



B.Sc. Allied Health Sciences First Year (Semester-II)
September 2023 Examination

Time : 2.30 Hrs.

[Max. Marks : 80]

SUBJECT : BIOCHEMISTRY

Q.P Code : J2030

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

LONG ESSAY

2 X 10 = 20 Marks

1. Explain Automation in Biochemistry Laboratory. List out steps involved in automation of analytical process.
2. Define pH. Indicate with a diagram the different parts of pH meter. Add a note on preparation of buffer solutions

SHORT ESSAY (Answer any Six)

6X 5 = 30 Marks

3. Discuss First Aid in Clinical Laboratory
4. Define S.I Units. How are the following expressed in S.I. Units?
a) Length b) Mass c) Time d) Amount of substance
5. Write a note on segregation and Disposal of Biomedical waste materials
6. What is de-ionized water? What is the difference between distilled water and de-ionized water?
7. Code of ethics for Lab Technicians
8. Define Atomic weight, Molecular weight and Equivalent weight. Calculate Molecular weight and Equivalent weight of HNO_3 and $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$.
9. What is the molarity of the final solution when 75 mL of 6.0 M KCl solution is diluted to 150 mL?
10. Discuss storage and handling dangerous chemicals with safety measures

SHORT ANSWERS (Answer any Ten)

10 X 3 = 30 Marks

11. Write the normal value: AST 2. Potassium (K^+) 3. Fasting blood sugar.
12. Define the terms, reference value, designated value and observed value.
13. Coefficient of variance and its significance.
14. Medico legal ethics
15. Name 3 anticoagulants used for blood collection
16. Define buffer and pH
17. List 3 commonly used indicators for titration
18. Calculation of mean and standard deviation
19. Basic concept of acid base reaction
20. First aid in burns
21. Write any three important tests done with blood sample collected using EDTA Tubes
22. Post analytical variables.

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SUBJECT : MICROBIOLOGY

Q.P Code : J2040

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

LONG ESSAY

2 X 10 = 20 Marks

1. Draw a map of human body and mark different lesions caused by Staphylococcus aureus and describe. Describe the samples to be collected in infections caused by Staphylococcus aureus.
2. Describe the source of infection, modes of transmission, clinical manifestations and samples to be collected in infections caused by Hepatitis B virus.

SHORT ESSAY (Answer any Six)

6 X 5 = 30 Marks

3. Describe the mode of transmission, clinical manifestations and samples to be collected in infections caused by Aspergillus.
4. Describe the hand hygiene technique.
5. Describe the mode of transmission, clinical manifestations and samples to be collected in Malaria.
6. Classify Antibodies. Describe the structure and functions of IgG Antibody.
7. Define Sterilization and Disinfection. Describe Autoclave and its uses.
8. Define and classify Hypersensitivity. Describe Type I Hypersensitivity.
9. Describe the mode of transmission, clinical manifestations and samples to be collected in Dengue fever.
10. Describe the mode of transmission, clinical manifestations and samples to be collected in Typhoid fever.

SHORT ANSWERS (Answer any Ten)

10 X 3 = 30 Marks

11. Describe the clinical features of HIV-AIDS.
12. Do's & Donts in case of Needle stick injury.
13. Enumerate 3 disinfectants.
14. Kochs postulates.
15. Enumerate 3 sexually transmitted diseases.
16. Enumerate 3 diseases spread by mosquitoes.
17. Enumerate the Infections caused by E.coli..
18. Classify bacteria based on the shape.
19. Name 3 zoonotic infections.
20. Name three parasites found in intestine.
21. Enumerate 3 clinical features of infections caused by C.diphtheriae.
22. Name any three bacterial vaccines.



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

B.Sc. Allied Health Sciences First Year (Semester-II)
September 2023 Examination

Time : 2.30 Hrs.

[Max. Marks : 80]

PATHOLOGY

Q.P Code : J2050

Your answers should be specific to the questions asked.

Draw neat labelled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Describe cellular and vascular events in acute inflammation. Mention various tests in inflammation
2. Define Anemia. Describe pathogenesis and laboratory investigation of Iron deficiency anemia.

