

Question Paper

Exam Date & Time: 23-Apr-2022 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER M.Sc. MLT DEGREE EXAMINATION - APRIL 2022
SUBJECT: MLT5003 - IMMUNOLOGY AND IMMUNOPATHOLOGY
(SPECIALIZATION: CLINICAL BIOCHEMISTRY/MICROBIOLOGY AND IMMUNOLOGY/HAEMATOLOGY AND
IMMUNOHAEMATOLOGY)
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

Draw diagrams wherever necessary.

- 1) Define Immunoglobulins. Explain the immunoglobulin structure and function. (20)
- 2) Define and classify Hypersensitivity reactions. Write a note on delayed type hypersensitivity reaction and Explain Granulomatous reaction. (20)
- 3A) Explain the structure of MHC, MHC genes and its accessory molecules. (10)
- 3B) Explain the principle of flow cytometry with a neat labelled diagram. Add a note on its uses. (10)
- 3C) Describe the mechanism of autoimmune diseases. Explain the pathogenesis and lab diagnosis of Grave's disease. (10)
- 3D) Explain immunoglobulin gene, organization and expression. (10)
- 4A) Explain cell mediated immune response. (5)
- 4B) Explain Sjogren's syndrome. (5)
- 4C) Explain the principle of fluorescence activated cell sorting (FACS). (5)
- 4D) Explain on different tumour markers. (5)

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