

M.Sc.(Chemistry) (CBCS Pattern) Semester - III  
**PSCChT11.2 - Special Paper-II : Organic Chemistry-II**

P. Pages : 2

Time : Three Hours



**GUG/S/23/11339**

Max. Marks : 80

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1. a) Give synthesis and structure determination of vitamin A. 8  
b) Discuss synthesis and structure of hemoglobin. 8
- OR**
- c) Give synthesis of phytol. 4  
d) Discuss structure of Geraniol. 4  
e) Give synthesis of Abietic acid. 4  
f) Give synthesis of menthol. 4
2. a) What are alkaloids? Give nomenclature, classification and isolation of alkaloids. 8  
b) Give synthesis and structure of reserpine. Discuss biogenesis and physiological effect of  $\text{PGF}_{2\alpha}$ . 8
- OR**
- c) Explain stereochemistry of Quinine. 4  
d) Write a note on  $\text{PGE}_2$ . 4  
e) Discuss synthesis of Nicotine. 4  
f) Explain constitution of morphine. 4
3. a) Discuss the occurrence, isolation and synthesis of myricetin. 8  
b) Describe the synthesis of testosterone from cholesterol. 8
- OR**
- c) Determine the structure of Luteolin. 4  
d) Give the synthesis of bile acid. 4  
e) Discuss biosynthesis of steroids. 4  
f) Describe biosynthesis of flavonoids by Acetate pathway. 4

4. a) Discuss the structure of lactose. 8
- b) Explain the following terms 8
- i) Acid – base property of amino acid.
- ii) Stereochemistry of amino acids.

**OR**

- c) Describe Haworth methylation method for the determination of molecular wt. of cellulose. 4
- d) What are carbohydrates? Give its classification. 4
- e) Give classification of proteins. 4
- f) Discuss isolation and analysis of amino acid from proteins by hydrolysis method. 4
5. a) Give the structure of santonin. 2
- b) Give classification of terpenoids. 2
- c) What is role of alkaloids in plants? 2
- d) Mention the abnormalities of thyroxine deficiency in human bodies. 2
- e) Give the structure of Butein. 2
- f) Explain Dial's hydrocarbon of steroids. 2
- g) Discuss optical resolution in amino acids. 2
- h) Draw structure of cellulose. 2

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