

**2017****M. Phil.****2nd Semester Examination****LIFE SCIENCE****PAPER — LSC-126***Full Marks : 40**Time : 2 Hours*

*The figures in the right-hand margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

*Illustrate the answers wherever necessary.*

**(Advanced Immunology)**

Answer all questions.

**Group - A**

1. Answer any four questions from the following : 4×2
- (a) What are hypervariable region of H and L chains of an antibody ?
  - (b) What is class switching ?
  - (c) What do you mean by complements ?
  - (d) What is MHC restriction ?

*(Turn Over)*

- (e) Write down the characteristics of cytotoxic hypersensitivity.
- (f) What do you mean by antigen and immunogen.

### Group - B

2. Answer any *four* questions : 4×4
- (a) Write briefly on the mechanism of the reaction of anaphylactic hypersensitivity. 4
- (b) Discuss the defect of glycosylation of IgG - CH<sub>2</sub> domain in the development of rheumatoid arthritis. 4
- (c) Differentiate between adjuvant and haptens. 4
- (d) What do you understand by antigen processing and presentation. 4
- (e) Discuss the autoimmune response in systemic Lupus Erythematosus. 4
- (f) Write a brief note on clonal selection theory. 4

**Group - C**

3. Answer any *two* questions : 2×8
- (a) Describe the Toll like receptors in innate immunity. 8
- (b) Draw the receptors present on the surface of the  $\beta$ -lymphocytes mentioning their ligand and functions. 4+4
- (c) How T-cells are activated? State the importance of transcription factors. 5+3
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