

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY**M. Pharm. – SEMESTER – I • EXAMINATION – WINTER 2013****Subject Code: 910205****Date: 26-12-2013****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.

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| Q.1 | (a) Give types of plant tissue culture and discuss on Suspension culture. | 06 |
| | (b) Define and discuss Artificial seeds. | 05 |
| | (c) Define and discuss biotransformation with suitable examples. | 05 |
| Q.2 | (a) Give brief account on Protoplast culture and Protoplast- fusion. | 06 |
| | (b) Give methodology and significance of Transgenic Plants. | 05 |
| | (c) Write commercial application of plant tissue culture. | 05 |
| Q.3 | (a) Define and discuss Phytochemicals. | 06 |
| | (b) Write US Formulary guidelines for Herbal medicinal products. | 05 |
| | (c) Explain Micro propagation giving suitable example. | 05 |
| Q.4 | (a) Discuss cultivation, collection and storage of Ginseng. | 06 |
| | (b) Write different methods for cultivation of <i>Curcuma longa</i> and give its pharmacological significance. | 05 |
| | (c) Discuss recent development in cultivation of Taxol and <i>Artemisia annua</i> . | 05 |
| Q.5 | (a) Enlist and discuss factors affecting quality of plant drugs. | 06 |
| | (b) Give brief account on economical methods for documentation and preservation of herbs. | 05 |
| | (c) Give detection methods for Arsenic in medicinal plant materials. | 05 |
| Q.6 | (a) Write importance of monographs. Compare monograph of ESCOP, BHP and Chinese Herbal Pharmacopoeia. | 06 |
| | (b) Give WHO guideline for Herbal medicinal products. | 05 |
| | (c) Write detailed note on BHP guideline for Herbal drugs. | 05 |
| Q.7 | (a) Define and discuss types of Polyploidy with suitable examples. | 06 |
| | (b) List and discuss methods for drying of crude drugs. | 05 |
| | (c) Explain methods for detection of pesticides and insect infestation in crude drugs. | 05 |
