Total page: 2

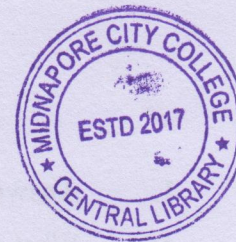# PG (NEW) CBCS
M.Sc. Semester-I Examination, 2018
NUTRITION & DIETETICS
PAPER: NUD-102
(Biophysical and Biochemical Aspect of Nutrition)

Full Marks: 40   **Time: 2 Hours**

Write the answer for each unit in separate sheet

Unit-3
(Biophysical Aspect of Nutrition)
Group-A

1.   **Answer any two of the following questions:**   2×2=4

a)   Write the importance of SDS in protein electrophoresis.

b)   What is chromatographic fingerprinting?

c)   What is meant by the term Rf value.

d)   Write H-H equation.

Group-B

2. **Answer any two of the following questions:**   2×4=8

a)   i) Write the 2nd law of thermodynamics.
      ii) State Bronsted Lowry Theory.   2+2=4

b)   i) Write the principle of IEF.
      ii) State the importance of IEF.   2+2=4

c)   i) Write the clarification of chromatography on the basis mechanism of separation.
      ii) What is the formula of retention cofactor in TLC.   2+2=4

d)   i) State the principle of ultracentrifugation.
      ii) Write the importance of ultracentrifugation over ordinary centrifugation.

                                                                    2+2=4

Group-C

3. **Answer any one of the following questions:**   1×8=8

a)   i) Write the solid phase preparation in TLC.
      ii) Describe the importance of staining and destaining of TLC plate and how it can be done?

      iii) Write the procedure of MW determination of the interested protein.

                                                            3+(1+1+2)+1=8

b)   i) What are acrylamide and Bisacrylamide?

      ii) State the differences between separating gel and stacking gel in SDS-PAGE.
      iii) Why HPLC is preferred over TLC? Write the principle of HPLC.2+3+(1½+1½)=8

(Turn Over)

Unit- 4
(Biochemical Aspect of Nutrition)

Group-A

1. **Answer any two of the following questions:**   2×2=4

a) What do you mean by NSP?

b) Draw the diagram of trehalose & maltose.

c) What do you mean by peptide bond?

d) Give four examples of derived proteins.

Group-B

2. **Answer any two of the following questions:**   2×4=8

a) i) Classify monosaccharides with examples.
ii) Write the biomedical importance of sugar derivatives.   2+2=4

b) i) Write and draw the structure of starch.

ii) Briefly state about the primary structure of protein.   2+2=4

c) i) Draw and describe the structure of α-helix & β-pleated sheet.

ii) What is Ramachandran plot?   3+1=4

d) i) What do you mean by essential and nonessential amino acid with examples.

ii) Give a diagram of W-6 fatty acid and W-3 fatty acid.   2+2=4

Group-C

3. Answer any one of the following questions: 1×8=8

a) i) Compare B-DNA, A-DNA and Z-DNA.
ii) Distinguish between DNA and RNA.
iii) What is acid number of fat?   3+3+2=8

b) i) Describe the biosynthesis of purines.
ii) What do you mean by nucleotides and nucleosides?
iii) What do you mean by cerebrosides waxes?   4+2+2=8

****