G-3/307/21 Roll No.....

III Semester Examination, April-2021

M.Sc.

BIOTECHNOLOGY

Paper III

(Animal Biotechnology)

Time : 3 Hours] [Maximum Marks : 80

Note : *All questions are compulsory. Question Paper comprises of 3 sections.* **Section A** *is objective type/Multiple Choice questions with no internal choice.* **Section B** *is short answer type with internal choice.* **Section C** *is long answer type with internal choice.*

SECTION 'A' **1×8=8**

(Multiple Type Questions)

Choose the correct answer :

1. Name the organism on which first cell line was observed :

(a) *E.coli* (b) Sheep

(c) Mouse (d) Drosophila

5. Hybridoma technology was developed by :

(a) Kohler and Milstein

(b) Khorana and Nirenberg

(c) Khorana and Korenberg

(d) Beadle and Tatum

6. Hybridomas are made by :

(a) Fusing T cells with myeloma cells

(b) Fusing B cells with myeloma cells

(c) Fusing T helper cells with myeloma cells

(d) fusing B memory cells with mycloma cells

7. DNA miroinjection into egg has been used to produce which of the transgenic animals :

(a) Mice (b) Chicken

(c) Pigs (d) All of these

8. DNA into fish in injected into :

(a) Pronuclei (b) Cytoplasm

(c) Both (a) and (b) (d) None of these

SECTION 'B' **4×6=24**

(Short Answer Type Questions)

Note : *Answer the following questions in 250 words.*

1. Write a note on history and scope on animal cell and tissue culture.

Or

Write a note on substrates on which cells grow.

2. Discuss large scale culture of cell lines.

Or

Write a note on seperation of viable and non-viable cells.

3. Write an account of cell cultured vaccines.

Or

Describe the process of somatic cell fusion.

4. Write the process of organ and embryo culture

Or

Write the different methods of transfection.

2. Which of the following is the characteristics of normal cell ?

(a) Anchorage independent

(b) Continuous cell lines

(c) Dependent on external growth factor

(d) No contact inhibition.

3. The major problem with isolation of free cell and cell aggregates from organs is :

(a) releasing the cells from their supporting matrix

(b) Inhibiting the cells from their supporting matrix

(c) Disintegrating the cells from their supporting matrix.

(d) None of the above

4. Cells which have undergone transformation frequently become :

(a) Anchorage independent

(b) Anchorage dependent

(c) Stable

(d) Unstable

SECTION 'C' **12×4=48**

(Long Answer Type Questions)

Note : *Answer the following questions in 500 words.*

1. Give a detailed account of culture media used for cell and tissue culture.

Or

Discuss the structure and organization of animal cell.

2. Describe the enzymatic and mechanical methods of tissue disaggregation.

Or

Describe cell banking and scaling of cell culture.

3. Give detailed account on production of monoclonal antibodies.

Or

Describe properties and analysis of cultured somatic cell.

4. Give a detailed account of tissue engineering and its importance.

Or

Discuss IVF and IVFT in cattle and human.

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