

B.Sc. (CBCS Pattern) Semester-VI  
**BIO2 - (DSE-II) Biotechnology Paper-II : Animal Biotechnology**

P. Pages : 2

Time : Three Hours



**GUG/S/25/13324**

Max. Marks : 50

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**1.** What is animal cell culture? Discuss different systems of animal cell culture. **10**

**OR**

- a) Write note on, balanced salt solution. **2½**
- b) What is serum? Explain its physiological role in animal cell culture media. **2½**
- c) Explain phenomenon of contact inhibition? **2½**
- d) Describe synthetic media used in cell culture. **2½**

**2.** Describe different enzymatic methods for isolation of cell in animal cell culture. **10**

**OR**

- a) Explain cryopreservation method. **2½**
- b) What is Germplasm? Discuss one method for Germplasm preservation. **2½**
- c) Discuss suspension culture. **2½**
- d) Explain different properties of cell in primary culture. **2½**

**3.** What is Embryonic stem cell? Describe culture of stem cell with their application. **10**

**OR**

- a) Explain cell cloning techniques/methods. **2½**
- b) Discuss cell synchronization. **2½**
- c) What is apoptosis? Discuss role of cytochrome C in apoptosis. **2½**
- d) Discuss cell transformation. **2½**

**4.** What is transgenic animal? Discuss production of Dolly sheep by cloning. **10**

**OR**

- a) What is IVF? Discuss Embryo transfer technique in humans? **2½**
- b) Discuss Embryo cloning. **2½**
- c) What is artificial insemination? Give its advantages. **2½**
- d) Discuss production of insulin by cell culture in brief. **2½**

5. Answer **any ten** of the following. (1 Mark each)

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- a) Define Tissue culture.
- b) Give one advantage of serum free media.
- c) What is anchorage dependance?
- d) What is explain in animal cell culture?
- e) What is cell line?
- f) What is secondary culture?
- g) What is cell manipulation?
- h) Name cell organelles involved in apoptosis.
- i) What is 3D culture?
- j) Define vaccine.
- k) Name the scientist who developed first mammal clone.
- l) What is embryotic stem cell?

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