

**GUJARAT TECHNOLOGICAL UNIVERSITY****M. Pharm. – SEMESTER – I • EXAMINATION – SUMMER • 2015****Subject Code: 910205****Date: 25-05-2015****Subject Name: Biotechnology and Cultivation of Medicinal Plants****Time: 02:30 pm - 05:30 pm****Total Marks: 80****Instructions:**

- 1. Attempt any five questions.**
- 2. Make suitable assumptions wherever necessary.**
- 3. Figures to the right indicate full marks.**

- |             |     |                                                                                                                          |           |
|-------------|-----|--------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>Q.1</b>  | (a) | Enlist factors affecting the quality of medicinal plants. Discuss any two exogenous factors citing suitable examples.    | <b>06</b> |
|             | (b) | Write in detail safe and economic method for documentation and preservation of plant drugs.                              | <b>05</b> |
|             | (c) | What are the sources of toxic trace materials and explain WHO guide lines for it's evaluation?                           | <b>05</b> |
| <b>Q.2</b>  | (a) | Explain phenomena of Polyploidy in plant drugs citing suitable examples.                                                 | <b>06</b> |
|             | (b) | State limitations of different microbial contaminations in herbal drug and briefly explain its' method of detection.     | <b>05</b> |
|             | (c) | What are the possibility of adulteration of plant drugs? Explain any two methods illustrating suitable examples.         | <b>05</b> |
| <b>Q.3</b>  | (a) | Briefly explain different methods of cultivation of plants.                                                              | <b>06</b> |
|             | (b) | Discuss cultivation of <i>Taxus baccata</i> . Also add note on problems encountering its cultivation and their remedies. | <b>05</b> |
|             | (c) | Describe cultivation and therapeutic importance of Ginseng.                                                              | <b>05</b> |
| <b>Q.4</b>  | (a) | Explain methods protoplast fusion and its scope in quality improvement of medicinal plants.                              | <b>06</b> |
|             | (b) | Write note on Biotransformation in medicinal plants.                                                                     | <b>05</b> |
|             | (c) | Discuss micro-propagation of medicinal and aromatic plants.                                                              | <b>05</b> |
| <b>Q.5</b>  | (a) | Give salient features comparing between BHP and API monographs                                                           | <b>06</b> |
|             | (b) | Enumerate salient features of ESCOP monograph                                                                            | <b>05</b> |
|             | (c) | Discuss significance of monographs of standards of medicinal plants and their various components.                        | <b>05</b> |
| <b>Q. 6</b> | (a) | Write applications of Phytomics in herbal drug analysis.                                                                 | <b>06</b> |
|             | (b) | Write detail note on "Plant Metabolomics"                                                                                | <b>05</b> |
|             | (c) | Discuss somatic hybridization and its scope in quality improvement of medicinal plants.                                  | <b>05</b> |
| <b>Q.7</b>  | (a) | Describe plant cell immobilization. Explain different methods for preparation of immobilized cell culture                | <b>06</b> |
|             | (b) | What is artificial seed? Explain, how it can be produced and add a note on its significance.                             | <b>05</b> |
|             | (c) | Write short note on Transgenic plants.                                                                                   | <b>05</b> |