

Seat No : \_\_\_\_\_

[7/A-4]

NO. OF PRINTED PAGES: 02

**Sardar Patel University**

B. Sc Biotechnology Third Semester

Friday, 6<sup>th</sup> December 2019

02:00 p.m to 5:00 p.m

**US03CBIT02 (Applications of biotechnology-1)**

**Total Marks: 70**

Note: Figures to the right indicates marks.

**Q.I Multiple Choice Questions**

**[10]**

- 1) MS media is used for culture of \_\_\_\_\_.  
a) Plant cell                      b) Bacterial cell  
c) Animal cell                    d) Fungal cell
- 2) 4-amino 3, 5, 6 trichloropicolinic acid is the full form of \_\_\_\_\_.  
a) PCPA                            b) 3,5,6- TCPA  
c) Pictoram                        d) IBA
- 3) Which of the following is not a plant growth regulator?  
a) Auxin                            b) Abscisic acid  
c) Cytokinin                       d) Polyphenols
- 4) Sub culturing is similar to propagation by cutting because \_\_\_\_\_.  
a) it separate multiple micro shoots and places them in a medium  
b) It uses scions to produce new micro shoots.  
c) The boat used in vitro growing conditions.  
d) All of the above.
- 5) Which of the following is an example of continuous cell line?  
a) HeLa cell line                  b) BHK1  
c) CHOK1                          d) All of these.
- 6) Which of the following medium is used for animal cell culture?  
a) EMEM                            b) Fisher medium  
c) DMEM                           d) All of these.
- 7) Fast growing cell lines required change of medium after 3 to 4 days, this is called \_\_\_\_\_.  
a) Transferring                    b) Biopharming  
c) Sub culturing                    d) Feeding.
- 8) \_\_\_\_\_ cells do not have the capacity to divide.  
a) Stem cells                        b) Precursor cells  
c) Differential cells                d) None of this.
- 9) The fundamental aim to produce transgenic animals is /are \_\_\_\_\_.  
a) Animal protection              b) Investigation of gene expression  
c) Quality enhancement          d) All of these.
- 10) Paddy mushroom is the common name of \_\_\_\_\_ species mushroom  
a) Pleurotus                        b) Agaricus brunnescens  
c) Agaricus bisporus               d) Volvariella.

**P.T.O**

- Q.II** Answer the following questions in short. (Attempt any 10) [20]
- Give the definition of Totipotency.
  - Write different applications of plant tissue culture.
  - Write in brief-Batch culture with its graph.
  - Give different objectives of animal tissue culture.
  - Write a brief note on chemically define media.
  - What are stem cells?
  - Define the terms 1) Bioreactors 2) Subculture.
  - What do you mean by transgenic animals?
  - Write a note on transgenic fish.
  - Define the terms heterocyst and bacterioids.
  - What do you mean by biological control and biocontrol agents.
  - Define SCP and write its applications.
- Q.III** a) Write a detailed note on composition and preparation of MS media. [06]  
 b) Explain different pros and cons of PTC. [04]
- OR**
- Q.III** a) Discuss in detail sterilization techniques in PTC. [05]  
 b) Describe different growth regulators used in plant nutrition media. [05]
- Q.IV** a) Give an account on initiation steps for establish an animal cell line. [05]  
 b) Explain in detail classification of stem cells based on its potency. [05]
- OR**
- Q.IV** a) What do you mean by substrate? Explain different substrates used in animal cell culture. [06]  
 b) Write a short note on serum containing media. [04]
- Q.V** a) Discuss different applications of transgenic animals. [05]  
 b) Explain retroviral infection method for gene transfer [05]
- OR**
- Q.V** Give an account on production of transgenic mice in laboratory. [10]
- Q.VI** a) Write a detailed note on carbon resources used for SCP production. [05]  
 b) Write a short note on bio insecticides. [05]
- OR**
- Q.VI** a) Explain mushroom cultivation process in detail. [05]  
 b) Define biofertilizer. Explain various sources of biofertilizer and its uses. [05]

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