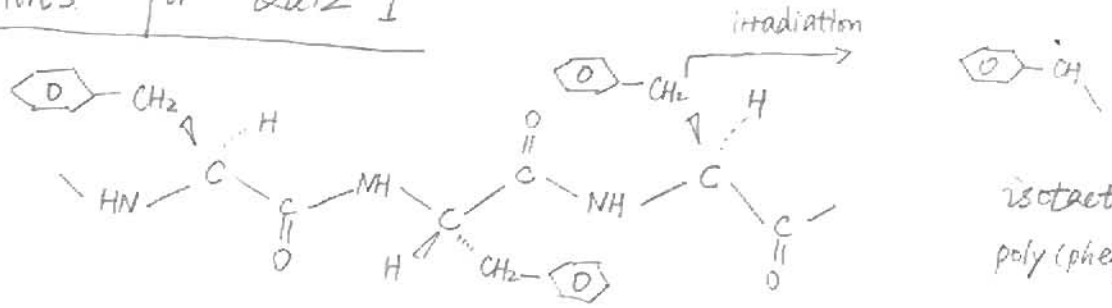
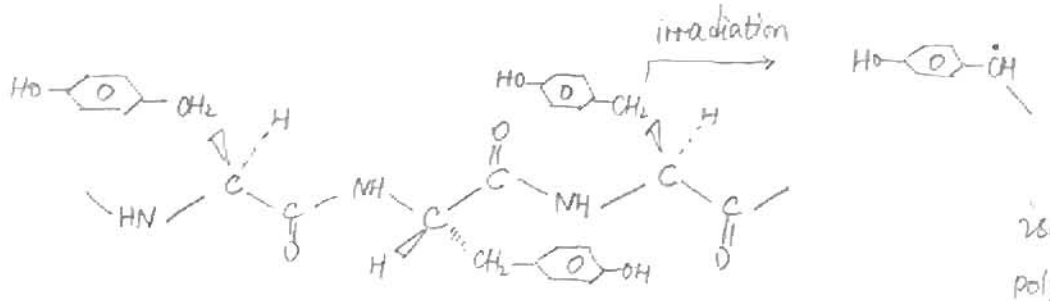
solutions for Quiz I

A.



isotactic

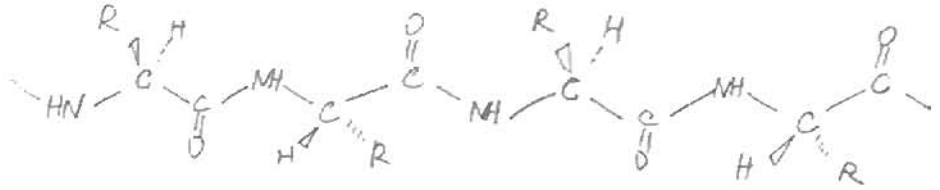
poly (phenyl alanine)



isotactic

Poly (Tyrosine)

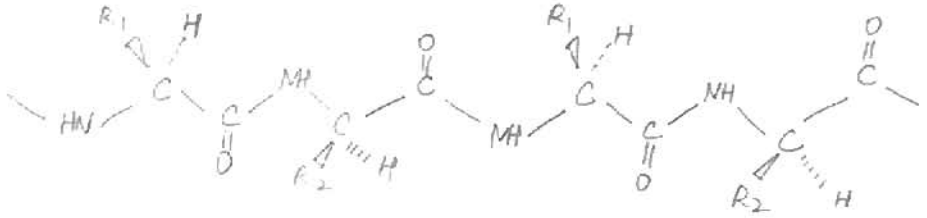
the general form is:



$R = -CH_2-$ 

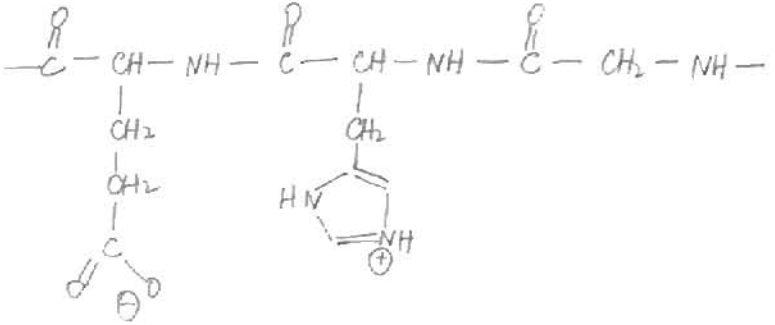
or $-CH_2-$ 

if use different R groups



in order to isotactic, both R_1 and R_2 must be in isotactic placement. Usually we call it a *disisotactic* isomer.

