

Bio 303 Quiz 01

Collected by Zabi Attariya 

Question # 1 of 8 (**Start time: 02:41:32 PM, 26 June 2022**)

At standard biochemical state, the concentration of water is

Select the correct option

☒	55.5M
☐	3.5M
☐	100M
☐	71.5M

Question # 2 of 5 (Start time: 02:42:36 PM, 26 June 2022)

ATP energizes ____.

Select the correct option



Respiration



Muscle contraction



Metabolism



Oxygen transport

Question # 3 of 5 (Start time: 02:43:13 PM, 26 June 2022)

Carbon atoms can exist in ____ oxidation states.

Select the correct option

**Six****Five****Four****Three**[Click to Save Answer & Move](#)

Question # 4 of 8 (**Start time: 02:43:46 PM. 26 June 2022**)

In phosphocreatine hydrolysis, the release of P_i and the resonance stabilization of creatine favor ____

Select the correct option

☐ Reverse reaction

☐ No reaction

☒ Forward reaction

☐ End of reaction

Question # 5 of 8 (Start time: 02:55:19 PM, 20 June 2022)

Which one of the following is true regarding elimination reaction?

Select the correct option



Causes oxidation



Causes oxidation-reduction reaction



Causes reduction



Causes no change in oxidation state

Question # 6 of 8 (Start Time: 02:44:52 PM, 26 June 2022)

Cells work at _____ temperature.

Select the correct option

☐	Variable
☐	Low
☐	High
☒	Constant



Click to Save Answer & Move to Next Question

Question # 7 of 8 (Start time: 02:46:43 PM, 26 June 2022)

This flow of phosphoryl groups is catalyzed by _____ enzymes.

Select the correct option

**Isomerase****Hydrolase****Kinase****Dehydrolase**

Question # 5 of 5 (Start time: 02:47:40 PM, 26 June 2022)

To

If the K_{eq} is equal to 1.0 then the standard free-energy change (ΔG°) of that reaction is ____.

Select the correct option



0.0



1



0.1



0.7



Click to Save Answer & Move to Next Question

Question # 1 of 5 (Start time: 02:33:31 PM, 26 June 2022)

The actual free-energy change (ΔG) depends on the concentration of _____.

Select the correct option

**Reactants****Both reactants and products****Either reactants or products****Products**

Question # 2 of 3 | Start time: 02:54:03 PM, 26 June 2022 |

Total

Which one of the following enzymes catalyzes decarboxylation reaction?

Select the correct option.

☐ **Phosphohexose isomerase**☐ **Coproporphyrinogen IX oxidase**☐ **Phosphoenolpyruvate carboxykinase**☒ **Coproporphyrinogen III oxidase**

Click to Save Answer & Move to Next Question

Question # 3 of 8 (Start time: 02:55:25 PM. 26 June 2022)

_____ *form of pyruvate can immediately tautomerize to the more stable keto form of pyruvate

Select the correct option

☒	Enol
☐	Chloride
☐	Keto
☐	Gluko

Question # 4 of 8 (Start time: 02:33:37 PM, 26 June 2022)

When a reaction proceeds with the gain of free energy, ΔG is positive, the reaction is said to be _____.

Select the correct option

☐	Reactive
☐	All of given
☐	Exergonic
☒	Endergonic

Question # 5 of 5 | Start time: 03:58:46 PM, 26 June 2023

Total Marks: 1

During the activation of fatty acids, the _____ group of coenzyme A displaces the adenylyl group and forms a thioester with the fatty acid.

Select the correct option



Carboxy



Aldehyde



Thiol



Ketone



Click to Save Answer & Move to Next Question

Question # 6 of 5 | Start time: 03:57:45 PM, 26 June 2023

Total Marks: 1

If the K_{eq} is equal to 1.0 then the standard free-energy change (ΔG°) of that reaction is ____.

Select the correct option



1



0.7



0.0



0.1

Click to Save Answer & Move to Next Question

Most biochemical reactions occur near pH ____.

Select the correct option



5-6



8



7



6

Question # 8 of 8 (Start time: 02:35:39 PM, 26 June 2022)

ATP Provides Energy by ____.

