2011

M.Sc.

1st Semester Examination

NUTRITION & DIETETICS

PAPER—NUD-102

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

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

Illustrate the answers wherever necessary.

Module—I

(*Marks : 20*)

1. Answer any *five* questions of the following : 1×5

(a) What is meant by Zwitter ion ?

(b) Define apoenzyme.

(c) Mention the importance of dialysis.

(d) What is chemisorption ?

(e) What is Sorensen's p^H scale ?

(f) What do you mean by capillary dialysis?

(g) What is the full form of SDS-PAGE?

(h) What is Km?

2. (a) State the salient differentiating features between th competitive and noncompetitive inhibitions of enzym action with special reference to its kinetics.

(b) What do you mean by coupling complex?

(c) Deduce the M–M equation and justify the position c this graph in X and Y ordinates of its inverse form

Or

(a) Describe the causes of respiratory acidosis.

(b) In acute respiratory acidosis, $PaCO_2$ is 20 mm of Hg Calculate the change in p^H in this condition.

(c) Wrie the role of blood phosphate buffer in its p^H maintenance. 4+2+2

3. (a) Describe retention factor,

(b) Mention the basic steps of TLC technique with specia reference to its application. 3+4

Or

(a) Discuss the differences in the salient features o protein gel and DNA gel electrophoresis.

(b) The H^+ concentration of the gastric juice is 1.26×10^{-1}. Calculate its p^H. 5+2

Module—II

(*Marks : 20*)

4. Answer any *five* questions of the following : 1×5

(a) Write the name of a 'house keeping' enzyme.

(b) Write the name of functional genetic unit of mRNA.

(c) What do you mean by E site of ribosome?

(d) Write the full forms of PEPLK and PK?

(e) Write the names of the Ketone bodies.

(f) Name the vitamin whose deficiency causes megaloblastic anemia.

(g) Write the names of two unsaturated fatty acids with carbon member 20 or more.

(h) What is transamination?

5. (a) State in brief the major functions of lipoproteins.

(b) Briefly discuss the steps of β-oxidation of saturated fatty acid with 18-carbon mentioning its energetics. 2+6

Or

(a) Write the key role played by transketolase transaldolase in HMP shunt.

(b) "In starvation Glycogenous phosphorylase pla vital role for cellular metabolic homeostasis". Ju the statement.

6. (a) Describe the antioxidant role of vitamin E.

(b) Describe the process of absorption of iron from intestine and its distribution in different parts o body. 3+(

Or

(a) Write the process of elongation of peptide chai translation.

(b) Describe the role of tRNA in protein translatio