

**S. Y. B. SC. (BIOTECHNOLOGY) SEM – III (CBCS - 2015
COURSE) : WINTER - 2017
SUBJECT: IMMUNOLOGY**

Day: **Wednesday**
Date: **08/11/2017**

Time: **10.00 AM TO 01.00 PM**
Max. Marks: 60

W-2017-0942

N.B.:

- 1) **Q. No. 1 and Q. No. 5 are COMPULSORY.** Out of the remaining attempt any **TWO** questions from each section.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SEPARATE** answer book.

SECTION-I

Q.1 Answer the following (**Any FIVE**) **(10)**

- a) Define monoclonal antibodies
- b) Differentiate between direct and indirect Immunofluorescence
- c) Why are adjuvants used?
- d) Enlist any two immuno-deficiency diseases
- e) Enlist any four mechanisms of innate immunity
- f) Name two cells of lymphoid lineage and state their function

Q.2 Answer the following: **(10)**

- a) Describe with the help of a neat labelled diagram the structure and function of Lymph node.
- b) Describe the process of Phagocytosis.

Q.3 Answer the following: **(10)**

- a) Briefly describe the three major events of inflammatory response.
- b) With the help of a diagram explain the classical pathway of complement activation.

Q.4 Write short notes on any **TWO** of the following: **(10)**

- a) Granulocyte
- b) Organ specific autoimmune diseases
- c) Western blotting

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SECTION-II

Q.5 Answer in brief: (10)

- a) Match the following characteristics with the correct arm of immunity, using 'I' for innate and 'A' for adaptive
- i) Is the most pathogen specific
 - ii) Includes a memory component
 - iii) First to engage after initial contact
 - iv) Is the target for vaccination
- b) Define the term redundancy and antagonism as they apply to cytokine action.
- c) Name two cytokines produced by T_H1 cells.
- d) Define complete antigen
- e) What is hypervariable region in antibody?
- f) State any two points that differentiate between primary and secondary immune response.

Q.6 Answer the following: (10)

- a) Explain the pathophysiology of Systemic Lupus Erythematosus.
- b) Explain the pathophysiology of Complement deficiency disorders.

Q.7 Answer the following: (10)

- a) Describe activation of cytotoxic T lymphocytes and the process of CTL mediated target cell killing.
- b) Describe activation of B cells by TD antigens.

Q.8 a) Give an account of type IV hypersensitivity reaction. (10)

OR

- b) Define precipitation reaction and comment on 'precipitation in gel'

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