Registration No. :											
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Total number of printed pages - 2

B. Tech

PEBT 5402

CENTRA

Seventh Semester Back Examination – 2014 ANIMAL AND STEM CELL TECHNOLOGY

BRANCH: BIOTECH

QUESTION CODE: L 204

Full Marks - 70

Time: 3 Hours

Answer Question No. 1 which is compulsory and any five from the rest.

The figures in the right-hand margin indicate marks.

1. Answer the following questions:

2×10

- (a) What are stem cells? Write the basic properties of stem cells.
- (b) Explain briefly how to maintain aseptic environment for animal cell culture.
- (c) Write the name of first vaccine developed from animal cell culture.
- (d) Write two important application of animal cell culture.
- (e) What is the difference between cold trypsinization and warm trypsinization?
- (f) What is immobilized cell culture?
- (g) Name two important products from animal cell culture technology. What are(their functions ?
- (h) Differentiate between finite cell lines and continuous cell lines.
- (i) What is the importance of pH While culturing animal cells? How is the pH maintained in culture media?
- (j) Differentiate between roller bottles and spinner bottles.
- 2. What are cell lines? How are the growth characteristics of cell lines determined?

3	What is hybridoma technology? Briefly explain the strategies u							
	production of monoclonal antibody. Differentiate between monoclonal and polyclonal							
	antil	body.	10					
4.	Diffe	erentiate between:						
	(a)	Normal cells and transformed cells.	5					
	(b)	Monolayer culture and suspension culture.	5					
5	(a)	Biology and characterization of the cultured cells. Mass transfer in mammalian cell culture.	5					
	(b)	Mass transfer in mammalian cell culture.	5					
6.	(a)	Describe about the various application and scope of tissue engineering.	5					
	(b)	Briefly describe the equipments required for animal cell culture.	5					
7	(a)	Micro carrier attached growth.	5					
	(b)	Organ culture technology	5					
8.	Writ	te short notes on any two of the following:	×2					
	(a)	Culture media and growth conditions						
	(b)	Cell culture in hollow fiber reactor						
	(c)	Cell transformation						
	(d)	Embryonic stem cells and their applications.						