# CHEMISTRY

## BOOKS - BEYOND PUBLICATION

## CARBON AND ITS COMPOUNDS

**Example**

**1.** Name the simplest hydrocarbon.

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**2.** Write the simplest hydrocarbon.

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**3.** What are the general molecular formulae of alkanes, alkenes and alkynes?

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**4.** What are the general molecular formulae of alkanes, alkenes and alkynes?

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**5.** Name the carboxylic acid used as preservation.

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**6.** Which acid is used as a preservative ?

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**7.** Name the product other than water formed on burning of ethanol in air.

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**8.** Which gas is produced along with water, when ethnol is burned in air ?

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**9.** A mixture of oxygen and ethyne is burnt for welding. Can you tell why a mixture of ethyne and air is not used ?

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**10.** What is the reason for not using the mixture of ethyne and air for welding ?

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**11.** Name the simplest ketone and write it's molecular formula.

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**12.** Write the Simplest ketone with its molecular formula.

Watch Video Solution

**13.** What do we call the self linking property of carbon?

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**14.** Name the compound formed by heating ethanol at 443K with excess of conc. $H_2SO_4$.

Watch Video Solution

**15.** Name the compound formed by heating ethanol at 443K with excess of conc. $H_2SO_4$.

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**16.** What is the compound formed when ethyl alcohol (Ethanol) is dehydrated ? Write the chemical equation of the reaction.

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**17.** Give an example for esterification reaction.

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**18.** Write a short note on esterification reaction.

Watch Video Solution

**19.** Name the product obtained when ethanol is oxidized by either chromic anhydride Or alkaline potassium permanganate.

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**20.** If the ethanol is oxidized by either chromic anhydride or alkaline potassium permanganate, what is the product obtained from them ?

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**21.** Write the chemical equation representing the reacting of preparation of ethanol from ethane.

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**22.** Write the chemical equation representing the reacting of preparation of ethanol from ethane.

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**23.** What are homologous series of carbon compounds? Mention any two characteristics of homologous series.

Watch Video Solution

**24.** What are homologous series of carbon compounds? Mention any two characteristics of homologous series.

Watch Video Solution

**25.** Give the names of functional groups.

- CHO

- C = O

Watch Video Solution

**26.** Write the names of the given functional groups

- CHO

- C = O.

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**27.** Why does carbon form compounds mainly by covalent bonding?

Watch Video Solution

**28.** Explain the sodium ethoxide is obtained from ethanol. Give chemical equations.

Watch Video Solution

**29.** Explain the cleansing action of soaps.

Watch Video Solution

**30.** Distinguish between esterification and saponification reactions of organic compounds.

Watch Video Solution

**31.** Write the differences between esterification and saponification reactions of organic compounds.

Watch Video Solution

**32.** Explain the structure of graphite in terms of bonding and give one property based on this structure.

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**33.** Name the acid present in vinegar.

Watch Video Solution

**34.** What happens when a small piece of sodium is dropped into ethanol?

Watch Video Solution

**35.** What happens when a small piece of sodium is dropped into ethanol?

Watch Video Solution

**36.** Draw the electronic dot structure of ethane molecule($C_2H_6$).

Watch Video Solution

**37.** How do you appreciate the role of carbon in everyday life ?

Watch Video Solution

**38.** Give the IUPAC name of the following compounds. If more than one compound is possible name atleast two of them

An aldehyde derived from ethane

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**39.** Give the IUPAC name of the following compounds. If more than one compound is possible name atleast two of them

A ketone derived from butane.

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**40.** Give the IUPAC name of the following compounds. If more than one compound is possible name atleast two of them

A chloride derived from propane.

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**41.** Give the IUPAC name of the following compounds. If more than one compound is possible name atleast two of them

An alcohol derived from pentane.

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**42.** Explain with the help of a chemical equation, how an addition reaction is used in vegetable ghee industry.

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**43.** How is hydrogenation used in vegetable ghee industry? Explain with chemical equation.

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**44.** What are the general molecular formulae of alkanes, alkenes and alkynes?

Watch Video Solution

**45.** Write the IUPAC names of three cresols

Watch Video Solution

**46.** Write the IUPAC name of the next higher homologue of $CH_2OHCH_2CH_3$

Watch Video Solution

**47.** Allotropy is a property shown by which class of substances:elements, compounds or mixtures? Explain allotropy with suitable examples.

