
b) Improving performance of athletes
c) Increasing friction between the athlete and the ground surface
d) All of the above

Q.2 Which of Newton's Law of Motion deals with acceleration

a) First b) Second
c) Third d) None of these

Q.3 How many bones are there in the average person's body?

a) 206
b) 33
c) 639
d) It varies by individual

Q.4 The blood vessels which carry blood from the heart to the various parts of the body are called

a) Arteries b) Capillaries

c) Veins d) Septum

Q.5 The process in which all living cells, spores and viruses are completely destroyed from an object is called _____.

a) Disinfection b) Pasteurization

c) Sterilization d) Antisepsis

Q.6 Which of the following gas is released out during the process of respiration?

a) Oxygen b) Carbon dioxide

c) Hydrogen d) None of the above

SECTION-B

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

Q.7 Write one property of bone.

Q.8 Write name of one joint.

Q.9 How many valves are present in the heart.

Q.10 Write one function of veins.

Q.11 Write one property of biomaterial.

Q.12 Write one application of blood rheology.

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 1st Law of Newton.

Q.14 Explain polymerization in a short note.

Q.15 Write a short note on the biomechanical analysis of elbow.

Q.16 What is dental implants? Explain in a short note.

Q.17 Explain the effect of sterilization on biomaterials in a short note.

Q.18 Write five mechanical properties of blood vessels.

Q.19 Write five applications of biomaterials.

Q.20 Explain the biomechanics of skeletal joint.

Q.21 Write a short note on the biomechanics of fracture healing.

Q.22 Explain PV curve in a short note.

SECTION-D

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

Q.23 Explain the interaction of blood and lung in detail.

Q.24 What is biomaterial? Define and explain its classification.

Q.25 What is soft tissue implants? Explain stents in details.