

(6%) SEAT No. \_\_\_\_\_

No. of Printed Pages: 02

SARDAR PATEL UNIVERSITY

M. Sc. (Integrated) Biotechnology – Eighth Semester Examination

Thursday, 19<sup>th</sup> April, 2018.

2:00p.m. to 5:00p.m.

PS08CIGGB4: ANIMAL BIOTECHNOLOGY

Note : (i) Figures to right indicate marks.

(ii) All questions are compulsory.

Total Marks: 70

Q – 1 Choose the most appropriate alternative for the following:

(08)

1. Which component of serum is working as free radical scavenger?
  - a) Siderophilin
  - b) Phospholipids
  - c) Selenium
  - d) Albumin
2. Which medium is most appropriate for blood cells culture?
  - a) MEM
  - b) DMEM
  - c) CMRL
  - d) RPMI-1640
3. Cells floating freely in the culture medium are known as \_\_\_\_\_ culture system.
  - a) confluence
  - b) suspension
  - c) monolayer
  - d) parallel
4. Deamination of glutamine release \_\_\_\_\_, which are toxic to the culture cells.
  - a) lactate
  - b) pyruvate
  - c) ammonia
  - d) alanine
5. Dye exclusion assay is based on \_\_\_\_\_.
  - a) cellular respiration
  - b) apoptosis
  - c) necrosis
  - d) membrane integrity
6. Monoclonal antibodies are usually produced from
  - a) Myeloma cells
  - b) Hybridoma cells
  - c) Monocytes
  - d) Adipocytes
7. For the process of multiple ovulation, \_\_\_\_\_ hormone is used.
  - a) Estrogen
  - b) Progesteron
  - c) Testosteron
  - d) Gonadotrophin
8. Which of the following technique is not used for the production of Transgenic animals?
  - a) Microinjection
  - b) Embryonic stem cell transfer
  - c) Retrovirus-mediated gene transfer
  - d) Artificial insemination

Q - 2 Attempt ANY SEVEN from the following: (14)

1. Enlist the basic equipments used in animal cell culture laboratory.
2. Why CO<sub>2</sub> incubator is used in animal cell culture?
3. Write about different types of balanced salt solutions.
4. Which component of media maintained osmolarity? How?
5. What is explant culture?
6. Write about the types of cell line with examples.
7. What is vitrification?
8. Write the causes of male and female infertility.
9. What is artificial insemination?

Q - 3 (a) What is complete media? Discuss constituents of complete media. (06)  
(b) Explain the role of serum in animal cell culture. (06)

OR

- (b) Write notes on :
1. Sterilization techniques used in animal cell culture (03)
  2. Natural Media (03)

Q - 4 (a) Give a detailed account on enzymatic disaggregation techniques. (06)  
(b) Describe various methods of scale up for monolayer cell culture. (06)

OR

- (b) Write notes on :
1. Multicellular tumor spheroids culture (03)
  2. Fluorescence Activated Cell Sorter (03)

Q - 5 (a) Explain the route and sources of contaminations and give brief account on microbial contaminants. (06)  
(b) Enlist the cytotoxicity assays and Elaborate survival assays. (06)

OR

- (b) Write an explanatory note on vaccine production with the help of animal cell culture. (06)

Q - 6 (a) Explain the Hybridoma technology for the production of monoclonal antibodies. (06)  
(b) What is transgenesis? Describe in brief the basic methods used for producing transgenic animals. (06)

OR

- (b) What is multiple ovulation and embryo transfer (MOET)? Explain method and significance of MOET. (06)

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