FirstRanker.com

www.FirstRanker.com

www.FirstRanker.com

Dell Ne						
ROILNO.						

Total No. of Pages : 02

Total No. of Questions : 09

# B.Tech. (BT) (2012 to 2017) (Sem.-4) IMMUNOLOGY AND IMMUNOTECHNOLOGY-I Subject Code : BTBT-403 M.Code : 55086

Time: 3 Hrs.

Max. Marks : 60

## **INSTRUCTION TO CANDIDATES :**

- 1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
- 2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
- 3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

# **SECTION-A**

#### 1) Define :

- a) Difference between complete and incomplete adjuvants.
- b) Cross Reactivity.
- c) Role of HLA-DM and HLA-DO in antigen processing.
- d) Antigen presenting cells
- e) Isotypic and allotypic determinants
- f) Organization of MHC locus in mouse
- g) ADCC
- h) Basophils
- i) Immunotoxins
- j) Spleen

#### 1 | M-55086

(S2)-2015



www.FirstRanker.com

## **SECTION-B**

- 2) Write the minimum requirements to activate the classical pathway and MBL pathway of complement system. Also explain the MAC.
- 3) Illustrate the role of T helper cells in B cell activation.
- 4) With few examples, write how adjuvants enhance the immune response.
- 5) Describe the sandwich ELISA.
- 6) Describe the missing self-hypothesis of NK cells.

#### **SECTION-C**

- 7) Discuss the principle of flow cytometry. How this technique can be used to count the CD4+T cells? Also write about the term FSC and SSC in flow cytometry.
- 8) Describe the role of dendritic cells (DC) in providing defense against the pathogen. With diagram show the linking of innate and adaptive immune system by DC. Also diagrammatically explain the phagocytosis mechanism of DC.
- 9) Describe recombinant vector and recombinant antigen vaccine.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

2 | M-55086

(S2)-2015