

# Question Paper

Exam Date & Time: 13-May-2023 (02:00 PM - 05:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal Academy of Higher Education, Manipal MPharm Theory End-Semester Examinations.

### Immunotechnology [PBT-MPB202T -S2]

Marks: 75

Duration: 180 mins.

#### SECTION - A

Answer all the questions.

Answer the following (10 marks x 5 = 50 marks)

- 1) What is inflammation. Classify and explain phases involved in the inflammatory process. (10)
- 2) Describe the cells and proteins involved in second line of immune defense. Explain the structure and function of thymus. (10)
- 3) Schematically represent and explain the structure of antibodies. Elaborate on the various classes of immunoglobulins. (10)
- 4) What are vaccines? Classify vaccines based on the type of antigen used. Explain the production of a live bacterial vaccine. (10)
- 5) "The better matched the donor and recipient are, the more successful the transplantation is likely to be". What are the ways through which a matching donor is found for the recipient? Add a note on the role of immune system in transplantation (8+2) (10)

#### SECTION - B

Answer all the questions.

Answer the following (5 marks x 5 = 25 marks)

- 6) Why are dendritic cells termed as professional antigen-presenting cell population? Elaborate on the central role of Helper T cells. (5)
- 7) Differentiate antigen and immunogen. Explain the properties of immunogen. (5)
- 8) Classify autoimmune diseases and write short notes on any one. (5)
- 9) Explain the therapeutic and diagnostic applications of monoclonal antibodies. (5)
- 10) What is immunofluorescence assay? Enlist the various types and write briefly on any one. (5)

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