

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-III EXAMINATION – SUMMER 2025****Subject Code:3130304****Date:29-05-2025****Subject Name: Human Anatomy & Physiology-I****Time:02:30 PM TO 05:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1** (a) Draw the structure of a long bone. **03**
 (b) Enlist and explain the main functions of bones. **04**
 (c) Write a note on the classifications of human body joints with example with necessary figures. **07**
- Q.2** (a) Define the terms: 1. Lateral 2. Medial 3. Proximal **03**
 (b) Describe the main functions of the skin. **04**
 (c) Explain the processes of primary and secondary wound healing. **07**
- OR**
- (c) Explain the levels of structural organization and body systems. **07**
- Q.3** (a) Explain the classification of tissue. **03**
 (b) Draw and explain different types of body planes. **04**
 (c) Write a short note on stress and immunity. **07**
- OR**
- Q.3** (a) Define and draw synovial joints. **03**
 (b) Draw the cross section of the human heart with various compartments and valves. **04**
 (c) Write a note on structure and function of plasma membrane with necessary figures. **07**
- Q.4** (a) What is respiration system? Define the organs associated with respiration system. **03**
 (b) Explain the reason that transport of blood oxygen and carbon dioxide is essential for internal respiration to occur. **04**
 (c) Draw and explain the 4 volumes and 4 capacities of lung. **07**
- OR**
- Q.4** (a) Define the process of homeostasis. **03**
 (b) Explain the composition and the main functions of lymph. **04**
 (c) Draw the neat labelled diagram of cell and explain function of various cell organs. **07**
- Q.5** (a) Explain the white blood cells. **03**
 (b) Enlist the differences between artery and vein. **04**
 (c) Draw and explain the structure of the skin. **07**
- OR**
- Q.5** (a) Explain classification of epithelial tissue with structure. **03**
 (b) Draw and explain the pulmonary circulation. **04**
 (c) Explain the cardiac conduction system with proper diagram. **07**
