

IGNOU

TERM END EXAMINATION JUNE, 2014

PhD LIFE SCIENCES

Human Physiology (RLSE-027)

Duration 3 Hours

MM:100

Answer any five questions from question nos: 1 to 8. All Questions carry equal marks. Draw well diagram, wherever necessary to support your answer.

1. Explain the mechanism of rennin-angiotensin-aldosterone-ADH function in the human urinary system. 20
2. Discuss how the ovarian cycle is regulated by complex hormonal interaction in the hypothalamus, anterior pituitary and ovarian endocrine units. 20
3. Explain the interaction of insulin with glucagon in glucose metabolism. 20
4. Discuss the role of pancreas in the digestion of food. 20
5. Describe the mechanism of nerve impulse conduction in humans. 20
6. Explain the chemical structure and function of different types of muscles. Describe the molecular mechanism of muscular contraction. 10 + 10
7. Describe briefly the pacemaker and conduction system of heart. How does the pacemaker system differ from working myocardium? Explain the clinical significance of P wave, QRS and T wave of ECG. 20
8. Write short notes on **any four** of the following: 5x4=20
 - a. Physiology of sleep
 - b. Bohr's effect
 - c. Apoptosis
 - d. Muscle fatigue
 - e. Active transport of ions across the cell membrane
 - f. Lung Compliance