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2022

M.Pharm. 1st Semester End-Term Examination

Pharmaceutical Chemistry

CHEMISTRY OF NATURAL PRODUCTS

(New Regulation w.e.f. 2017-18)

Full Marks – 75

Time – Three hours

The figures in the margin indicate full marks
for the questions.

1. Answer all the following questions : (10 × 2 = 20)
 - (a) Define Flavanoids. Write the structure of Quercetin.
 - (b) Write the biological activity of Flavonoids.
 - (c) Define alkaloids, Protoalkaloids and Pseudoalkaloids.
 - (d) What do you mean by Hybridoma technology.
 - (e) Give the classification of Terpenoids.
 - (f) Write the general structure of Cardenolides and Bufadienolides.
 - (g) Define Vitamins. Write the role of Vitamin B12 in our body.
 - (h) Write the role of Primary and Secondary metabolites in plants.
 - (i) Write the stereochemistry of Ephedrine.
 - (j) Write down the role of Morphine in healthcare system.

2. Answer any seven questions : (7×5=35)
 - (a) Write a note on Cardiac Glycosides.
 - (b) How do you characterize Morphine using IR, MS, ¹H NMR, ¹³C NMR?
 - (c) Write a short note on clinical application and recent advances in gene therapy.
 - (d) Define Terpenoids. Give the structural elucidation of Menthol.

[Turn over

- (e) Write a note on chemistry of Flavonoids.
- (f) Give a brief idea about Pterocarpus marsupium, Swertia chirata for diabetic therapy.
- (g) Give the classification, isolation, biological activity of Alkaloids.
- (h) Give the chemistry, physiological significance of Vitamin A, Vitamin C and Folic acid.
- (i) Explain how recombinant DNA technology helped in new drug discovery.

3. Answer any *two* questions : (2×10=20)

- (a) How natural products acted as leads for the following classes of drug? Explain.
 - (i) Drugs effecting CNS
 - (ii) Anticancer drugs.
- (b) Write a note on :
 - (i) Stereochemistry and nomenclature of steroids
 - (ii) Write the active constituents present in the following crude drugs with structures- Swertia chirata, Phyllanthus niruri, Curcuma longa.
- (c) Discuss in brief the structural elucidation of Citral and Retinol.