Enrollment No._____

Shree Manibhai Virani and Smt. Navalben Virani Science College (Autonomous), Rajkot

Affiliated to Saurashtra University, Rajkot

SEMESTER END EXAMINATION APRIL -2019

B.Sc. Biotechnology

16UBTDC09 – ANIMAL BIOTECHNOLOGY

Duration of Exam – 3 hrs ***Semester – VI*** ***Max. Marks – 70***

Part A ***(10X1= 10 marks)***

Answer **ALL** questions

1. A Frog embryo tissue was first cultured by_____ in year_____
2. Phenol red is used as _____
3. The technique required to periodically provide fresh nutrients and growing space for continuously growing cell lines is called _____
4. For the disaggregation of soft tissues _____ technique is usually employed.
5. _____ has the capability of differentiation into all cell types
6. _____ has the capability of differentiation into cells which are placed in fetal layers
7. A physical method of gene transfer is _____
8. A chemical method of gene transfer is _____
9. _____ was reported as the first species to be successfully cloned in 1952?
10. The first cloned endangered animal was born in the year _____

Part B ***(5X5= 25 marks)***

Answer **ALL** questions

11a. What are the advantages and limitations of tissue culture?

OR

11b. Stepwise describe the aseptic techniques used for animal cell culture.

12a. What are the basic characteristics of tissue culture?

OR

12b. Describe the different types of cell cultures.

13a. What is stem cell? What are its unique properties? What are the different types of stem cells?

OR

13b. What are Hematopoietic stem cells (HSCs)? Describe its function and significance.

14a. Differentiate among Lipofusion, Electroporation and Microinjection.

OR

14b. Elaborate minimum 5 non-chemical method for gene transfer.

15a. List out at least 5 transgenic animals and their applications.

OR

15b. What are the problems and prospects of gene therapy?

***Part C** (5x7= 35 marks)*
Answer **ALL** questions

16a. What are the different types of animal cell culture media? Explain the basic components of culture media.

OR

16b. What are the criteria for the selection of a media and how the cell culture media is optimized?

17a. Describe the basic techniques in animal cell culture.

OR

17b. What is Tissue disaggregation? Explain Mechanical disaggregation & Enzymatic disaggregation.

18a. Explain stem cells differentiations.

OR

18b. Describe the benefits of Stem cell engineering.

19a. Step by step elaborate the process of expression of cloned protein in animal cell.

OR

19b. Elaborate the chemical and biological methods of transfection.

20a. What is molecular farming? Explain it step wise with a suitable example.

OR

20b. Explain the basic process of gene therapy.