M.Sc. (Chemistry) (CBCS Pattern) Sem-IV

PSCHT15.2 - Special-II : Organic Chemistry-II Paper-XV

P. Pages : 2 **GUG/W/22/11456**

Time : Three Hours Max. Marks : 80

Notes : 1. All questions are compulsory and carry equal marks.
2. Draw suitable diagram wherever necessary.

1. a) Discuss the mechanism of enzyme action with the help of lock and key model hypothesis: **8**

b) Discuss the mechanism action of ribonuclease. **8**

OR

c) Explain the structure and function of $NADP^+$. **4**

d) Explain Bakers yeast catalysed reaction. **4**

e) Discuss enzyme mechanism for chymotrypsin. **4**

f) State application of enzyme in food and drug industry. **4**

2. a) 1) Give synthesis of quinoline. **8**

2) What is the action of following on isoquinoline.

i) $NaNH_2$ ii) Na in liq NH_3

iii) Alk.$kMnO_4$ iv) H_2 / pt

b) Explain the structural and chemical properties of thiazole. **8**

OR

c) Give any two methods of synthesis for oxazole? **4**

d) How indole reacts with following reagents? **4**

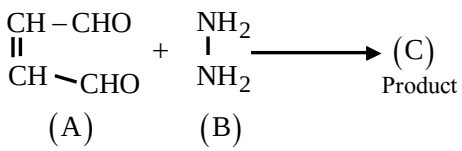
i) SO_2Cl_2 ii) $HCN.HCl / H_3O^+$

iii) Sn / HCl iv) $HCHO, (CH_3)_2 NH$

e) Write the synthesis of Benzofuran. **4**

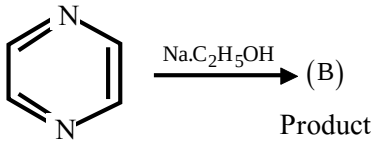
f) Complete the reaction and state the names of product and reactant. **4**

1)



(A) (B)

2)



(A)

3.		a)	How to determine the structure of Vit 'A' (Synthesis is not expected)?	**8**
		b)	Explain method of preparation of purines and pyrimidines.	**8**
			OR	
		c)	Give brief account of structure of glycerophospholipids and their functions.	**4**
		d)	Write a note on replication of DNA.	**4**
		e)	Explain the biosynthesis of Vitamin H.	**4**
		f)	Write a short note on lipid metabolism.	**4**
4.	a)		What are dyes? Discuss the classification of dyes based on their applications.	**8**
	b)		Give the synthesis and applications of Terfenadine and benzocaine.	**8**
			OR	
	c)		Write a note on alizarin dye.	**4**
	d)		Discuss synthesis and application of ciprofloxacin.	**4**
	e)		Explain condensation Polymerization with suitable example.	**4**
	f)		Write a note on Ziegler – Natta polymerization.	**4**
5.	a)		Define prosthetic group.	**2**
	b)		Write biological functions of Vit – B – 12	**2**
	c)		What is the importance of Pyrimidine.	**2**
	d)		Write a note on Fischer – Indole synthesis.	**2**
	e)		Explain lipoproteins.	**2**
	f)		Write the structure of Vit – E.	**2**
	g)		Write a note on Rhodamine dye.	**2**
	h)		Define syndiotactic and isotactic polymer.	**2**

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