



DGG-012408

Seat No. \_\_\_\_\_

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

April / May – 2015

**Biochemistry : BC. EBC - 5**

*(Animal Cell Tissue Culture)*

Time :  $2\frac{1}{2}$  Hours]

[Total Marks : 70

**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures on the right indicate full marks.

- Q-1. Answer briefly any seven of the following questions** **14**
- A. What are the applications of cytotoxicity assay?
  - B. What are the applications of cell culture?
  - C. What is primary cell culture?
  - D. Enumerate the different methods for cell counting. Explain any one.
  - E. What are the disadvantages of cell culture?
  - F. What are the advantages and disadvantages of serum media
  - G. Write a short note on requirements before freezing
  - H. Write a note on Intercellular Junctions?
  - I. Define transformation
  - J. What is swabbing and flaming?
- Q-2. Answer any two of the following questions** **14**
- A. Note on serum free media
  - B. Cell counting of animal cell using haemocytometer
  - C. Write a short note on nature of cytotoxicity assay
- Q-3.** **7**
- A. Write a detailed note on Stem cell differentiation *In vivo* and *In vitro*? **7**
  - B. Write a note on Cell Proliferation. Briefly describe control of cell proliferation and how the cell cycle is regulated by signals from the environment. **7**
- OR**
- C. Enlist different equipments required in the aseptic area of the animal tissue culture laboratory **7**
  - D. Discuss physicochemical properties of media **7**
- Q-4. Answer the following questions** **14**
- A. Write a short note on sources of contamination
  - B. Define cryopreservation. Explain the principles of cryopreservation
- Q-5. Answer the following questions (Any two)** **14**
- A. Note on preparation and sterilization of media
  - B. Write a short note on eradication of microbial contamination
  - C. Note on complete media for animal cell culture
  - D. Discuss enzymatic disaggregation techniques for development of primary culture