Practice Question Set For A-Level
Subject : Chemistry
Paper-2 Topic: AminoAcids, Proteins & DNA

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Exam Preparation and Free Resources

Name of the Student:_____
Max. Marks : 20 Marks **Time : 20 Minutes**

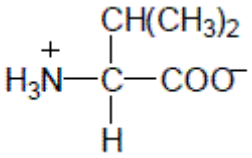
Mark Schemes

Q1.

(a) *(i)* *hydrolysis*
not hydration
1

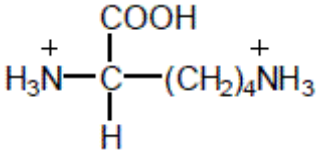
(ii) *2-aminopropanoic acid*
ignore alanine
QoL
1

(iii)



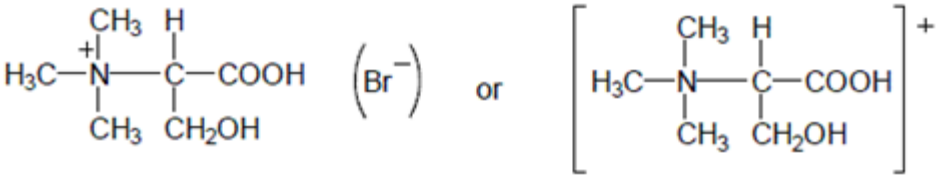
allow $–CO_2^-$
allow $^+NH_3–$
don't penalize position of + on NH_3
1

(iv)

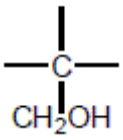


allow $–CO_2^-$
allow $^+NH_3–$
don't penalize position of + on NH_3
1

(b) *(i)*



allow $–CO_2H$



allow limit as
+ on N or outside [ ]

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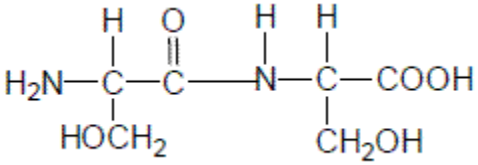
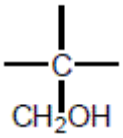
1

(ii)



allow –CO_2H allow –CONH– or –COHN–
allow NH_2–

allow limit as 

1

[6]

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Q2.

(a) $Pt(NH_3)_2Cl_2 + H_2O \rightarrow [Pt(NH_3)_2Cl(H_2O)]^+ + Cl^-$

Correct product

1

Balanced equation

1

(b) *(i)* *Hydrogen bond*

1

Oxygen (or nitrogen)

Only score this mark if type of bond is correct

1

(ii) *Co-ordinate*

1

Nitrogen (or oxygen)

Bond type must be correct to score this mark but allow M2 if bond is covalent

1

(c) *Killing them or causing damage (medical side effects)*

Allow any correct side effect (e.g. hair loss)
Allow kills healthy (or normal) cells

1

May attach to DNA in normal cells

1

[8]

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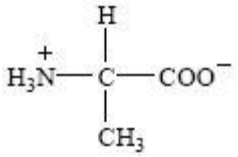
Q3.

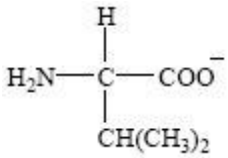
(a) *(i)*



allow $-CO_2^-$
allow $^+NH_3-$
don't penalize position of + on NH_3

1

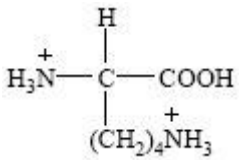
(ii)



allow $-CO_2^-$
allow NH_2-
allow C_3H_7

1

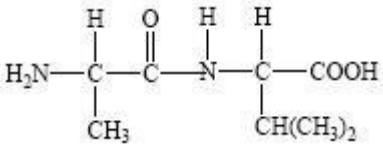
(iii)



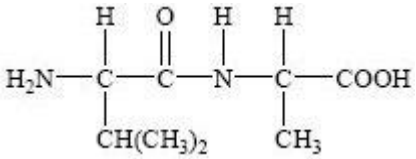
allow $-CO_2H$
allow $^+NH_3-$
don't penalize position of + on NH_3

1

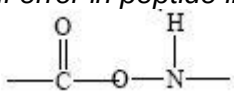
(b)



1



allow $-CO_2H$
allow NH_2-
allow C_3H_7
allow as zwitterions
if error in peptide link e.g.



if twice, penalise both times
not polymers
if wrong amino acid in both can score Max 1

1

(c) *chromatography or electrophoresis*

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ignore qualification to chromatography

1

[6]

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