Chemistry - 12th Class Chemistry Chapter 9 Short Questions Preparation

Q1. Justify that Ethene is more reactive than C_6H_6.

Ans 1: The highly sable ,delocalized electron of benzene ring not readily available for the nucleophilic attack like the electron of alkenes,therefore the electrons of benzune ring do not assist in the attack of weak electrophiles.

Q2. What is Wurtz -Fritting reaction?

Ans 1: The Wurtz reaction for the synthesis of alkanes was extended by Fitting in 1864 to the synthesis of alyl aromatic hydrocarbons.

Q3. What is resonance?

Ans 1: The possibility of different pairing schemes of valence electrons of atom is called resonance and the different thus arranged are called "Resonance Structure.".

Q4. What are the major product when chlorine reacts with Toluene in the presence of sunlight?

Ans 1: When alkyl benzene are treated with chlorine or bromine in the presence of sunlight ,only the alkyl groups are submitted.

Q5. What happens when Acidified $KMnO_4$is added to Methyl Benzene and Ethylbenzene?

Ans 1: Alkyl benzenes re readily oxidized by acidified $KMnO_4$.In these reaction alkyl groups are oxidizedkeeping the benzenering intact.

Q6. What objective were raised on Kekule formula of Benzene?

Ans 1: Kekula formula with three double bonds demands of high degree of unsaturation from benzene while usually it exhibits a saturated character,This benzene yields substitution products readily and from addition products .Benzene is also very stable compound.

Q7. What are aromatic hydrocarbons?Give two example.

Ans 1: The carbocyclic compounds containing at least one benzene ring,six carbon atoms with three alternate double and single bonds are called aromatic hydrocarbons.These bonds are usually shown in the form of a circle.
Examples: Toluene,Phenol and Nitrobenzene.

Q8. Predict major product of bromination of nitrobenzene.

Ans 1: m-bromonitrobenzene is the major product of bromination of nitrobenzene because nitro group on benzene is meta directing .

Q9. Why benzene is less reactive than alkenes although it has three pi bonds in it?

Ans 1: Benzene is extraordinary stable molecule,This stability is due to the extensive delocalization of pi electron.The unhybridized orbital partially overlap to form a continue sheath of electron cloud,enveloping above and below the six carbon carbon sigma bonds of the ring,

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Q10. What is meant by directing group?

Ans 1: The groups which withdraw the electrons of the benzene ring towards themselves and reduce the availability to the electrophiles are called meta directing groups.The result is the decrease chemical reactivity of benzene,In their presence incoming electrophiles will prefer to attack on meta position nrather than orho and para position.
