

**BACHELOR OF PHARMACY EXAMINATION, 2017**

**(2<sup>nd</sup> Year, 2<sup>nd</sup> Semester)**

**Pharmaceutical Chemistry – VI**

Time: Three hours.

Full Marks:100

Answer any *five* questions taking at least two from each group

**GROUP – A**

1. a) Define a pseudo alkaloid. Give example of one such with its therapeutic use and chemical feature.  
b) Discuss various chemical and therapeutic features of different Purine alkaloids with example. 10+10 = 20
  
2. a) Differentiate between quinine, quinidine and iso-quinolone group of alkaloid with example of therapeutically important drug from each group. Discuss various chemical tests for Quinoline, Indole alkaloids  
b) Define nutraceuticals and functional foods. Describe the role of dietary supplements in health benefit-with example. 10+10 = 20
  
3. Explain briefly with schematic diagram the following (any four) :  $4 \times 5 = 20$ 
  - (a) Biosynthetic pathways for production of Nicotine
  - (b) Biosynthetic pathways for production of tropane alkaloids
  - (c) Shikimic acid biosynthetic pathway
  - (d) Biosynthetic pathways for production of tryptophan
  - (e) TCA cycle for production of plant metabolites
  
4. Explain the biological source, chemical structure, test procedure for detection and therapeutic use of the following:  $5 \times 4 = 20$ 
  - (a) Artemisinin
  - (b) Digitoxin
  - (c) Ergotamine
  - (d) Strychnine
  - (e) Morphine

TIME: 3 hrs

F.M.-100

BACHELOR OF PHARMACY 2<sup>ND</sup> YR 2<sup>ND</sup> SEMESTER-2017  
PHARMACEUTICAL CHEMISTRY-VI (NATURAL PRODUCTS)

**GROUP - B**

5. a) Mention sources of natural products. Discuss in brief the traditional system of Indian medicines.
- b) What are the factors and methodology to be considered for natural products and drug discovery?
- c) Mention the structure and specific use of Digoxin, Morphine, Cocaine, Camptothecin, Aloe emodine and Artemesinine.

4+6+10=20

6. a) Define and classify terpenoids with examples.
- b) Explain with a scheme how C-C bond formation takes place in terpenoid biosynthesis (upto C<sub>20</sub> carbon atoms)?

4+8+8=20

7. a) Discuss the structure, source and uses of the following (any four):  
i) Myrcene ii) Linalool iii) Citral iv) Geraniol v) Limonene vi) Camphor
- b) Draw a scheme of isolation of Capsanthin and Lycopene, also mention their color reaction for identification.

10+5+5=20

8. a) Define and classify Carotenoids with examples.
- b) What are the pro-vitamin A function of Carotenoids?
- c) Write a brief note on pesticides of natural origin.

5+5+10=20