

**PG (NEW) CBCS**  
**M.Sc. Semester-I Examination, 2018**  
**IMMUNOLOGY**  
**PAPER: MMLT-104**  
**(Microbiology)**

**Full Marks: 40****Time: 2 Hours****1. Answer any four questions:****2×4=8**

- a) Define Xenograft?
- b) Write the name of fluorescent dye used in immunofluorescence.
- c) What is MAC? Write its functions.
- d) What are primary lymphoid organ and secondary lymphoid organ? Give example.
- e) What are NK cells? Mention its functions.
- f) Write the functions of IgA and IgM.
- g) Why myeloma cells are used in hybridism technique.
- h) What do you mean by pattern recognition receptor?

**2. Answer any four questions:****4×4=16**

- a) i) What do you mean by phagocytosis?  
ii) Briefly describe the mechanism of phagocytosis **1+3=4**
- b) i) Write down the basic difference between agglutination and precipitation.  
ii) What do you mean by Avidity? **2+2=4**
- c) What is the causes and complications of Rheumatoid arthritis?
- d) i) What is Hapten?  
ii) Briefly describe the structure of Monomeric antibody. **1+3=4**
- e) Illustrate the mechanism of sensitization stage of graft rejection with proper diagram.
- f) What is epitope? Explain Affinity and Avidity with example. **1+3=4**
- g) Write the principle of Immunoflourescence.
- h) What is HAT medium? Name the enzymes used in ELISA. **3+1=4**

**3. Answer any two questions:**

- a) i) Describe briefly the delayed type hypersensitivity. **4+4=8**  
ii) Write down the mechanism of tissue rejection in tissue transplantation.
- b) i) What do you mean by Autoimmune disease? **2+4+2=8**  
ii) What are the causes and complications of myasthenia gravis?  
iii) Mention the complications Hashimoto's thyroiditis.
- c) i) What do you mean by complement system? **2+4+2=8**  
ii) How complement system destroy the microorganism?  
ii) Distinguish between MHC-I and MHC-II molecules.
- d) i) Immunotherapy of type-I hypersensitivity responses is aimed at raising the levels of IgG antibodies specific for allergens. Describe one mechanism by which allergen specific IgG can dampen down the IgE response to an allergen.  
ii) Write note on Vaccination. **5+3=8**

