

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER- III(NEW) EXAMINATION – WINTER 2022****Subject Code:3130304****Date:22-02-2023****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) Explain different types of body planes with necessary figures. **03**
(b) Define the terms: 1. Anterior 2. Posterior 3. Distal **04**
(c) Write a note on levels of structural organization and body systems. **07**

- Q.2** (a) What are the main functions of bones? **03**
(b) Draw and explain the general structure of a long bone. **04**
(c) Explain the structure and function of plasma membrane with necessary figures. **07**

OR

- (c) Explain the classifications of joints with example with necessary figures. **07**

- Q.3** (a) Draw the structure of human heart and with all the chambers and valves. **03**
(b) Explain the main functions of the skin. **04**
(c) Compare and contrast the processes of primary and secondary wound healing. **07**

OR

- Q.3** (a) Explain the systemic circulation of heart. **03**
(b) Write a short note on synovial joints. **04**
(c) Explain in detail the stress and immunity. **07**

- Q.4** (a) Describe the composition and the main functions of lymph. **03**
(b) Explain the functions of the heart. **04**
(c) Explain the structure of the skin with necessary figure. **07**

OR

- Q.4** (a) Define: Residual Volume, Inspiratory Reserve Volume, And Expiratory Reserve Volume. **03**
(b) Draw and explain the pulmonary circulation. **04**
(c) Explain the reason that transport of blood oxygen and carbon dioxide is essential for internal respiration to occur. **07**

- Q.5** (a) Write a short note on red blood cells. **03**
- (b) Define: Total lung Capacity, Tidal Volume, and Vital Capacity. **04**
- (c) Explain in detail the respiration cycle with necessary figures. **07**

OR

- Q.5** (a) What is a process of homeostasis? **03**
- (b) Explain the organs associated with respiration system. **04**
- (c) Write a note on cardiac conduction system with proper diagram. **07**
