M.Sc. II Year (Chemistry) (CBCS Pattern) Sem-III

PSCHT11.2 - Special Paper-II : Organic Chemistry-II

P. Pages : 2 **GUG/W/22/11339**

Time : Three Hours * 3 8 0 3 * Max. Marks : 80

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1. a) Give the synthesis and structure of Haemoglobin. **8**

b) What are vitamins? Give the synthesis of Vitamin A. **8**

OR

c) Discuss the structure of chlorophyll. **4**

d) Discuss the structure of menthol. **4**

e) What are terpenoids? Discuss their classification. **4**

f) Give the synthesis of abietic acid. **4**

2. a) Outline the biosynthetic route of Nicotine starting from aspartic acid. Comment on optical activity of Nicotine. **8**

b) Give the synthesis of PGE2 and PGF2α. **8**

OR

c) Discuss briefly the general methods of structure elucidation of alkaloids. **4**

d) Explain the physiological action of **4**
i) Alkaloids ii) Prostaglandins.

e) Explain the stereochemistry of Quinine. **4**

f) Explain the physiological action of Morphine. **4**

3. a) Describe the synthesis of testosterone from cholesterol. **8**

b) Discuss the acetate pathway of biosynthesis of flavonoids. **8**

OR

c) Describe the shikimic acid pathway for biosynthesis of flavonoids. **4**

d) Determine the structure of Luteolin. **4**

e) Write notes on occurrences and Nomenclature of steroid. **4**

f) Discuss the synthesis of myricetin. **4**

4.	a)	What are proteins? Discuss solid phase peptide synthesis.	**8**
	b)	How is structure of maltose established? Explain.	**8**

OR

	c)	What are carbohydrates? Give the classification of carbohydrates with suitable examples.	**4**
	d)	Explain the Strecker synthesis.	**4**
	e)	Explain ring size determination in lactose and zwitterion.	**4**
	f)	Write notes on Acid-Base properties of amino acids.	**4**
5.	a)	Write note on isoprene unit.	**2**
	b)	Define β -carotenes with suitable example.	**2**
	c)	Explain in short role of alkaloids in plants.	**2**
	d)	Write a note on occurrence of atropine.	**2**
	e)	Explain Diel's hydrocarbon of steroids.	**2**
	f)	Give the occurrence of Apigenin and vitexin.	**2**
	g)	Give the structure of maltose.	**2**
	h)	Discuss optical resolution in amino acids.	**2**

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