

**F.Y.B.PHARM. SEMESTER-II (CBCS - 2015 COURSE) :**  
**WINTER - 2017**  
**SUBJECT: PHARMACEUTICAL CHEMISTRY – IV (Organic)**

Day: **Saturday**  
Date: **11/11/2017**

Time: **10.00 AM TO 01.00 PM**  
Max. Marks: **60**

**W-2017-3783**

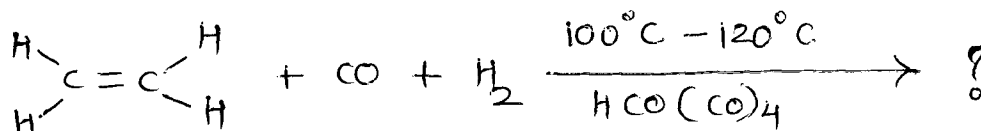
**N.B.:**

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

**SECTION-I**

**Q.1** Answer any **FIVE** of the following: **(10)**

- a) What is Clemmensen reduction?
- b) What is Reformatski reaction?
- c) Predict the product:



- d) What is Stephenes reduction of nitrile?
- e) What is Reimer-Tiemann reaction?
- f) How isooctane is obtained from alkanes?
- g) What happens when alkenes are treated with  $\text{H}_2\text{O}_2$ ?

**Q.2** What is Antimarkovnikov addition of HBr to asymmetric alkene? Give its mechanism. **(10)**

**Q.3** a) What is Cannizzaro reaction? **(05)**  
b) Give addition of water and alcohols to aldehydes. **(05)**

**Q.4** Write short notes on any **TWO** of the following: **(10)**

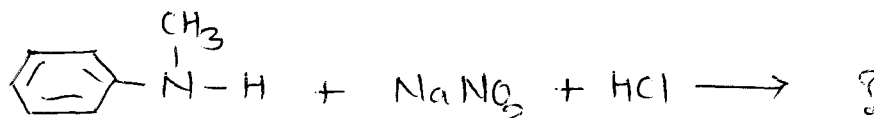
- a) Aldol condensation
- b) Hydration reaction
- c) Epoxidation
- d) Dieckman condensation

**P. T. O.**

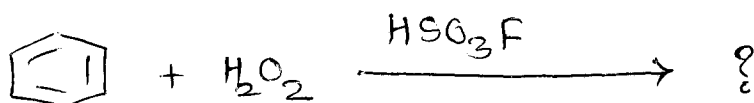
SECTION-II

Q.5 Answer any **FIVE** of the following: (10)

- a) What happens when carboxylic acids are treated with alcohol?
- b) Predict the product:



- c) What is Hofmann mustard oil reaction?
- d) How phenol is obtained from chlorobenzene?
- e) What is oxamide?
- f) Predict the product:



- g) What product is obtained when secondary aromatic amines are treated with nitrous acid?

Q.6 Give methods of preparation of carboxylic acids. (10)

Q.7 a) Define and classify elimination reaction. (05)

b) Give methods of preparation of primary amine only. (05)

Q.8 Write short notes on any **TWO** of the following: (10)

- a) Hofmann Rearrangement
- b) Saytzeff Elimination
- c) Separation of amines by Hinsberg method
- d) Reactions of phenols

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