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## GIET MAIN CAMPUS AUTONOMOUS GUNUPUR – 765022

B. Tech Degree Examinations, December – 2020

(Fifth Semester)

**BBTPC5020 – Immunology & Immunotechnology  
(Biotechnology)**

Time: 2 hrs

Maximum: 50 Marks

**The figures in the right hand margin indicate marks.****PART – A: (Multiple Choice Questions)****(1 x 10= 10 Marks)**Q.1. Answer ALL questions

- a. A "nonself" substance that can provoke an immune response is called as --  
 (i) Interferon (ii) Antigen  
 (iii) Antibody (iv) MHC
- b. How many types of antibodies are there?  
 (i) Two (ii) Three  
 (iii) Four (iv) Five
- c. Interferons act as  
 (i) Physical barriers (ii) Cellular barriers  
 (iii) Cytokine barriers (iv) Physiological barriers
- d. Which of the following cells is involved in cell-mediated immunity?  
 (i) Mast cell (ii) T cell  
 (iii) B cell (iv) Thrombocytes
- e. This immune cell is able to respond quickly after any subsequent encounter with the same antigen.  
 (i) Plasma cell (ii) Memory cell  
 (iii) B cell (iv) Antigen presenting cell
- f. These molecules are secreted by leukocytes and macrophages and result in a fever.  
 (i) Histamine (ii) Heparin  
 (iii) Pyrogen (iv) Antibodies
- g. Which cells stimulate both arms of the immune response?  
 (i) Plasma cells (ii) Killer cells  
 (iii) Complement cells (iv) Helper T cells
- h. All of the following are examples of autoimmune disorders, Except  
 (i) Rheumatoid arthritis (ii) Graves disease  
 (iii) Systemic lupus erythematosus (iv) Sickle cell disease
- i. Which of the following minerals needed for bacterial reproduction?  
 (i) Magnesium (ii) Calcium  
 (iii) Zinc (iv) Iron
- j. Which hypersensitivity is caused by T lymphocytes?  
 (i) Delayed (ii) Chronic  
 (iii) Acute (iv) Subacute

**PART – B: (Short Answer Questions)**

**(2 x 5 = 10 Marks)**

Q.2. Answer ALL questions

- a. Define antigen.
- d. Second generation antibodies
- e. Monoclonal antibody
- h. Vaccines
- i. Antigen presentation

**PART – C: (Long Answer Questions)**

**(6 x 5 = 30 Marks)**

Answer ANY FIVE questions

Marks

- 3. What is immunity? Describe about the various types of immunity with suitable examples. (6)
- 4. Explain the properties of antigens. (6)
- 5. Discuss in detail the Antigen processing and presentation. (6)
- 6. What do you mean by Hybridoma technology? Explain the procedure in brief. (6)
- 7. What is transplantation? Discuss about the immunological basis of transplantation. (6)
- 8. Define autoimmunity. Describe the mechanism and diseases due to autoimmunity. (6)
- 9. Describe in detail about the second generation antibodies with examples. (6)
- 10. Write in detail about the production of recombinant vaccine. (6)

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