

**T. Y. B. Sc. (Biotechnology) SEM – VI (CBCS - 2015 COURSE) :**  
**SUMMER - 2019**

**Subject: Animal Biotechnology**

Day: Tuesday  
Date: 09/04/2019

**S-2019-1388**

Time: 10.00 AM TO 01.00 PM  
Max. Marks: 60

**N.B.:**

- 1) Q1 and Q5 are compulsory.
- 2) Answer ANY TWO questions from Q 2, 3, 4 in Section I.
- 3) Answer ANY TWO questions from Q 6, 7, 8 in Section II.
- 4) Answers to Both the sections to be written in **SAME** answer books.
- 5) Draw a labeled diagram WHEREVER necessary.

**SECTION - 01**

Q.1) Answer the following: (ANY FIVE) (2 Marks X 5 = 10)

- a) Define breed substitution.
- b) Write the use of transgenic technology in agriculture
- c) Define cloning.
- d) Write the advantages of microinjection.
- e) State the method and conditions for sterilization of glassware.
- f) Why tissue culture medium contains phenol red?

Q.2) Answer the following: (5 Marks X 2 = 10)

- a) Explain the significance of wildlife vaccination.
- b) With an example, explain the use of transgenic animal in increased milk production.

Q.3) Explain the following: (5 Marks X 2 = 10)

- a) Explain the process of transfection of gamete in transgenesis.
- b) Why cell cultures are incubated in CO<sub>2</sub> incubator?

Q.4) Write short notes on the following: (5 Marks X 2 = 10)

- a) *In vitro* fertilization.
- b) Balanced salt solution

**SECTION - 02**

Q.5) Answer the following: (ANY FIVE) (2 Marks X 5 = 10)

- a) State the advantages and disadvantages of use of antibiotics in tissue culture medium.
- b) Why it is important to maintain the record of cell line maintenance?
- c) What are conjugate vaccines?
- d) What are adult stem cells? How do they differ from embryonic stem cells?
- e) Enlist the limitations of murine monoclonal antibodies.
- f) Enlist precautions to be taken with regards to the raw material used in vaccine production.

Q.6) Answer the following: (5 Marks X 2 = 10)

- a) Outline the steps involved in sub-culturing of cell line.
- b) What are the human therapeutic uses of interferon  $\alpha$ 2a,  $\alpha$ 2b,  $\beta$ 1a,  $\beta$ 1b and  $\gamma$ 1b?

Q.7) Explain the following: (5 Marks X 2 = 10)

- a) Applications of animal tissue culture in drug screening
- b) With the help of suitable diagram, explain the chick embryo inoculation method for vaccine production.

Q.8) Write short notes on the following: (5 Marks X 2 = 10)

- a) Live bacterial vaccines
- b) Peptide vaccines

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