Q. Code:174076

Reg. No. | | | | | | | | | | | | | |

B. E / B. TECH.DEGREE EXAMINATIONS, MAY 2024

Sixth Semester

BT18012 – ANIMAL BIOTECHNOLOGY

(Biotechnology)

(Regulation 2018A)

TIME:3 HOURS **MAX. MARKS: 100**

CO 1 Enrich with the knowledge on basic animal cell cultivation methods.
CO 2 Explore on various viral and bacterial diseases diagnosis and treatment methods.
CO 3 Acquire information on various molecular therapies for treating animal diseases.
CO 4 Gain knowledge on the concepts of micromanipulation technology and transgenic animal technology.
CO 5 Develop various idea and information on transgenic animal development and their applications.

PART- A (10x2=20Marks)

(Answer all Questions)

		CO	RBT LEVEL
1.	Write on contact inhibition in cell growth.	**1**	**2**
2.	What is the importance of cryopreservation in animal biotechnology?	**1**	**2**
3.	Mention the applications of FISH.	**2**	**2**
4.	What is dot blot? Explain the significance.	**2**	**2**
5.	Mention the significance of TNF treatment in animals.	**3**	**2**
6.	Distinguish attenuated vaccines and inactivated vaccines.	**3**	**2**
7.	Define embryo splitting.	**4**	**2**
8.	What is the need for sexing embryos in breeding of animals?	**4**	**2**
9.	List the types of cloning.	**5**	**2**
10.	Define the term knockout mice.	**5**	**2**

PART- B (5 x 14=70Marks)

			Marks	CO	RBT LEVEL
11. (a)	**(i)**	Describe the strategies for scaling up anchorage dependent animal cells culture.	**(7)**	**1**	**2**
	(ii)	What is trypsinization? Mention its usage in animal cell culture.	**(7)**	**1**	**2**
		(OR)			
(b)	**(i)**	Explain in detail the application of Hybridoma technology in animals for the production of monoclonal antibodies.	**(7)**	**1**	**2**
	(ii)	Discuss the limitations and advantages of continuous flow and immobilized cultures.	**(7)**	**1**	**2**

12. (a)		Discuss the role of ELISA, monoclonal antibodies and RFLP in molecular diagnosis.	**(14)**	**2**	**3**
		(OR)			
(b)		Explain the various blotting techniques in animal disease diagnosis.	**(14)**	**2**	**3**
13. (a)		Explain any four vectors less methods used for DNA delivery in animal cell culture.	**(14)**	**3**	**3**
		(OR)			
(b)	**(i)**	How is recombinant growth factor produced? Write the list of recombinant growth factors produced by mammalian culture system and their application.	**(7)**	**3**	**3**
	(ii)	What are immunotoxins? How is it useful in therapy?	**(7)**	**3**	**3**
14. (a)	**(i)**	What is a micromanipulator? Explain the structure and operation of micromanipulator with a neat diagram.	**(7)**	**4**	**3**
	(ii)	In what condition artificial insemination employed in animals. Explain the stages of it.	**(7)**	**4**	**3**
		(OR)			
(b)	**(i)**	Describe the techniques involved in invitro fertilization.	**(8)**	**4**	**3**
	(ii)	Give an account on superovulation.	**(6)**	**4**	**3**
15. (a)		Describe the production of genetically modified fish. Discuss the advantages of using fish egg cell in micro manipulation technique.	**(14)**	**5**	**3**
		(OR)			
(b)		Discuss how stem cell cultures are useful in transgenic cattle production.	**(14)**	**5**	**3**

PART- C (1x 10=10Marks)

(Q.No.16 is compulsory)

			Marks	CO	RBT LEVEL
16.		You have been given the task of developing a simple, sensitive and reproducible diagnostic procedure for a double stranded DNA virus that is devastating a local cattle population. Briefly explain how you would proceed?	**(10)**	**2**	**3**

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