

**SIXTH SEMESTER B.Sc. DEGREE (SUPPLEMENTARY/IMPROVEMENT)  
EXAMINATION, MARCH/APRIL 2017****(UG-CCSS)****Biotechnology****BT 6B02—ANIMAL BIOTECHNOLOGY****Time : Three Hours****Maximum : 30 Weightage****I. Objective type questions. Answer *all* questions :**

Choose the correct answer :

1. Besides ionised molecules , non-ionised molecules in a medium can also contribute to :  
(a) Osmolality. (c) Conductivity.  
(b) pH. (d) Oxidation reduction potential.
2. The indicator that is generally used to monitor pH of cell culture media :  
(a) Phenolphthalein. (c) Methyl orange.  
(b) Phenol red. (d) Methylene blue.
3. The buffer more frequently used in media is :  
(a) Bicarbonate buffer. (c) Acetate buffer.  
(b) HEPES. (d) Phosphate buffer.
4. Monolayer cultures are derived from cells which are :  
(a) Anchorage independent. (c) Both (a) and (b).  
(b) Anchorage dependent (d) None.

Name the following :

5. The most widely used serum in cell culture.
6. The adhesive protein present in serum.
7. A viral gene that is used for the immortalisation of adherent cells.
8. A chelating agent used in cell disaggregation.

Say true or false :

9. Trypsin is used for the disaggregation of fibrous tissues.
10. Dye exclusion method underestimates cell viability.

**Turn over**

11. MTT is a yellow water soluble tetrazolium dye that is reduced to a purple water insoluble formazan product.
12. When a primary culture is passaged, it becomes a cell line.

(12 × ¼ = 3 weightage)

II. Write briefly on *all* of the following :

13. Haemocytometer.
14. Use of Inverted microscopes in cell culture.
15. Buffering of culture media.
16. Sterilization of heat labile media.
17. Use of collagenase in cell culture.
18. Criteria for cell line characterisation.
19. Immune panning.
20. Thawing of frozen cells.
21. Immortalisation of cell lines.

(9 × 1 = 9 weightage)

III. Paragraph questions. Answer any *five* :

22. Role of serum in media.
23. Warm trypsinisation.
24. Antibiotics used in culture media.
25. Cell passaging.
26. Fibroblast immortalization.
27. MTT assay.
28. Advantages of serum free media.

(5 × 2 = 10 weightage)

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

28. Physico - chemical properties of cell culture media.
29. Immortalization of cell lines.
30. Explain the various requirements of a tissue culture laboratory.

(2 × 4 = 8 weightage)