

**2018**

**M.Sc. 1st Seme. Examination**

**CLINICAL NUTRITION & DIETETICS**

**PAPER—CND-102**

*Full Marks : 40*

*Time : 2 Hours*

*The figures in the margin indicate full marks.*

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

*Illustrate the answers wherever necessary.*

**1. Answer any four questions :**

**4×2**

- (a) What do you mean by frame-shift mutation ?
- (b) What is the unit of km ?
- (c) Name the two regulators of TCA cycle.
- (d) How many ATP generated in anerobic path way of glycolysis ?

*(Turn Over)*

- (e) Write the full form of SDS and TEMED.
- (f) What is nano-particle ?
- (g) Why does slow acceleration of centrifuge is required for density gradient centrifugation ?
- (h) What do you mean by cataplerosis reaction ?

2. Answer any *four* questions : 4×4

- (a) What is transition mutation and transversion mutation — state with example. 2+2
- (b) What is competitive and non-competitive inhibition — discuss with example. 2+2
- (c) Why HMP shunt is inactive in muscle ? Write the significance of HMP shunt. 1+3
- (d) What is allosteric enzyme ? Convert the M-M equation into Line Weaver Burk plot and Eadie-Hofstee plot.

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- (e) How do you prepare the cell or tissue extract before differential centrifugation? Give the schematic diagram of differential centrifugation. 2+2
- (f) Define prozone and post zone phenomenon. 4
- (g) What is a sieving effect of gel during electrophoresis? What is lattice formation? 2+2
- (h) Differentiate analytical and preparatory chromatography. What is flush column chromatography? 2+2

3. Answer any *two* questions : 2×8

- (a) What are the different sources of xenobiotics? Briefly discuss about the metabolism of xenobiotics. What are the factors affecting metabolism of xenobiotics? 2+4+2
- (b) State the different steps and regulation of glycolysis. Write the role of hormones in blood glucose regulation. 3+3+2

- (c) Write the principle of SDS-PAGE electrophoresis mentioning the justification of the use of SDS, mercaptoethanol and TEMED.
- (d) Differentiate between HPLC and TLC technique. Discuss about FACS with diagram and its application. 3+5
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