

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. Pharm. – SEMESTER – I • EXAMINATION – WINTER 2013

Subject Code: 910105

Date: 23-12-2013

Subject Name: Chemistry of Medicinal Natural Products

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) Define and classify alkaloids. Write down their general properties, isolation methods and identification tests. | 06 |
| | (b) Write down structure elucidation of camptothecin and vincristine. | 05 |
| | (c) Explain the acetate mevalonate pathway in detail. | 05 |
| Q.2 | (a) Define and classify glycosides. Give their general distribution in plants, isolation method and identification tests. | 06 |
| | (b) Write in detail stereochemistry, structure elucidation and biological activity of glycyrrhetic acid. | 05 |
| | (c) Write down isolation and structure elucidation of calanolides | 05 |
| Q.3 | (a) Give structure elucidation and importance of taxol and podophyllotoxin. | 06 |
| | (b) Define and classify resins and terpenoids. Write down their general properties, isolation methods and identification tests. | 05 |
| | (c) Give applications of immunoglobulins obtained from natural sources in pharma industry. | 05 |
| Q.4 | (a) Define and classify carbohydrates. Write down their general properties, isolation methods and identification tests. | 06 |
| | (b) Give an explanatory note on acetate malonate pathway. | 05 |
| | (c) Write in detail about shikimic acid pathway. | 05 |
| Q.5 | (a) Give a short note on tracer techniques used in plants to elucidate biosynthetic pathways. | 06 |
| | (b) Write down isolation and structure elucidation of Griseofulvin. | 05 |
| | (c) Give structure elucidation and importance of Penicillin. | 05 |
| Q. 6 | (a) Write down biogenesis of indole alkaloids and tropane alkaloids. | 06 |
| | (b) Give Isolation, stereochemistry and biological activity of streptomycin. | 05 |
| | (c) Give biogenesis account for cardiac glycosides and hormones. | 05 |
| Q.7 | (a) Explain successive solvent extraction method and supercritical fluid extraction method. | 06 |
| | (b) Enlist novel extraction methods. Explain any three of them. | 05 |
| | (c) Enlist conventional extraction methods. Explain any two of them. | 05 |
