

PURUS-II-2011 COURSE): WINTER - 2016
SUBJECT: PHARMACEUTICAL CHEMISTRY-IV (ORGANIC)

Day : Tuesday
Date : 15/11/2016

Time : 10.00 AM TO 01.00 PM
Max. Marks: 80

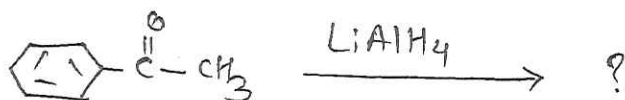
N.B.:

- 1) Q.No.1 and Q.No.5 are **COMPULSORY**. Out of the remaining solve **Any TWO** questions from each section.
- 2) Both the sections should be written in **SEPARATE** answer books.
- 3) Figures to the right indicate **FULL** marks.

SECTION-I

Q.1 Attempt **Any FIVE** of the following **(10)**

- a) Predict the product.



- b) What is Haloform reaction?
- c) Aldehydes and ketones get oxidised by mild oxidising agents like silver. Explain the test in detail.
- d) What is Wolf-Kishner reduction reaction?
- e) How cyanohydrins are obtained from aldehydes?
- f) Explain hydration of formaldehyde?
- g) What product is obtained when formaldehyde is treated with Grignard reagent?

Q.2 a) Give method of preparation of aldehydes and ketones. **(10)**

b) What is Dieckmann condensation? **(05)**

Q.3 a) Explain Markovnikov rule of addition with mechanism. **(08)**

b) What is Cannizzaro reaction? Explain with mechanism. **(07)**

Q.4 Write short notes on **ANY THREE** of the following : **(15)**

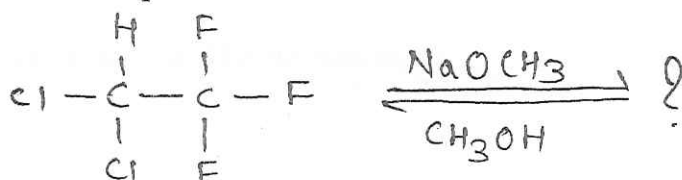
- a) Ozonolysis
- b) Aldol condensation
- c) Knoevenagel condensation
- d) Hydroxylation

P.T.O.

SECTION-II

Q.5 Predict the product (Any FIVE) (10)

- a) What is γ elimination reaction. Give one example.
 b) Predict the product.



- c) Phenols are weak acids. Explain why?
 d) What happens when ammonia is treated with excess of methanol?
 e) What is Gabriel phthalimide synthesis?
 f) Boiling point of acetic acid [MW-60] is 118°C but Boiling Point of propanol [MW-60] is 97°C . Why?
 g) How vinegar is obtained industrially on large scale?

Q.6 a) Give methods of preparation and reactions of phenol. (10)

b) Explain in detail reactions of different classes of amines with nitrous acid. (05)

Q.7 a) What is Malonic ester synthesis? (08)

b) Differentiate between Elimination and Substitution. (07)

Q.8 Write short notes on Any THREE of the following : (15)

- a) Saytzeff orientation
 b) Esterification reaction
 c) E_2 mechanism
 d) Hofmann rearrangement

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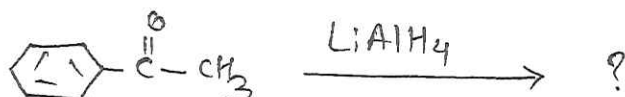
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SECTION-I

Q.1 Attempt **Any FIVE** of the following **(10)**

- a) Predict the product.



- b) What is Haloform reaction?
- c) Aldehydes and ketones get oxidised by mild oxidising agents like silver. Explain the test in detail.
- d) What is Wolf-Kishner reduction reaction?
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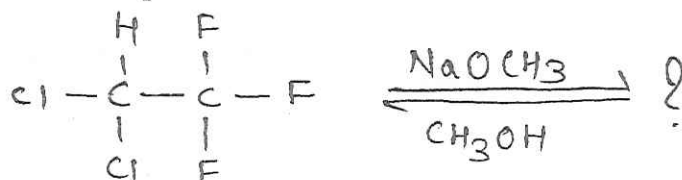
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P.T.O.

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- Q.8 Write short notes on Any THREE of the following : (15)
- a) Saytzeff orientation
 b) Esterification reaction
 c) E_2 mechanism
 d) Hofmann rearrangement

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PURUS-II: (2011 COURSE) WINTER - 2016
SUBJECT: PHARMACEUTICAL BIOCHEMISTRY-I

Day: Thursday
Date: 17/11/2016

Time: 10.00 AM TO 01.00 PM
Max Marks: 80

N.B:

- 1) **Q.No 1 and Q.No.5 are COMPULSORY.** Out of remaining attempt ANY TWO Questions from each section.
- 2) Answer to both the section should be written in **SEPARATE** answer book
- 3) Figures to the right indicate **FULL** marks.

SECTION-I

- Q.1** A) Answer ANY FIVE of the following: (10)
- i) State name and structure of any two sulfur containing amino acids.
 - ii) State role of disulphide bond in protein structure.
 - iii) What is selective hydrolysis of peptide?
 - iv) What are phospholipids?
 - v) State principle of affinity chromatography.
 - vi) State structure of starch.
- Q.2** a) What are cofactors? Explain the role of coenzymes. (05)
b) What is protein precipitation? State various methods of protein precipitation. (05)
c) What are essential amino acids? Describe deficiency of essential amino acids. (05)
- Q.3** Answer ANY THREE of the following: (15)
- a) State the reactions of amino acids with ninhydrin, formaldehyde, sanger reagent and heavy metal ions.
 - b) What are fatty acids? Give their types.
 - c) Describe the pharmaceutical uses of polysaccharides.
 - d) Describe the impact of biochemical study on the search of new drugs.
- Q.4** Write short notes on ANY THREE of the following: (15)
- a) Nerve conduction
 - b) Na⁺ - K⁺ Pump
 - c) α- Helix
 - d) Streptokinase

SECTION-II

- Q.5** Answer ANY FIVE of the following: (10)
- a) What are isoenzymes?
 - b) What is membrane potential?
 - c) What is V_{max} and K_m?
 - d) What are liposomes?
 - e) What is isoelectric precipitation?
 - f) State medicinal use of allopurinol.
- Q.6** Answer ANY THREE of the following: (15)
- a) Describe the effect of substrate concentration on the rate of enzyme catalysed reaction and state equation.
 - b) What is irreversible enzyme inhibition? Explain any two examples related to pharmaceuticals.
 - c) How enzymes are transformed to industrial catalyst?
 - d) State the principle of electrophoresis and describe gel electrophoresis.
- Q.7** a) What is enzyme inhibition? Describe competitive enzyme inhibition and concept of antimetabolites. (08)
b) State and explain application of enzyme (07)
- Q.8** Write note on ANY THREE of the following: (15)
- a) Classification of enzymes
 - b) Primary structure of protein
 - c) Specificity of enzymes
 - d) Facilitated Diffusion

