



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

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

November 2024 Examination

B.Sc. Medical Laboratory Technology

Paper-I

[Max. Marks: 80]

Time: 2.30 Hrs.

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. What are the various pre analytical, analytical and post analytical variables. Add a note on the types and advantages of Quality control in a Laboratory.
2. Explain in detail how blood Glucose homeostasis is maintained

SHORT ESSAY (Answer any Six)

6 X 5 = 30 Marks

3. What are Acute phase proteins? List any 4 with their clinical significance.
4. Classify the Liver function tests. Describe the tests based on synthetic function of liver.
5. Explain separation of serum proteins by Electrophoresis
6. Explain 5 Good Laboratory Practices (GLP).
7. Give the principle and describe the types and advantages of ELISA
8. Describe the Biochemical parameters analyzed in CSF and its clinical significance
9. Explain the process of Automation in a Clinical Biochemistry Laboratory
10. Describe the analysis of Gall stones and Renal calculi

SHORT ANSWERS (Answer any Ten)

10 X 3 = 30 Marks

11. Principle of Colorimetry
12. List 3 devices used in POCT
13. Microalbuminuria
14. Define Accuracy and Precision
15. Lights criteria
16. Name the Ketone bodies and give the principle of a test used to identify Ketone bodies in urine
17. Write on the types of Audit in a Laboratory
18. Clearance tests
19. Clinical significance of Ascetic fluid analysis
20. Principle of Flame photometry
21. Insulin testing and its significance
22. Give the biological reference range of 1) SGOT 2) ALP 3) Total Bilirubin

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

November 2024 Examination

B.Sc. Medical Laboratory Technology

Time: 2.30 Hrs.

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. Define disinfectants and antiseptics. Classify disinfectants with examples and their uses.(2+4+4)
2. Enumerate any four respiratory borne infections.. Describe the clinical features and laboratory diagnosis of Pulmonary Tuberculosis (2+4+4)

Short Essay (Answer any Six)

6 X 5 = 30 Marks

3. Describe the clinical manifestations and laboratory diagnosis of Hook worm infection.(2.5+2.5)
4. Describe the laboratory diagnosis of Enteric fever.
5. Describe the specimen collection and laboratory diagnosis of Leprosy.(2+3)
6. Describe the laboratory diagnosis of urinary tract infection
7. Describe the laboratory diagnosis of Hepatitis B virus infection.
8. Describe the laboratory diagnosis of Candidiasis
9. Describe the laboratory diagnosis of Cholera
10. Classify culture media with an example for each.

Short Answers (Answer any Ten)

10 X 3 = 30 Marks

11. Enumerate 3 live attenuated Vaccines
12. Enumerate the microbial agents causing urinary tract infection.
13. Enumerate three acid fast bacilli.
14. Enumerate the three steps of Polymerase chain reaction .(PCR)
15. Enumerate the five moments of Hand hygiene.
16. Enumerate the laboratory acquired infections.
17. Enumerate the antibiotic susceptibility testing methods
18. Describe the principle, advantages and disadvantages of VDRL test.(1+2+2)
19. Laboratory diagnosis of Round worm infection.
20. Describe the lesions caused by *Staphylococcus aureus*.
21. Enumerate the microbial agents causing Diarrhea.
22. Enumerate the motile gram negative bacilli.

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

November 2024 Examination

B.Sc. Medical Laboratory technology (MLT)

Time: 2.30 Hrs.

[Max. Marks: 80]

Applied Aspects of Pathology

Q.P Code: J6080

Your answers should be specific to the questions asked.

Draw neat labelled diagrams wherever necessary.

LONG ESSAY

2x10=20Marks

1. Describe different modes of sample collections, transport, preservation and processing of body fluids
2. Mention the source of cerebrospinal fluid sample, indications and contraindications of lumbar puncture. Discuss the CSF changes in various types of meningitis

SHORT ESSAY (Answer any six)

6x5=30Marks

3. Cytology of pleural effusion in benign and malignant condition
4. Describe delayed hypersensitivity reactions with examples
5. Describe pathogenesis of type 1 diabetes mellitus
6. Describe microscopy of urinary sediment. Write a note on urinary sediment
7. Define benzidine test. describe the procedure
8. Describe urine analysis by strip method
9. Discuss in brief functions of T and B lymphocytes
10. Describe pathogenesis of thyroiditis

SHORT ANSWERS (Answer any ten)

10x3=30Marks

11. Mention three acute transmission diseases
12. What is arthus reaction
13. Name three different modes of urine sample collections
14. Name the antibodies present in pernicious anaemia
15. Mention three conditions which show casts in urine
16. What is warm antibody disease
17. Mention three body fluids
18. Name 3 colour coding for biomedical waste management
19. Mention three antigen antibody mediated disease
20. Mention three delayed transfusion reactions
21. What is serum sickness
22. Name the method for pregnancy test

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

November 2024 Examination

B.Sc. Medical Laboratory Technology

Paper-I

[Max. Marks: 80]

Time: 2.30 Hrs.

