SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(A DEEMED TO BE UNIVERSITY)

B.Sc. Medical Laboratory Technology, Semester-III

March 2021 Examination

Time : 2.30 Hrs. [Max. Marks : 80]

Biochemistry

Q.P Code : AHS-105

Your answers should be specific to the questions asked.
Draw neat labelled diagrams wherever necessary

Long Essay **2 x 10= 20 Marks**

1. Define Carbohydrates. Classify Carbohydrates with suitable examples. Describe the biomedical importance of any two Disaccharides. (2+5+3)
2. Define Phospholipids. Classify them with suitable examples and write their biomedical importance. (2+5+3)

Short Essay (Answer any Six) **6 x 05= 30**

3. Classify amino acids with suitable examples.
4. With a neat labeled diagram describe the Structure of B-DNA
5. With a neat labeled diagram, briefly describe the fluid mosaic model of plasma membrane. (3+2)
6. Describe the digestion and absorption of lipids (2.5+2.5)
7. What are dietary fibers? Give examples. Describe the beneficiary effect & disadvantage of dietary fibers. (1+1+2+1)
8. What are Biologically Important Peptides? Give four examples with their biological importance. (1+4)
9. Define BMR. Describe any eight factors affecting BMR. (1+4)
10. Write four functions of albumin and write Serum biological reference range. (4+1)

Short Answers (Answer any Ten) **10 x 03= 30 Marks**

11. Name any six pathological constituents of urine and the test to detect them. (1+2)
12. What is active transport? Give two examples (1+2)
13. Write the principle & significance of Heat & acetic acid test. (1.5+1.5)
14. Define denaturation of proteins. Write any two factors causing denaturation. (1+2)
15. Define lipoproteins. Give two examples (1+2)
16. What is SDA? Mention its significance (1.5+1.5)
17. Write any three inorganic constituents of normal urine. (1+1+1)
18. What is Protein Energy Malnutrition? Classify. (1+2)
19. Write the definition & types of Rancidity. (1.5+1.5)
20. What is Isoelectric pH? Write the isoelectric pH of casein. (2+1)
21. Define essential fatty acids. Give any two examples. (1+2)
22. What is the general test for the identification of proteins? Write its principle. (1+2)

* * *

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(A DEEMED TO BE UNIVERSITY)

B.Sc. Allied Health Sciences Second Year (Semester-III)

March 2021 Examination

B.Sc. Medical Laboratory Technology

Time : 2.30 Hrs. **[Max. Marks : 80]**

SUBJECT : BIOCHEMISTRY - I

Q.P Code : J3031

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

Long Essay **2x10=20 Marks**

1. Define Carbohydrates. Classify them with suitable examples & write their biomedical importance. **(1+7+2)**
2. Describe the chemistry, dietary sources, Recommended Daily Allowance, Biochemical functions and deficiency manifestations of Vitamin D. (1+1+1+4+3)

Short Essay(Answer Any Six) **6X5=30 Marks**

3 Write any five differences between DNA & RNA

4 Describe the difference between active & passive transport with suitable examples. (2.5+2.5)

5 Define lipoproteins. Classify lipoproteins with their functions. (1+2+2)

6 What are dietary fibers? Give examples. Describe the beneficiary effect & disadvantage of dietary fibers. (1+1+2+1)

7 What are Plasma proteins? Write the various functions of Albumin (1+4)

8 What are Biologically Important Peptides? Give four examples and their biological roles. (1+4)

9 Describe the Folate trap.

10 Write the sources, daily requirement and biochemical functions of Ascorbic acid. (1+1+3)

Short Answers(Answer Any Ten) **10X3=30 Marks**

11 What is competitive inhibition? Give two examples

12 Rancidity: Definition & types.

13 Define essential amino acids and Name them

14 Name the abnormal constituents of Urine

15 Deficiency manifestation of (1) Vitamin C (2) Vitamin A (3) Vitamin D

16 Define Essential fatty acids with Examples.

17 Mention two Diagnostic enzymes with their applications

18 What is Nitrogen balance? Mention two conditions with positive Nitrogen balance.

19 What is Denaturation? List two factors causing Denaturation.

20 What is SDA? Mention its significance

21 Mention the types of RNA.

22 Define Balanced Diet.

* * * * * *

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(A DEEMED TO BE UNIVERSITY)

