

GUJARAT TECHNOLOGICAL UNIVERSITY
M. Pharm. – SEMESTER – I • EXAMINATION – SUMMER 2013

Subject Code: 910205**Date: 22-05-2013****Subject Name: Biotechnology and Cultivation of Medicinal Plants****Time: 10.30 am - 01.30 pm****Total Marks: 80****Instructions:**

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

- Q.1** (a) Elaborate factors affecting to the quality of medicinal plants during cultivation. **06**
 (b) Which are the major heavy metals found in plants? Discuss in details reasons of heavy metals present in the plants. **05**
 (c) Write detail opinion regarding use of insecticides and fertilizers in the cultivation of medicinal plants and vegetables. **05**
- Q.2** (a) Discus cultivation of *Taxus* species by taking special reference of geography. **06**
 (b) Write a note on Artemisinin **05**
 (c) Which are different standards available for the herbal and ayurvedic drugs? Give details of ESCOP. **05**
- Q.3** (a) How biotechnology is useful for the cultivation of the medicinal plants? Discuss limitation of biotechnology in the plants. **06**
 (b) Describe chemotaxonomical aspects of medicinal plants. **05**
 (c) Mention status of biotechnology in India with special emphasis to plant science. **05**
- Q.4** (a) How plant tissue culture can be helpful in the plant propogation? Write merits and demerits of plant tissue culture as compare to tradition propogation techniques. **06**
 (b) Write brief note on bioreactors. **05**
 (c) Define and explain transgenic plants. **05**
- Q.5** (a) Define elicitors. Discuss role of elicitors in plant tissue culture. **06**
 (b) Write a note on hairy root culture **05**
 (c) What do you mean by artificial seeds? Write importance of artificial seeds in plant tissue culture. **05**
- Q. 6** (a) Describe monograph of *Curcuma longa* as per API. **06**
 (b) What do you mean by microbial load in Herbal drugs? How microbial load can be minimized in powdered vegetable drugs? **05**
 (c) Highlight herbal drugs which are mentioned in the US Formulary. **05**
- Q.7** (a) Define and explain phytomics and metabolomics. How they are useful in the herbal medicine? **06**
 (b) Discuss novel concept of plant tissue culture for the production of secondary metabolites. **05**
 (c) Comment on role of microscopy for the detection of common adulterants in the herbal drugs. **05**