

Total No. of Questions : 6]

SEAT No. :

**P2906**

**[5023]-1003**

[Total No. of Pages : 5

**M.Sc. - (I)**

**ORGANIC CHEMISTRY**

**CHO - 150 : Basic Organic Chemistry  
(2014 Pattern) (Semester - I) (4 Credits)**

*Time : 3 Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) *All questions are compulsory.*
- 2) *Figures to the right indicate full marks.*
- 3) *Answers to the two sections should be written in separate answer books.*

**SECTION - I**

**Q1)** Attempt the following:

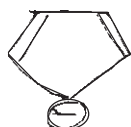
**[5]**

- a) Explain hyperconjugation with suitable example.
- b) What is the current concept of aromaticity.
- c) Comments on the conformational analysis of cyclic compounds.
- d) Discuss in brief stereospecific reactions.
- e) Explain enantiomeric relationship.

**Q2)** Attempt any five of the following:

**[10]**

- a) Which factors affect acidity of organic compounds?
- b) Write short note on non-benzenoid compounds.
- c) Explain structure and stability of nitrenes.
- d) Comment on the stability of the following.

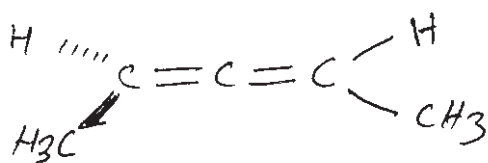


and

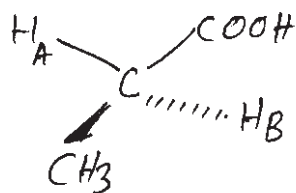


**P.T.O.**

- e) Comment on the optical activity of the following with justification.



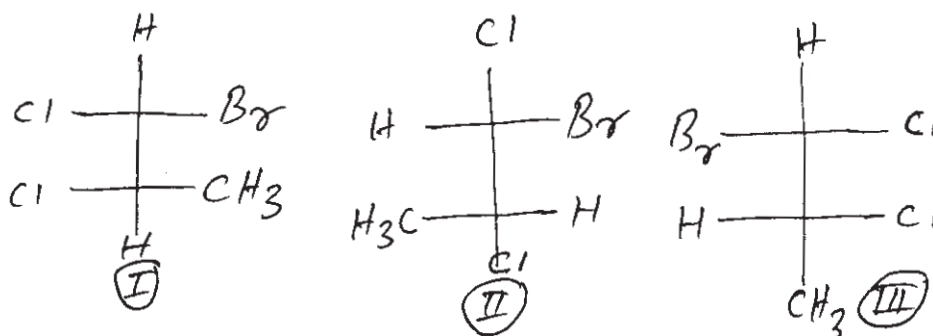
- f) Assign pro-R and Pro-S labels to  $H_A$  and  $H_B$ .



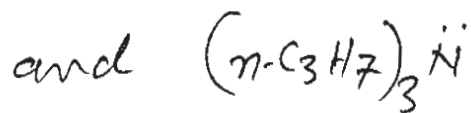
**Q2)** Attempt any five of the following:

[10]

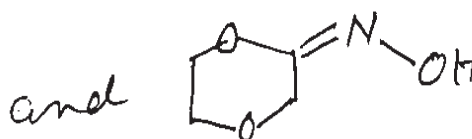
- a) Identify the diastereomers [if present]



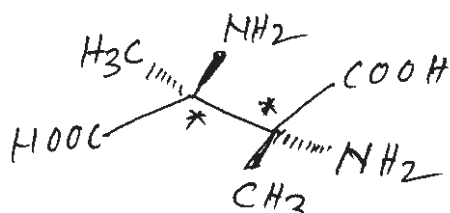
- b) Explain which of the following is more basic.



