

**Roll No.**

**Total No. of Pages : 02**

**Total No. of Questions : 09**

**B.Sc. (BT) (Sem.-3)**  
**ORGANIC CHEMISTRY**  
**Subject Code : BSBT-301-18**  
**M.Code : 76608**  
**Date of Examination : 16-12-22**

**Time : 3 Hrs.**

**Max. Marks : 60**

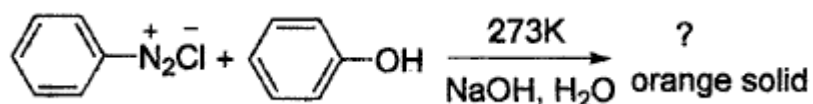
**INSTRUCTIONS TO CANDIDATES :**

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

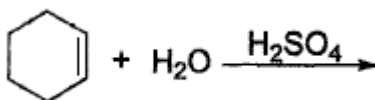
## SECTION-A

- 1. Write briefly :**

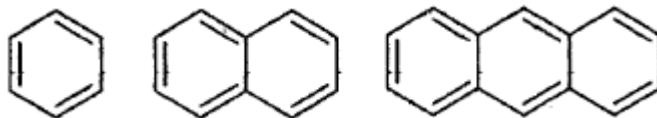
- a. Complete the following reaction :



- b. '*Aniline is weaker base than ammonia*', why?
- c. Write stability order of primary, secondary and tertiary carbanion.
- d. What are quasi-aromatic compounds?
- e. Arrange benzene, pyridine, thiophene, pyrrole and furan in decreasing order of their aromaticity.
- f. Complete the following reaction :



- g. What is the bond length of C=C in alkenes and benzene respectively?
- h. What is the effect of hyper-conjugation on stability of free radicals?
- i. Arrange the following in their decreasing order of resonance energies.



- j. When phenol is treated with excess bromine water, it gives.....

### SECTION-B

2. Explain Reimer Tiemann reaction with mechanism.
3. What is the basic principle of aromaticity?
4. Explain nitration reaction of phenol in presence of dil.  $\text{HNO}_3$ . What is the major product? Define hydrogen bonding present in both products.
5. Explain molecular orbital diagram for benzene with suitable structure.
6. Write the structure and IUPAC name of five structural isomer of alkenes corresponding to  $\text{C}_5\text{H}_{10}$ .

### SECTION-C

7. Why addition reactions are more common in alkenes and alkynes than in aromatic hydrocarbons?
8. Explain aldehyde and Ketone's reaction with Grignard reagent to provide primary, secondary and tertiary alcohols.
9. '*Phenols are more acidic than alcohols*', why?

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**