

Q.P. Code : 76225

(2½ Hours)

[Total Marks :75

- N.B. :** (1) All questions are **compulsory**.
(2) All questions carry **equal marks**.

1. What is elicitation? How does it help in secondary metabolite production in plant cells? 15

OR

1. With suitable examples discuss. 8
(a) how plant cell cultures can be used in biotransformation. 7
(b) the importance of hairy root cultures in production of valuable metabolites.
2. (a) Describe culture vessels used for Animal cell culture. 7
(b) Describe the role of following in the maintenance of animal cell lines. 8
(i) Cryopreservation
(ii) Cell line designation

OR

2. Discuss in details the method for establishment of primary cultures. 15
3. (a) Write a note on: (i) Contraceptive research (ii) Sperm Antigens 7
(b) Discuss biochemical and molecular events in sperm function. 8

OR

3. Describe methods of cryopreservation of gametes. Write a note on IVF. 15
4. (a) Discuss nanoenabled drug delivery system. 8
(b) write in details about Nanosensors. 7

OR

4. Elaborate the role of Nanotechnology in medicine. 15
5. Write short notes on any **THREE** of the following. 15
(a) Algae as source of Biofuels
(b) Cytotoxicity
(c) Cnanotubes
(d) Cancerous cell lines
(e) Olemaproteins
(f) In vitro storage of germ plasm