PR-1603120602040500 Seat No. _____

M. Sc. (Biochemistry) (Sem. IV) (CBCS) Examination

August - 2020

EBC - 5 : Animal Cell Tissue Culture

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

1 Answer briefly any **seven** of the following questions : **14**

(a) Name some of the possible microbial contaminations in tissue culture.

(b) Enlist different methods for cell counting. Explain any one.

(c) What is the importance of liquid nitrogen in cell culture lab?

(d) What is embryonic stem cell culture?

(e) Explain the process of differentiation.

(f) Describe how can one separate cells in tissue culture?

(g) What is immortalized cell line?

(h) What is the importance of serum in culture media?

(i) Why cell lines should be incubated in a C02 incubator?

(j) Give the use of antibiotics and fungicides in culture media.

2 Answer any **two** of the following questions : **14**

(a) Write a note on laboratory design and layout in animal cell tissue culture lab.

(b) Write a note on elements of aseptic environment.

(c) Describe some aspects of general safety that require particular emphasis in tissue culture laboratory.

3 (A) Describe attachment and growth. Explain some common substrate materials and alternative substrates. **7**

(B) Explain physicochemical properties like pH, oxygen and temperature for development of media. **7**

OR

(C) Give advantages and disadvantages of serum free media. **7**

(D) Write a note on sterilization of media. **7**

4 Answer the following questions : **14**

(a) What is primary culture? Describe the stages for initiation of primary cell culture.

(b) Describe the process of suspension cloning.

5 Answer the following questions : (Any **Two**) **14**

(a) Explain the principles of cryopreservation.

(b) Give a detailed note on FACS technique.

(c) Describe the ways one can eradicate microbial contamination.

(d) Write a note on cytotoxicity assay.
