



HV-M2011121 Seat No. _____

M. Pharm. (Sem. II) (CBCS) Examination

June/July - 2017

Medicinal Plant Biotechnology (Core - VI)

Time : **3** Hours]

[Total Marks : **80**

- Instructions :
1. Answer any three from each section.
 2. Question 1 and 5 are compulsory.
 3. Figure to the right indicate marks.
 4. Draw neat and clean diagram when required.

SECTION - I

- 1 Answer any seven out of given ten questions : 14
1. Define Plant tissue culture.
 2. What is shoot tip culture and root tip culture?
 3. Write precursor for quinoline alkaloid and give example of quinoline alkaloids.
 4. What are metabolic pathways?
 5. Define suspension culture and enlist its types.
 6. Discuss advantages of solidified media in PTC.
 7. How will you sterilize of nutrient media?
 8. What is somatic Embryogenesis?
 9. Define totipotency, callus, protoplast and explants.
 10. Enlist plant gene identification methods.
- 2 Answer the following :
1. What are the different types of plant tissue culture methods ? 7
 2. Write brief note on Micropropagation : A revolution in medicinal plant cultivation. 6

- 3** Answer the following :
1. Discuss different gene transfer technology. **7**
 2. Note on Nutritional requirements for plant tissue culture. **6**

- 4** Answer the following :
1. Define terpenoids and discuss biosynthesis of terpenoids. **7**
 2. Define alkaloids and Discuss biosynthesis of tropane alkaloids. **6**

SECTION - II

- 5** Answer any two out of three questions : **14**
1. What is Hairy Root Culture? Write a note other Applications.
 2. Immobilization techniques and its applications.
 3. Write note on Biotransformation.

- 6** Answer the following :
1. Write note on cellular totipotency and cryopreservation. **7**
 2. B. Write note on Bioreactors. **6**

- 7** Answer the following :
1. Define PCR. Discuss application of PCR in plant genome analysis. **7**
 2. Define elicitors and discuss role of elicitors and precursors in the production of phytochemicals. **6**

- 8** Answer the following :
1. Write note on organogenesis and embryogenesis. **7**
 2. Application of plant tissue culture in pharmacy and Allied field. **6**