M.Sc. Part-I Examination, 2013

DIETETICS AND COMMUNITY NUTRITION MANAGEMENT

PAPER – I (Unit-2)

Full Marks : 50

Time : 2 hours

Answer Q. No. 1 and any four from the rest

The figures in the right-hand margin indicate marks

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

1. Answer any five of the following: 2 x 5

(a) What do you mean by amylose and amylopectin?

(b) State the difference between L-type and M-type of pyruvate kinase.

(c) Write the full form of IP₃ and DAG.
(d) Define Glucogenic-Ketogenic amino acid with one example.

(e) Define NPU.

(f) Define omega oxidation of fatty acid.

(g) Write any four symptoms of zinc deficiency.

(h) Define allosteric enzyme with example.

2. (a) Define Glycogenesis.

(b) Describe the regulation of glycogenesis in brief.

(c) State the neogluconeogenesis process from Glycerol.

\[ 2 + \left( \frac{1}{2} + \frac{1}{2} \right) + (2 + 1) \]

3. (a) Describe in short about 'GLUT' from the view point of blood glucose homeostasis.

(b) Discuss the role of insulin and glucagon on blood glucose homeostasis.

\[ 4 + (3 + 3) \]

4. (a) What do you mean by amino acid pool?

\[ \left( \frac{1}{2} + \frac{1}{2} \right) + 5 + 2 \]

(Continued)

(3)

(b) State in brief about inputs and outputs of amino acid pool.

(c) Define transdeamination with example.

5. (a) Describe the elongation of protein chain in translation process in eukaryotes.

(b) "Antibiotics interfere the translation process" — Justify the statement citing any two examples.

6. (a) Discuss in brief about the role of fatty acid synthetase in lipogenesis process.

(b) Why carbohydrate deficiency in diet results in ketosis in our body?

7. (a) State the requirement of calcium in growing child and pregnant mother.

(b) Discuss the role of Vit-D3 on calcium metabolism.

(c) State in brief about the role of Vit-C on iron absorption.
8. (a) Discuss the role of hypothalamus on water metabolism.

(b) "Kidney plays a vital role on water homeostasis of our body" - Justify the statement.  

5 + 5

9. (a) Write the differences between competitive and non-competitive inhibition of enzyme.

(b) State the role of pH on enzyme activity.

(c) What do you mean by zero order and 1st-order of enzyme kinetics?  

5 + 2 + 3