SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(A DEEMED TO BE UNIVERSITY)

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

October 2014 Examination

B.Sc. Medical Laboratory Technology (MLT)

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. What are enzymes? Classify enzymes, write about each class of enzymes with an example for each class.
2. Define glycolysis. Describe the steps of anaerobic glycolysis. Add a note on the regulation and energetics.

SHORT ESSAY (Answer any Six) **6 X 5 = 30 Marks**

3. Amphibolic role of TCA cycle.
4. What is the significance of the pentose phosphate pathway? Add a note on disorders of the pentose phosphate pathway.
5. Describe the urea cycle.
6. How is creatine phosphate synthesized in the body? Mention the significance of estimation of urinary creatinine.
7. Write the steps of oxidation of fatty acids. Add a note on the energetics of palmitic acid oxidation.
8. Name the ketone bodies. Describe the synthesis of ketone bodies and add its clinical significance.
9. What is uric acid? How is it formed in the body?
10. Describe the functions of vitamin A.

SHORT ANSWERS (Answer any Ten) **10 X 3 = 30 Marks**

11. Name the enzyme defective in (a) Alkaptonuria (b) Phenylketonuria (c) Maple syrup urine disease.
12. Fatty liver.
13. Name the compounds derived from cholesterol.
14. Plasma lipoproteins.
15. Write the coenzyme forms of (a) Niacin (b) Riboflavin (c) Thiamine.
16. What are antivitamins? Give two examples.
17. Scurvy.
18. Cystinuria.
19. Glucose alanine cycle.
20. Biochemical role of vitamin K.
21. Key enzymes of gluconeogenesis.
22. Define zymogens. Give two examples.

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PATHOLOGY

Q.P Code : AHS-107

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

LONG ESSAY **2 X 10 = 20 Marks**

1. What is frozen section? Describe the cryostat machine, cryostat technique and its sectioning. Add a note on uses of frozen section.
2. Define microtomy. Discuss the types of microtomes, microtome knives, disposable blade usage and its advantage over others.

SHORT ESSAY (Answer any Six) **6 X 5 = 30 Marks**

3. Automatic slide stainer.
4. Give five faults and their remedies in paraffin wax sectioning on microtome.
5. Harris hematoxylin preparation.
6. ZN stain for mycobacteria tuberculosis. Stains used, procedure and appearance of the bacilli after staining.
7. Periodic Schiff staining procedure and result.
8. Masson–fontanna method for melanin.
9. Give five important applications of microphotography in laboratories.
10. Methods to remove formalin pigment. Explain one in detail.

SHORT ANSWERS (Answer any Ten) **10 X 3 = 30 Marks**

11. List six items required for paraffin section witting.
12. Name three artifact pigments seen in tissue sections.
13. Give three application of computers in pathology lab.
14. Define ICDS and loding system.
15. Name two fixatives used for tissue fixation for electron microscopy.
16. Name two "filter blocks" used in modern fluorescent microscope.
17. List three uses of polarized light microscope.
18. Name the special stains for a) Amyloid b) Fungi c) Bacteria
19. Name three stains for demonstrating fat.
20. Staining method for bone.
21. Name three mounting medias used in museum.
22. Name three special types of microscope other than light microscope used in laboratory.

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MICROBIOLOGY

Q.P Code : AHS-109

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

LONG ESSAY **2 X 10 = 20 Marks**

1. Name the bacteria causing enteric fever. Describe the pathogenesis, clinical features and laboratory diagnosis of typhoid fever.
2. Classify vibrios. Describe the pathogenesis, clinical features and laboratory diagnosis of cholera.

SHORT ESSAY (Answer any Six) **6 X 5 = 30 Marks**

3. Epidemic relapsing fever.
4. VDRL test.
5. Laboratory diagnosis of leptospirosis.
6. Significant bacteriuria.
7. Prophylaxis for typhoid fever.
8. Diarrhoeagenic Escherichia coli.
9. Lab diagnosis of shigella dysentry.
10. Pseudomonas aeruginosa.

SHORT ANSWERS (Answer any Ten) **10 X 3 = 30 Marks**

11. Indole test.
12. Name three biochemical reactions to identify klebsiella pneumoniae.
13. String test.
14. Name three methods to prevent swarming of proteus.
15. Name three screening tests for urinary tract infections.
16. Halophilic vibrios.
17. Vincent's angina.
18. Sewer swab technique.
19. Name the four species of shigella.
20. Dark ground microscopy.
21. Name three virulence factors of Escherichia coli.
22. Name three enrichment media for shigella.

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