BSc MLT, March-2025

BLDE (DEEMED TO BE UNIVERSITY)

B.Sc. Medical Laboratory Technology

[Time: 3 Hours] [Max. Marks: 80]

III SEMESTER

PAPER - I (Fundamentals of Biochemistry I)

QP CODE: 8330

Your answer should be specific to the questions asked.
Write Question No. in left side of margin.

Long Questions **10X1 = 10 Marks**

1. Explain degradation of Hemoglobin. Add a note on Jaundice – Cause, Types & Laboratory Investigations. [4+2+1+3]

Short Essays: (Any – 8) **5 X 8 = 40 Marks**

2. Principle and application of pH meter
3. Digestion and absorption of carbohydrates
4. Gluconeogenesis
5. Biomedical waste management
6. Note on types of laboratory hazards
7. Define normality. How will you prepare 150 ml of 2/3 N H_2SO_4 from 1N H_2SO_4?
8. Collection of different specimen for analysis of biochemical investigations.
9. Explain different types of errors in clinical laboratory
10. Note on Glycolysis.

Short Answers: (Any – 10) **3 X 10 = 30 Marks**

11. Significance of HMP pathway
12. Glycated Hemoglobin
13. Centrifuge
14. First aid in clinical biochemistry laboratory
15. Uses of water bath, oven and incubators.
16. Name the anticoagulant required for blood glucose estimation? Why it is used?
17. Define : a) Molarity b) S I Unit
18. What is full form of ABG? Mention normal range for pH, pCO_2, pO_2
19. Role of insulin in maintenance of blood glucose level
20. Limitations of colorimeter.
21. Types of laboratory balances

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III SEMESTER

PAPER - II (Fundamentals of Microbiology I)

QP CODE: 8331

Your answer should be specific to the questions asked.
Write Question No. in left side of margin.

Long Questions **10X1 = 10 Marks**

1. Define Infection, mention types of infection. Explain with examples, modes of transmission.

Short Essays: (Any – 8) **5 X 8 = 40 Marks**

2. Contribution of Robert Koch
3. Bacterial Growth Curve
4. Simple media
5. Moist heat sterilization
6. Source and reservoir of infections
7. Explain acquired Immunity
8. Precipitation tests
9. IgG Antibody
10. ZN Stain

Short Answers: (Any – 10) **3 X 10 = 30 Marks**

11. Uses of Microscopy
12. Enumerate three Gram negative bacilli
13. Enumerate three capsulated organisms
14. Enumerate cultural techniques
15. Classify Immunity
16. Enumerate three live attenuated vaccines
17. Material sterilized by Hot air oven
18. Enumerate six Disinfectants
19. Enumerate three selective media
20. Types of antibody
21. Enumerate various parts of bacterial cell

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III SEMESTER

PAPER - III (Haematology & clinical pathology I)

QP CODE: 8332

Your answer should be specific to the questions asked.
Write Question No. in left side of margin.

Long Questions **10X1 = 10 Marks**

1. Explain the procedure of phlebotomy. Describe order of draw. Enlist four anticoagulants with mechanism of action and one indication for each. (4+2+4)

Short Essays: (Any – 8) **5 X 8 = 40 Marks**

2. What are the different methods of hemoglobin estimation? Explain the procedure of Sahli's method?
3. Describe the physical properties of normal urine. Explain the urinometer method of measurement of specific gravity.
4. Romanowsky stains- Principle and examples
5. Explain the stages of leucopoiesis with diagram.
6. Universal safety precautions.
7. Define hemostasis. Explain the coagulation pathway.
8. Quality control in hematology.
9. Explain about the principle, procedure, and interpretation of one chemical test for sugar in urine.
10. Types of fixatives for cytology smears. Write the procedure of MGG stain.

Short Answers: (Any – 10) **3 X 10 = 30 Marks**

11. Three causes of neutrophilia
12. Name three ketone bodies.
13. List three causes of proteinuria.
14. Expand MCH, MCV and MCHC
15. What is RDW? What is its normal range?
16. Draw a neat, labelled diagram of gametocyte of Plasmodium falciparum.
17. Enlist 3 types of waste disposed in yellow bin.
18. Enlist the properties of an ideal smear.
19. Three causes of Thrombocytopenia
20. Three uses of Neubauer's chamber
21. Name three crystals found in urine.