



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

**Course Code:** 0512-1305  
**Level and Term:** L1, T3  
**Time:** 1 Hour 30 Minutes

**Section:** 252 (A+B)

**Course Title:** Animal and Human Physiology  
**Course Teacher Initials:** KMH & AI  
**Total Marks:** 25

|   |                                                                                  |                  | Marks |
|---|----------------------------------------------------------------------------------|------------------|-------|
| 1 | (a) Explain the major branches of Animal and Human Physiology.                   | [CLO1, PLO1, C2] | 3.0   |
|   | (b) State the scope and opportunities of studying Physiology.                    | [CLO1, PLO1, C5] | 2.0   |
| 2 | (a) List the components of blood and explain the mechanism of blood clotting.    | [CLO3, PLO2, C1] | 3.0   |
|   | (b) Classify human blood groups with examples.                                   | [CLO2, PLO2, C4] | 2.0   |
| 3 | (a) Describe the structure and properties of cardiac muscle.                     | [CLO5, PLO2, C3] | 2.5   |
|   | (b) Diagrammatically show the cardiac conduction system.                         | [CLO2, PLO1, C4] | 2.5   |
| 4 | (a) Describe the parts of the respiratory system and explain their functions.    | [CLO3, PLO1, C2] | 2.5   |
|   | (b) Discuss the structure of kidney.                                             | [CLO2, PLO2, C6] | 2.5   |
| 5 | (a) Explain the urine formation mechanism in mammals.                            | [CLO1, PLO2, C5] | 2.5   |
|   | (b) Briefly discuss osmoregulation mechanism in freshwater and marine organisms. | [CLO2, PLO1, C6] | 2.5   |