



**THE OPEN UNIVERSITY OF SRI LANKA**  
**B.Sc DEGREE PROGRAMME – LEVEL 4**  
**FINAL EXAMINATION 2013/2014**  
**COURSE CODE – ZLU2280/ZOU2264**  
**COURSE TITLE – ANIMAL FORM AND FUNCTION**  
**DURATION – THREE HOURS**

**Index Number .....**

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Date : 28<sup>th</sup> November 2014

Time : 9.30 am – 12.30 pm

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### **Instructions**

- This question paper has two parts , **Part A** and **Part B**.
- **Part A** , structured essay question, is compulsory and answers should be written in the space given in question paper.
- Answers for **Part B** should be written in answer books/papers
- Please hand over both **Part A** and **Part B**.

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**Part A**

**Question 1. (100 marks)**

1. During the course of evolution of animals an efficient circulatory system developed in vertebrates.

1.1. Give two reasons why vertebrates need an efficient circulatory system.

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1.2. Write three major functions of circulatory system.

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ii. -----  
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iii. -----  
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1.3. What are the main types cell found in vertebrate circulatory system ?

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1.4. Name the original or mother cell that are differentiated into above mentioned main types of cells?

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1.5. Name the most common and numerous cell type present in circulatory medium and its main function.

Cell type : -----

Main function : -----

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1.6. Write four adaptations of cells that you have mentioned in 1.5 for its function.

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1.7. When liquid and cell of circulatory system are taken out from the body they undergo several changes. Name the process of changes.

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1.8. Name the major phases that take place during that process that you mentioned in 1.7.

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1.9. What is the advantage of this process for human body ?

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1.10. Cells and transport medium are circulated all over the body by a cyclic system present in human body. Name the cyclic system in circulatory system.

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1.11. Write the major events of cyclic system that you mentioned in 1.10.

- a. -----
- b. -----
- c. -----
- d. -----

1.12. What is the system that initiates and conducts impulses that bring major events that you mentioned in 1.11.

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1.13. What are the cell or components that involve in above system you mentioned in 1.12 ?

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1.14. Which part of the brain is mainly controls the action of above system?

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1.15. Name the center in the brain that regulates the function of the heart.

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**PART B**

Answer any *four (4)* questions.

2. Glucose is the molecule that provides the energy for the functions of the body.
- 2.1. Write how glucose are absorbed into the blood from digested foods. (25 marks)
  - 2.2. Briefly describe the process of production of energy from glucose molecule in the cytoplasm of animal cell. (75 marks)
- (Total 100 marks)**
3. Muscle tissues in body have specialized to perform different movements of the body.
- 3.1. Write four important characteristics of muscle tissue. (8 makes)
  - 3.2. Draw fully labeled detailed diagram of skeletal muscle (12 marks)
  - 3.3. Describe briefly how skeletal muscle response to different stimuli. (80 marks)
- (Total 100 marks)**
4. Human body has natural system to prevent the entry of microbes into our body.
- 4.1. Explain briefly the importance of defense system in human body. (20marks)
  - 4.2. Describe two types of defense systems that are found in human body. (80 marks)
- (Total 100 marks)**
5. Some of the functions of the human body is coordinated and regulated by hormones.
- 5.1. Define the term 'Hormone' (5 marks)
  - 5.2. Describe how it is different from Pheromones (20 marks)
  - 5.2. Discuss the involvement of hormones in spermatogenesis in mammals. (75 marks)
- (Total 100 marks)**
6. Write short notes on **any two (2)** of the following.
- a. Reflex action
  - b. Fluid mosaic model of cell membrane
  - c. Glomerular ultrafiltration
  - d. Oxygen disassociation curve
- (each 50 marks)  
**(Total 100 marks)**
7. a. What is meant by deficiency diseases in man ? (10 marks)
- b. Describe briefly how human digestive system has adapted for its functions. (60 marks)
  - c. Compare human digestive system with ruminants digestive system. (30 Marks)
- (Total 100 marks)**

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