

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**SECOND YEAR EXAMINATION FOR THE AWARD OF
BACHELOR OF SCIENCE AND BACHELOR OF EDUCATION SCIENCE**

ZOOL 233: HISTOLOGY

STREAMS: BED (SCI), BSC Y2S2

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 8/04/2015

2.30 PM – 4.30 PM

INSTRUCTIONS:

- **Answer All Questions in Section A and any Two Questions in Section B**
- **Illustrate your answers with labelled diagrams where appropriate.**

Section A (30 marks)

- Distinguish between the following terms
 - Sarcomere and sarcolemma [1 mark]
 - Holocrine and Apocrine secretion [1 mark]
 - Dense regular and dense irregular connective tissue [1 mark]
 - Explain the following terms:
 - Pericytes [1 mark]
 - Intercalated disks [1 mark]
- Describe briefly the structure and function of the following epithelial tissues.
 - Simple columnar ciliated epithelium [2 marks]
 - Ciliated pseudostratified columnar epithelium [3 marks]
 - Stratified squamous keratinized epithelium [2 marks]

3. (a) Draw a well labeled diagram of a bone tissue [3 marks]
- (b) Identify the cell types that make up the following tissues
- (i) Adipose tissue [½ mark]
 - (ii) Cartilage [½ mark]
 - (iii) Reticular connective tissue [1 mark]
- (c) State two types of agranulocytes [1 mark]
4. (a) Describe briefly the structure of smooth muscle tissue. [3 marks]
- (b) Identify three cell types located in the mammalian skin epidermis and give their functions. [3 marks]
5. (a) Describe briefly three mucosal specializations found in the small intestines. [3 marks]
- (b) Give the functions of the following cell types.
- (i) Myoepithelial cells [½ mark]
 - (ii) Chromaffin cells [½ mark]
 - (iii) Ito cells [½ mark]
 - (iv) Parafoallicular cells [½ mark]
- (c) State the roles of the spleen [1 mark]

Section B (40 marks)

6. (a) Describe the general histology of the blood vessel wall. [10 marks]
- (b) Describe impulse generating/conducting systems found in the mammalian heart. [10 marks]
7. Describe the histology of the following
- (a) Pars distalis [12 marks]
 - (b) Islets of langerhans [8 marks]
8. Describe the structure and function of neuroglia [20 marks]
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