

Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Optometry Degree Examination - 04-May-2026

Time: Three Hours

Max. Marks: 100 Marks

BASIC BIOCHEMISTRY AND NUTRITION (RS-4)

Q.P. CODE: 3340

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. Explain the sources, daily requirements, functions and deficiency of Vitamin C
2. Define enzymes? Explain any four factors affecting enzyme activity.

Or

Enumerate the steps of Beta oxidation of fatty acids. Write a note on energetics of oxidation of Palmitic acid.

SHORT ESSAYS (Question No 5 & 10 choice)

10 x 5 = 50 Marks

3. Homeostasis of calcium.
4. What are Glucosaminoglycans? State the biological importance.
5. Draw neat labelled diagram of ATP synthase complex.

Or

Briefly describe the digestion absorption of carbohydrates.

6. Specific Dynamic Action (SDA).
7. Describe the causes and disorders of Vitamin D deficiency.
8. Discuss structure and function of Mitochondria.
9. Explain Watson and Crick model of DNA structure.
10. Explain the causes of low birth weight.
11. Describe the functional classification of proteins with suitable examples.
12. What is metabolic acidosis? List the causes of metabolic acidosis.

Or

Describe the steps in the formation of Urea.

SHORT ANSWER (Question No 15 & 20 choice)

10 x 3 = 30 Marks

13. Classify amino acids based on the nutritional requirement. Give examples.
14. What is buffer? Name the different blood buffers.
15. Vitamin B₁₂ deficiency.
16. Name the different muscle proteins.
17. Essential fatty acids and significance.
18. What are antioxidants? Give examples.
19. Occular manifestation of Vitamin A
20. Significance of HMP shunt pathway.

Or

Draw a neat labelled diagram of Immunoglobulin.

21. Write three differences between Kwashiorkar and Marasmus.
22. List the food groups in diet planning.