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Tanta University		Faculty of Science		Chemistry Department	
Final Examination - level four students			Special Botany and Zoology Sections		
Course Title:		Biochemistry 1		Course Code: CH4173	
Jan. 2015		Term: First Semester		Total Marks 100	
				Time allowed: 2 hrs.	

Answer the following questions:-


- 1)- Explain how/^{each} of the following conversions takes place : (25 marks)
 - a- Succinyl CoA is obtained from α -keto glutarate.
 - b- D-glucose is degraded into the metabolite 3-phosphoglyceric acid.

- 2)- Write down on: (25 marks)
 - a- The equations which represent the biosynthesis of D-Fructose -6-phosphate by transketolase and transaldolase enzymes.
 - b- The reaction equation and mechanism of oxidative deamination of L-alanine by flavoenzymes.

- 3)- Answer each of the following: (25 marks)
 - a- Write **Only** the corresponding reaction equation, enzyme and coenzyme of each:-
 - i- Lactic acid into pyruvic acid.
 - ii- Acetyl CoA into malonyl CoA.
 - iii- Tyrosine into Dopa.
 - b- Write the biosynthetic pathway of OAA from Pyruvic acid.

- 4)- Show how each of the following takes place: (25 marks)
 - a- "PLP functions in decarboxylation reactions", give examples.
 - b- Oxalo acetic acid can form α -ketoglutaric acid.

Good Luck
 Dr. Yehia A. Hafez


	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT CHEMISTRY			
	Final EXAMINATION for 4 th YEAR students of Botany			
COURSE TITLE:	Biopolymer Chemistry		COURSE CODE: CH4179	
DATE:	JANUARY 15TH 2015	TERM: FIRST	TOTAL ASSESSMENT MARKS: 50	TIME ALLOWED: 2 HOURS

Answer the following questions

- 1- Define biopolymers 5 marks
- 2- Show some examples of types of biopolymers 5 marks
- 3- Describe monomer, polymer, and oligomer. 5 marks
- 4- Types of free radical polymerization initiators. 7 marks
- 5- Steps of free radical polymerization. 5 marks
- 6- Solution polymerization technique as a method for biopolymer synthesis. 4 marks
- 7- Biopolymers versus polymers, explain the difference 5 marks
- 8- Describe the suspension polymerization technique 6 marks
- 9- Write the sign (√) or (X) in the front of each statement: 8 marks
 - I) Biopolymers are not produced by living organisms (.....)
 - II) Synthetic polymers are human-made polymers. (.....)
 - III) Polystyrene (PS) is a biopolymer (.....)
 - IV) Gelatin is a biopolymer (.....)

مع تحیاتی

ا.د: الرفاعی فناوی

	Tanta University Faculty of Science Chemistry Department		
	Examination for (Credit hours) Students		
	Course Title	Pesticides	Course Code: CH4119
Date:	January 2015	Total Assessment Marks: 50	Time Allowed: 2 hrs

I) Mark (✓) for the write and (×) for the wrong statements and correct the wrong one (14 M):

1. Action of chlordane on insects is fast, so it is mixed with alkaline pesticides e.g lime sulpher. ()
2. Pesticides applied indoors usually breakdown at a faster rate due to the lack of sunlight. ()
3. Methyl parathion is hydrolysed 4.3 times faster in alkali than parathion. ()
4. Arsenites are more soluble than arsenates and more poisonous to animals and plant life. ()
5. Persistent insecticides have half-life time less than 30 days. ()
6. Acute toxic effect arises from long term exposure to small quantities of pesticides. ()
7. Technical grade of Systox is a mixture of thiono isomer (70 %) and thiolo isomer (30 %). ()

II) Choose the correct answer and write the full chemical equation (12 M):

- 1) Dehydrochlorination of DDT followed by CrO_3 oxidation gives:
 - a) *p,p*-Dichloro benzophenone
 - b) DDD
 - c) Bis(4-chlorophenyl)-1-chloroethane
- 2) Effect of heat on γ -isomer of BHC gives:
 - a) 1,2,3-trichloro benzene
 - b) 1,3,5-trichloro benzene
 - c) 1,2,4-trichloro benzene
- 3) Action of con. HNO_3 on parathion gives:
 - a) Demeton
 - b) Paraoxon
 - c) Malathion
- 4) Treatment of HCCP with cyclopentadiene followed by chlorine gives:
 - a) Chlordane
 - b) Heptachlor
 - c) Endrin

III) Write the chemical structure of the following pesticides (12 M):

- 1) Parathion
- 2) DDD
- 3) Systox
- 4) Paris Green
- 5) Nornicotine
- 6) Bordeaux mixture

IV) Complete the following chemical equations: (12 M):

- 1) Diethyl chlorophosphate + triethyl phosphate $\xrightarrow{\text{Cu/benzene/150}^\circ}$ A $\xrightarrow{\text{Hydrolysis}}$ B
- 2) Trichloro acetaldehyde + anisole + c. $\text{H}_2\text{SO}_4 \rightarrow$ A $\xrightarrow{\text{alc. KOH}}$ B
- 3) Sec. amine + NaOH + $\text{CS}_2 \rightarrow$ A $\xrightarrow{\text{ZnO}}$ B
- 4) Carbrayl $\xrightarrow{\text{Epoxidation}}$ A $\xrightarrow{\text{Hydrolysis}}$ B

..... *With Best Wishes* *Dr. Atif El-Gharably*

