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## JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT TEST -1 EXAMINATION- Sept.2017 B.Tech V Semester (Biotechnology)

COURSE CODE: 10B11BT514 MAX. MARKS: 15 COURSE NAME: IMMUNOLOGY COURSE CREDITS: 04 MAX. TIME: 1Hrs Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means. 1. Explain followings:- $5 \times 1 = 5$ Variolation with examples Overview of humoral and cellular immune responses c. Antibody-dependent cell mediated cytotoxicity (ADCC) d. Name factors that influence immunogenicity Superantigens 2. Describe innate and adaptive immunity. What are their components? 2 3. Give differences between apoptosis and necrosis. 2

What are haptens? Discuss with examples.

Give biological functions of antibodies.

6. Discuss antigenic determinants on antibodies.