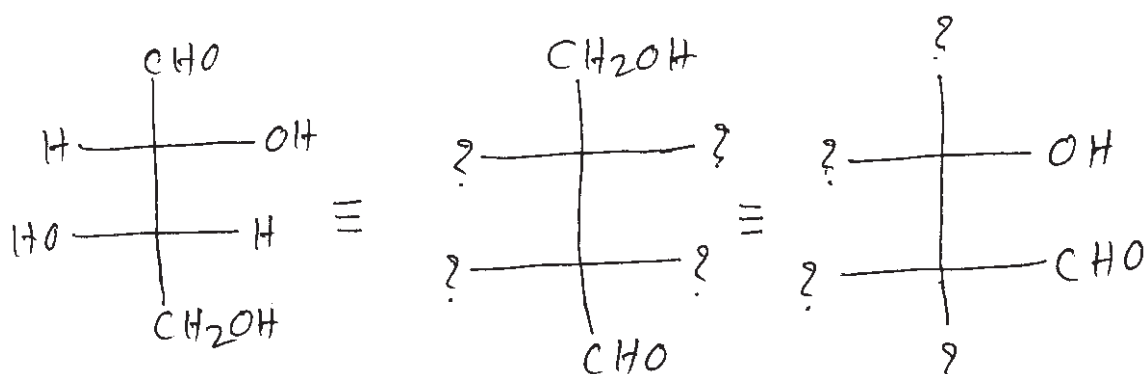
- c) Assign E/Z designation to the followings.



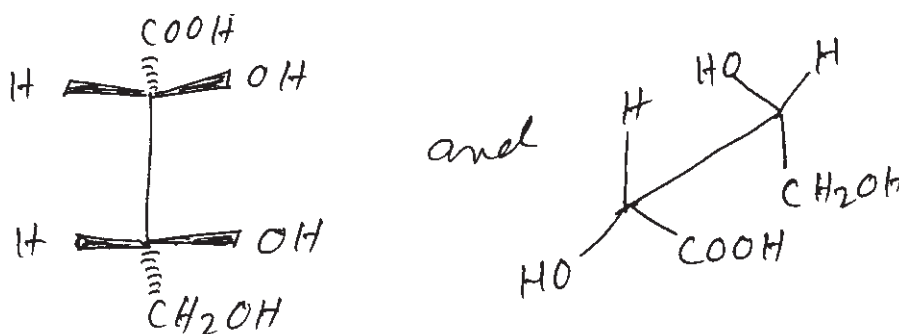
d) Assign R/S label to the chiral carbons.



e) Write equivalent structures.



f) What is the stereochemical relationship between the following compounds?



