

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- 2021

B.Tech 3rd Semester

COURSE CODE: 18B11BI312

MAX. MARKS: 35

COURSE NAME: MICROBIOLOGY AND IMMUNE SYSTEM

COURSE CREDITS: 4

MAX. TIME: 2 Hours

*Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.*

**Section I**

Very short answer type questions

- Q 1 What is Innate immunity? (1 Mark) CO-3  
Q 2 Which antibody can pass through the cell membrane? (1 Mark) CO-4  
Q 3 What is the Toll Like receptors (TLRs)? In which immune cells these are present? (1 Mark) CO-4  
Q 4 What is cytokines? What is their role in immune response? (1 Mark) CO-5  
Q 5 What are interleukins? What are their functions? (1 Mark) CO-5

**Section II**

Short answer type questions

- Q 6 What is the difference between active and passive immunization? Discuss the risks involved in passive immunization. (2 Marks) CO-2  
Q 7 Write a short note on inflammation and its role in immune system. (2 Marks) CO-3  
Q 8 Discuss the principle underlying the vaccination. (2 Marks) CO-4  
Q 9 What is Herd immunity? Discuss the factors influencing the herd immunity. (2 Marks) CO-5  
Q 10 What are the memory cells? Describe their role in immune response. (2 Marks) CO-4

**Section III**

Long answer type questions

- Q 11 Define the bacterial persistence. Discuss the mechanism of bacterial persistence. (3 Marks) CO-1  
CO-4  
Q 12 What are the biological consequences of antibody avidity? (3.5 Marks) CO-2  
Q 13 What is complement system? Discuss the mechanism of activation of complement system. (3.5 Marks) CO-4

**Section IV**

Very long answer type questions

- Q 14 What are monoclonal antibodies? Discuss their various applications. (5 Marks) CO-4  
or  
What is autoimmunity? Give two examples of autoimmune diseases in human beings. (5 Marks) CO-4  
Q 15 Discuss the different type of hypersensitivity reactions and role of different immunoglobulins in the each type of hypersensitivity. (5 Marks) CO-5  
or  
Discuss in detail the structure of antibody. What are the different types of antibodies? (5 Marks) CO-4