

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-III (New) EXAMINATION – WINTER 2015

Subject Code:2130304**Date:21/12/2015****Subject Name: Human Anatomy & Physiology****Time: 2:30pm to 5:00pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
Q.1	Short Questions.	14
	1 Define Inflammation.	
	2 What do you mean by Degeneration?	
	3 What is the range of blood pH?	
	4 What is Homeostasis?	
	5 Enlist subunits of Nucleic acids.	
	6 What do you mean by osmosis?	
	7 What is diffusion?	
	8 What are Lysosomes?	
	9 Define Meatus.	
	10 State the function of ciliary body.	
	11 Which gland synthesizes oxytocin hormone?	
	12 Describe the Styloid process.	
	13 How many intercostal muscles are there in chest of a normal adult human being?	
	14 State the function of lacrimal ducts.	
Q.2	(a) Describe the structure of the plasma membrane.	03
	(b) Classify the two types of cell division.	04
	(c) Compare and contrast the structure and functions of exocrine and endocrine glands.	07
	OR	
	(c) Compare and contrast active, passive and bulk transport of substances across cell membranes.	07
Q.3	(a) Describe the chemical composition of plasma.	03
	(b) Trace the circulation of the blood through the heart and the blood vessels of the body.	04
	(c) Discuss the functions and formation of the different types of white blood cell.	07
	OR	
Q.3	(a) Describe the functions of arteries, veins and capillaries.	03
	(b) Describe the main factors determining heart rate and cardiac output.	04
	(c) Discuss the structure, function and formation of red blood cells, including the systems used in medicine to classify the different types.	07
Q.4	(a) Identify the common neurotransmitters in the peripheral nervous system.	03
	(b) State the functions of sensory and motor nerves.	04
	(c) Illustrate the circulation of the blood through the lungs, naming the main vessels involved.	07
	OR	
Q.4	(a) List the functions of cerebrospinal fluid.	03
	(b) Interpret the normal sinus rhythm with respect to physiology of	04

- cardiovascular system.
- (c) Sketch a villus, naming its component parts. **07**
- Q.5** (a) State the functions of the extraocular muscles of the eye. **03**
(b) Summarize the structure of the outer, middle and inner parts of the ear. **04**
(c) Discuss Physiology of urine formation with necessary diagrams. **07**
- OR**
- Q.5** (a) Classify the main and accessory organs of the digestion. **03**
(b) Describe the physiology of taste. **04**
(c) Describe the development of bone. **07**
