LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

FIFTH SEMESTER – **NOVEMBER 2012**

# PB 5406 - IMMUNOLOGY AND IMMUNOTECHNOLOGY

Date : 10/11/2012 Dept. No. Max. : 100 Marks

Time : 9:00 - 12:00

# Part A

**Answer the following each within 50 words: (10 x 2 =20)**

1. Enlist the contributions of Louis Pasteur.
2. Define passive immunity.
3. What is a paratope ?
4. Define opsonization.
5. What is agglutination?
6. Define immunodiffusion.
7. Mention the function of bone marrow.
8. What is meant by cell-mediated immunity?
9. Define antiserum.
10. What are polyclonal antibodies?

**PART B**

**Answer the following within 500 words. Draw diagrams wherever necessary: (5 x7 = 35)**

1. (a) Write short notes on the contributions of Edward Jenner.

(or)

(b) Describe briefly the process of acquired immunity.

1. (a) List elaborately the essential factors for antigenicity.

(or)

(b) Elucidate the structure of immunoglobulin.

1. (a) Write short notes on ELISA and its applications.

(or)

(b) Explain the principle and process of counter current immunoelectrophoresis.

1. (a) Describe briefly the B-lymphocytes with suitable diagram.

(or)

(b) Give a short account on cytokines and their functions.

1. (a) Enumerate the applications of monoclonal antibodies.

(or)

(b) Describe briefly the production and application of antisera.

# Part C

**Answer any three of the following each within 1200 words. Draw diagrams wherever necessary: (3x 15 =45)**

1. Describe in detail the principles and factors involved in innate immunity.
2. What are antibodies? Explain in detail the various classes of antibodies.
3. Give a detailed account on Western blotting and its applications.
4. List the types of complement pathways and explain any one in detail.
5. Give an account on the hybridoma technology and its applications.

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