

## Quiz – Cell Culture

### Part A: True/False Questions

1. Cancer cell line is finite cell line.
2. Mechanical and enzymatic methods are used to separate the monolayer of cells in the original medium for cell isolation.
3. Mammalian cells should be sub-cultured in a pre-mixed defined medium.
4. Shaking is necessary for animal cell culture.
5. Plant cells can only grow in solid medium.
6. A physico-chemical optimum environment is essential in cell culture.
7. Aseptic control is able to totally eliminate biological contaminations in cell culture.
8. Cryopreservation cannot be used in preservation of plant cells.
9. Callus can differentiate into an entirely new plant under the provision of plant hormones.
10. The human cell line HT<sub>29</sub> is used for testing toxin chemical in blank carrot.

### Part B: Multiple Choice Questions

1. Which is (are) the type(s) of cell line?
  - A. Immortalized cell line
  - B. Semi-continuous cell line
  - C. Finite cell line
  - D. A & C
2. What is (are) the step(s) to establish cell line?
  - A. Incubation
  - B. Isolation
  - C. Subculture & Preservation
  - D. All of the above
3. Which is (are) the cell isolation method(s)?
  - A. Explant culture
  - B. Enzymatic method
  - C. Mechanical method
  - D. All of the above
4. Which type(s) of cell is (are) sub-cultured under pre-mixed defined medium (e.g. Murashige and Skoog Basal Salt Mixture)?
  - A. Mammalian cell
  - B. Plant cell
  - C. Mammalian & Plant cell
5. Which type(s) of cell culture is (are) maintained in suspension liquid culture, under constant shaking for aeration?
  - A. Mammalian cell
  - B. Plant cell
  - C. Mammalian & Plant cell

- D. None of the above
6. Plant cells cannot be preserved by cryopreservation because
- A. The chloroplasts in plant cells are denatured by super high temperature
  - B. Water stored in vacuole of plant cells form ice crystal in freeze and thaw
  - C. Plant cells differentiate rapidly under cryopreservation
  - D. The biological reaction of plant cells cannot be stopped by cryopreservation
7. What is a callus?
- A. A status of mammalian cells is in undifferentiated form under rapid division
  - B. A status of plants is in undifferentiated form under rapid division
  - C. A status of plants is in differentiated form under rapid division
  - D. A status of mammalian cells is in differentiated form under rapid division
8. Why subculture of cells is necessary?
- 1) No enough space for cell growth
  - 2) Accumulation of toxins
  - 3) No enough nutrients for cell growth
- A. 1 & 2 only
  - B. 2 & 3 only
  - C. All of the above
  - D. None of the above
9. What are the applications of cell culture?
- A. Chemical toxicity test
  - B. Therapy for diseases
  - C. Culturing embryonic cell to produce insulin
  - D. All of the above
10. The advantage(s) of using cell culture to produce Flu vaccine over using Fertilized Chicken eggs?
- 1) Low chance of contamination
  - 2) Take only 6 month to produce
  - 3) High consistency of vaccine
  - 4) Increase vaccine supply
- A. 1 & 2 only
  - B. 3 & 4 only
  - C. 1, 3 & 4 only
  - D. All of the above