2053

B.A./B.Sc. (General) Sixth Semester

Bio-Chemistry

Paper – B: Applied Bio-Chemistry – II

Time allowed: 3 Hours Max. Marks: 45

NOTE: *Attempt five questions in all, including Question No. I which is compulsory and selecting one question from each Unit.*

x-x-x

I. Answer the following in brief:-

a) What is the role of neutrophils?

b) Define the function of myofibrils.

c) Write about the role of monocytes in the blood.

d) Discuss on the role of neurotransmitters in the body.

e) Why is AB blood group known as the universal acceptor?

f) What is agglutination?

g) What is neurotransmission?

h) What are the major components of serum?

i) Define the function of myosin. (9x1)

UNIT - I

II. a) The immune system reacts against foreign material or antigens by eliciting the production of specific Ig molecules. Discuss the structure and types of various immunoglobulins.

b) Why is innate immunity called 'the first line of defense against infection'? (5,4)

III. Write short notes on the following:-

a) Complement system

b) Immunoblotting

c) Humoral immune response (3x3)

UNIT - II

IV. a) The blood is a dynamic tissue which contains various types of blood cells. Name these along with their function.

b) How is the acid-base balance regulated in the body? What are the consequences of an imbalance? (5,4)

P.T.O.

V. Write short notes on the following:-

a) Anaemia

b) Anticoagulants

c) Fetal Haemoglobin t

(3x3)

UNIT - III

VI. a) Elaborate on the structure of striated muscle with a suitable diagram. What is its major function?

b) Various ions are responsible for the process of muscle contraction. With respect to this discuss the role of calcium ions in muscle contraction? (5,4)

VII. Briefly discuss the following:-

a) Cardiomyocyte

b) Sarcolemma

c) Role of myosin

(3x3)

UNIT - IV

VIII. a) The central nervous system contains more than 100 billion neurons whose function is to transmit nerve impulses. Draw a well labelled diagram of the neuron and define the roles of its various parts.

b) How does the peripheral nervous system aid in regulating various activities in the body?

(5,4)

IX. a) Chemical Substances or neurotransmitters bind to receptor proteins in the cellular membrane of the target tissue and relay information. Discuss the events that happen at the synapse involving acetylcholine.

b) How does the neuromuscular junction help in the process of muscle contraction?

(5,4)

x-x-x