

M.Sc. (Chemistry) (CBCS Pattern) Semester-III  
**PSCHT11.2 - Special Paper-II : Organic Chemistry-II**

P. Pages : 2

Time : Three Hours



**GUG/S/25/11339**

Max. Marks : 80

---

1. a) Give the synthesis and structure determination of Vitamin A. 8  
b) Discuss the synthesis and structure of Haemoglobin. 8

**OR**

- c) Discuss the general methods of structure determination of terpenoids along with isoprene rule. 4  
d) Write the synthesis of Chlorophyll. 4  
e) Give the biosynthesis of Citral. 4  
f) Discuss the biosynthesis of Geraniol. 4
2. a) Give the synthesis and stereochemistry of nicotine. 8  
b) Classify the prostaglandins. Discuss synthesis of PGE<sub>2</sub>. 8

**OR**

- c) Write short note on PGF 2 $\alpha$ . 4  
d) Describe the biosynthesis of reserpine. 4  
e) Discuss the synthesis of morphine. 4  
f) Discuss the role of alkaloids in plants. 4
3. a) Discuss structure determination and synthesis of cholesterol. 8  
b) Discuss the following. 8  
i) Synthesis of quercetin.  
ii) Acetate pathway of biosynthesis of flavonoids.

**OR**

- c) Discuss the synthesis of myricetin. 4  
d) Write notes on synthesis of bile acids. 4  
e) Describe the shikimic acid pathway for biosynthesis of flavonoids. 4  
f) Discuss the synthesis of Cyanidin. 4

4. a) Outline method used for structure determination in maltose sugar. 8
- b) What are proteins? Discuss solid phase peptide synthesis. 8

**OR**

- c) What are carbohydrates? Give its classification. 4
- d) How is the structure of sucrose molecule is determined? 4
- e) Explain the Strecker synthesis. 4
- f) Explain the secondary structure of protein. 4
5. a) Give the structure of Farnesol. 2
- b) Discuss the structure and function of Vitamin – H. 2
- c) Give the occurrence of prostaglandins. 2
- d) Write a note on atropine. 2
- e) Give structure determination of butene. 2
- f) Explain Dial's hydrocarbon of steroids. 2
- g) Explain deoxy sugar with suitable examples. 2
- h) Discuss optical resolution in amino acids. 2

\*\*\*\*\*