



## Avinashilingam Institute for Home Science and Higher Education for Women

(Deemed to be University under Category 'A' by MHRD, Estd. u/s 3 of UGC Act 1956)

Re-accredited with 'A+' Grade by NAAC. Recognised by UGC Under Section 12B

Coimbatore - 641 043, Tamil Nadu, India

### Master's Degree Examination – June / July 2021

#### II Semester

Class: I PG  
Major: Biotechnology

Time : 3 Hours  
Max Marks : 100

#### 20MBTC08 Animal Biotechnology

##### Part A

10 x 1 = 10

##### Choose the Correct Answer

- Smallest filter pore size for membrane filtration of culture media is \_\_\_\_\_.  
a. 2 micrometer    b. 0.22 micron    c. 4 micron    d. 40 micron    CO1K2
- \_\_\_\_\_ increases the viscosity of the culture medium.  
a. serum    b. water    c. phenol    d. mineral    CO2K3
- \_\_\_\_\_ used as cryopreservant.  
a. water    b. 10% glycerol    c. DMSO    d. alcohol    CO2K2
- In artificial skin reconstruction \_\_\_\_\_ is formed.  
a. living skin equivalent    b. epidermis  
c. Epithelial cells    d. keratinocytes    CO4K3
- \_\_\_\_\_ is a colometric assay for determination of cell cytotoxicity.  
a. Comet assay    b. Tunnel assay    c. Alamar blue    d. methionine    CO4K4
- Scaffold does not allow \_\_\_\_\_.  
a. degradation    b. Growing    c. attachment    d. support    CO5K3
- Human stem cells are used to treat all except \_\_\_\_\_.  
a. Parkinsons    b. Fabry  
c. Amyotropic lateral sclerosis    d. Alzheimer    CO4K4
- Vitamin A is not added to medium since \_\_\_\_\_.  
a. unstable    b. Color change    c. Change density    d. endothermic.    CO4K5
- Time taken to recover from subculture is \_\_\_\_\_ phase.  
a. lag    b. resilience    c. log    d. optimal    CO4K3
- Human cells reach blastocyst in \_\_\_\_\_ days.  
a. 4-5    b. 40    c. 30    d. 50    CO4K5

**Part - B**  
**Answer ALL questions**  
**Each answer should not exceed 400 words or two pages**

**5 x 6 = 30**

- 11.a. Write a note on preservation and authentication of cell lines. CO1K3  
(or)  
11.b. Explain your understanding on primary cell culture. CO1K3
- 12.a. Indicate the different assay used for cell viability study. CO2K3  
(or)  
12.b. Discuss about monolayer and suspension cells. CO2K4
- 13.a. Explain the characteristics of stem cell culture. CO1K1  
(or)  
13.b. Highlight the adult and embryo culture and its applications. CO4K3
- 14.a. Illustrate and explain knock out gene technology. CO2K2  
(or)  
14.b. Report about the model organisms used in biotechnology. CO3K3
- 15.a. Highlight what is the biotechnology behind silkworm rearing. CO4K5  
(or)  
15.b. Discuss the therapeutics which can be derived from marine organisms. CO4K5

**Part C**  
**Answer ALL questions**  
**Each answer should not exceed 800 words or four pages**

**5 x 12 = 60**

- 16.a. Report on the role of each component present in the ATC medium. CO4K5  
(or)  
16.b. Explain the setup of an ATC lab and sterilization methods used. CO2K3
- 17.a. Highlight the scaling up of ATC cell lines. CO1K1  
(or)  
17.b. Indicate cellular senescence and measurement of cell death. CO2K3
- 18.a. Assess the types and origin of stem cells and its applications. CO3K3  
(or)  
18.b. Write a note on 3 D culture, stages, and support materials. CO4K2
- 19.a. Report on livestock genomics and applications in molecular markers. CO3K4  
(or)  
19.b. Illustrate the genetic engineering of animal cells. CO4K5
- 20.a. Express the disease resistance in transgenic animals. CO4K3  
(or)  
20.b. Discuss pest management using juvenile hormone analogs. CO5K5

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