



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – PLANT BIOLOGY & BIOTECHNOLOGY

FIFTH SEMESTER – APRIL 2014

PB 5406 - IMMUNOLOGY AND IMMUNOTECHNOLOGY

Date : 11/04/2014

Dept. No.

Max. : 100 Marks

Time : 01:00-04:00

PART A

Answer the following, each within 50 words

(10 x 2 = 20)

1. Mention the contribution of Louis Pasteur?
2. What is opsonization?
3. Define an antigen.
4. What is meant by humoral immunity?
5. Mention the composition of the blood.
6. What is the major histocompatibility complex?
7. Define avidity.
8. What are secondary lymphoid organs?
9. Write notes on lectin pathway of the complement.
10. What do you mean by polyclonal antibodies?

PART B

Answer the following, each within 500 words. Draw diagrams and flowcharts wherever necessary:

(5 x 7 = 35)

11. (a) Write notes on the history of immunology.
Or

(b) Give a short account on innate immunity.

12. (a) What are the essential factors required for antigenicity?
Or

(b) Write short notes on antigen – antibody interactions.

13. (a) Describe briefly the haemagglutination inhibition test.
Or

(b) Write short notes on precipitation reactions.

14. (a) Describe the MHC II pathway of antigen processing and presentation.
Or

(b) Briefly describe the role of cytokines.

15. (a) What are monoclonal antibodies? List their applications.

Or

(b) Discuss the principle and production of antiserum.

PART C

Answer any three of the following, each within 1200 words. Draw diagrams and flowcharts wherever necessary.

(3 x 15 = 45)

16. Write an account on the different cells of the immune system.
17. Give a detailed description of the structure of antibody and add a note on the classes.
18. Write in detail on principle and process of ELISA and RIA.
19. Describe the classical pathway of the complement system and add a note on its applications.
20. Give a detailed account on the hybridoma technology.