

ANIMAL BIOTECHNOLOGY - SBM 5108

FINAL EXAMINATION

INSTRUCTION: ATTEMPT ALL QUESTIONS

- 1. The microbiology approach to the problem of culture heterogeneity is to isolate pure cell strains by cell cloning which is a fairly easy approach. State and explain five conditions that improve clonal growth in animal bio-technology. (10 marks)**

- 2. In animal somatic cell fusion of two different cells, the production of a hybrid cell has been successfully achieved. State five significant areas in biotechnology where this can be applied. (10 marks)**

- 3. Define the following terms as they have been used in animal bio-technology. (10 marks)**
 - a) Cell culture –**

 - b) Primary culture –**

 - c) Cell line –**

 - d) Cell strain –**

 - e) Stem cells –**

- 4. State and briefly explain Five physiochemical properties necessary for Cell Culturing. (10 marks)**

- 5. State five applications of cell culture. (10 marks)**

- 6. State and explain three ways in which stem cells are different from other cells. (10 marks)**

- 7. Discuss briefly the difference between embryonic stem cells and adult stem cells. (10 marks)**

- 8. What is Transgenesis and what is a transgenic animal? (5 Marks)**

- 9. What is artificial insemination? (5 Marks)**

- 10. Viral vectors are tools commonly used by molecular biologists to deliver genetic materials into the cells. This process can be performed inside a living organism (in vivo) or in a cell culture (in vitro). State and explain FIVE key properties of a viral vector. (20 Marks)**

All the best!