

THE OPEN UNIVERSITY OF SRI LANKA
B. Sc. DEGREE PROGRAMME – LEVEL 04



ZLU2182 – ANIMAL DEVELOPMENT
CAT 2 (OPEN BOOK TEST)

DATE: 15th March 2015

Time: 10.30 a.m. – 11.30 a.m.

REGISTRATION NUMBER:

Answer all questions
Answers should be written in the space provided

This paper consists of two parts, Part A & B.

Part A - Q 1 contains 20 multiple choice questions. Tick the correct answers for these questions on the answer sheet provided below.

Part B has two questions, Q 2 & Q 3. Answers for these questions should be written on the space provided.

Both Parts (1 and 2) should be submitted at the end of the examination.

Answer Sheet for Part A - Q 1

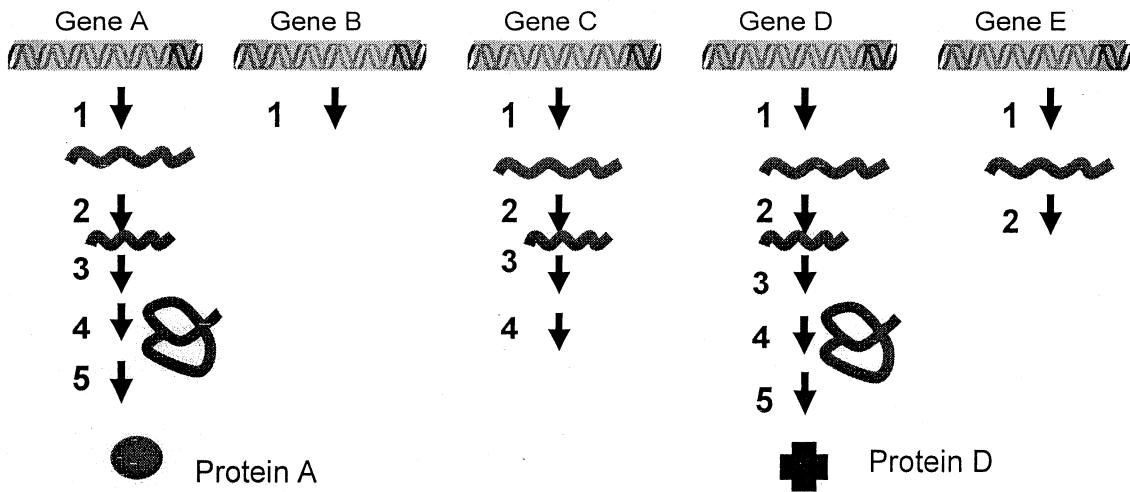
	(a)	(b)	(c)	(d)
1.1				
1.2				
1.3				
1.4				
1.5				
1.6				
1.7				
1.8				
1.9				
1.10				

	(a)	(b)	(c)	(d)
1.11				
1.12				
1.13				
1.14				
1.15				
1.16				
1.17				
1.18				
1.19				
1.20				

PART B

(30 minutes)

Q2. The diagram given below shows the steps of protein synthesis occurring in a hypothetical cell having five genes. As shown in the diagram, the protein synthesis by Gene B, Gene C and Gene E are controlled at Step 1, Step 4 and Step 2 respectively. Answer the following questions based on this diagram.



2.1 Name the five steps of protein synthesis.

- Step 1 -
- Step 2 -
- Step 3 -
- Step 4 -
- Step 5 -

2.2 Which of these steps occur only within the nucleus?

.....

2.3 What is the name given to the product obtained after Step 1?

.....

2.4 What is the name of the product formed during Step 4?

.....

2.5 Explain the process occurring at the Step 2.

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2.6 Controlling/regulation of protein synthesis by unwanted genes is a necessity for cell differentiation. If the control occurs at which step would it be most economical for the cell?

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2.7 Explain the two ways by which the control/regulation of protein synthesis can be achieved in Gene B.

1.
2.

2.8 State one of the ways by which control/regulation of protein synthesis can be achieved in Gene C.

.....

Q3. This question is based on cloning of animals.

3.1 Does cloning naturally occur? If yes, give one example.

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3.2 What is reproductive cloning?

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3.3 In reproductive cloning, why is it essential to use an unfertilized egg to receive nuclear material of the parent animal to be cloned?

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3.4 In the technique of reproductive cloning, why is it necessary to stimulate the egg cell after introducing the nucleus?

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3.5 What is the characteristic feature of differentiated adult cells showed by the cloning of 'Dolly'?

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3.6 What is the main difference between reproductive cloning and therapeutic cloning?

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