

CHEMISTRY TEST ANSWERSHEET CLASS XII (SEPTEMBER 2023)

Q NO	CHAPTER	HEADING OF QUESTION	CORRECT ANSWER	EXPLANATION	% OF STUDENTS ATTEMPTED CORRECTLY
01	ORGANIC FUNCTIONAL GROUP II	The Lucas test was carried out on three different compounds: A, B, and C. Compounds A and B were turbid at ambient temperature, while compound C did not become turbid until it was heated. Which one of the compounds is tertiary in structure?	B	Explanation: It is stated that A and B exhibit turbidity at room temperature, however, it is not stated whether the turbidity appears immediately or over a period of time. So compounds A and B may be tertiary or secondary depending on whether turbidity appears immediately or after 5 minutes respectively. Compound C may be primary..	79.10
02	ORGANIC FUNCTIONAL GROUP II	Which of the following processes does not result in the production of alcohol?	B	Explanation: When alkanes are halogenated by free radicals, they form a mixture of haloalkanes rather than alcohols. Alcohols can be made from alkenes through acid catalysed hydration, and hydroboration-oxidation, and from aldehyde reduction..	68.50
03	ORGANIC FUNCTIONAL GROUP II	Ethers may be used as solvents because they react only with which of the following reactants?	C	Explanation: Nucleophiles and bases cannot attack ether. However, because of their capacity to solve cations by giving an electron pair from an oxygen atom, they are excellent solvents in many chemical reactions. Ethers are less reactive than alcohols and react only with acids.	46.10
04	ORGANIC FUNCTIONAL GROUP II	Assertion : In Lucas test, 3° alcohols react immediately. Reason : An equimolar mixture of anhyd. ZnCl ₂ and conc. HCl is called Lucas reagent.	B	Assertion and reason both are correct and the reason is explanation of Lucas Reagent, whereas the reaction happens due to formation of highly stable Tertiary Carbocation as intermediate	54.20
05	ORGANIC FUNCTIONAL GROUP II	Assertion : In case of phenol, bromination takes place even in absence of Lewis acid whereas bromination of benzene takes place in presence of Lewis acid like FeBr ₃ . Reason : - OH group attached to benzene ring is highly deactivating.	C	OH group is +R Group and activating the Ring	32.20
06	ORGANIC FUNCTIONAL GROUP III (UPTO ALDEHYDE AND KETONE)	Assertion : The boiling points of aldehydes and ketones are higher than hydrocarbons and ethers of comparable molecular masses. Reason : There is a weak molecular association in aldehydes and ketones arising out of the dipole-dipole interactions..	A	Assertion and Reason are correct as in case of Aldehyde and Ketones dipole is created due to Carbonyl Group	48.80
07	ORGANIC FUNCTIONAL GROUP III (UPTO ALDEHYDE AND KETONE	Assertion : Formaldehyde is a planar molecule. Reason : It contains sp ² hybridised carbon atom.	A	EXPLANATION Carbon of Carbonyl Group is sp ² Hybridized and is planar with 120 degree bond angle	24.70
08	ORGANIC FUNCTIONAL GROUP III (UPTO ALDEHYDE AND KETONE	Which of the following has the most acidic hydrogen?	A	Explanation : As both the Carbonyl Group are in conjugate position and supports resonance	82.10
09	ORGANIC FUNCTIONAL GROUP III (UPTO ALDEHYDE AND KETONE	The nucleophilic addition reactions of aldehydes are carried out in _____ medium.	B	Explanation: When the incoming nucleophile is weak, the acidic medium helps in protonation by increasing the positive charge on the carbonyl carbon so that it is more susceptible to attack by relatively weaker nucleophiles..	86.90

10	<p style="text-align: center;">ORGANIC FUNCTIONAL GROUP III (UPTO ALDEHYDE AND KETONE</p>	<p style="text-align: center;">Which Reagent will distinguish Acetone and Acetaphenone</p>	<p style="text-align: center;">B</p>	<p>Explanation: Tollen's Test is used to distinguish between Aldehyde and Ketone Schiff's Test is to identify the Aldehyde Group in provided analyte 2,4, DNP is for qualitative identification of Aldehyde or Ketone functional group in provided Carbonyl compound Whereas Sodium Bi-sulfite is used for separation of Acetone and Acetaphenone, as Acetaphenone doesn't react with Sodium Bisulfite as it is an aromatic compound.</p> <p style="text-align: right;">29.40</p>
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