Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
(GIET University)

B. Tech (Seventh Semester - Regular) Examinations, November – 2025

22BBTOE47001 – Animal Biotechnology

(Biotechnology)

Time: 3 hrs Maximum: 70 Marks

Answer ALL questions

(The figures in the right hand margin indicate marks)

PART – A **(2 x 5 = 10 Marks)**

	Q.1. Answer ***ALL*** questions	CO #	Blooms Level
a.	What are the differences between anchorage-dependent and anchorage-independent cells?	CO1	K2
b.	Define cell culture contamination and list two preventive measures.	CO1	K1
c.	What are the key advantages of serum-free media over serum-supplemented media?	CO2	K3
d.	What are the physical methods used in transfection.	CO3	K2
e.	Write the principle of Southern blotting.	CO4	K2

PART – B **(15 x 4 = 60 Marks)**

	Answer ***all*** the questions	Marks	CO #	Blooms Level
2. a.	Explain the physical and chemical requirements essential for establishing and maintaining animal cell culture.	15	CO1	K3
	(OR)			
b.	Describe the enzymatic and mechanical disaggregation methods for preparing primary cultures.	8	CO1	K3
c.	Give a note measuring parameters of growth in cell culture.	7	CO1	K3
3.a.	Discuss in detail on the importance of culture media, its composition and types.	15	CO2	K4
	(OR)			
b.	Explain the process of scale-up from flask cultures to bioreactor systems in industrial biotechnology.	8	CO2	K3
c.	Write notes on techniques used to assess cell viability and proliferation.	7	CO2	K4
4.a.	Evaluate the role of hybridoma technology in diagnostic and therapeutic antibody development.	15	CO3	K4
	(OR)			
b.	Write short notes on gene transfer methods used in animal biotechnology.	8	CO3	K4
c.	Write a critical note on organ culture.	7	CO3	K3
5.a.	Differentiate between Northern blotting and PCR-based gene expression analysis with explanation.	15	CO4	K4
	(OR)			
b.	Discuss on bacterial and viral diseases and their control.	8	CO4	K3
c.	Explain how VNTR used in disease diagnosis.	7	CO4	K4

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