

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

# GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-III (NEW) EXAMINATION – WINTER 2023

Subject Code:3130304

Date:16-01-2024

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
<b>Q.1</b> (a) Define anatomical planes used to describe human body.	<b>03</b>
(b) Explain characteristics of living human organism.	<b>04</b>
(c) Define homeostasis. Describe components of feedback system with examples.	<b>07</b>
<b>Q.2</b> (a) Define solutions, colloids and suspension.	<b>03</b>
(b) What is diffusion? Brief about the factors affecting diffusion process.	<b>04</b>
(c) Explain the structure of the plasma membrane.	<b>07</b>
<b>OR</b>	
(c) Explain any two organelles of the cell with its structure and function.	<b>07</b>
<b>Q.3</b> (a) Name the four basic types of tissues that make up the human body and state the characteristics of each.	<b>03</b>
(b) Describe the layers of the epidermis and the cells that compose them.	<b>04</b>
(c) What criteria are used to distinguish between thick and thin skin. Explain functions of skin.	<b>07</b>
<b>OR</b>	
<b>Q.3</b> (a) What is immunity? Brief their types.	<b>03</b>
(b) Explain Dalton's law of pressure. How partial pressure of inhaled air is calculated.	<b>04</b>
(c) Describe the components of respiratory system. Explain any two in detail.	<b>07</b>
<b>Q.4</b> (a) Give the functions of blood.	<b>03</b>
(b) Enlist and explain four heart valves with their location and function.	<b>04</b>
(c) Explain blood groups and technique to identify blood group.	<b>07</b>
<b>OR</b>	
<b>Q.4</b> (a) Enlist and explain factors affecting bone growth and remodeling.	<b>03</b>
(b) Explain functions of the bone and the skeletal system.	<b>04</b>
(c) Explain autonomic regulation of Heart rate.	<b>07</b>
<b>Q.5</b> (a) Give classification of joints.	<b>03</b>
(b) Explain structure and function of synovial joint.	<b>04</b>
(c) Enlist and explain different types of bones.	<b>07</b>
<b>OR</b>	
<b>Q.5</b> (a) State and explain any three cardiovascular disease.	<b>03</b>
(b) Explain the factors that regulate the volume of blood flow.	<b>04</b>
(c) Describe the function of calcium in the body. Explain how blood calcium is regulated.	<b>07</b>

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