

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – PLANT BIOLOGY & PLANT BIO-TECH.

FIFTH SEMESTER – NOVEMBER 2009

PB 5406 - IMMUNOLOGY AND IMMUNO TECHNOLOGY

Date & Time: 14/11/2009 / 9:00 - 12:00 Dept. No.

Max. : 100 Marks

PART A (20 marks)

Answer all questions

I. Choose the correct answer

(5 x 1 = 5)

1. Which of the following techniques was developed by Rosalyn Yallow
a) immunodiffusion b) immunoelectrophoresis
c) RIA d) ELISA
2. The isotype that exists as a dimer is :
a) IgG b) IgE c) IgD d) IgA
3. Which technique is used to quantify antigens?
a) Ouchterlony method b) Macini method
c) Hemagglutination d) Immunoblotting
4. Degradation of the bacterial cell wall is due to the activity of :
a) lysozyme b) proteinase c) lysosome d) collagenase
5. Production of Monoclonal antibodies was invented by:
a) Kohler b) Hanstein c) Pasteur d) Lister

II. State whether the following statements are true or false

(5 x 1 = 5)

6. Low pH in stomach is a physiological barrier.
7. Lipids can serve as antigens if conjugated.
8. An antibody consists of 4 similar peptides.
9. Precipitin is formed at the zone of equivalence.
10. MAbs find application in cancer therapy.

III. Complete the following

(5 x 1 = 5)

11. Toxoids are prepared by treating bacterial cells with _____.
12. In an antibody, each domain has _____ aminoacids.
13. The technique that involves transfer of proteins to membrane is _____.
14. The responding B cell in primary response is _____.
15. The chemical _____ is used in cell fusion technique.

IV. Answer the following, each in about 50 words

(5 x 1= 5)

16. Define Attenuated vaccine.
17. What is variable region?
18. Define complement fixation.
19. What are mast cells?
20. What are myeloma cells?

PART B

Answer the following, each answer not exceeding 350 words. Draw diagrams and flow charts wherever necessary

(5 x 7= 35)

21. a. Discuss the role of Jenner, Pasteur and Koch in immunology.
(or)
b. Explain in detail about innate immunity and mechanisms involved.
22. a. Explain about the various domains of a typical antibody molecule.
(or)
b. Discuss in detail about IgD and IgE.
23. a. Write notes on agglutination reactions.
(or)
b. Bring out the steps involved in radioimmunoassay and mention its application.
24. a. Write short notes on secondary lymphoid organs.
(or)
b. Give an account of myeloid cells.
25. a. Explain briefly about polyclonal antibodies.
(or)
b. Elucidate the methodology involved in serum collection.

PART C

Answer any three of the following, each answer not exceeding 1200 words. Draw diagrams and flow charts wherever necessary

(3 x 15= 45)

26. Discuss in detail about the types of vaccines. Add note on immunization of infants.
27. Explain in detail about antigens and their properties.
28. Give a detailed account of Immunoelectrophoresis and its types.
29. Write notes on T lymphocytes their types and function.
30. Explain the process involved in hybridoma technology.
