BLDE (DEEMED TO BE UNIVERSITY)

Jan-26

B.Sc. Medical Laboratory Technology

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

VI SEMESTER

PAPER - I (Clinical Biochemistry II)

QP CODE: 8630

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

Long Questions **10X1 = 10 Marks**

1. What is Diabetes mellitus? Write the reference ranges for FBS, PPBS and RBS. Describe various mechanisms for regulation of blood glucose.

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

2. What is ELISA? Write its Principle and Applications.
3. Cardiac markers.
4. What is the normal serum calcium level? Write the functions and deficiency manifestations of calcium.
5. What is rDNA technology? Describe the tools and applications of rDNA technology in medicine
6. Describe the principle, procedure and applications of Western blotting.
7. What are Tumor Markers and write their clinical significance.
8. What is gluconeogenesis? Describe the process of gluconeogenesis.
9. What is NABH? Outline the process and benefits of NABH accreditation.
10. What is Gene Therapy, explain the procedure with an example and write its applications.

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

11. Applications of Southern blotting.
12. What parameters are measured by an ABG analyser and outline their clinical significance.
13. Galactosemia
14. List three common hazards in a clinical biochemistry laboratory and write their disposing procedure.
15. Write the screening procedures for organophosphate poisoning.
16. Ion-selective electrodes.
17. What are the reference ranges for Serum Total Proteins, Albumin, Globulins and A/G ratio?
18. What is Biochemical composition of CSF? Write their reference ranges.
19. What are the applications of Agarose gel electrophoresis?
20. What are the functions of Phosphate?
21. What are the reference values for serum T3, T4 and TSH hormones?

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VI SEMESTER

PAPER - II (Medical Microbiology II)

QP CODE: 8631

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

Long Questions — 10X1 = 10 Marks

1. Describe the morphology, pathogenesis and laboratory diagnosis of HIV Infection

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

2. Bacteriophage
3. Bacteriology of water
4. Replication of virus
5. Laboratory diagnosis of Hepatitis B virus
6. Cultivation of viruses
7. Automation in Microbiology
8. Laboratory diagnosis of Rabies
9. Influenza virus
10. Laboratory diagnosis of Polio

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

11. Name the applications of PCR
12. MMR vaccine
13. Name three Human Herpes viruses
14. Post exposure prophylaxis for HIV
15. Antigenic shift and drift
16. Name three Arboviruses
17. Name three analytical errors
18. Name three RNA viruses
19. Rabies Vaccine
20. Name three Oncogenic viruses
21. Name three virus causing congenital infections.

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VI SEMESTER

PAPER - III (Blood Bank & General Pathology II)

QP CODE: 8632

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 principles and procedures of cross-matching in blood transfusion. Write about its importance in safe transfusion practices.

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

2. Describe the Rh blood group system and its clinical importance.
3. Write short notes on HLA antigens and their significance in transplantation.
4. Explain the procedure, principle, and significance of antibody titration.
5. Discuss blood components, their preparation, and clinical uses.
6. Write short notes on therapeutic phlebotomy and its indications.
7. Explain the procedure for reticulocyte staining and its interpretation.
8. Write about hematological findings and laboratory investigations in hemolytic anemia.
9. Describe the steps involved in biomedical waste segregation and disposal in a laboratory.
10. Explain quality control of blood bank reagents and equipment maintenance.

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

11. Write about hemovigilance.
12. Mention three features of macrocytic anemia on peripheral smear.
13. Write short notes on HPLC and its diagnostic applications in hematology.
14. Mention three anticoagulants used in blood collection bags.
15. Name three causes of hematuria.
16. Write three differences between ABO and Rh systems.
17. Mention three RBC indices with normal values.
18. Write about Leishman stain – principle, procedure
19. Benedicts test-principle and procedure.
20. Write three advantages of automation in hematology.
21. Mention three causes of increased urobilinogen in urine.