

OR

- (d) Serum free medium. 4
 (e) Selection of medium. 4
 (f) Physical aspects of tissue culture medium. 4

5. Explain in brief :—

- (a) Commonly used animal cell lines. 4
 (b) Enzymatic disaggregation. 4
 (c) Isoenzyme analysis. 4

OR

- (d) Methods of cell separation. 4
 (e) Characterization techniques for cell lines. 4
 (f) Seeding efficiency. 4

6. Write about :—

- (a) Viral vaccines. 4
 (b) Monoclonal antibody. 4
 (c) Electroporation. 4

AR - 599

Fifth Semester B.Sc. (Part - III) Examination

5S - BIOTECHNOLOGY (R/V)

(Animal cell Biotechnology)

P. Pages : 5

Time : Three Hours]

[Max. Marks : 80

- Note :** (1) All questions are compulsory.
 (2) Illustrate your answer with suitable diagram.

1. (A) Fill in the blanks.

- (i) _____ is one of the most common adhesive glycoprotein.
 (ii) The delivery of DNA into cells using liposomes is called _____.
 (iii) The fused cells in monoclonal antibodies production are selected by _____ medium.
 (iv) _____ involved in the endogenous synthesis of nucleotides. 2

(B) Choose correct alternatives.

- (i) The subculturing of the primary culture giving rise to immortal cells is known as
 (a) Secondary cells (b) Cell lines
 (c) Apoptosis (d) None of the above

(ii) Cell culture with limited culture life spans are referred to as —.

- (a) Cell line (b) Primary explants
(c) Finite cell culture (d) continuous cell line

(iii) Transfer of cells from one culture vessel to another culture vessel is —.

- (a) Primary culture
(b) Disaggregation
(c) Subculture
(d) Trypsinization.

(iv) Cells at same stages of the cell cycle in a culture are called —.

- (a) Primary culture
(b) Subculture
(c) Synchronous culture
(d) Culture of amniocentesis. 2

(C) Answer in **one** sentence :—

- (i) What is trypsinization ?
(ii) What is cell line ?
(iii) What is flow cytometer ?
(iv) What is extracellular matrix ? 4

2. Explain with suitable diagram.

- (a) Connective tissue. 4
(b) Tight junction. 4
(c) Fibronectin. 4

OR

- (d) Desmosome. 4
(e) Proteoglycans. 4
(f) Muscular tissue. 4

3. Explain in detail structure, function and uses of CO₂ incubator, colony counters and Autoclave.

OR

What is Biohazard ? Give a layout and design of a good animal tissue culture laboratory. 12

4. Explain in brief :—

- (a) Role of serum. 4
(b) Chemical constituents of medium. 4
(c) Simple growth medium. 4

OR

- (d) Erythropoietin. 4
- (e) Somatic cell fusion. 4
- (f) Microinjection. 4
7. What is continuous culture ? Write about various types of continuous culture technique

OR

Define monolayer culture. Write in detail culture of amniocentesis and its applications. 12



