

Roll No.

Total Pages : 2

GSQ/D-21

1091

BIOTECHNOLOGY
(Animal Biotechnology)
Paper–XI

Time : Three Hours]

[Maximum Marks : 40

Note : Attempt total *five* questions i.e. Question No. 1 (compulsory) & four others by selecting *two* questions from each unit. All questions carry equal marks.

Compulsory Question

1. Differentiate following :

- (a) Serum *vs* Plasma.
- (b) *In vitro vs In vivo*.
- (c) Cell lines *vs* Primary culture.
- (d) Monoclonal *vs* polyclonal antibodies. (2×4=8)

UNIT–I

- 2.** (a) Define animal cell culture. Also discuss in detail about its scope and applications.
- (b) What is natural media? Discuss in detail by comparing it with synthetic media using suitable example. (4,4)

3. (a) What are growth factors? Discuss their role in animal cell culture by taking suitable examples
- (b) Differentiate between primary cell culture and secondary cell culture. (4,4)
4. (a) What is organ culture? Elaborate about its application and limitation.
- (b) Write a note on Karyotyping. (4,4)

UNIT-II

5. (a) What is animal cell transfection? Write a detail note on any *two* transfection methods to be used for animal cell culture.
- (b) What is vaccine? Write a note on vaccine production in animal cells. (4,4)
6. (a) What is embryo transfer technology? Discuss about artificial insemination.
- (b) What is Hybridoma technology? Discuss its application. (4,4)
7. (a) Write a note on genetically engineered product.
- (b) What is gene therapy? Discuss about its major achievements. (4,4)
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