Question Paper

Exam Date & Time: 18-Apr-2022 (10:00 AM - 12:00 PM)

MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER B.Sc. MEDICAL LABORATORY TECHNOLOGY DEGREE EXAMINATION - APRIL 2022
SUBJECT: MLT2101 - BASIC HEMATOLOGY
(2020 SCHEME)

Answer ALL questions.
Draw diagrams wherever necessary.

Marks: 50 **Duration: 120 mins.**

1)	Explain principle of Romanowsky stain. Give two example, discuss any one.	(10)
2)	List the leucocytes. Explain the morphology and functions of leucocytes. Add a note on leukocytosis.	(10)
3A)	Explain morphology and function of erythrocyte	(5)
3B)	Explain different steps in myelopoiesis in detail	(5)
3C)	Explain normal range, clinical significance and factors affecting ESR	(5)
3D)	Explain intrinsic pathway of coagulation, Name the test used to assess this.	(5)
4A)	List vacutainers & their uses	(2)
4B)	List complications of phlebotomy	(2)
4C)	List causes of thrombocytosis	(2)
4D)	List sites of hematopoiesis	(2)
4E)	Explain von Willibrand factor	(2)

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Question Paper

Exam Date & Time: 20-Apr-2022 (10:00 AM - 01:00 PM)

MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER B.Sc. MEDICAL LABORATORY TECHNOLOGY DEGREE EXAMINATION - APRIL 2022
SUBJECT: MLT 2102 - APPLIED BIOCHEMISTRY - I
(2020 SCHEME)

Marks: 100 **Duration: 180 mins.**

Answer all the questions.

Draw diagrams wherever necessary.

1)	What are the sources of blood glucose? Discuss regulation of blood glucose in our body. Explain the various methods of estimation of blood glucose and interpret the results.	(20)
2)	Define and classify diagnostic enzymes. Explain factors affecting enzyme activity. Enumerate enzymes of hepatocellular damage. Elaborate on transaminases.	(20)
3)	Enumerate tests under lipid profile. Discuss method of estimation, principle and normal level of each.	(10)
4)	Discuss principle, procedure and interpretation of protein electrophoresis.	(10)
5A)	Discuss the symptoms and complications of type 2 diabetes mellitus.	(5)
5B)	Outline the synthesis of bile acid.	(5)
5C)	Explain the hormonal regulation of blood glucose.	(5)
5D)	What are the tests used to detect proteinuria. Explain any one in detail.	(5)
5E)	Explain estimation, isoenzymes and clinical significance of lactate dehydrogenase.	(5)
5F)	Explain methods of urine and CSF glucose estimation and interpret the results.	(5)
6A)	Write normal range and clinical significance of alkaline phosphatase (ALP).	(2)
6B)	Define proteinuria and list the types.	(2)
6C)	Write the formulae for estimation of VLDL and LDL using HDL, TG and Total cholesterol.	(2)
6D)	A person is brought to emergency department in a coma state. The following test results were obtained - random blood glucoe-35 mg/dl, benedict's test-(urine)-negative, Rothera's test- negative. What is your diagnosis justify your answer.	(2)
6E)	Explain glucose challenge test.	(2)

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Question Paper

Exam Date & Time: 22-Apr-2022 (10:00 AM - 01:00 PM)

MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER B.Sc. MEDICAL LABORATORY TECHNOLOGY DEGREE EXAMINATION - APRIL 2022
SUBJECT: MLT 2103 - IMMUNOLOGY AND IMMUNOHEMATOLOGY
(2020 SCHEME)

Marks: 100 **Duration: 180 mins.**

Answer all the questions.

Draw diagrams wherever necessary.

1)	Define Complements. Illustrate the classical complement activation with MAC. Explain the regulators of complement pathways. (2+10+8 = 20 marks)	(20)
2)	Explain the causes of hemolytic disease of newborn. Compare and contrast the clinical and laboratory findings in ABO & Rh HDFN. (12+8 = 20 marks)	(20)
3)	Write in detail about genetics and biochemical synthesis of ABO blood group system.	(10)
4)	Define & Classify Hypersensitivity. Explain in detail the mechanism of anaphylaxis. (2+8 = 10 marks)	(10)
5A)	Explain the classification of acquired immunity.	(5)
5B)	Explain hybridoma technique.	(5)
5C)	Explain Rocket Immunoelectrophoresis.	(5)
5D)	Explain the immunization schedule in India.	(5)
5E)	Explain the genetic theory of Rh antigen formation.	(5)
5F)	Explain about MNS, Lewis and Lutheran blood group system and its significance.	(5)
6A)	Define Autoimmunity.	(2)
6B)	Define Immunofluorescence Technique.	(2)
6C)	Define Epitope and Paratope.	(2)
6D)	Define DCT.	(2)
6E)	Define Rh deletion.	(2)

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