

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-III (NEW) EXAMINATION – SUMMER 2019****Subject Code: 2130304****Date: 07/06/2019****Subject Name: Human Anatomy & Physiology****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.

- Q.1**
- (a) Define: Anatomy, Physiology, Histology **03**
  - (b) Describe various transport phenomena in human body. **04**
  - (c) Explain functions of different cell organelles with proper diagram. **07**

- Q.2**
- (a) Explain erythropoiesis. **03**
  - (b) Describe the functions of blood. **04**
  - (c) Explain the cardiac conduction system. **07**

**OR**

- (c) Write short note on: Pulmonary circulation, Systemic circulation. **07**

- Q.3**
- (a) Define the following terms: **03**
    - i. Cardiac output
    - ii. Blood pressure
  - (b) Describe the stages of cardiac cycle. **04**
  - (c) Draw and explain anatomy of respiratory system. **07**

**OR**

- Q.3**
- (a) Explain the muscles of respiration. **03**
  - (b) Describe the transport mechanism of O<sub>2</sub> and CO<sub>2</sub> in blood Stream. **04**
  - (c) Explain the events that occur following release of a neurotransmitter at a synapse. **07**

- Q.4**
- (a) List the functions of cerebrospinal fluid. **03**
  - (b) Compare and contrast the structure and functions of sympathetic and parasympathetic nervous systems. **04**
  - (c) Draw neat diagram of human eye and explain it. **07**

**OR**

- Q.4**
- (a) Enlist the names of bones of axial and appendicular skeleton. **03**
  - (b) Draw the neat diagram of the structure of skin. **04**

- Q.5** (a) Draw and explain the classifications (based on structure) of muscles. **03**  
(b) Briefly describes the functions of stomach, pancreas, liver and gall bladder. **04**  
(c) Draw and explain the anatomy of urinary system. **07**

**OR**

- Q.5** (a) Describe the secretion and functions of gastric juice with necessary diagram. **03**  
(b) Explain physiology of micturition. **04**  
(c) Write a note on physiology of muscle contraction. **07**

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