

Question Paper

Exam Date & Time: 25-Jan-2023 (10:00 AM - 12:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER M.Sc. MLT DEGREE EXAMINATION - JANUARY 2023

SUBJECT: MLT5001 - GENERAL MICROBIOLOGY

(SPECIALIZATION: CLINICAL BIOCHEMISTRY / HAEMATOLOGY AND IMMUNOHAEMATOLOGY / MICROBIOLOGY AND IMMUNOLOGY)
(2021 SCHEME)

Answer ALL questions.

Draw diagrams wherever necessary.

Marks: 50

Duration: 120 mins.

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| 1) | Classify culture media and explain on anaerobic culture methods in detail
(10+10 = 20 marks) | (20) |
| 2A) | Define disinfectants and antiseptics. Discuss their mode of action
(3+3+4 = 10 marks) | (10) |
| 2B) | Explain functions of cytoplasmic membrane of bacterial cell, add a note on cell surface appendages in bacteria
(5+5 = 10 marks) | (10) |
| 3A) | Classify dry heat sterilisation add a note on Hot air oven | (5) |
| 3B) | Brief on bacteriology analysis of drinking water | (5) |

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Question Paper

Exam Date & Time: 27-Jan-2023 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER M.Sc. MLT (MICROBIOLOGY & IMMUNOLOGY/CLINICAL BIOCHEMISTRY/HAEMATOLOGY & IMMUNOHAEMATOLOGY) DEGREE EXAMINATION - JANUARY 2023
SUBJECT: MLT5003- IMMUNOLOGY AND IMMUNOPATHOLOGY
(2021 SCHEME)

Answer ALL questions.

Draw diagrams wherever necessary.

Marks: 100

Duration: 180 mins.

- 1) Define complements and explain its activation pathways. Add a note on inhibitors/receptors (20)
- 2) List systemic autoimmune disorders. Define and explain the pathogenesis and laboratory diagnosis of SLE. Add a note on risk factors of autoimmune disorder (20)
- 3A) Explain Graft v/s Host reaction in detail with an example (10)
- 3B) Explain role of MHC in antigen processing and presentation (10)
- 3C) Explain in detail the methods for detection of Immune complexes (10)
- 3D) Explain the mechanism and laboratory diagnosis of Diabetes Mellitus. Add a note on immunological markers in diabetes (10)
- 4A) Explain the inflammatory mediators (5)
- 4B) Explain Arthus reaction and serum sickness (5)
- 4C) Explain on cytokines, properties and functions (5)
- 4D) Explain the maturation, activation and differentiation of B cells (5)

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Question Paper

Exam Date & Time: 30-Jan-2023 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER M.Sc. MLT DEGREE EXAMINATION - JANUARY 2023

SUBJECT: MLT5007 - DIAGNOSTIC BIOCHEMISTRY

(SPECIALIZATION: CLINICAL BIOCHEMISTRY / HAEMATOLOGY AND IMMUNOHAEMATOLOGY / MICROBIOLOGY AND IMMUNOLOGY)

(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Define and classify diabetes mellitus (DM). Elaborate on complications and diagnosis of DM. Explain advanced glycation end products. (5+12+3 = 20 marks) (20)
- 2) What is Vander Bergh reaction? Explain how to do differential diagnosis of jaundice (20)
- 3) Enumerate diagnostic enzymes. Discuss cardiac enzymes. (10)
- 4) Explain in detail about internal quality control procedures (10)
- 5) Elaborate on various accidents, and their emergency management in a clinical laboratory. (10)
- 6) Explain disposal of chemical and radioactive waste materials (10)
- 7A) Explain proteinuria (5)
- 7B) Explain hyperlipoproteinemia (5)
- 7C) Explain calibration of volumetric flask and pipette (5)
- 7D) Explain clearance tests for glomerular filtration (5)

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