## SECTION - II

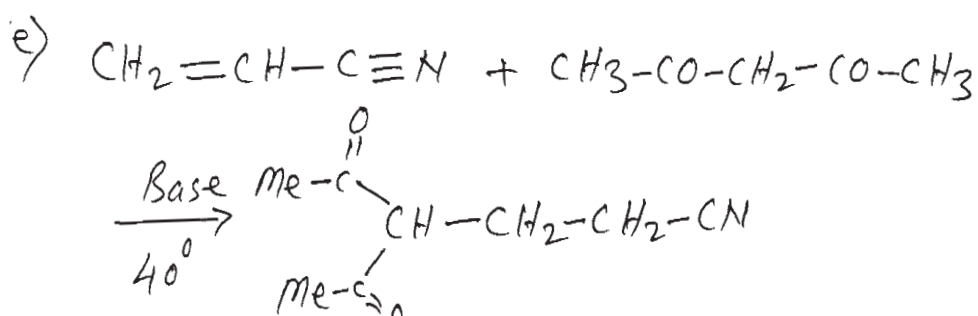
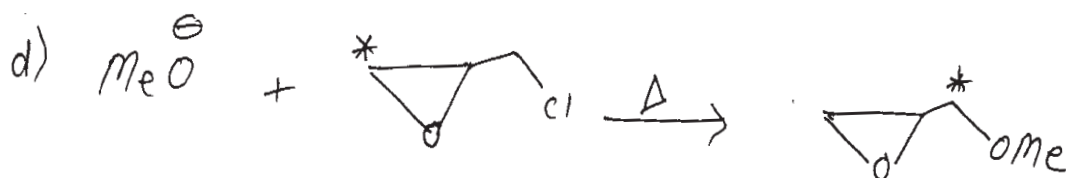
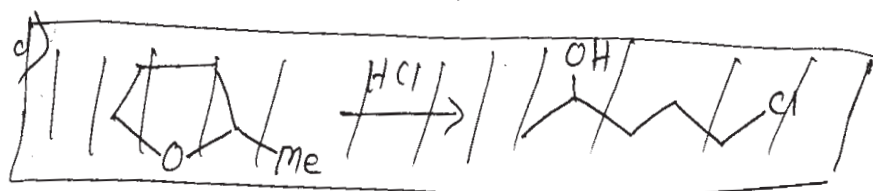
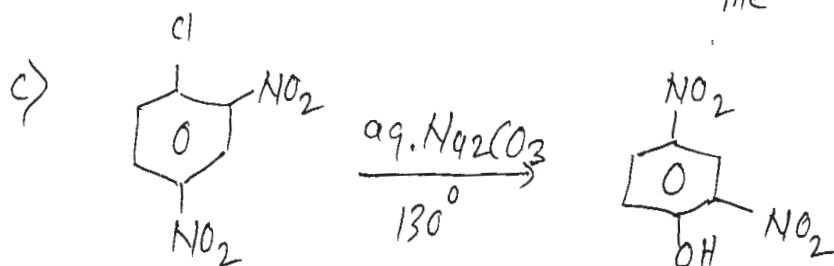
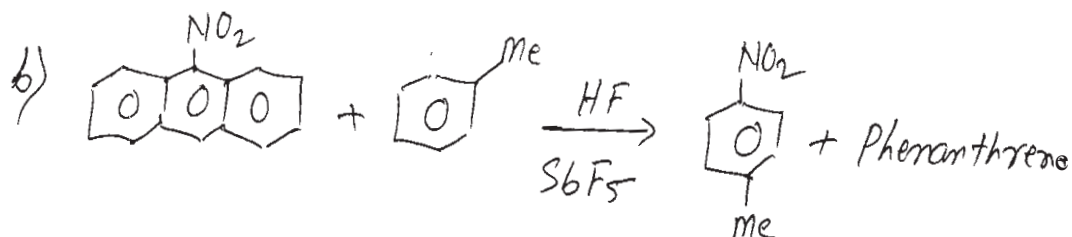
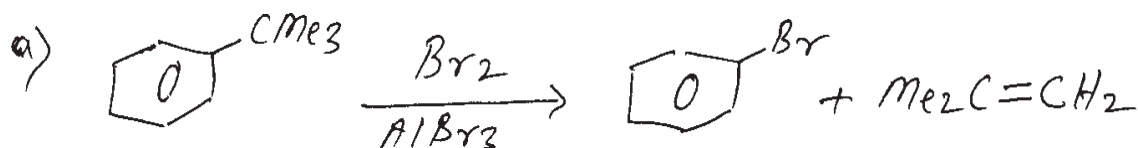
Q4) Answer the following:

[5]

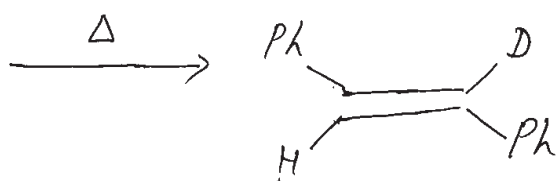
- Define non-classical carbocation.
- What is IPSO attack?
- Explain regioselectivity in addition reactions.
- What is syn elimination?
- Give examples of ambident nucleophile.

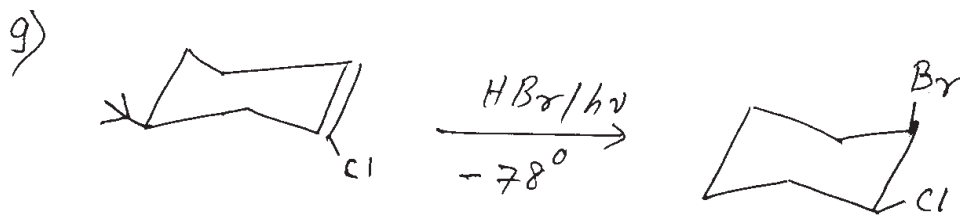
Q5) Suggest the mechanism (Any Five):

[10]



f) Erythro 1-acetoxy - 2- deuterio -1, 2 - diphenylethane.





Q6) Predict the products (ANy five):

[10]

