

**F.Y.B.SC. SEM – II (2014 Course) : SUMMER - 2019**  
**SUBJECT : CHEMISTRY : ORGANIC AND INORGANIC CHEMISTRY (C - 22)**

Day : Wednesday  
Date : 10/04/2019

**S-2019-0950**

Time : 03.00 PM TO 05.00 PM  
Max. Marks : 40

**N. B. :**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SAME** answer book.

**SECTION – I**  
**[Organic Chemistry]**

**Q. 1** Attempt **ANY TWO** of the following: **(10)**

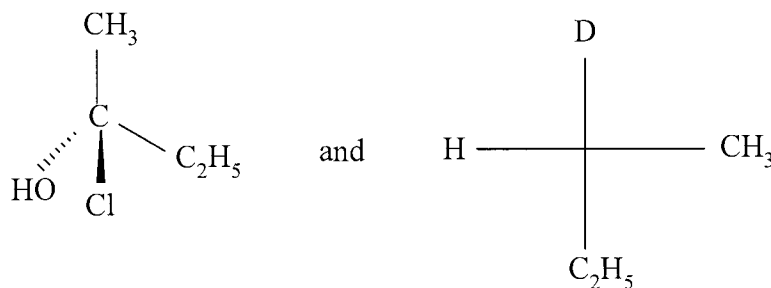
- a) Draw all possible conformations of n-Butane and explain their stability with energy profile diagram.
- b) Explain photohalogenation and catalytic hydrogenation of cycloalkane.
- c) Write a note on : Haworth's synthesis of anthracene.

**Q. 2** Attempt **ANY TWO** of the following: **(10)**

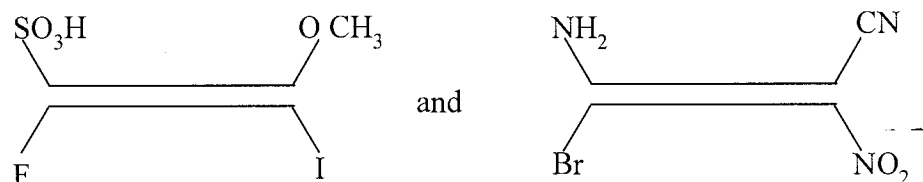
- a) What are heterocyclic compounds? Discuss any two synthesis of pyrrole.
- b) How do you bring about following conversions?
  - i) Naphthalene to phthalic acid
  - ii) Anthracene to 9-bromo anthracene.
- c) Write a note on ; Molecular orbital structure of Thiophene

**Q. 3** A) Attempt **ANY ONE** of the following: **(05)**

- a) i) Assign R/S configuration to the following compounds:

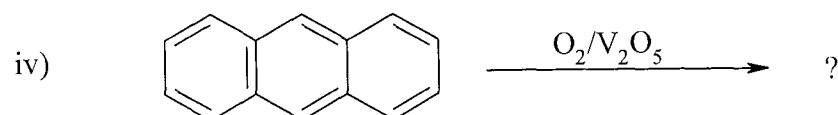
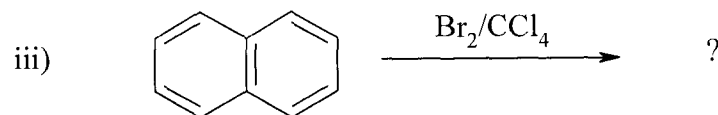
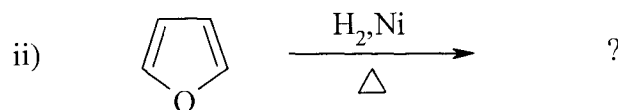
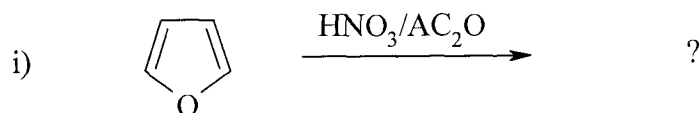


- ii) Assign E/Z configuration to the following compounds:



**P. T. O.**

b) Predict the product/s:



**SECTION – II**  
**[Inorganic Chemistry]**

**Q. 3 B)** Attempt **ANY ONE** of the following: **(05)**

- a) Show the position of boron family elements in a rough sketch of periodic table. Write the names and outer electronic configuration of boron family elements. Discuss the trends in atomic size and ionization potential of these elements.
- b) What is meant by anomalous behaviour? Discuss on anomalous behaviour of fluorine?

**Q. 4** Attempt **ANY FIVE** of the following: **(10)**

- a) Define:
- i) Electron affinity
  - ii) Ionization potential
- b) What is oxidation state of
- i) N in  $\text{NO}_2$
  - ii) I in  $\text{IF}_7$
- c) Mention oxyacids of sulphur and phosphorous.
- d) The common oxidation state shown by halogen family elements in – 1. Explain.
- e) What are allotropes? Mention allotropes of carbon.
- f) Write the names and outer electronic configuration of oxygen family elements.
- g) How does atomic size vary down the group of halogen family elements?

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