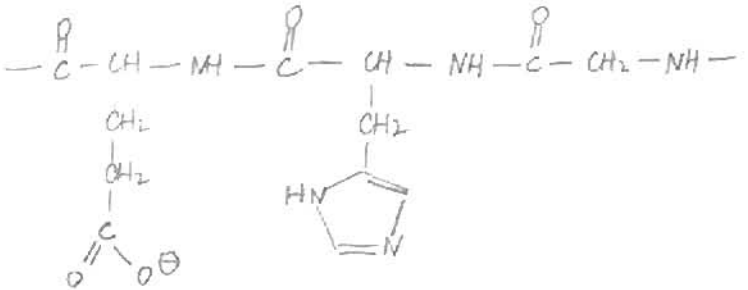
B.



glutamic acid Histidine glycine

pH < 7.4
(slightly acidic)

overall neutral

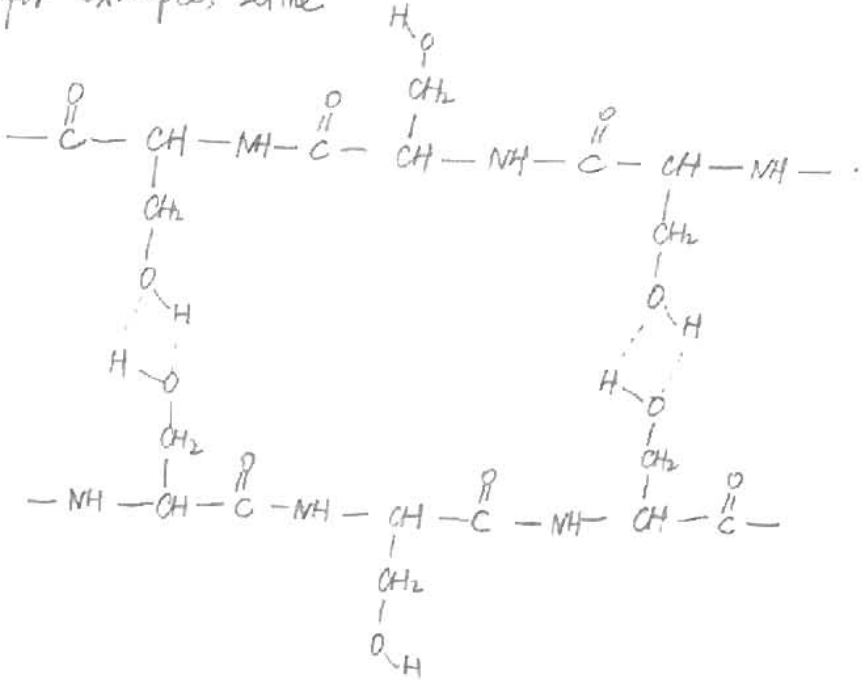


pH > 7.4
(slightly basic)

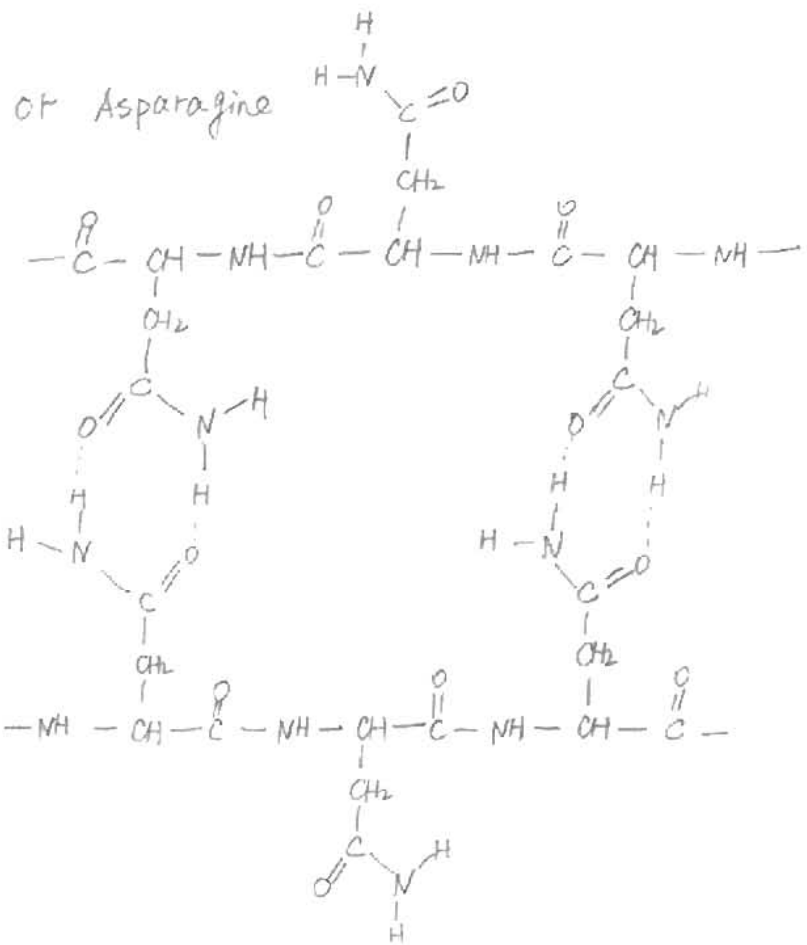
negatively charged

2. choose amino acids with $-OH$ or $-\overset{O}{\overset{\|}{C}}-NH_2$ in the side group.

