

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

March 2021 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. Describe the translation of Protein.
2. Describe in detail about the separation and purification of proteins.

SHORT ESSAY (Answer any Six)

6 X 5 = 30 Marks

3. Write a note on southern blotting technique.
4. Define PCR. Explain the procedure and applications of PCR.
5. Write a note on human genome project.
6. What is the normal PH of blood? How is it maintained?
7. What are the difference between colorimeter and spectrophotometer?
8. Describe in detail about liver function tests.
9. Explain the principle and applications of RIA.
10. Explain the principle. Types and applications of ELISA.

SHORT ANSWERS (Answer any Ten)

10 X 3 = 30 Marks

11. Vectors used in cloning.
12. What is radio isotope? Give two examples.
13. Mention the post translational modifications.
14. Mention the applications of polyacrylamide gel electrophoresis.
15. What is correlation coefficient?
16. Write the principle and application of vanden berg test.
17. Radioactive decay.
18. Respiratory acidosis.
19. Mention any three thyroid function tests and their reference values.
20. Enzyme profile for myocardial infarction.
21. Point mutation.
22. Follicle stimulating hormone.



SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH
(A DEEMED TO BE UNIVERSITY)

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

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B.Sc. Medical Laboratory Technology

Time : 2.30 Hrs.

Paper-I

[Max. Marks : 80]

Subject: Applied aspects of Biochemistry

Q.P Code : J6060

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

LONG ESSAY

2 X 10 = 20 Marks

1. Define Mean, Median, Mode, Standard Deviation (SD) & Coefficient of variation (% CV). Calculate Mean, Median, Mode, Standard Deviation (SD) & Coefficient of variation (% CV) for the given set of numbers
19,23, 16, 21, 27,24,20, 16, 28
2. What is chromatography? Write different types of chromatography. Explain any one type of chromatography in detail.

SHORT ESSAY (Answer any six)

6 X 5 = 30 Marks

3. Write the principle and applications of flame photometry?
4. List 5 acute phase proteins. Mention their functions.
5. Describe different biochemical indices used in diabetes mellitus.
6. Describe the importance of automation in clinical biochemistry laboratory.
7. Describe different electrophoresis bands of separation of lipoproteins.
8. Explain the Beer's and Lambert's law.
9. Classify Liver function test. Describe the tests used to assess synthetic functions of liver.
10. Define Sensitivity, Specificity, Accuracy, Precision & total allowable Error.

SHORT ANSWERS (Answer any ten)

10 X 3 = 30 Marks

11. Mention thyroid function tests.
12. Creatinine clearance test.
13. Define Preanalytical errors and mention any two causes
14. Mention three causes of obstructive Jaundice.
15. What is laboratory accreditation and its importance
16. List any 3 devices used in POCT.
17. List the 3 ketone bodies.
18. Define laboratory audit.
19. Write the reference range for (1) Serum Urea (2) Serum Creatinine & (3) Serum total cholesterol
20. Write any two applications of Flame photometry.
21. What is Glycated Hemoglobin? What is its importance?
22. What is Microalbuminuria? What is its importance?



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Paper-II

[Max. Marks : 80]

Subject: Applied aspects of Microbiology

Q.P Code : J6070

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. List the causes and common organisms causing urinary tract infection (UTI). Discuss the lab diagnosis of UTI. (3+2+5)
2. Define sterilization. Classify the sterilization methods and discuss in detail about moist heat sterilization (2+4+4)

SHORT ESSAY (Answer any six)

6 X 5 = 30 Marks

3. Biomedical Waste Management
4. PCR and its application
5. Agglutination - Principle with examples
6. Mention the different culture methods
7. Gaseous disinfectants
8. Antimicrobial agents – Classification based on mode of action.
9. Laboratory diagnosis of Tuberculosis
10. Laboratory diagnosis of Hepatitis B

SHORT ANSWERS (Answer any ten)

10 X 3 = 30 Marks

11. List three disinfectants used in health care settings.
12. Define selective media with examples
13. Name 3 capsulated organisms.
14. Draw a labelled diagram of ova of *Trichuris trichura*
15. Name 3 viruses causing diarrhea
16. Name 3 gram negative bacilli.
17. Name 3 anaerobic organisms.
18. Name 3 organisms causing skin and soft tissue infections
19. Personal Protective equipments
20. Name 3 modes of transmission of HIV
21. Safe injection practices.
22. Name 3 transport media.



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Paper-III

[Max. Marks : 80]

Subject: Applied aspects of Pathology

Q.P Code : J6080

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

LONG ESSAY

2 X 10 = 20 Marks

1. Mention the source of cerebrospinal fluid (CSF) sample, indications and contraindications of Lumbar puncture. Discuss the CSF changes in various types of meningitis.
2. Define Hypersensitivity reactions. Describe different types of hypersensitivity reactions with examples

SHORT ESSAY (Answer any six)

6 X 5 = 30 Marks

3. Cytology of pleural effusion in benign and malignant conditions
4. Define biomedical waste management. Discuss their safe management of it.
5. Describe collection, preparation and staining of sputum for cytology.
6. Describe Coomb's test.
7. Preservation of fluids in cytology
8. Define benzidine test. Describe the procedure.
9. Describe microscopy of urinary sediment. Write a note on urinary casts
10. Describe pathogenesis of type 1 diabetes mellitus.

SHORT ANSWERS (Answer any ten)

10 X 3 = 30 Marks

11. What are crystals? Name the conditions associated with urinary crystals
12. Mention three transfusion reactions.
13. Mention three antigen antibody mediated diseases.
14. What is Autoimmune disease.
15. List three differences between transudate and exudates
16. Mention three renal function tests.
17. Name the antibodies present in thyroiditis.
18. Name the method for pregnancy test.
19. Name 3 colour coding for biomedical waste management.
20. Name 3 different modes of urine sample collections
21. What is serum sickness.
22. Name the parts of Antigen.

