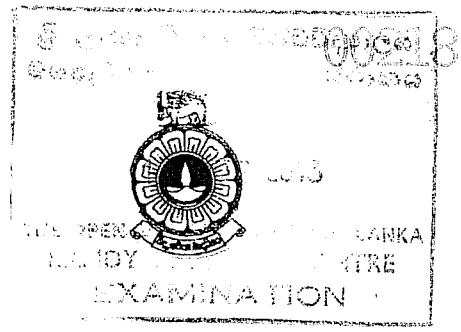

THE OPEN UNIVERSITY OF SRI LANKA
B.Sc DEGREE PROGRAMME- 2012/13
ANIMAL FORM AND FUNCTION – ZLU2264/ZLU2280
ZOOLOGY –LEVEL 4
FINAL EXAMINATION
DURATION - THREE HOURS **Index Number: .....**

DATE : 13th December 2013 **TIME : 9.30 am -12.30 pm**

Instructions to candidates

- 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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Part A

Question 1.
Question 1 is based on following **Figure 1**

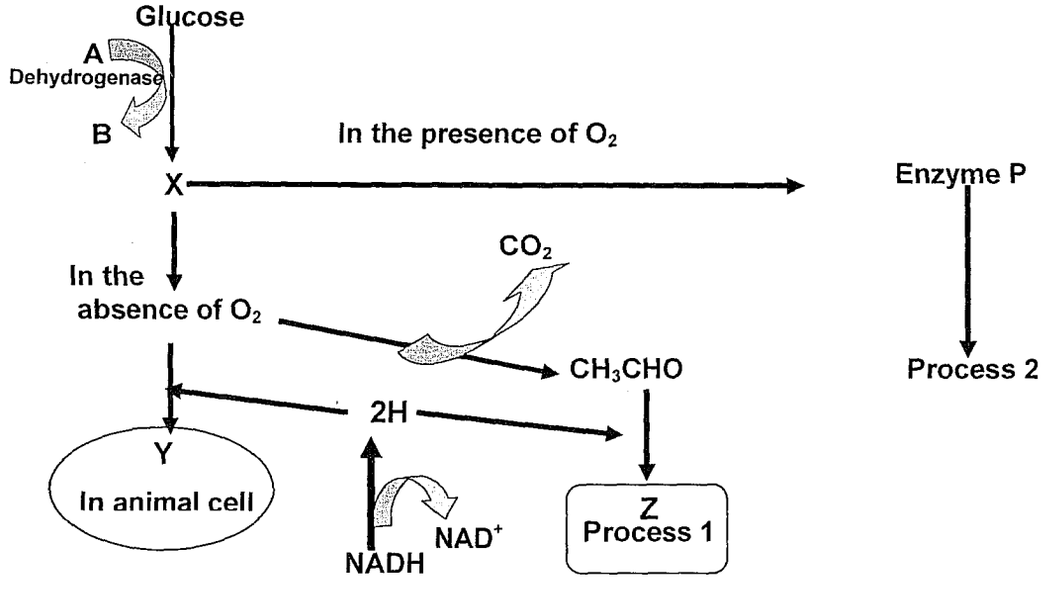

Figure 1

1.1. Study the **Figure 1** and give a suitable name for **Figure 1.**

1.2. Name A, X, Y , Z and Enzyme P

A .---------- B.---------- X .---------- .

Y. ---------- Z---------- Enzyme P ----------

1.3 Name the **Process 1** in **Figure 1.**

1.4. According to the **Figure 1** how many ATPs are produced in a living cell, if all reactions continued up-to the **Process 1** ?

1.5. Write one practical application in **Process 1**

1.6. Name the **Process 2** and write where it takes place in a living cell.

Process 2---------- Place ----------

1.6. How many ATPs are produced in a living cell if reactions end up at the **Process 2 ?**

1.7. At the short supply of carbohydrates, deposited fat molecules are used for energy production What are the products of the first split of a fat molecule in energy production process ?.

1.8. Which character of a fatty acid molecule determines the amount of energy produced by above process ?

1.9. Tissues protein is used as source of energy. Draw a flow chart below with the major sequential steps to show how energy is released from a protein molecule.

1.10 When does the body use proteins as source of energy ?

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Part B

Answer ANY FOUR (4) questions. Wherever necessary, illustrate your answers with clearly labelled diagrams.

2. Briefly describe how different factors affect the oxygen dissociation curve and physiological significance of each factor.

3. a. What is meant by homeostasis?.

   b. Describe briefly how homeostasis mechanisms operate in human body giving two examples.

4. Discuss different fertilization and zygote development methods in animals.

5. Describe the mechanism of skeletal muscle contraction in animals.

6. Describe the role of kidney in acid base balance in human body.

7. Write shot notes on any **two (2)**of the following.

   (i) Second messenger mechanism in hormones

   (ii). Propagation of nerve impulse

   (iii). Respiration in insects

   (iv). Counter current mechanism