

# Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. (MLT) Degree Examination - OCT-2019

Time: Three Hours

Max. Marks: 80 Marks

## Biochemistry – Paper III (RS-3 Scheme)

**Q.P. CODE: 3159**

Your answers should be specific to the questions asked

Draw neat, labeled diagrams wherever necessary

### LONG ESSAY (Any Two)

**2 x 10 = 20 Marks**

1. Define electrophoresis. Explain the separation of serum or plasma proteins by agarose gel electrophoresis. Add a note on the reference intervals of protein fractions.
2. Explain the steps  $\beta$ -oxidation of palmitic acid. Discuss the energetics.
3. What are tumour markers? Classify them with suitable examples. Explain the principle of any one tumour marker and give its clinical significance.

### SHORT ESSAY (Any Six)

**6 x 5 = 30 Marks**

4. Discuss the biochemical functions of vitamin D.
5. Discuss the pre-analytical variables in a clinical laboratory giving suitable examples.
6. Describe the translation process in eukaryotes.
7. Name the thyroid hormones. Give the clinical significance. Add a note on their laboratory evaluation.
8. Give the principle and procedure of flame photometry.
9. What is a quality control material? Write the procedure for in-house preparation of quality control material.
10. What are isoenzymes? Give one example and mention its application in clinical diagnosis.
11. Explain the transport of ABG sample. Name the equipment and important parameters analysed. Explain the precautionary measures before analyzing the sample.

### SHORT ANSWERS (Any Ten)

**10 x 3 = 30 Marks**

12. Atherosclerosis
13. How are the gall stones formed? Mention the qualitative tests and their analysis.
14. Clinical utility of pancreatic amylase and lipase
15. Levey-Jenning's control chart
16. Hemochromatosis
17. Nutritional importance of carbohydrates and lipids
18. Biochemical defect in Galactosemia. Laboratory evaluation of Galactosemia.
19. Troponin I and CK as cardiac markers
20. Anticoagulant role of Vitamin K
21. Purpose of POCT in a Hospital setting. Give one example of POCT and mention its use.
22. What is BMR? Explain the factors affecting the same.
23. Significance of HMP pathway

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