SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(A DEEMED TO BE UNIVERSITY)

B.Sc. Allied Health Sciences Third Year (Semester-VI)

October - 2016 Examination 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

 $2 \times 10 = 20 \text{ Marks}$

- 1. Describe Southern Blotting Techniques. Add a note on its applications.
- 2. Describe different Chromatographic Techniques.

SHORT ESSAY (Answer any Six)

 $6 \times 5 = 30 \text{ Marks}$

- 3. Define PCR. Explain the principle and procedure of PCR.
- 4. What is Cloning? Explain the procedure and applications of cloning.
- 5. Explain the role of kidney and lungs in maintaining the acid-base balance.
- 6. Explain the following: a) Correlation Coefficient b) Standard error of mean.
- 7. Mention the pituitary function tests. Explain any four in detail.
- 8. Classify liver function test. Explain any four in detail.
- 9. Agarose gel electrophoresis.
- 10. ELISA

SHORT ANSWERS (Answer any Ten)

 $10 \times 3 = 30 \text{ Marks}$

- 11. Semi conservative replication.
- 12. Replication fork.
- 13. Frame shift mutations.
- 14. Radioactive Decay.
- 15. Metabolic alkalosis.
- 16. What is therapeutic drug monitoring.
- 17. What is Mutation? Give any two examples.
- 18. Write the principle of colorimeter.
- 19. Write the principle of ion selective electrode.
- 20. What is the principle of paper chromatography.
- 21. Mention the different techniques to precipitate protein.
- 22. Mention the biological functions of
 - a) Luteinizing hormone
 - b) Follicular Stimulating Hormone.
 - c) Progesterone

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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

 $2 \times 10 = 20 \text{ Marks}$

- 1. Classify dermatophytes. Discuss the laboratory diagnosis of dermatophytoses.
- 2. Discuss the pathogenesis and laboratory diagnosis of Hepatitis B Virus infection.

SHORT ESSAY (Answer any Six)

6 X 5 = 30 Marks

- 3. Tissue culture in virus cultivation.
- 4. Pathogenesis of Rabies virus infection.
- 5. Sporotrichosis.
- 6. Infections caused by Epstein Barr virus.
- 7. Interferons.
- 8. Mycetoma.
- 9. Laboratory diagnosis of dengue viral infection.
- 10. Histoplasma capsulatum.

SHORT ANSWERS (Answer any Ten)

 $10 \times 3 = 30 \text{ Marks}$

- 11. MMR vaccine.
- 12. Draw a neat diagram of influenza virus.
- 13. Oral thrush.
- 14. Name three fungi which cause superficial fungal infections.
- 15. Mycotoxins.
- 16. Parvo virus.
- 17. Molluscum contagiosum.
- 18. Lactophenol cotton blue mount.
- 19. Rhizopus.
- 20. Infections by Adenovirus.
- 21. Characteristic features of PRIONS.
- 22. Fungal hyphae.

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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

 $2 \times 10 = 20 \text{ Marks}$

- 1. Enlist the methods of detecting blood grouping. Mention the steps involved in donor selection and bleeding of donors.
- 2. Classify the chromosome types based on centromere location. Discuss the different banding techniques in detail.

SHORT ESSAY (Answer any Six)

6 X 5 = 30 Marks

- 3. Mention the different methods of antigen retrieval techniques and describe in detail any one of them.
- 4. Mention the advantages and disadvantages of image analysis techniques.
- 5. Write about the principle of laminar air flow equipment, the merits and demerits.
- 6. What is autologous tansfusion? What are the advantages and disadvantages?
- 7. Coomb's test and its significance.
- 8. List the anticoagulants used in blood bank. Mention the advantages and disadvantages of individual types.
- 9. Describe cytological features of benign and malignant breast lesion.
- 10. What are HLA antigen and mention the uses of HLA matching.

SHORT ANSWERS (Answer any Ten)

10 X 3 = 30 Marks

- 11. Name the different blood components and one use for each type.
- 12. Mention the uses of immortalized cell lines.
- 13. Barr body.
- 14. Uses of inverted microscope.
- 15. What are oncogenes? Give two examples.
- 16. What is subculturing. Mention two methods to do subculture.
- 17. How are platelets preserved? What is its shelf life?
- 18. Describer the normal histology of thyroid gland.
- 19. Mention different enzymes used in enzymatic digestion of tissue culture.
- 20. Mention the parts of chromosome.
- 21. Mention three common uses of immunofluorescence.
- 22. List the types of blood groups.