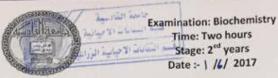
University of Al-Qadisyia Faculty of Biotechnology Dept.of Agricultural & Medical Biotechnology



## Final semester examination of second semester 2016-2017

ا لدور رلاول

Q1) Draw the chemical structure of the following lipid compounds:

a-Arachidonic acid

b- Phosphatidyl inositol

Q2) Choose the correct answer: (Answer five only)

10 marks

1-According to Koshland's Induced-fit Theory:

a- the active site of enzyme possesses a conformation which is not complementary to the structure of the

b-the essential functional groups on the active site of the free enzyme are not in their optimal positions for promoting catalysis.

c-the active site of enzyme possesses a unique conformation which is complementary to the structure of the

d- the essential functional groups on the active site of the free enzyme are in their optimal positions for promoting catalysis.

2-Waxes are esters of fatty acids and alcohols other than:

a-lanolin b-sphingosine d-sterol c-glycerol

3-In the Michaelis-Menten equation when [S] » K<sub>M</sub>; then:

b-The reaction at half maximum velocity a-The reaction is zero order

d-The reaction is mixed order c-The reaction is first order

4-A nerve gas sarin it's a kind of:

a-reversible inhibitors which is tightly bind to enzyme b-irreversible inhibitors which is not tightly bind to enzyme c-irreversible inhibitors which covalently bind to enzyme d-reversible inhibitors which is not tightly bind to enzyme

5-Fats contain hydrophilic colloidal particles such as proteins, carbohydrates and phospholipids which act

b-supporting agents a-stabilizing agents c-emulsion agents d-reducing agents

6- Integral membrane proteins span the bilayer and thus have:

b-both intra-and extracellular domains a- extracellular domains

d-None of these c-intracellular domains

7 marks Q3) Show one of the following:

1- The mathematical expression of Michaelis-Menten kinetics of enzyme activity, define all the parameters of equation.

2- The mathematical expression of Lineweaver-Burke kinetics of enzyme activity, define all the parameters of equation.

15 marks Q4) Complete the following phrases:

1- The hydrolysis of triacylglycerol to mono and diacylglycerol is hastened by the presence of----- and ---- and----- present in fats and air.

2- A coenzyme or metal ion that is covalently bound to the enzyme protein is called -----. While a complete catalytically active enzyme together with its coenzyme and/ or metal ions is called -----

3- Rancidity reactions may be due to hydrolysis of ester bonds which is called ----- or due to oxidation of unsaturated fatty acids which is called -----

4- Enzymes which exist in multiple forms within a single species of organism or even in a single cell are called ----- or -----

5- A non-competitive inhibitor of an enzyme catalyzed reaction causes ----- in the apparent Km and a decrease in apparent---

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