

# Rajiv Gandhi University of Health Sciences, Karnataka

## I Year B.Sc. Allied Health Sciences Degree Examination - 08-May-2026

**Time: Three Hours**

**Max. Marks: 100 Marks**

### **BIOCHEMISTRY**

(**RS-3** – B.Sc Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Care Technology, Neuro Sciences Technology, Anesthesia Technology, Operation Theatre Technology, Emergency and Trauma Care Technology)

(**RS-4** – B.Sc Medical Laboratory Technology, Medical Imaging Technology and Radiotherapy Technology) Anesthesia and Operation Theatre Technology

**Q.P. CODE: 3263**

**(QP contains two pages)**

Your answers should be specific to the questions asked.

Draw neat, labeled diagrams wherever necessary

#### **LONG ESSAYS (Second Question Choice)**

**2 x 10 = 20 Marks**

1. Describe the sources, daily requirement, biochemical functions and deficiency manifestations of thiamine.
2. Explain glycogenolysis and add a note on the regulation. Discuss the enzyme deficiency and clinical features of Von-Gierke's disease and McArdle's disease.

**Or**

Discuss the steps of urea cycle. Give the energetic and add a note on the regulation of the cycle.

#### **SHORT ESSAYS (Question No 5 & 10 choice)**

**10 x 5 = 50 Marks**

3. What are enzymes? Classify them giving suitable examples.
  4. Saturated and unsaturated fatty acids - definition, sources and examples.
  5. Define peptides. How are they formed? Discuss the functions of any three biologically important peptides.
- Or**
- List the major substrates for gluconeogenesis. How is glucose synthesized from lactate?
6. What is pellagra? Describe the causes and symptoms.
  7. Define anaerobic glycolysis and discuss its significance. Explain the formation of lactate from pyruvate.
  8. Define Monosaccharides. Classify them based on carbon atoms and functional groups giving suitable examples.
  9. Explain the causes, biochemical manifestations, clinical symptoms and treatment of two extreme forms of protein energy malnutrition.
  10. What is transamination? Give the salient features of transamination reactions. Mention two transaminases of diagnostic importance.
- Or**
- Urea cycle.
11. Write the general structure of an amino acid. Classify amino acids based on polarity giving suitable examples.
  12. What are dietary fibres? Give an account of their beneficial role and the adverse effects.

# Rajiv Gandhi University of Health Sciences, Karnataka

**SHORT ANSWER (Question No. 15 & 20 choice)**

**10 x 3 = 30 Marks**

13. Give the stepwise procedure for preparing 100ml of 1 N  $\text{NH}_2\text{SO}_4$ .
14. Define alkalosis. What are the causes and biochemical findings in metabolic alkalosis?
15. Regulation of blood glucose.  
**Or**  
Digestion of proteins.
16. Name different tests used to assess kidney function.
17. Emulsification of lipids.
18. Structure and function of rRNA.
19. Define variable valency. Explain variable valency of two compounds.
20. Causes and disorders of iron toxicity.  
**Or**  
Role of carnitine in the oxidation of fatty acids.
21. Radioactive isotopes.
22. Derive Henderson-Hasselbalch's equation.

\*\*\*\*\*