

THE OPEN UNIVERSITY OF SRI LANKA
B. Sc. DEGREE PROGRAMME
FINAL EXAMINATION -2007/2008
COURSE CODE 2264ANIMAL FORM AND FUNCTION - PAPER II
ZOOLOGY - LEVEL 4
DURATION - TWO HOURS

Index Number :			
- th			
DATE: 16 <sup>th</sup> JUNE 2007	TIME : 1.30 P.M - 4.30 P.M.		

## Instructions

- This question paper has two parts, Part A and Part B.
- Please note that question number 1 in Part A is compulsory.
- Answers question number 1 in Part A and any four questions from Part B.
- Answers to question number 1 (structured essay) must be written within the space provided in the question paper.
- Please hand over the Part A of the question paper along with the rest of the answer scripts.

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INDEX NUMBER:----

Question number 1 is compulsory

## PART A

1.1. Figure 1 shows the structures involved in temperature regulation in a mammal.

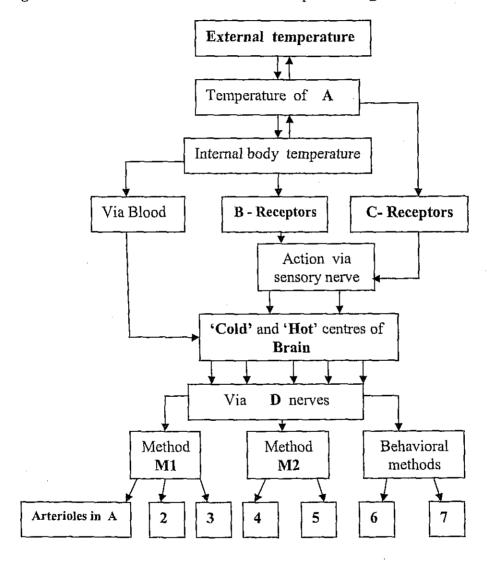


Figure 1

1.1.a. Define the term homeostasis

. Describe	the term "poikilothermic animals"
c. Name	the structures <b>A</b> and two types of <b>receptors</b> involved in the mechanism.
	eptors C -Receptors
	he type of nerve <b>D.</b>
e. Write t	ne two methods <b>M 1</b> and <b>M2</b> that control the body temperature.
	·
and 7	ibe briefly the behavioral methods shown by animals as indicated by 6 in <b>Figure 1</b> .
	ree types of adaptations shown by animals living in cold temperatures.
1	
2	
<b></b>	

ggy and dig yars had fly said SE Pro has 199 Proper son 1 an 1-2 Signam half Prop sub SE Pro had 199 Fee had hely for	ر کار اور اور اور اور اور اور اور اور اور ا			945
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ا شد بين وية قمة مين وية شد سم وية سن بين مية اداء شد		سرمی کا سر پری آلٹ سر کے آلہ بھر کے شدستی کا ڈائٹ مار بہت اس کا آلٹ کا سال کا دائل کا دائل کا دائل کا دائل کا ا	الله والمراجع المراجع	سدسية فقد نصر چياد الله اسم بيده السمين بيد
ad 20 Table 10 Table		P 등 하나 30 P 44 전 P - 1 및 P - 1 및 P 44 전 1 및 - 4 p - 4	ر الماريخ بي در در ويا در يو وي در در ويا ويا در يو ويا ويا در يا ويا ويا 10 كان 44 م 10 ويا در 10 ويا 10 م وي وي در در ويا در يو در در ويا در در ويا در در ويا در در ويا در	جہ ہے آگ نم چہ 14 ما 14 میں 14 می اس میں آگ جب ہیں اور ان ان میں 15 میں 15 میں 15 میں 14
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- <b></b>	ہے۔ یہ سری نے سی پر 7 سے کہ ہے کہ سری سیم ڈا نہ ہو کا سے اس کا	:	و سور نے بر سے سے نے بر سے بہتر ہوں ہے اس سسن بھر کا شاہ بار براہ اس میں اس سے بہتر اس سے بہتر اس میں ا	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
2. <b>Figure 2</b> show	the changes of voltage	of a neuron.		
	0			
P	O R			
}	A			
	$\Lambda$			
0	//	<b>=</b>	*	
-70	in the second second			
	Figure 2	Time		
1.2.1. What is n	Figure 2 neant by resting membrar	ne potential		
			و المرجوع على بي الموجوع في يوسط في الوجوع الأناف مواقع المدموع الأناف من الأناف من الأناف من الأناف و	
			ر من الأنفاع بالأنفاع الذكار الذي المنازع الذي المنازع الذي المنازع الذي المنازع الذي المنازع الذي المنازع الذي	
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	resting potential on the	graph with letter	A	
1.2.3. Name	P, Q and R			

1.2.4. Label the spike potential on Figure 2 and describe how the potential changes
during spike potential.
1.2.5. What are the ions that are involved to maintain the charges at the time <b>P</b> ?
1.2.6. What are the ions that enter into the axon during time period Q?
1.2.7. Describe the movement of ions during the period of R.
1.28 The membrane notantial has decreased below, 70 West C.C., and in time and 1
1.2.8. The membrane potential has decreased below -70mV at S for certain time period.
Name the period and describe how it is decreased below -70 mV.
Name of the period
Description

1.3. The nervous system has millions of neurons. These neurons arrange in different ways and make
circuits.
1.3.a. Name two types of nerve circuit present in nervous system.
1
2
1.3.b. Draw a diagram to show the arrangement of neurons in one of the above circuits mentioned
in <b>1.3.a</b>
1.3.c. What are the types of transmission of impulses across a synapse?
1.3.d. Write the exact mechanisms for following transmitters in synapses  i. Excitatory transmitters
ii Inhibitory transmitters
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1.3.e Name three neurotransmitter substances used in synapses.
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## PART B

## Answer any four (4) questions

- 2. Describe briefly how a glucose molecule is oxidized during synthesis of ATP in the cytoplasm of a living animal cell.
- 3. Describe the cardiac cycle of human heart and its conducting system in operation.
- 4. Describe the changes in different hormone levels, during the menstrual cycle of a non-pregnant women and discuss the corresponding physical changes of the uterus.
- 5. Briefly explain the renal mechanisms of acid base balance in human body.
- 6. i. Describe the structure of endoplasmic reticulum, Golgi apparatus and Lysosomes.
  - ii. Explain the functional relationship that exists among these organelles.
- 7. Write short notes on any two of the following
  - a.. Cellulose digestion in ruminants and non ruminants
  - b. Immune response
  - c. Active transport processes

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