

FACULTY OF PHARMACY

M. Pharmacy (Pharmaceutical Chemistry) I – Semester (PCI) (Main & Backlog)
Examination, February 2019

Subject : Chemistry of Natural Products

Time : 3 hrs

Max. Marks : 75

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

- 1 a) What are alkaloids? Classify alkaloids by giving one example for each class.
b) Write the general methods to determine the structure of alkaloids. 3+12
- 2 How natural products acted as leads for the following classes of drugs? Explain.
a) Macrolide and β -lactam antibiotics
b) Cardiovascular drugs 8+7
- 3 a) Give classification, isoprene and special isoprene rules of terpenoids.
b) Discuss in brief the structural elucidation of citral and retinol. 3+12
- 4 Write a note on :
a) Chemistry and physiological significance of vitamins
b) Gene therapy 9+6
- 5 How do you characterize the structure of following natural compounds using IR, ^1H NMR and ^{13}C NMR spectral data? (Write approximate spectral values)
a) Morphine
b) Penicillin G
c) Vitamin-D
d) Quercetin
e) Digoxin 5 x 3 = 15
- 6 Write a note on :
a) Chemistry of contraceptive agents
b) Stereochemistry and nomenclature of steroids
c) Recombinant DNA technology and drug discovery 3 x 5 = 15
- 7 Discuss in detail the structural elucidation of morphine. 15
- 8 a) Write down the active constituents present in the following crude drugs with structures
i) Swertia chirata ii) Phyllanthus niruri
iii) Curcuma longa iv) Gymnema sylvestre 4 x 2 = 8
b) Write the structural elucidation of Quercetin. 7
