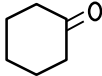
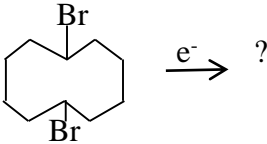
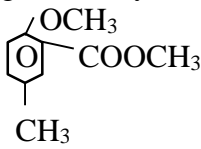
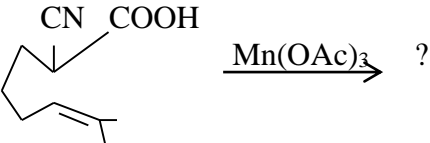


Please check whether you have got the right question paper.

- N.B: 1. All questions are compulsory.
2. Figures to the right indicate full marks.

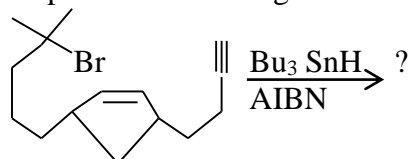
- Q.1 Attempt **any Five** of the following :-
- a) Give synthesis of 2-methylpent-2-ene using phosphorus ylide. 03
- b) Discuss olefin metathesis reaction. 03
- c) What are enamines? Give their preparation using imines. 03
- d) Give the products when the following compounds are oxidized using SeO_2 03
- i)  ii) $\text{Ph} - \text{CH}_2 - \text{CH}_2 - \text{Ph}$ iii) $\text{Ph} \text{C} \equiv \text{C} \text{Ph}$.
- e) What are cationic and anionic micelles? How do micelles enhance the rate of a reaction? 03
- f) Explain Suzuki coupling with suitable examples. 03
- g) Give the product and mechanism of the following reaction :- 03
- 
- h) Suggest retrosynthesis of the following :- 03
- 
- Q.2 a) Complete the following reaction and explain its mechanism 06
- 

OR

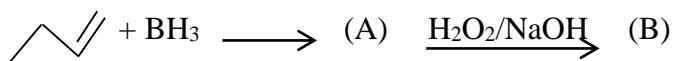
- a) Discuss the generation of alkyl radicals via Bu_3SnH and give their reactions with olefins and nitro compounds? 06
 b) Write a brief note on sulphur ylide. 04

OR

- b) Discuss with suitable examples C-C bond formation using sulphones and phosphonate compounds. 04
 c) Complete the following reaction and explain the mechanism involved – 05



- Q.3 a) Complete the following reaction. Explain the mechanism and stereochemistry involved – 06



OR

- a) Discuss the mechanism and applications of Wacker reaction. 06
 b) Give preparation and applications of allyl silanes. 04

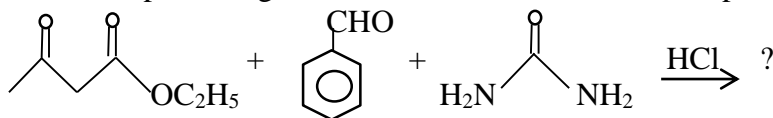
OR

- b) Give the applications of η^6 – chromium complexes in organic synthesis. 04
 c) Discuss with examples the applications of SmI_2 in organic reactions. 05

- Q.4 a) i) Give properties and applications of ionic liquids 04
 ii) Draw the structures of (A) 12 Crown 4 02
 (B) [2.2.2] cryptand

OR

- a) (i) Discuss the mechanism and applications of Sonogashira reaction. 04
 (ii) Explain cascade reaction with a suitable example. 02
 b) Predict the product, give the name of the reaction and explain the mechanism involved 04



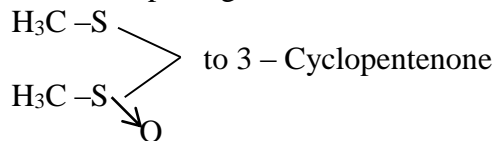
OR

- b) Discuss with applications polymer supported reagents. 04

3

c) Give mechanism of Passerini-3-component reaction with suitable examples. 05

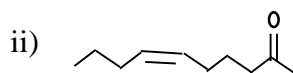
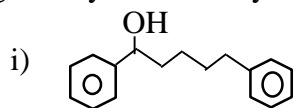
Q.5 a) I) What is umploung? Give conversion of 04



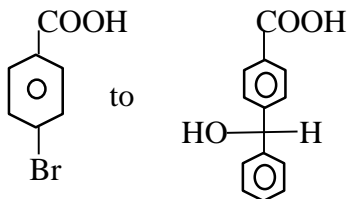
ii) Give the reactions involved in the protection and deprotection of amine as carbamate. 02

OR

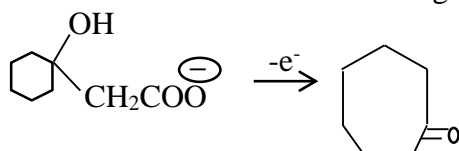
a) Using retrosynthetic analysis give synthesis of the following-



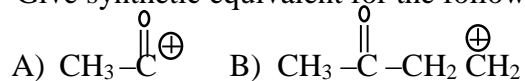
b) Using the protection- deprotection protocol give conversion of

**OR**

b)i) Provide mechanism for the following reaction –



ii) Give synthetic equivalent for the following synthons –



c) i) What is electro-organic chemistry?

04

Give the product, name the reaction and give the mechanism of the reaction



ii) Complete the following reaction

01

