

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2023
(Third Semester)

Branch – BIOTECHNOLOGY

ANIMAL CELL BIOTECHNOLOGY

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (5 x 1 = 5)

1. The growth of animal cells in vitro in a suitable culture medium is called _____.
(i) Gene expression (ii) Transgenesis
(iii) Plant tissue culture (iv) Animal cell culture
2. Which of the following method involves sublimation of cell water?
(i) Cryopreservation (ii) Lyophilization
(iii) Dried Culture (iv) Desiccation
3. Transgenic animals have _____.
(i) foreign protein (ii) foreign gene
(iii) foreign lipid (iv) foreign amino acid
4. Embryonic stem cells are _____.
(i) Pluripotent (ii) small
(iii) large (iv) medium-sized
5. _____ is considered as a miraculous solution to Organ shortages.
(i) Tissue Engineering (ii) Xeno-transplantation
(iii) Iso-transplantation (iv) Allo-transplantation

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 3 = 15)

6. (a) Discuss about aseptic techniques in Animal Cell Culture.
OR
(b) Determine criteria of subculture of cell lines.
7. (a) Explain about DNA profiling.
OR
(b) Discuss the importance of Cell Counting.
8. (a) Explain about animal cloning process.
OR
(b) What is IVF process?
9. (a) What are stem cells? State Sources of Stem Cells.
OR
(b) Explain about induced pluripotent stem cells.
10. (a) Elucidate extracellular matrix.
OR
(b) What are the biomaterial used in tissue engineering.

Cont...

SECTION -C (30 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks

(5 x 6 = 30)

11. (a) Elucidate the physiological and chemical properties of animal cell culture media.
OR
(b) Enumerate the application of cell culture.
12. (a) Determine the characterization of cultured cells by chromosomal analysis.
OR
(b) Briefly explain cryopreservation and assess its importance.
13. (a) Discuss about the Production of pharmaceutical proteins by transgenic animals.
OR
(b) Describe about IVF process and assess its importance.
14. (a) Explain Stem Cell Banking.
OR
(b) Describe the role of feeder layer in stem cell culture.
15. (a) Give detail account on bioartificial liver and its application.
OR
(b) Briefly explain mode of liver transplantation.

Z-Z-Z

END