

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2019
(Fourth Semester)

Branch-BIOTECHNOLOGY

ANIMAL CELL BIOTECHNOLOGY

Time: Three Hours

Maximum: 75 Marks

Answer **ALL** questions

ALL questions carry **EQUAL** marks

(2 + 5+8)

- 1 a Animal tissue & cell culture,
b Write a short note on BSS.
c Discuss various components of complete growth medium required for culturing animal cell.

OR

- d *In vitro* fertilization.
e Explain about the historical development in animal cell culture and technology,
f Write in detail about the equipments required for animal cell culture.

- 2 a Define cell lines.
b Write a short note on variation and instability in cell lines,
c Explain in detail about the biomedical applications of animal cell culture.

OR

- d Define organ culture.
e What is sub culturing, how we can ascertain that particular cell lines need sub culturing?
f Explain the types of disaggregation of tissue.

- 3 a Define cell cloning.
b Write a short note on principles of cryopreservation.
c What do you understand by Characterisation of Cell line? Explain that.

OR

- d What is cell synchronization?
e Write short note on role of feeder layers in cell culture,
f Describe the different conditions required to improve the clonal growth.

- 4 a What are transgenic animals?
b Write short note on Cell Transformation. Add note on phenotypic properties of transformed cells.
c What is IVF? Explain the procedure involved in it.

OR

- d What is embryo transfer technique?
e Write short note on advantages of retroviruses being used as vector in animal cells culture techniques.
f What are transgenic animals? How are these obtained? Explain any one method.

- 5 a Define apoptosis.
b Write a note on tissue engineering.
c Explain in detail about stem cell technology. Add note on its applications.

OR

- d What are hES cells?
e Discuss different methods for measurement of cell viability and cytotoxicity,
f Explain in detail about the applications of cord blood cells and fetal stem cells.