



DN-1603120602040500 Seat No. _____

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

March - 2022

Biochemistry : EBC - 5

(Animal Cell Tissue Culture)

Time : Hours]

[Total Marks : 70

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

- (A) What is the concentration of CO₂ required for culturing animal cells ? How it is maintained ?
- (B) What is intercellular junctions ? Give brief note.
- (C) What are the difference between serum and serum free media ? Give importance of both type of media.
- (D) How initial pH of the culture medium gets maintain ?
- (E) What are the major problem associated with isolation of free cells and cell aggregates from organs?
- (F) What is transformation ?
- (G) What happened if lactate and ammonium, a metabolite products of cells get accumulated in culture medium?
- (H) Give note on preparation area.
- (I) Note the area of application where animal cell tissue culture can be use.
- (J) What is crypreservation ? Give brief note.

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

- (A) How stem cell differentiation occur *In vivo* and *In vitro*?
What are the factors involved in it ?

- (B) What are the physico-chemical parameter of ATC media? List it and explain any two in detail.
- (C) What is cryopreservation ? How it works ? Explain in detail.
- 3** (A) What are the liquid media ? Explain methods for its sterilization. **7**
- (B) What is primary culture ? Explain enzymatic disaggregation techniques for development of primary culture. **7**
- OR**
- (C) Write a short note on sources of contamination. **7**
- (D) Discuss the cell counting procedure of animal cell using haemocytometer. **7**
- 4** Answer the following questions : **14**
- (A) While designing the cell culture lab, what are the important points involved and how to design it ? Explain in detail.
- (B) Explain the methods for media preparation. How it can be sterilize ?
- 5** Answer the following questions : (Any **two**) **14**
- (1) Write note on advantages of tissue culture.
- (2) To maintain the aseptic condition in tissue culture lab, what kind of precautions should be taken ?
- (3) How cell proliferation occur during cell tissue culture?
- (4) Culture contaminated with microbes, how it can be eradicate ?
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