

**Ph.D. IN LIFE SCIENCES  
(PHDLS)**

**Term-End Examination**

00042

**December, 2018**

**RLSE-127 : HUMAN PHYSIOLOGY**

*Time : 3 hours*

*Maximum Marks : 100*

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**Note :** Answer any **five** questions from questions no. 1 to 8. All questions carry equal marks. Draw well labelled diagram wherever necessary to support your answer.

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1. Name the three different types of muscles. Differentiate them on the basis of their structure and functions. Describe the molecular mechanism of muscular contraction in skeletal muscle. 20
  
2. Discuss the role of liver and pancreas in digestion of food. 20
  
3. Describe the formation and secretion of thyroid hormone and explain the effect of thyroid hormones on body metabolism. 20

4. What is a cardiac cycle ? What are the different mechanical events of the cardiac cycle ? If the cardiac output of a normal male adult is 5 l/min and heart beat is 72 bpm, what will be the stroke volume ? 5+10+5=20
5. List the different types of blood cells and differentiate them on the basis of their structures. Explain the role of platelets in haemostasis. 20
6. Describe the mechanism of nerve conduction. 20
7. Describe the ovarian cycle and its regulation by hormonal interplay. 20
8. Write short notes on any **two** of the following : 2×10=20
- (a) Insulin
  - (b) Bohr's effect
  - (c) Glomerular filtration
  - (d) Effects of epinephrine
  - (e) ECG
  - (f) Apoptosis
  - (g) Stress
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