

Rani Rashmoni Green University

M. Sc. First Semester Examination

Subject: Medical Laboratory Science and Technology

Clinical Biochemistry and Fundamental Laboratory Pathology

Course code: MLT-103

FM – 40 Marks

1. Answer any four of the following:

2×4 =8

- a) What is isomerism?
- b) State Chargaff's rule.
- c) Mention one deficiency symptom of vitamin-B1. Mention one of its source.
- d) Define blood pressure. Differentiate between systolic and diastolic blood pressure.
- e) What are radio isotopes? Cite an example.
- f) What are anti-coagulants? Cite an example.

2. Answer any four of the following:

4×4=16

- a) Describe the structure, name and position of different types of bonds present in nucleic acids.
- b) Define vital capacity and total lung capacity.
- c) Which organ is the biggest digestive gland present in our body? Mention three functions of this gland.
- d) Describe the effects of temperature on enzyme activity. Define apo-enzyme with an example.
- e) Differentiate between Ketogenesis and Ketolysis. Mention the committing step of Glycolysis?
- f) Write a note on Henderson-Hasselbalch Equation.

3. Answer any two of the following:

2×8=16

- a) Define autoradiography. Briefly illustrate the criteria and significance of tracer techniques
- b) Write down the types of ketoacidosis. Briefly illustrate the symptoms and treatment of ketoacidosis.
- c) Write a short note on: i) Recommended dietary requirements of fat soluble vitamins. ii) Deficiency symptoms of water soluble vitamins.
- d) State the difference between serum and plasma. Enlist the basic information in a laboratory request form. Write down any two standard techniques for blood collection.