

**Rajiv Gandhi University of Health Sciences, Karnataka**  
**Third Year B.Sc. Medical Laboratory Technology Degree Examination – 24-Nov-2023**

**Time: Three Hours**

**Max. Marks: 100 Marks**

**BIOCHEMISTRY – III (RS-4)**

**Q.P. CODE: 3282**

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 steps involved in the process of transcription. Add a note on its inhibitors and post transcriptional modifications
2. Write in detail the metabolism of phenylalanine and tyrosine. Add an account of biologically important substances produced from tyrosine. Briefly write a note on associated metabolic disorders

**OR**

Describe the pathway of HMP shunt. Add a note on its significance

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

**10 x 5 = 50 Marks**

3. Quality control program in clinical laboratory
4. Principle, components and applications of arterial blood gas analyzer
5. Diagnostic importance of enzymes

**OR**

Hypercholesterolemia and its clinical significance

6. Uronic acid pathway and its disorders
7. Electrophoretic separation of plasma proteins
8. Lipoprotein metabolism
9. Tumor markers and clinical applications
10. Blood buffers and their role in blood pH regulation

**OR**

Clearance tests to assess the glomerular function

11. Types of jaundice, their causes and diagnosis
12. Formation and analysis of renal calculi

**SHORT ANSWER**

**10 x 3 = 30 Marks**

13. Specificity and sensitivity in the quality assurance
14. Control charts in quality control
15. Principle and applications of atomic absorption spectrophotometry
16. HbA1c
17. Biochemical defect and features of maple syrup urine disease
18. Formation of bilirubin
19. Cardiac Troponins
20. Name the pyrimidine nucleotide
21. Order of draw for blood collection
22. First aid measures in the clinical laboratory

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