

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– III (NEW) EXAMINATION – SUMMER 2022****Subject Code:3130304****Date:13-07-2022****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 the general structure of a long bone. **03**
(b) Enlist the main functions of bones. **04**
(c) Write a note on classifications of joints with example. **07**

- Q.2** (a) Define the terms: 1. Lateral 2. Proximal 3. Distal **03**
(b) Explain different types of body planes with necessary figures. **04**
(c) Write a note on structure and function of plasma membrane. **07**

OR

- (c) Explain the levels of structural organization and body systems. **07**

- Q.3** (a) Explain the composition and the main functions of lymph. **03**
(b) Write a short note on synovial joints. **04**
(c) Draw and explain the structure of the skin. **07**

OR

- Q.3** (a) Explain the factors affecting contact and range of motion at synovial joints. **03**
(b) Describe the main functions of the skin. **04**
(c) Compare and contrast the processes of primary and secondary wound healing. **07**

- Q.4** (a) Draw the human heart with all the chambers and valves. **03**
(b) Enlist the functions of the heart. **04**
(c) Write a note on stress and immunity. **07**

OR

- Q.4** (a) Describe the process of homeostasis. **03**
(b) Explain the systemic circulation. **04**
(c) Write a note on cardiac conduction system with proper diagram. **07**

- Q.5 (a)** Explain the composition of blood. **03**
- (b)** Define: Functional Residual Capacity, Residual Volume, and Vital Capacity. **04**
- (c)** Explain Transport mechanism of O₂ & CO₂ in blood stream. **07**

OR

- Q.5 (a)** Define: Tidal Volume, Inspiratory Reserve Volume, And Expiratory Reserve Volume. **03**
- (b)** Describe the organs associated with respiration system. **04**
- (c)** Write a note on respiration cycle. **07**
