



**PART – B: (Short Answer Questions)****(2 x 10 = 20 Marks)**Q.2. Answer ALL questions

	[CO#]	[PO#]
a. What do you mean by established cell line?	CO1	PO1
b. What are the main constituents of culture for animal cell growth?	CO1	PO1
c. Name two techniques used in animal cell transfection process?	CO3	PO1
d. What is the effect of excess accumulation of metabolite products (lactate and ammonium) on cells ?	CO2	PO1
e. What is the concentration of CO <sub>2</sub> required for culturing animal cells?	CO1	PO1
f. Write composition of BSS?		
g. Differentiate between transformed cell and non-transformed cell?	CO2	PO1
h. Write the advantages of serum in media?	CO1	PO1
i. What is the principle of southern blotting?	CO4	PO1
j. Name few bacterial and viral diseases in animals?	CO4	PO1

**PART – C: (Long Answer Questions)****(10 x 4 = 40 Marks)**Answer ALL questions

	Marks	[CO#]	[PO#]
3. a. Discuss about the culture of cells for production of various biological?	5	CO2	PO1
b. Write notes on scaling up the cell culture for large scale production?	5	CO2	PO1
(OR)			
c. Explain the development of cell line by enzymatic disaggregation method?	5	CO1	PO1
d. Write about the biology and characterization of the cultured cells?	5	CO2	PO1
4. a. Explain about the equipment and materials required for animal cell culture technology?	5	CO1	PO1
b. Discuss about the process of stem cell culture with its application?	5	CO3	PO1
(OR)			
c. Discuss about animal cloning techniques with its importance?	5	CO3	PO1
d. Explain the process of in vitro antibody production by using hybridoma technology?	5	CO4	PO1
5. a. Write about cell viability and cytotoxicity?	5	CO3	PO1
b. Discuss about the development and maintenance of cell line?	5	CO3	PO1
(OR)			
c. How transgenic animals are useful for producing important compounds required for pharmaceutical and therapeutic purposes?	5	CO4	PO1
d. Write notes on cryopreservation techniques?	5	CO3	PO1
6. a. Write notes on behaviour of cells in culture, it's division and their growth pattern?	5	CO2	PO1
b. Write brief about the chemical, physical and metabolic functions of different constituents of culture medium?	5	CO1	PO1
(OR)			
c. Discuss in detail about organ cultures ?	5	CO3	PO1
d. Discuss about the goal of future tissue engineering with its application?	5	CO3	PO1

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