# 2013

## M.Sc.

## 1st Semester Examination

## CLINICAL NUTRITION AND DIETETICS

**PAPER—CND-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.*

Answer *Q. No. 1* and any *three* of the following.

**1.** Answer any *ten* questions of the following : 10×1

(a) How will you quantify DNA in a Spectrophotometer ?
(b) What do you mean by house keeping genes ?
(c) Give an example of prion disease.
(d) What is the importance of HMP pathway ?
(e) Write the full form of MTHFR.
(f) Give an example of Transamination reaction.
(g) Name the locations of ornithine cycle.
(h) What do you mean by conformation of a protein ?
(i) Name the vitamin whose deficiency can cause Wernicke-Korsakoff syndrome.
(j) Name two regulatory of TCA cycle in eukaryotes.
(k) What do you mean by allosteric enzyme ?
(l) What is the role of Calciferol ?
(m) Give an example of polysaccharide.
(n) What do you mean by liposome ?
(o) Name one glycolipid.

2. (a) Briefly state an experiment to prove that DNA is the source of all genetic information.
   (b) What is operon? Give an example.
   (c) What is the difference between transition and transversion?
   (d) Give an example of frameshift mutation. 4+(1+2)+2+1

3. (a) Briefly describe the mechanism of xenobiotic metabolism.
   (b) 'A component can be a vitamin for human beings but not for all organisms' — Explain the statement with an example.
   (c) Describe the mechanism about the role of folic acid and vitamin B-12 on the regulation of the circulating homocysteine level with the involvement of MTHFR shunt. 3+2+5

4. (a) What is the importance of Urea cycle in human?
   (b) Briefly describe glycolysis and its regulation.
   (c) How liver and muscle play different role in glycogen metabolism? 2+(3+3)+2

5. (a) Derive the condition when km = [S]. Show the mechanism of uncompetitive inhibition.
   (b) Which conformations are responsible for protein secondary structure?
   (c) Elaborate briefly how iron is absorbed transported and stored in the body. $(1\frac{1}{2}+1\frac{1}{2})+2+5$

6. Write short note : $2\frac{1}{2}\times4$
   (a) Vitamin C.
   (b) Fatty acid synthesis.
   (c) Inborn error of amino acid metabolism.
   (d) Vitamin E as antioxidant.

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