

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH 2013

(CCSS)

Biotechnology

BT6 B02—ANIMAL BIOTECHNOLOGY

Time : Three Hours

Maximum : 30 Weightage

I. Objective Type Questions. Answer *all* questions :

1 The enzyme used for the separation of animal cell :

- (a) Pectin. (b) Macerozyme.
(c) Cellulose. (d) Trypsin.

2 The favourable concentration of CO₂ in animal cell culture :

- (a) 5-10 %. (b) 10-15 %.
(c) 10-20 %. (d) Above 20 %.

3 Which one is a breast cancer cell line ?

- (a) HE₂K. (b) MCF-7.
(c) HeLa. (d) None.

4 The staining technique used to stain dead cells is :

- (a) FXA method. (b) Evan's blue.
(c) Acetocarmine. (d) Methylene blue.

5 The enzyme not responsible for animal cell disaggregation :

- (a) Pectinase. (b) Trypsin.
(c) Collagenase. (d) Mucase.

6 Which one is a marker to characterize a cell line ?

- (a) Thymidine kinase. (b) P-galactocidase.
(c) Kannamycin resistance. (d) Ampicillin resistance.

State True or False :

- 7 SV₄₀ viruses induces tumour.
8 M₁₃ is a double stranded DNA phage virus.
9 Methylene blue is used to stain dead cells.
10 P⁵³ gene is a tumour activator gene.
11 Silica can be used as a microcarrier.
12 Epithelial tissues are disaggregated using EDTA.

(12 x 1/4 = 3 weightage)

Turn over

II. Short Answer Type Questions. Answer *all* nine questions :

- 13 What do you mean by molecular farming ?
- 14 What is trypsinization ?
- 15 What is passaging ?
- 16 What is feeder layer ?
- 17 Hemocytometer.
- 18 Balanced salt solution.
- 19 What is immortalization ?
- 20 Primary explant.
- 21 Microcarriers.

(9 x 1 = 9 weightage)

III. Short Essay. Answer any *five* questions :

- 22 Explain primary explant techniques.
- 23 Different types of culture vessels used in animal cell culture.
- 24 Explain MTT-assay.
- 25 Explain different methods to measure cell, viability.
- 26 Describe the physiochemical properties of medium.
- 27 Discuss the basic instruments required in an animal cell culture lab.
- 28 Explain the role of serum in the medium.

(5 x 2 = 10 weightage)

IV. Long Essay. Answer any *two* questions :

- 29 Explain isolation and culturing of mouse embryo cell.
- 30 Discuss about various methods to measure cell cytotoxicity.
- 31 Discuss about cell line characterization and maintenance.

(2 x 4 = 8 weightage)