

6/H-77 (vii) (Syllabus-2015)

2 0 2 3

(May/June)

BIOTECHNOLOGY

(Honours)

(Animal and Plant Biotechnology)

Marks : 56

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

**Answer Question No. 1 which is compulsory
and any four from the rest**

- 1. Write brief notes on the following : 3×4=12**
 - (a) Established cell lines**
 - (b) Pronucleus method**
 - (c) Ovary culture**
 - (d) Cybrids**

- 2. (a) What is tissue engineering? Discuss the
different sources of cells for tissue
engineering strategies. 2+4=6**

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(Turn Over)

(2)

- (b) What are the various ethical issues related to transgenic technology? 5
3. (a) Write a brief note on the genetic engineering in animals. 5
- (b) Differentiate between embryonic stem cells and adult stem cells. Discuss briefly the advantages and disadvantages of serum-free media in animal cell culture. 3+3=6
4. What is genetic fidelity? What are the various factors affecting the fidelity of tissue-cultured plants? Discuss some of the methods to assess genetic fidelity. 2+3+6=11
5. (a) What is organogenesis? Which method will you choose for the micro-propagation of elite species and why? 2+5=7
- (b) Discuss the method(s) for production of haploids. 4
6. (a) How will you differentiate a patent and a copyright? Give specific examples. 3
- (b) Describe the various forms of protection of intellectual property. 5
- (c) Discuss the scenario of IPR in India. 3

(3)

7. What are molecular markers? Elaborate on the applications of molecular markers in selecting a stable genotype. 2+9=11
8. (a) What are transgenic organisms? What are the various applications of transgenic organisms? 2+5=7
- (b) Write a note on defined media used in animal cell culture. 4
