

**UNIVERSITY OF JAFFNA, SRI LANKA**  
**FIRST EXAMINATION FOR MEDICAL DEGREES –November- 2016**  
**Physiology: Paper II**



Date: 03.11.2016

Time: 03 hours

ANSWER ALL THE TEN QUESTIONS

1. Regarding tissue fluids:
  - 1.1. Describe the distribution of fluids in the body (20 Marks)
  - 1.2. Describe the changes in body fluids in severe vomiting (40 Marks)
  - 1.3. Explain the physiological basis of oedema in patients with liver failure (40 Marks)
  
2. Describe:
  - 2.1. The role of Vitamin B<sub>12</sub> on red cell production (20 Marks)
  - 2.2. Effects of Vitamin B<sub>12</sub> deficiency (30 Marks)
  - 2.3. The properties of Neutrophil (50 Marks)
  
3. Describe the role of the following in respiration:
  - 3.1. Surfactant (30 Marks)
  - 3.2. Elastic fibers in lungs (30 Marks)
  - 3.3. Carotid body (40 Marks)
  
4. Describe the following:
  - 4.1. Effect of changing posture from lying to standing on circulatory system (50 Marks)
  - 4.2. Regulation of cutaneous blood flow (50 Marks)
  
5. Describe the Physiological basis of the Following:
  - 5.1. Patients with transplanted heart can increase cardiac output during exercise (50 Marks)
  - 5.2. Patients with multiple fracture can go into state of shock (50 Marks)
  
6. Describe the physiological basis of the following:
  - 6.1. Hypothyroid patients treated with thyroxin tablets will not show any improvement on the first or second day of taking the tablets. (25 Marks)
  - 6.2. Blood glucose increases in stress (25 Marks)
  - 6.3. Patients with hyperparathyroidism are at risk of fracture of bones with mild trauma (25 Marks)
  - 6.4. Patients on insulin injection are advised to keep glucose with them (25 Marks)
  
7. Describe the regulation of:
  - 7.1. Salivary secretion (50 Marks)
  - 7.2. Gastric emptying (50 Marks)

8. Describe the physiological basis of the following:
- 8.1. Diuresis in diabetes mellitus (35 Marks)
  - 8.2. Diuresis following drinking one liter of water (35 Marks)
  - 8.3. Diuresis following administration of carbonic anhydrase inhibitor. (30 Marks)
9. Describe the physiological basis of the following:
- 9.1. Growth spurt of puberty (40 Marks)
  - 9.2. Men continue to be fertile after vasectomy (30 Marks)
  - 9.3. Menstruation stops after fertilization (30 Marks)
10. Write notes on:
- 10.1. Muscle spindle (30 Marks)
  - 10.2. Taste (30 Marks)
  - 10.3. Limbic system (40 Marks)