SHORT ESSAY (Answer any Six)

6X 5 = 30 Marks

3. Discuss pathogenesis and types of urinary stones
4. Discuss various agents causing cell injury. Give few examples for irreversible cell injury.
5. Describe pathogenesis and complications of atherosclerosis.
6. Discuss the differences between benign and malignant tumors.
7. What are the different methods of blood collection modes
8. Define leukemia. Discuss the causes for leucocytosis
9. Describe pathogenesis and types of hepatitis
10. Discuss briefly about breast carcinoma

SHORT ANSWERS (Answer any Ten)

10 X 3 = 30 Marks

11. What is edema
12. Mention any 3 steps of tissue processing
13. List 3 disadvantages of FNAC
14. Mention 3 causes of iron deficiency anemia
15. Mention 3 cellular adaptations
16. List 3 agents causing cell injury
17. Mention 3 stages of shock
18. List 6 causes for leucopenia
19. Draw the diagram of peptic ulcer
20. List 3 infectious diseases
21. List 3 blood grouping systems
22. Mention any 3 stains used in Laboratory



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September-2023 Examination

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[Max. Marks : 80]

SUBJECT : BIOCHEMISTRY

Q.P Code: K2030

Your answers should be specific to the questions asked.

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LONG ESSAY

2 X 10 = 20 Marks

1. Define Acids and Bases. Explain different types of Acids & Bases Theories. Write the difference between acids and bases.
2. Write the principle, types, components, maintenance and uses of centrifuges.

SHORT ESSAY

6 X 5 = 30 Marks

3. Discuss storage and handling of corrosive and inflammable chemicals with safety measures
4. Explain venous blood sample collection, anticoagulants used and its transportation .
5. Explain what is Quality control and write about different types of Quality control.
6. Derive the Henderson Hasselbach equation and give its use
7. Explain the Ethics to be practiced for maintaining quality and integrity of a laboratory
8. Briefly explain different types of errors in a Laboratory

SHORT ANSWERS

10 X 3 = 30 Marks

9. Define Conventional units and S.I. Units. Write S.I. Units for any two parameters.
10. Define an indicator. Mention any two indicators with their pH range
11. What are water grades. Give their uses
12. Accuracy and precision.
13. Write the normal serum biological range of : 1. AST 2. Potassium (K^+) 3. Fasting blood sugar.
14. Coefficient of variance and its significance
15. First Aid in burns
16. Give the laboratory use of 1. Cold box 2. Deep freezer 3. Reflux condenser
17. Draw and mention 3 safety signs in a Laboratory
18. Tourniquet application and importance

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[Max. Marks: 80]

SUBJECT: MICROBIOLOGY

Q.P Code: K2040

*Your answers should be specific to the questions asked.
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LONG ESSAY:

2 X 10 = 20 Marks

1. Define Hypersensitivity. Classify Hypersensitivity. Describe the mechanism of Type 1 Hypersensitivity.
2. Map the lesions caused by HIV in humans. Describe source of infection, mode of transmission, clinical manifestations and sample collection in this disease.

SHORT ESSAY:

6 X 5 = 30 Marks

3. Draw a neat labeled diagram of Bacterial cell. Describe 3 differences between Gram positive and Gram negative cell walls.
4. Describe the principle, procedure and articles to be sterilized in autoclave.
5. Describe the Biomedical waste management.
6. Describe source of infection, mode of transmission, clinical features and samples to be collected in Tuberculosis.
7. Describe source of infection, mode of transmission, clinical features and samples to be collected in Malaria.
8. Describe the Standard precautions to be followed at the workplace.

SHORT ANSWERS:

10 X 3 = 30 Marks

9. Name 3 bacterial vaccines.
10. Draw the diagram of IgG antibody.
11. Enumerate 3 disinfectants used in hospitals.
12. Name 3 articles sterilized in Hot air oven.
13. Name 3 fungal infections in humans.
14. Describe 3 lesions caused by Staphylococcus aureus.
15. Enumerate 3 infectious agents spread by blood transfusion.
16. Name 3 helminthic infections in humans.
17. Describe the clinical features of Entamoeba histolytica.
18. Describe the clinical features of Candida.



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PATHOLOGY
Q.P Code : K2050

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

LONG ESSAY

2x10=20 Marks

1. Describe cellular and vascular events in acute inflammation. mention various tests in inflammation.
2. Define Neoplasia. enumerate the differences between benign and malignant tumors.

SHORT ESSAY

6x5=30 Marks

3. FNAC - procedure, advantages and staining
4. Etiopathogenesis and lab investigations for pulmonary tuberculosis
5. Myocardial infarction
6. Discuss pathogenesis and types of urinary stones
7. Describe pathogenesis and complications of atherosclerosis
8. Discuss the CSF findings in tuberculous meningitis

SHORT ANSWERS

10x3=30 Marks

9. Define metaplasia
10. Mention three stains used in laboratory
11. Mention three methods of urine sample collection
12. Types of vacutainers used in blood collection
13. Mention the stages of ESR
14. Mention three stages of shock
15. Draw a diagram of peptic ulcer
16. List the risk factors for thrombosis
17. Landsteiner's law
18. Name three causes for lung cancer
