5/12/19 M

[This question paper contains 4 printed pages.] Physiology Sci

Your Roll No.....

Sr. No. of Question Paper : 7334 J

Unique Paper Code : 42234301

Name of the Paper : Physiology and Biochemistry

Name of the Course : **B.Sc. (Prog.)**

Semester : III

Duration : 3 Hours Maximum Marks : 75

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt **five** questions in all, **two** each from Section **A** and Section **B**.
3. Question No. **1** is compulsory.
4. Use separate sheets for Section **A** and Section **B**.

1. (a) Define the following terms :

   (i) Pericardium

   (ii) Bohr effect

   (iii) Km

   (iv) Transamination

P.T.O.

(v) Phosphorylation

(vi) Chylomicron

(vii) Gluconeogenesis (7)

(b) Differentiate between the following :

(i) EDV and ESV

(ii) Glucogenic and Ketogenic Amino acids

(iii) Tidal volume and Residual volume

(iv) Competitive and Non-Competitive inhibition (8)

(c) Expand the following :

(i) ACTH

(ii) CCK

(iii) BPG

(iv) PDH

(v) FMN

(vi) PLP (3)

(d) Give the exact location and function of the following :

(i) Podocyte

(ii) AV Node

(iii) Brunners gland

(iv) Glial cells (6)

(e) Mention one contribution of the following biochemists

(i) Koshland

(ii) E.Knoop

(iii) Peter Mitchell (3)

SECTION A

2. (a) Describe the process of digestion and absorption Proteins in gastrointestinal tract. (6)

(b) Explain the process of propagation of impulse in a non myelinated nerve fiber. (6)

3. (a) Describe the mechanism of urine production in nephron. (6)

(b) Discuss the origin and conduction of heart beat. (6)

4. Write short notes on any **three** of the following : (4,4,4)

(i) Adrenal gland

P.T.O.

(ii) Oogenesis

(iii) Ultra structure of skeletal muscle

(iv) Platelet Plug formation

SECTION B

(Structural Formulae to be given for all pathways)

5. (a) Describe the various steps involved in β-Oxidation of Fatty Acid. (7)

(b) Discuss the effects of substrate concentration on enzyme catalysed reactions. (5)

6. (a) Give the sequence of reactions involved in Glycolytic pathway. (7)

(b) Briefly explain the components of Electron Transport chain. (5)

7. Write short notes on any **three** of the following : (4,4,4)

(i) Glycogenolysis

(ii) Biosynthesis of Palmitic acid

(iii) Urea cycle

(iv) Mechanism of action of enzyme