

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-III EXAMINATION – WINTER 2025

Subject Code:3130304

Date:12-12-2025

Subject Name: Human Anatomy & Physiology-I

Time:10:30 AM TO 01:00 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.

	MARKS
Q.1 (a) Define the terms: 1. Lateral 2. Proximal 3. Distal	03
(b) Describe different types of Body planes with necessary figures.	04
(c) Explain negative and positive feedback system for homeostasis with example.	07
Q.2 (a) Explain power house of the Cell.	03
(b) Define a chemical reaction. Describe the various forms of energy.	04
(c) Explain structure and Function of Plasma membrane.	07
OR	
(c) Draw and explain the structure of the skin.	07
Q.3 (a) Explain the composition of blood.	03
(b) Which are main functions of the skin?	04
(c) Write a short note on Blood Groups.	07
OR	
Q.3 (a) Describe the structural and functional classifications of joints.	03
(b) Draw a figure of Conduction system of Human Heart.	04
(c) Explain classification of Epithelial tissue with structure.	07
Q.4 (a) Define Following Terms: 1. Albinism 2. Vitiligo 3. Dermatology	03
(b) Describe the organs associated with respiration system.	04
(c) Describe structure and Function Thymus gland.	07
OR	
Q.4 (a) Explain the function of sodium potassium pump using illustration.	03
(b) What causes the heart valves to open and to close? What supporting structures ensure that the valves operate properly?	04
(c) Explain basic structure of a blood vessel.	07
Q.5 (a) Explain the principle of diffusion with illustration.	03
(b) What is the difference between a lung volume and a lung capacity? How is minute ventilation calculated?	04
(c) Write a note on stress and immunity.	07
OR	
Q.5 (a) Distinguish among solutions, colloids, and suspensions.	03
(b) State the main differences between epithelial and connective tissues.	04
(c) Explain how heart rate is regulated within body.	07
