



M.Sc. IV Semester Degree Examination, October - 2023

BIOTECHNOLOGY

Animal Biotechnology

(NEP)

Time : 3 Hours

Maximum Marks : 70

Note : (i) Answer **any FIVE** of the following questions with Question No. 1 (Q. 1) **compulsory**, each question carries equal marks.

(ii) Draw neat diagrams wherever necessary.

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1. What is Animal cell culture ? Explain about cell culture media composition and preparation. **14**
 2. (a) Explain electron microscope and its application. **7**
(b) Give a note on detection of contaminations in cell culture. **7**
 3. (a) Discuss cloning of genes into CHO cell lines and its applications in Biopharma. **7**
(b) What is Dolly and explain its method of development ? **7**
 4. (a) Explain adult stem cells and its applications. **7**
(b) Discuss different sources of multipotent stem cells. **7**
 5. (a) Explain polyclonal and monoclonal antibodies and their role in diagnosis. **7**
(b) Write bone marrow transplantation. **7**
 6. (a) Explain liposome mediated gene transfer. **7**
(b) Discuss embryo transfer techniques. **7**
 7. (a) Explain epigenesis in germ cell development. **7**
(b) Explain production of vaccines. **7**
 8. Explain the followings :
 - (a) Gene transfection **5**
 - (b) *In vitro* fertilization **5**
 - (c) Hematopoietic system **4**

