

[A-76]

SARDAR PATEL UNIVERSITY**M. Sc. (Integrated) Biotechnology – Eighth Semester Examination**Tuesday, 28th April, 2015.

2:30p.m. to 5:30p.m.

PS08CIGGB4: ANIMAL BIOTECHNOLOGY**Note :** (i) Figures to right indicate marks.

(ii) All questions are compulsory.

Total Marks: 70**Q – 1 Choose the most appropriate alternative for the following:****(08)**

1. One of the following is not balanced salt solution.
 - a) Hank's BSS
 - b) DMEM
 - c) Dulbecco's PBS
 - d) Earle's BSS

2. _____ medium is designed for transportation of cell culture.
 - a) M-199
 - b) RPMI-1640
 - c) CMRL-1066
 - d) L-15

3. _____ factor of serum provides attachment to cultured cells.
 - a) albumin
 - b) transferrin
 - c) fibronectin
 - d) all of above

4. The cell lines grow in three dimensional matrix to high density is called _____.
 - a) organ culture
 - b) histotypic culture
 - c) organotypic culture
 - d) none of above

5. Which one of the following is not an immunotoxin?
 - a) Ricin
 - b) Shigella toxin
 - c) Concanavalin
 - d) None of these

6. Dye exclusion assay is based on _____.
 - a) cellular respiration
 - b) apoptosis
 - c) necrosis
 - d) membrane integrity

7. _____ fluid is used in Amniocentesis.
 - a) chorionic
 - b) amniotic
 - c) allantoic
 - d) None of these

8. The sheep 'Dolly' was cloned by Ian Willmurt from _____ mammalian cell.
 - a) Adult cells
 - b) Embryonic cells
 - c) Germ cells
 - d) None of these

Q – 2 Attempt ANY SEVEN from the following: (14)

1. To observe *in vitro* cultured cells which type of microscope is used? why
2. Enlist the various methods of sterilization used in animal tissue culture laboratory.
3. Write about the buffering system in culture media.
4. Enlist the disadvantages of serum.
5. What is explant culture?
6. Enlist the applications of monoclonal antibodies.
7. Write about the routes of contamination in animal tissue culture.
8. Narrate about the benefits of IVF.
9. Enlist the applications of transgenic animals.

Q – 3 (a) Discuss the physicochemical parameters to be taken care during culture of animal cells. (06)

(b) Give a detailed account on serum free media. (06)

OR

(b) 1. Write a note on balanced salt solutions. (03)

2. Write a note on source of energy in culture media. (03)

Q – 4 (a) How can you establish a cell line starting from primary culture? Explain in brief. (06)

(b) Write a note on scale up in suspension culture. (06)

OR

(b) Write the criteria for sub-culture and explain the passaging for monolayer cell culture. (06)

Q – 5 (a) Enlist the cell viability and cytotoxicity assays and Elaborate dye exclusion and dye uptake assays in detail. (06)

(b) Define the term cryopreservation. Explain the basic steps of cryopreservation. (06)

OR

(b) How attenuated vaccines are different from inactivated vaccines? Write the method of production of attenuated vaccines. (06)

Q – 6 (a) What is transgenesis? Describe three most widely used methods for producing transgenic animals. (06)

(b) Write notes on followings:

1. Artificial insemination (03)

2. Embryo sexing (03)

OR

(b) What is multiple ovulation and embryo transfer (MOET)? Explain method and significance of MOET. (06)
