	Utech
Name:	
Roll No.:	A Dear of Exercising and Excitors
Invigilator's Signature :	

CS/B.Sc (H)/BT/SEM-4/ABT-404/2013 2013

ANIMAL BIOTECHNOLOGY

Time Allotted: 3 Hours Full Marks: 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP - A

(Multiple Choice Type Questions)

- 1. Choose the correct alternatives for any ten of the following: $10 \times 1 = 10$
 - i) Which of the following is a cryoprotective agent for embryos?
 - a) dimethyl sulphoxide
 - b) hydrazine
 - c) formaldehyde
 - d) none of these.
 - ii) Typical volume for microinjecting DNA into mouse fertilized egg is
 - a) 1-2 μl

- b) 10-20 μl
- c) $20-30 \mu l$
- d) none of these.

4705 [Turn over

CS/B.Sc	(H)/I	BT/SEM-4/ABT-404/20	013			
iii)	Theileriosis is transmitted by			Silgen		
	a)	air	b)	water		
	c)	air & water	d)	vector.		
iv)	Pig embryo donors can be superovulated by injecting					
	a)	PMSG	b)	LH		
	c)	Progesteron	d)	None of these.		
v)	Cau	ausative organism of Coccidiosis diseases is				
	a)	protozoa	b)	virus		
	c)	bacteria	d)	none of these.		
vi)	A mutation in which gene accounts for 25% of SCID cases?					
	a)	CFTR				
	b)	ZFHD1				
	c)	Ada				
	d)	EPO				
	e)	FRB.				
vii)	What is a drawback to using AAV ?					
	a)	AAV does not provoke	antib	ody development		
	b)	The virus is small a amounts of DNA	nd c	an only package small		
	c)	AAV has a wide host a	nd tis	ssue range		
	d)	AAV integrates its DN causing cancer	A int	o the host genome thus		
	e)	None of these.				
viii)		Microinjection of foreign DNA in a pronucleus cause DNA integration in the genome				
	a)	tandemly	b)	randomly		

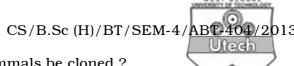
4705 2

c)

any of these

d)

none of these.



- ix) How might mammals be cloned?
 - a) homologous recombination
 - b) transfection with a retrovirus
 - c) YACs
 - d) nuclear transplantation
 - e) BACs.
- x) Which of the followings was first used for gene transfer in gene therapy?
 - a) Retrovirus
- b) Adenovirus

c) YAC

d) None of these.

- xi) ES cells are
 - a) Totipotent
- b) Pluripotent
- c) Multipotent
- d) None of these.
- xii) Human haemoglobin has successfully expressed in
 - a) Transgenic zebra fish
- o) Transgenic mouse
- c) Transgenic goat
- d) Transgenic pig.

GROUP - B

(Short Answer Type Questions)

Answer any three of the following.

 $3 \times 5 = 15$

- 2. Describe the procedure of using ES cells for producing transgenic mice & micro propagation for producing transgenic chicken.
- 3. Write down the uses of transgenic animals in agriculture & medicine.
- 4. Write short notes on any *one* of the following :

 1×5

- i) Transgenic goat
- ii) Transgenic pig
- iii) Transgenic cow.

4705 3 [Turn over

CS/B.Sc (H)/BT/SEM-4/ABT-404/2013

- 5. Describe the retroviral method of gene transfer
- 6. What is IVF? Explain the procedure of IVF.

GROUP - C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

- 7. What is trypanosomiasis? Name the parasites that cause the disease. Describe the life cycle of parasites in the arthropod vector and mammalian host. What are the control measures of this disease? 1 + 3 + 5 + 6
- 8. What is coccidiosis? In which animals this disease is common? What is precocious development? In which parasites it can be used? What are the clinical signs of coccidiosis? Describe briefly the life cycle of coccidian. Name two types of vaccination procedure against coccidiosis.

$$2 + 1 + 2 + 1 + 3 + 4 + 2$$

9. What is theileriosis? Name the parasites that cause the disease. Describe the life cycle of parasites in the arthropod vector and mammalian host. Name four important biotechnological tools used for diagnosis of theileriosis.

$$1 + 3 + 5 + 6$$

- 10. What are retroviruses? Discuss retroviruses could be used for gene transfer. How can you classify retroviruses according to their envelop proteins? What are the benefits of retroviral gene transfer? 1 + 10 + 2 + 2
- 11. What are embryonic stems cells? How can you isolate embryonic stem cells and how they can be used for creating transgenic animals?

 2 + 13

4705 4