Select the correct option

**Hydrolysis****Photolysis****Protolysis****Group transfers**

Click

Question # 1 of 8 (**Start time: 03:03:17 PM, 26 June 2022**)

In a chemical reaction, if the product of the concentration of reactants is greater than product, the reaction will

 Select the correct option

☐	Proceed in reverse direction
☐	Reaction will become slow
☐	Reaction will stop
☒	Proceed in forward direction

Question # 2 of 3 (Start time: 03:04:45 PM, 26 June 2022)

Total

Which one of the following groups contains a double bonded oxygen atom and an alkyl group?

Select the correct option

☐**Carbonyl**☐**Hydroxyl**☐**Phosphoryl**☒**Acyl**[Click to Save Answer & Move to Next Question](#)

In biological system, a few types of _____ serve as Universal Electron Carriers.

Select the correct option



Enzymes and hormones



None of given



Enzymes and coenzymes



Coenzymes and Proteins

Click to Save Answer & Move to Next Question

Question # 4 of 5 (Start time: 03:06:50 PM, 26 June 2022)

Total Marks: 1

Dietary deficiency of Niacin the vitamin form of NAD and NADP, causes_____.

Select the correct option

**Pellagra****Diabetes****None of given****Arthritis**[Click to Save Answer & Move to Next Question](#)

1- The equation for standard free energy change ΔG° is

Select the correct option

☐	$T \Delta S^\circ = \Delta H^\circ + \Delta G^\circ$
☐	$\Delta H^\circ = \Delta G^\circ - T \Delta S^\circ$
☒	$\Delta G^\circ = \Delta H^\circ - T \Delta S^\circ$
☐	$\Delta G^\circ = \Delta H^\circ + T \Delta S^\circ$

A chemical bond which involves the sharing of electron pairs between atoms is called

Select the correct option

<input data-bbox="89 764 162 842" type="radio"/>	Physical bond
<input data-bbox="89 1068 162 1146" type="radio"/>	Coordinate bond
<input checked="" data-bbox="89 1372 162 1450" type="radio"/>	Covalent bond
<input data-bbox="89 1675 162 1754" type="radio"/>	Ionic bond

Question # 7 of 8 (**Start time: 03:09:41 PM. 26 June 2022**)

If ΔG is negative

Select the correct option

☐	Reaction will stop
☒	Reaction will be spontaneous
☐	No product will be formed
☐	Reaction will not occur

1- If ΔG is positive

Select the correct option

☐	Reaction will be spontaneous
☐	Reaction will occur in the reverse direction
☐	Reaction will occur in the forward direction
☒	Reaction will stop

Question # 1 of 8 (Start time: 04:13:34 PM. 26 June 2022)

The expression for standard free energy change is

Select the correct option

☒	ΔG^0
☐	ΔG
☐	ΔH^0
☐	ΔT^0

Most biochemical reactions occur near pH _____.

Select the correct option



8



7



5-6



6

Click to Save Answer & Move to Next Question

Bioenergetics is the study of

Select the correct option

☒	Energy transduction
☐	Signal transduction
☐	Electric transduction
☐	Water transduction

Question # 4 of 8 (Start time: 04:10:07 PM, 26 June 2022)

Total Marks: 1

Which one of the following enzymes catalyze the conversion of glucose 6-phosphate to fructose 6-phosphate?

Select the correct option

**Phosphohexose isomerase****Phosphofructokinase****Pyruvate kinase****Phosphoenolpyruvate carboxykinase**

Click to Save Answer & Move to Next Question

Question # 6 of 8 | Start time: 04:15:37 PM, 26 June 2022

Total Marks: 1

Which one of the following groups contains a double bonded oxygen atom and an alkyl group?

