

II B.Tech II Semester Supplementary Examinations, April/May 2005
BIO-MECHANICS AND BIO-FLUIDS
(Bio-Medical Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Explain the effect of any four factors on the viscosity of blood.
(b) Explain the physical properties of blood.
2. What are Fahracus Lindquist and inverse effects? Describe the nature of red blood cells in tightly fitting tubes with illustrations?
3. (a) Explain the three features of viscoelasticity in detail.
(b) Discuss the viscoelastic properties of synovial fluid.
4. Discuss the Characteristics of Newtonian, Non-newtonian and viscoelestic fluids in detail.
5. Explain the qualitative requirements of prosthetic heart valves.
6. (a) With the help of a P-V curve of a lung, explain the normal breathing mechanism?
(b) What are the lung mechanical parameters. Differentiate normal and abnormal respiratory states.
7. (a) What are the functions of tendons and ligaments?
(b) Describe visco elastic properties of normal skin and diseased skin. Discuss effect of age on skin.
8. Describe the experimental set up to evaluate the friction coefficient between two articular cartilage surfaces.
