

Fayoum University

Faculty of Science

Chemistry Department

2<sup>nd</sup> Year. Chem./ Geo.



Academic Year: 2011/2012

1<sup>st</sup> Semester 15/1/ 2012

Organic Chemistry

Time: 3 h.

\*\*\*\*\*Answer the Following Questions\*\*\*\*\*

Question No. 1:

What is the main products formed from the reaction of E.A.A. with:

- |                              |                     |
|------------------------------|---------------------|
| 1- One mole of alkyl halide. | 2- Acetyl chloride. |
| 3- Acetone .                 | 4- Urea.            |

Question No. 2:

Give brief account on:

- a) Reformatsky reaction.
- b) Hellvolhard – Zelinsky reaction.
- c) The stability of  $\beta$  – Ketoacids.
- d) The oxidation of  $\alpha$ - hydroxyl acid.
- e) The thermal behavior of dicarboxylic acids.

Question No. 3:

Show how can you elucidate the structure of ethyl acetoacetate.

Question No. 4:

Show how can you convert:

- |                     |      |                |
|---------------------|------|----------------|
| 1- Ethyl acetate    | into | E.A.A.         |
| 2- Diethyl malonate | into | Succinic acid. |
| 3- Malonic acid     | into | Glutaric acid. |

*Best wishes*