

**B.PHARM.****THEORY EXAMINATION (SEM–VIII) 2016-17****CHEMISTRY OF NATURAL PRODUCTS***Time : 3 Hours**Max. Marks : 100**Note : Be precise in your answer.***SECTION – A**

1. **Attempt the following:** **10 x 2 = 20**
- (a) What is the application of NMR in the structure determination of natural products?
  - (b) Give the name of qualitative tests for the detection Flavonoids and Alkaloids.
  - (c) Give the name of the alkaloid obtained from Ornithine.
  - (d) Which nucleus is present in Morphine and Reserpine.
  - (e) Write the structure of Quercetin and Podophyllotoxin.
  - (f) Give the extraction of Terpenoids.
  - (g) Give any four names of Natural allergens.
  - (h) Sesquiterpene contain how many unit of isoprene and give the general formula of monocyclic terpenes.
  - (i) Write the biological source of any four natural products used as antimalarials agents.
  - (j) Define primary metabolites with suitable example.

**SECTION – B**

2. **Attempt any five of the following questions:** **5 x 10 = 50**
- (a) How will you elucidate the structure of morphine?
  - (b) Give a brief account on recent developments of natural products as anticancer agents.
  - (c) Explain structural elucidation of Digoxin
  - (d) Give the extraction, isolation and structure elucidation of Menthol.
  - (e) Give the qualitative tests for the detection of plant constituents.
  - (f) Role of natural products in drug discovery and development.
  - (g) Give a brief introduction to biogenesis of secondary metabolites of Atropine.
  - (h) How will you elucidate the structure of Papaverine, elaborate them with suitable chemical reaction.

**SECTION – C**

- Attempt any two of the following questions:** **2 x 15 = 30**
- 3 Explain in detail about the photosensitizing agents and fungal toxins.
  - 4 Discuss Biogenetic investigations. Give the Application of spectral techniques in the structure determination of natural products.
  - 5 **Give the extraction, isolation and structure elucidation of any two-**
    - (i) Tropanes
    - (ii) Caffeine
    - (iii)  $\alpha$ -Tocopherol