for example, serine

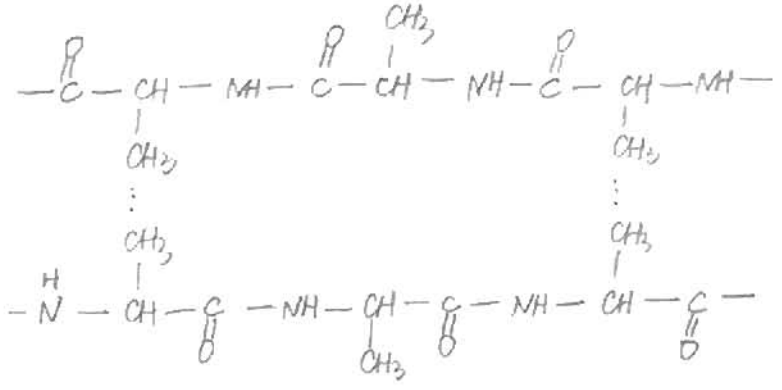


or Asparagine



D. Choose amino acids that have (only) hydrocarbon side groups:

for example, glycine, Alanine, valine, leucine.

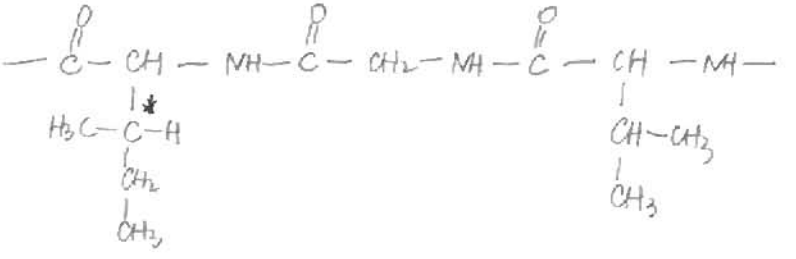


E. amino acids with optically active side group:

Isoleucine and threonine

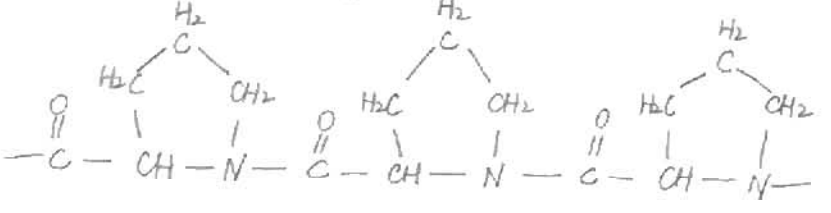
All the other amino acids have non optically active side groups.

An example for the answer could be:



Isoleucine	glycine	Valine
optically active	non optically active	non optically active

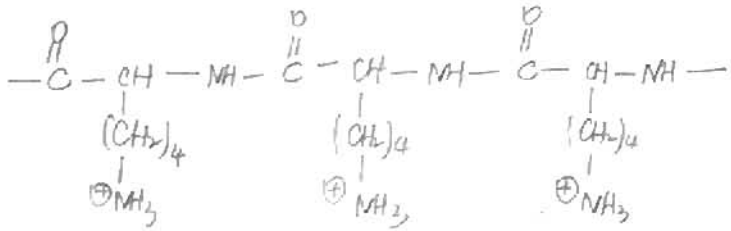
F. Amino acids with bulky side groups would work. for example. proline. phenylalanine, Tryptophan.



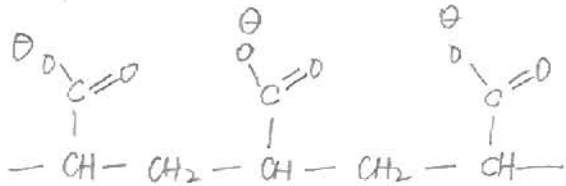
poly proline

H. Any amino acid with positively charged side group at pH = 7.4

e.g. Lysine and Arginine both have positively charged side groups.



Poly lysine



Poly (acrylic acid)

G. The most flexible peptide chain is

poly glycine