

**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmaceutical Chemistry) I – Semester (Suppl.) Examination,  
August 2019**

**Subject : Chemistry of Natural Products**

**Time : 3 hrs**

**Max. Marks : 75**

**Note : Answer any FIVE questions. All questions carry equal marks.**

- 1 a) Discuss the structural elucidation of reserpine.  
b) Give classification, isolation and biological activity of alkaloids. 9+6
- 2 How natural products acted as leads for the following classes of drugs? Explain.  
a) Drugs affecting CNS  
b) Anticancer drugs  
c) Cardiovascular drugs 5+5+5
- 3 a) Discuss the general methods to elucidate the structure of terpenoids.  
b) Write the structural elucidation of menthol. 8+7
- 4 a) Give the chemistry and physiological significance of Vitamin A, Vitamin C and Folic acid.  
b) Explain how recombinant DNA technology helped in new drug discovery. 8+7
- 5 a) Write a note on Sapogenins and cardiac glycosides.  
b) Discuss chemistry of contraceptive agents.  
c) Discuss clinical applications and recent advances in gene therapy. 5+5+5
- 6 How do you characterize the following natural compounds using IR,  $^1\text{H}$  NMR and  $^{13}\text{C}$  NMR spectral values? Give approximate spectral values.  
a) Quercetin b) Vitamin-D  
c) Morphine d) Benzyl penicillin  
e) Digoxin 5 x 3 = 15
- 7 a) List the active constituents present in the following crude drugs with their structures.  
i) Curcuma longa linn ii) Trigonella foenumgraccum  
iii) Pterocarpus marsupium iv) Swertia chirata 4 x 2 = 8  
b) Write in brief the structural elucidation of phytol. 7
- 8 Write a note on : (5+5+5)  
a) Hofmann exhaustive methylation  
b) Stereochemistry and nomenclature of steroids  
c) Chemistry of flavanoids

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