2022

NUTRITION

[Honours]

(B.Sc. Second Semester End Examination-2022)

PAPER-C3T

Full Marks: 40 ***Time: 02 Hrs***

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

1) Answer any five questions from the following: 5x2= 10

a. Write down any two physiochemical properties of surface tension.

b. What do you mean by Brownian Movement?

c. What is Bear's Lambert's law?

d. Why biological sample testing require a buffer solution?

e. Write the physiological importance of buffer.

f. What is co-enzyme?

g. Write two application of electrophoresis.

h. What is Carnitine?

2. Answer any four questions from the following: 4x5 = 20

a. i) What do you mean by mobile and stationary phases in chromatography?

ii) How this phase helps in the separation of molecules in a chromatographic technique? 2+3

b. i) What do you mean by osmole and osmolarity.
ii) Write the importance of phosphate buffer in the maintenance of intracellular fluid pH. 2+3

c. i) Explain the chemiosmotic hypothesis for ATP synthesis in ETC.
ii) What are the physiological importance of HMP shunt Pathway? 3+2

d. i) How much ATP is produced in aerobic glycolysis?
ii) What are the rate limiting enzymes in this pathway and why?
iii) Define Ketoacidosis. 1+(1+2)

e. i) What do you mean by uncomperative Inhibitor?
ii) justify the straight-line graph of uncooperative inhibitor in respect to the normal enzyme kinetics. 2+3

f. i) What do you mean by acid base balance?
ii) How is it maintained in our body? Explain with proper equations. 1+4

3. Answer any one questions of the following: 1x10 = 10

a. i) Write the different steps of protein synthesis.
ii) What do you mean by redox potential? 8+2

b. i) Mention some important ketone bodies with their physiological significance.
ii) Why is ornithine cycle known as detoxification cycle?
iii) Mention the functional difference between carbamoyl phosphate synthase I and II. 2+2+6