

**M.D. DEGREE EXAMINATION
BRANCH V – PHYSIOLOGY**

**PAPER I – GENERAL PHYSIOLOGY, BLOOD, DIGESTION AND
TISSUES OF THE BODY**

Q.P. Code: 202018

Time : Three Hours

Maximum : 100 Marks

I. Essay Questions:

(2 x 15 = 30)

1. a) Describe how changes in cell ionic conductances produce an Action Potential.
b) Explain the propagation of an Action potential caused by Local currents.
c) Which ions are most important for the osmotic control of cell volume?
2. a) Describe the stages in erythrocyte development.
b) Control of erythrocyte Production.
c) Explain how nutritional deficiencies lead to anaemia.

II. Short notes:

(10 x 5 = 50)

1. Migrating motor complex.
2. Cross bridge cycle in smooth muscle.
3. Length tension relationship in striated muscle.
4. Counter current mechanism in the digestive system.
5. Control of pancreatic secretion.
6. Channelopathies.
7. Major histocompatibility complex.
8. Primary and secondary peristalsis.
9. Excitation contraction coupling and Excitation secretion coupling.
10. Positive feedback mechanism.

III. Reasoning Out:

(4 x 5 = 20)

1. T. Lymphocyte is essential for immunity.
2. H antigen is present in all blood types.
3. Myeloid erythroid ratio is 3:1.
4. Slow twitch type I fibers are present in high proportions in postural muscles of back.
