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**SUBJECT CODE NO: - CB-2332**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**B.Sc. F.Y (Sem-I)**  
**Examination December/January-2022-23**  
**Chemistry Paper-II CHE-021 Organic Chemistry**

[Time: 1:30 Hours]

[Max. Marks:40]

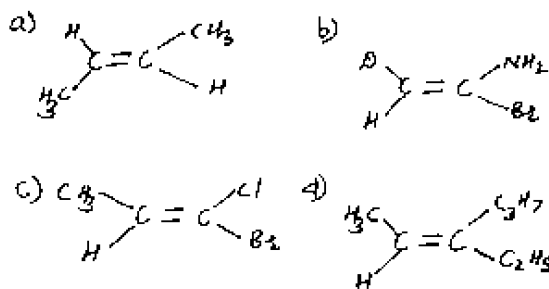
Please check whether you have got the right question paper.

N. B

- 1) All questions are compulsory.
- 2) all questions carry equal marks.

Q1 Assign "E" or "Z" notation to the following compounds

10



OR

- Q1 a) Describe the homolytic and heterolytic fission with suitable examples. 5  
 b) Explain alkylation of benzene. 5

Q2 Give the preparation of alkyl halides from alkene and alcohol

10

OR

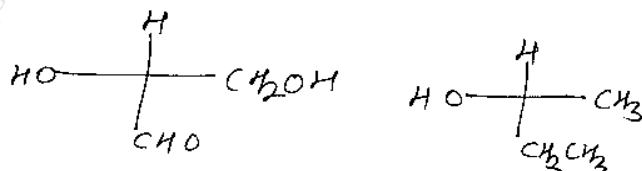
Q2 a) What is the action of followings on alcohol 5

- 1) sodium metal (Na)
- 2) Lucas Reagent (Hx/ZnCl<sub>2</sub>)

b) Explain nitration of phenol with mechanism. 5

Q3 Write short notes on (any two) 10

1.



Assign "R" or "S" configuration to above compounds.

2. Sandmeyer Reaction

3. Synthesis of phenyl by using cumene hydroperoxide method

4. Electrometric effect.

Q4 Choose and write the correct answer of the following.

10

1. Which of the following effect shows delocalization of double bonds

- a) inductive effect      b) Resonance effect  
c) Hydrogen bonding    d) Hyper conjugation

2. Inductive effect is.....

- a) momentary      b) temporary  
c) permanent      d) occasional

3. Substituted alkenes show geometrical isomerism due to.....

- a) Restricted Rotation      b) Resonance  
c) Asymmetric Carbon      d) All of these

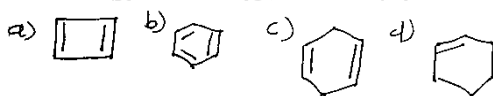
4. Optical isomers can be distinguished by

- a) Mass spectroscopy      b) IR spectroscopy  
c) polarimetry              d) Chemical test

5. Which of the following catalyst is used for electrophilic aromatic substitution Reaction ?

- a) Sn/HCl                  b) AlCl<sub>3</sub>  
c) KOH                     d) LiAlH<sub>4</sub>

6. Which of the following compound is aromatic in nature?



7. Alkyl halides on hydrolysis with aqueous KOH gives

- a) Alkane                  b) alcohol  
c) Amine                  d) phenol

8. Phenol on heating with  $\text{PCl}_5$  gives

- a) Bromobenzene      b) Chlorobenzene
- c) o-chlorophenol      d) m-chlorophenol

9. Phenol undergoes electrophilic substitution reaction at..... position

- a) ortho and meta      b) para and meta
- c) ortho and para      d) none of these

10. Reaction of alcohol with carboxylic acid is known as

- a) Halogenation
- b) Neutralization
- c) etherification
- d) esterification