Select the correct option

**Carbonyl****Phosphoryl****Acyl****Hydroxyl**

Click to Save Answer & Move to Next Question

Question # 7 of 8 (**Start time: 04:19:19 PM. 26 June 2022**)

*Thioesters contain a ____ atom in the position occupied by an oxygen

Select the correct option

☐	Carbon
☒	Sulfur
☐	Chlorine
☐	Calcium

Question # 8 of 8 (**Start time: 04:20:07 PM. 26 June 2022**)

Acetyl CoA is a _____

Select the correct option

☒	Thioester
☐	Phosphoester
☐	Choroester
☐	Phosphodiester

A double arrow in the chemical reaction equation indicates

Select the correct option

Re



Reaction is bidirectional



Reaction is unidirectional



Reaction is multidirectional



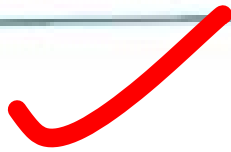
Reaction is non-directional

_____ is the energy currency of the living cells

Select the correct option



ATP



DNA



mRNA



Amino acid

Groups at a double bond may undergo a _____.

Select the correct option



Free-radical reactions



Isomerization



Cis-trans rearrangement



Elimination

Chymotrypsin reaction involves the transfer of ____ group.

Select the correct option

- | | |
|----------------------------------|------------|
| ☒ | Acyl |
| ☐ | Phosphoryl |
| ☐ | Hydroxyl |
| ☐ | Carbonyl |

Most biochemical reactions occur near pH ____.

Select the correct option



6



5-6



8



7



Click to Save

1- _____ is the process in which glucose is broken down into pyruvate.

Select the correct option

☐	Gluconeogenesis
☐	Kreb cycle
☐	Glycolysis
☐	Urea cycle



ATP hydrolysis is catalyzed by ATP-dependent enzyme ____

Select the correct option



glutamine hydroxylase



glutamine synthetase



ATP hydroxylase



ATP synthetase



_____ form of pyruvate can immediately tautomerize to the more stable keto form of pyruvate

Select the correct option

☐	Keto
☐	Chloride
☐	Glucose
☐	Enol



Question # 1 of 8 (**Start time: 09:50:29 PM, 25 June 2022**)

The free energy change of ATP hydrolysis is

Select the correct option

☐	Neutral
☐	None
☐	Negative
☐	Positive



Question # 2 of 8 (Start time: 09:53:00 PM, 25 June 2022)

To

Which one of the following groups contains a double bonded oxygen atom and an alkyl group?

Select the correct option



Carbonyl



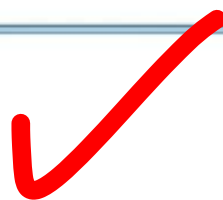
Acyl



Phosphoryl



Hydroxyl



Which one of the following enzymes catalyze the conversion of glucose 6-phosphate to fructose 6-phosphate?

Select the correct option



Pyruvate kinase



Phosphofructokinase



Phosphoenolpyruvate carboxykinase



Phosphohexose isomerase



_____ of the three P atoms of ATP molecule can serve as the electrophilic target for nucleophilic attack.

Select the correct option



All of given



Alpha



Beta



Gamma

ATP Provides Energy by _____.

Select the correct option



Hydrolysis



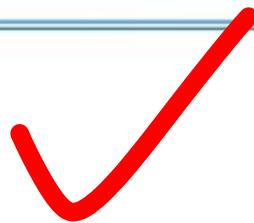
Photolysis



Protolysis



Group transfers



Question # 6 of 8 (Start time: 09:58:21 PM, 25 June 2022)

Total

Which one of the following reactions involves the formation of a carbanion stabilized by a carbonyl group?

Select the correct option



Hydrolysis



Decarboxylation



Claisen condensation



Aldol condensation

[Click to Save Answer & Move to Next Question](#)

Question # 7 of 8 (Start time: 10:00:32 PM, 25 June 2022)

Groups at a double bond may undergo a _____.

Select the correct option



Free-radical reactions



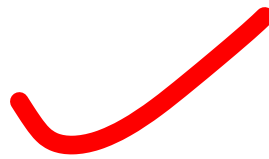
Isomerization



Cis-trans rearrangement



Elimination



Click to Save Answer & Mark

Question # 8 of 8 (**Start time: 10:02:22 PM, 25 June 2022**)

Acetylye CoA is a _____

Select the correct option

☐	Choroester
☐	Phosphoester
☐	Phosphodiester
☒	Thioester