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Daffodil International University

Department of Genetic Engineering and Biotechnology
Faculty of Health and Life Sciences
B. Sc. (Hons.) in Genetic Engineering and Biotechnology
Midterm Examination Fall 2026

Course Code: 0512-2207
Level and Term: L2, T2
Time: 1 Hour 30 minutes

Course Title: Immunology
Course Teacher Initials: DNH
Total Marks: 25
Section: 252 (A+B)

1 (a)	Define immunology and the immune system. Compare innate and adaptive immunity.	2
1 (b)	What are soluble mediators of immunity? Briefly describe the important soluble mediators.	3
2 (a)	How do phagocytic cells remove pathogens from the body? Describe the process.	3
2 (b)	Explain how NK cells contribute to the immune response.	2
3 (a)	What are polymorphonuclear granulocytes (PMNs)? Describe how PMNs recognize and destroy bacteria/fungi.	3
3 (b)	Define antigen-presenting cells (APCs). Name the professional and non-professional APCs.	2
4 (a)	What is an antigen? Explain the non-covalent forces involved in antigen-antibody interactions.	3
4 (b)	Briefly describe the applications of antigen-antibody reactions in biotechnology and medical diagnosis.	2
5 (a)	Illustrate the structure of an antibody. State the major functions of antibodies.	2
5 (b)	What are interferons? Explain how interferons help the body to fight against viral infection.	3