Subject: Applied Aspects of Biochemistry

Q.P Code: K6060

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. What are the various pre analytical, analytical and post analytical variables. Add a note on the types and advantages of Quality control in a Laboratory.
2. Explain in detail how blood Glucose homeostasis is maintained

SHORT ESSAY

6 X 5 = 30 Marks

3. What are Acute phase proteins ? List any 4 with their clinical significance.
4. Classify the Liver function tests. Describe the tests based on synthetic function of liver.
5. Explain separation of serum proteins by Electrophoresis
6. Explain 5 Good Laboratory Practices
7. Give the principle and describe the types and advantages of ELISA
8. Describe the Biochemical parameters analyzed in CSF and its clinical significance

SHORT ANSWERS

10 X 3 = 30 Marks

9. Principle of Colorimetry
10. Partition chromatography - Principle
11. Microalbuminuria
12. Lights criteria
13. Write on the types of Audit in a Laboratory
14. Clearance tests
15. Clinical significance of Ascetic fluid analysis
16. Principle of Flame photometry
17. Insulin testing and its significance
18. Give the biological reference range of 1) SGOT 2) ALP 3) Total Bilirubin

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

November 2024 Examination

B.Sc. Medical Laboratory Technology

Time: 2.30 Hrs.

Paper-II

[Max. Marks: 80]

Applied aspects of Microbiology

Q.P Code : K6070

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 organisms causing pneumonia. Describe the clinical features and laboratory diagnosis of *Streptococcus pneumoniae*.(3+2+5)
2. Define health care associated infection .Add a note on common types of health care associated infection.(2+8)

SHORT ESSAY

6 X 5 = 30 Marks

3. Hot Air Oven- principle and articles sterilized
4. Describe different methods of Antibiotic Susceptibility testing.
5. Cold sterilization
6. ELISA- principle and its applications
7. Describe the Laboratory diagnosis of bacillary dysentery.
8. Describe the Laboratory diagnosis of Candidiasis

SHORT ANSWERS

10X 3 = 30 Marks

9. Enumerate three infections caused by Aspergillus
10. Draw neat labelled diagram of Rhizopus
11. Lactophenol Cotton blue stain
12. List three Dimorphic Fungi
13. List three diarrhea causing viruses
14. Name three urease positive Gram negative bacilli
15. Name three anaerobic culture methods
16. Steps of Hand hygiene
17. Name any three Standard precautions
18. Transport media with examples.



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B.Sc. Medical Laboratory Technology

Time: 2.30 Hrs.

Paper-III

[Max. Marks: 80]

Applied aspects of Pathology

Q.P Code : K6080

Your answers should be specific to the questions asked.

Draw neat labelled diagrams wherever necessary.

LONG ESSAY

2x10=20

1. Mention the source of cerebrospinal fluid (CSF) sample. discuss CSF cytology in inflammatory, benign and malignant diseases of the central nervous system
2. Define hypersensitivity reactions. Describe type I hypersensitivity reaction with examples

SHORT ESSAY

6x5=30

3. Describe indications, contraindications and interpretation of pleural fluid analysis
4. Describe pathogenesis pernicious anaemia
5. Describe collection, preparation and staining of sputum for cytology
6. Define biomedical waste management. Discuss their safe management of it
7. Describe microscopy of urinary sediment. write a note on urinary casts
8. Describe urine analysis by strip method

SHORT ANSWERS

10x3=30

9. What are crystals? name the conditions associated with urinary crystals
10. List three differences between transudate and exudates
11. Mention three delayed transfusion reactions
12. Name three haemolytic anaemias
13. Define hypersensitivity reaction
14. Name the parts of antigen
15. What is arthus reaction
16. Name three different modes of urine collection
17. Name three renal function tests
18. Name the antibodies present in thyroiditis