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SEAT No. _____

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SARDAR PATEL UNIVERSITY

B.Sc. (Genetics) – Sixth Semester Examination (CBCS)

Wednesday, 4TH April, 2018

Time : 10:00 a.m. to 1:00 p.m. Total Marks: 70

US06CGEN05: Animal Biotechnology

- Q.1 Choose the most appropriate answer from the four alternatives given 10M**
- i** Substrate is required by cells in _____
A) Cell line B) Primary cell culture C) Both A and B D) All of above
 - ii** Transformed cells are present in _____
A) Cell line B) Primary cell culture C) Both A and B D) All of above
 - iii** _____ serum protein promotes attachment of cells to the substrate
A) Transferrin B) Albumin C) Fibronectin D) All of above
 - iv** Which of the following method of gene transfer called physical delivery method
(A) Microinjection (B) Particle bombardment (C) Electroporation (D) All of the above
 - v** Delivery of DNA in to cells using liposomes is _____ method of gene transfer
A) DEAE B) Lipofaction C) Electroporation D) All of above
 - vi** Cleavage pattern in humans is _____
A) Rotational B) Bilateral C) Spiral D) All of above
 - vii** _____ phase is absent in initial mitosis in embryonic development
A) G1 B) G2 C) Both A and B D) S
 - viii** Ovulation takes place in cow after _____ of onset of estrus
A) 1hr B) 14days C) 14hrs D) 48days
 - ix** _____ pro nucleus is preferred for microinjection as it is larger in size
A) Female B) Male C) Zygote D) None of above
 - x** Superovulation is practiced in _____ animal
A) Recipient B) Donor C) Both A and B D) All of the above

- Q.2 Answer any TEN from the following 20M**
- i** Define superovulation
 - ii** How will donors are selected?
 - iii** What is cryopreservation?
 - iv** Define synchronization of estrus
 - v** Give information regarding virus mediated method of transfection.
 - vi** Write about first transgenic sheep

[P. T. O.]

- recipient animal*
- Vii How ~~donors~~ will be selected?
- Viii What are applications of in vitro fertilization?
- Ix What are cell lines and cell clones
- X Define cell viability and toxicity
- Xi What is transfection?
- Xii What are transgenic animals?
- Q.3 Discuss different medias for animal cell culture 10M
- OR
- Q.3 a. Write an elaborate note on significance and applications of cell culture 6M
- b. Discuss evolution of cell line with graph 4M
- Q.4 a. Write an elaborative note on cryopreservation of Animal germplasm 6M
- b. Write a note on in vitro fertilization 4M
- OR
- Q.4 a. Write a detail note on artificial insemination 5M
- b. Give a brief account of mammalian embryonic development 5M
- Q.5 What is ETT? Write about superovulation and synchronization of estrus in animals 10 M
- OR
- Q.5 Write about embryo collection from donors and transfer in recipients 10M
- Q.6 Write in detail about transgenic animals: Sheep, Pigs, Goats and Cows. 10 M
- OR
- Q.6 Write in details about various methods of transfection 10M