B.Sc. Allied Health Sciences Second Year (Semester-III)
March 2021 Examination

B.Sc. Medical Laboratory Technology (MLT)

Time : 2.30 Hrs. **[Max. Marks : 80]**

SUBJECT : BIOCHEMISTRY - II

Q.P Code : J3032

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

Long Essay **2X10=20 Marks**

1. Define β-oxidation. Explain the β- oxidation of Palmitic acid. Add a note on its energetics. (1+7+2)
2. List the sources of ammonia. Explain how ammonia is detoxified in the body. Add a note on disorders of urea cycle. (1+6+3)

Short Essay(Answer Any Six) **6X5=30 Marks**

3. Define Gluconeogenesis. Name the substrates for Gluconeogenesis & give its significance
4. Define Fatty Liver. Mention the causes of fatty liver. Add a note on lipotropic factors. (1+2+2)
5. Explain the, sources & biochemical functions of Copper & zinc. (2.5+2.5)
6. Describe the transport, storage and functions of iron. (2+1+2)
7. Describe the digestion & absorption of Carbohydrates.
8. Briefly explain the synthesis of Creatinine. Mention the normal serum level and list the causes for increased serum levels of creatinine. (3+1+1)
9. Describe the digestion & absorption of Lipids
10. What is Atherosclerosis? Explain pathogenesis and factors contributing to Atherosclerosis. (1+2+2)

Short Answers(Answer Any Ten) **10X3=30 Marks**

11 List any three Biological important compounds derived from Cholesterol
12 Write any three biochemical functions of Calcium
13 Vandenberg Test.
14 Define substrate level Phosphorylation. Give two examples
15 What is ketosis? Give two causes for ketoacidosis.
16 Mention normal levels of serum calcium. List any two factors affecting the absorption of calcium
17 List any 3 glycogen storage disorders
18 Define Gout. Mention the two types of Gout.
19 Write three causes for Hepatic jaundice.
20 What is Cori's cycle? Mention its clinical significance?
21 Write the reference range for: (1) serum sodium (2) serum potassium (3) serum chloride.
22 What is Alkaptonuria? Mention the enzyme defect.

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(A DEEMED TO BE UNIVERSITY)

B.Sc. Allied Health Sciences Second Year (Semester-III)
March 2021 Examination

B.Sc. Medical Laboratory Technology (MLT)

Time : 2.30 Hrs. **[Max. Marks : 80]**

SUBJECT : BIOCHEMISTRY - III

Q.P Code : J3033

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

Long Essay **2X10=20 Marks**

1. Describe in detail the primary sample collection, storage & transportation (6+2+2)
2. Describe Colorimeter with respect to Principle, instrumentation, procedure, Application, advantage & disadvantage. (1+2+3+2+1+1)

Short Essay(Answer Any Six) **6X5=30 Marks**

3. Internal Quality Control
4. Define buffers. Mention the types of buffer systems in plasma & add a note on regulation of pH. (1+1+3)
5. Classify renal function test & add a note on assessment of glomerular filtrate (4+1)
6. Define Sensitivity, Specificity, Accuracy, Precision & total allowable Error. (1+1+1+1+1)
7. Turbidometry, principle, advantage & application (1+2+2)
8. Define Jaundice. Classify jaundice and mention one cause for each type of jaundice
9. Describe in detail principle, types & application of ELISA (1+2+2)
10. Write the principle, advantage and applications of spectrophotometer (1+2+2)

Short Answers(Answer Any Ten) **10X3=30 Marks**

11 Mention the advantage of using L J Chart.
12 List three clearance test.
13 Write the principle of paper chromatography.
14 List the three mechanism involved in regulation of blood pH.
15 Write any two applications of Flame photometry.
16 Write the principle of pH meter.
17 Write the reference range for (1) Serum Urea (2)SGOT (3)SGPT
18 Define Metabolic acidosis and mention any two causes.
19 Write the principle of Electrophoresis.
20 Define Mean, Median & Mode.
21 Mention two parameters in pancreatic function tests.
22 Name the parameters of Liver function tests.