

**Third Year B.Pharm Degree Supplementary Examinations****November 2018****Pharmaceutical Chemistry IV****(Chemistry of Natural Products)****(2012 Scheme)****Time: 3 Hours****Total Marks: 100**

- Answer all Questions.
- Write chemical structures/equations wherever necessary.

**Essay****(3x10=30)**

1. Describe any two important methods of preparation and chemical properties of amino acids.
2. Elucidate the open chain structure of glucose.
3. What are alkaloids. Explain the general methods for the structure determination of alkaloids.

**Short notes****(14x5=70)**

4. Biological activity of thyroxine and triiodothyronine.
5. Explain the primary and secondary structures of protein.
6. Elucidate the structure of atropine.
7. The chemistry of cardiac glycosides.
8. Explain the chemistry of vitamin C.
9. Establish the structure of uric acid.
10. Non-reducing sugars.
11. The chemistry of morphine.
12. Classify alkaloids based on their chemical structures.
13. Explain the inter-relationship of caffeine, theobromine and theophylline.
14. Explain different synthetic estrogens.
15. Explain the chemistry of vitamin D
16. Structure and physiological role of glucagon
17. The structure of cellulose.

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