

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
B.Tech. Summer Examination 2022-23

Semester: 4th
Subject Code: (203144251)
Subject Name: (Immunology & Immunotechnology)

Date: 20/03/2023
Time: 2:00pm to 4:30pm
Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1 Objective Type Questions - (Fill in the blanks, one word answer, MCQ-not more than Five in case of MCQ) (All are compulsory) (Each of one mark) (15)

1. Which of the following immune mechanism is responsible for protecting us from diseases-
 - a) Active Immunity
 - b) Passive Immunity
 - c) Innate Immunity
 - d) None of the above
2. Monocytes differentiate into the tissue as-----
3. Define an epitope.
4. Fab stands for -----
5. A highly sensitive & quantitative procedure that utilizes radioactively labelled antigen or antibody
 - a) ELISA
 - b) Western Blotting
 - c) Radioimmunoassay
 - d) Immunofluorescence Technique
6. ----- is the technology used for the production of monoclonal antibodies
7. T Helper cell recognize----- & T cytotoxic cells recognize -----
8. ----- cells are capable to produce antigen presenting cells.
9. ----- Ig is involved in hypersensitive reactions.
10. ----- is self tissue transferred from one body site to another body site in the same individual.
11. In hybridoma technology, hybrid cells are selected in
 - a) MS medium
 - b) X gal medium
 - c) HAT medium
 - d) Whites medium
12. The hybridomas are made by
 - a) Fusing T cells with myeloma cells
 - b) Fusing B cells with myeloma cells
 - c) Fusing T cells with myeloma cells
 - d) Fusing memory B cells with myeloma cells
13. Transplanted graft may be rejected due to
 - a) cell-mediated immune response
 - b) humoral immune response
 - c) innate immune response
 - d) passive response
14. Which of the following antibodies is predominantly present in tears, saliva and mucous
 - a) Ig M
 - b) Ig G
 - c) Ig E
 - d) Ig A
15. The class of which can cross placenta is-----

- Q.2** Answer the following questions. (Attempt any three) **(15)**
- A) Explain the properties of Class I MHC
 - B) Differentiate between T lymphocytes & B lymphocytes.
 - C) With a suitable diagram explain ELIPSOT
 - D) What is hybridoma technology?
- Q.3** A) Compulsory **(07)**
Explain the process of B cell development.
- B) What are the different types of hypersensitive reactions? **(08)**
- OR**
- B) Explain the production of monoclonal antibodies **(08)**
- Q.4** A) Explain the gene rearrangement of variable chain. **(07)**
- OR**
- A) What is ELISA. Explain its types with suitable diagram **(07)**
- B) Enlist the features of different types of antibody. **(08)**