

2012

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 do you mean by D-L stereospecificity of enzyme ?

(b) What is oxidoreductase ?

(c) What is chemisorption ?

(d) Write the name of a reference electrode in pH meter.

(Turn Over)

- (e) What do you mean by titrable acidity of urine ?
- (f) What is metabolic alkalosis ?
- (g) What is isozyme ?
- (h) What do you mean by rate limiting step of a biochemical reaction ?
2. (a) Describe the genetical basis of enzyme synthesis with special reforms to eukaryotic cell.
- (b) State briefly the noncompetitive inhibition of enzyme activity. 6+2

Or

- (a) How renal correction of alkalosis takes place ?
- (b) Enumerate Gibbs-Donnan effect.
- (c) Differentiate between hypokalemia and hyperkalemia. 4+2+2
3. (a) Describe the technical differences between one way and two way paper chromatography.
- (b) Give the formulation of retention factor from column dead time by explaining the mechanism. 4+3

Or

- (a) What is the full form of SDS-PAGE ?
- (b) What is the role of β -mercaptoethanal in SDS-PAGE ?

- (c) Write the application of SDS-PAGE in Nutritional Science.
- (d) If protein molecules bear both the charges then how you will solve the problem during electrophoretic separation of protein.

$$1+1\frac{1}{2}+2+2\frac{1}{2}$$

Module—II

[Marks—20]

4. Answer any five questions of the following : 1×5
- (a) Write the full form of G6-PD.
 - (b) Write the name of one enzyme of fatty acid synthase complex.
 - (c) What do you mean by post translational modification of protein ?
 - (d) What is the type of glucose found in human body ?
 - (e) What is cytochrome oxidase ?
 - (f) What is citrullinemia ?
 - (g) Write the names of the non-enzymatic antioxidant.
 - (h) Write the full name of IMP.
5. (a) What do you mean by substrate level phosphorylation ?
- (b) Briefly show the ATP generating sites of respiratory chain.
- (c) What do you mean by transketolase ? 2+4+2

Or

- (a) What is the meaning of the term 'free fatty acid' ?
- (b) Do you think 'free fatty acids' are really free'—Justify your answer.
- (c) Describe the process of β -oxidation by chemical reaction only. 1+2+5
6. (a) Write the name of two inhibitors of glycolysis.
- (b) How PFK-1 and PFK-2 regulates glycolysis.
- (c) What is calmodulin? 1+4+2

Or

- (a) Describe iodine metabolism with special reference to the synthesis of thyroid hormones
- (b) What is NPN? 5+2
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