Watch Video Solution

**48.** Explain the chemical equation how ethanoic acid is obtained from ethanal.

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**49.** Two carbon compounds A and B have molecular formulae $C_3H_8$ and $C_3H_6$ respectively. Which one of the two is most likely to undergo addition reactions? Justify your answer.

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**50.** How do you condemn the use of alcohol as a social practice?

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**51.** In which type of development will you take to oppose the use of alcohol as a social practise ?

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**52.** An organic compound with molecular formula $C_2H_4O_2$ produces brisk effervescence on addition of sodium carbonate / bicarbonate. Answer the following : Identify the organic compound.

Watch Video Solution

**53.** An organic compound with molecular formula $C_2H_4O_2$ produces brisk effervescence on addition of sodium carbonate / bicarbonate. Answer the following : Write the chemical equation for the above reaction.

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**54.** An organic compound with molecular formula $C_2H_4O_2$ produces brisk effervescence on addition of sodium carbonate / bicarbonate. Answer the following : Name the gas evolved.

Watch Video Solution

**55.** An organic compound with molecular formula $C_2H_4O_2$ produces brisk effervescence on addition of sodium carbonate / bicarbonate. Answer the following : How will you test the gas evolved?

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**56.** An organic compound with molecular formula $C_2H_4O_2$ produces brisk effervescence on addition of sodium carbonate / bicarbonate. Answer the following : List two important uses of the above compound.

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**57.** An organic compound with molecular formula $C_2H_4O_2$ produces brisk effervescence on addition of sodium carbonate / bicarbonate. Answer the following : Identify the organic compound.

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**58.** 1ml of glacial acetic acid and. 1ml of ethanol are mixed together in a test tube. Few drops of concentrated sulphuric acid is added in the mixture are warmed in a water bath for 5 min. Answer the following : Name the resultant compound formed.

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**59.** 1 ml glacial acetic acid and 1 ml of ethanol are mixed together in a test tube. Few drops of concentrated sulphuric acid is added to the mixture and warmed in a water bath for 5 min. Represent the above change by a chemical equation.

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**60.** 1 ml of glacial acetic acid and 1 ml of ethanol are mixed together in a test tube. Few drops of concentrated sulphuric acid is added to the mixture and warmed in a water bath for 5min.answer the question:What name is given to such a reaction?

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**61.** 1 ml of glacial acetic acid and 1 ml of ethanol are mixed together in a test tube. Few drops of concentrated sulphuric acid is added to the mixture and warmed in a water bath for 5min.answer the question:What are the special characteristics of the compound formed?

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**62.** Suggest a test to find the hardness of water and explain the procedure.

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**63.** How do test a given water sample is soft or hard ?

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**64.** Suggest a chemical test to distinguish between ethanol and ethanoic acid and explain procedure.

Watch Video Solution

**65.** On which justificiation we can distinguish between ethanol and ethanoic acid explain.

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**66.** An organic compound 'X' with a molecular formula $C_2H_6O$ undergoes oxidation with alkaline $KMnO_4$ and forms the compound 'Y', that has

molecular formula $C_2H_4O_2$.Identify "X" and "Y".

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**67.** An organic compound 'X' with a molecular formula $C_2H_6O$ undergoes oxidation with alkaline $KMnO_4$ and forms the compound 'Y', that has molecular formula $C_2H_4O_2$: Write your observation regarding the product when compound 'X' is made to react with compound "Y" Which is used as a preservative for pickles.

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**68.** Prepare models of methane, ethane, ethene and ethyne molecules using clay balls and matchsticks.

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**69.** Collect information on the process of artificial ripening of fruits in fruit markets and discuss whether it is useful or harmful.

Watch Video Solution

**70.** Collect information on the process of artificial ripening of fruits in fruit markets and discuss whether it is useful or harmful.

Watch Video Solution

**71.** Can carbon get helium configuration by losing four electrons from the outer shell?

Watch Video Solution

**72.** How do carbon atoms form bonds in so many ways

Watch Video Solution

**73.** Explain the four unpaired electrons in carbon atom through excited state.

Watch Video Solution

**74.** Where this energy to excited electron comes from?

Watch Video Solution

**75.** In methane($CH_4$) molecule all four carbon-hydrogen bonds are identical and bond angle $H\widehat{C}H$ is 109.28.how can we explain this?

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**76.** How these energetically unequal valence electrons form four equivalent covalent bonds in methane molecule?

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**77.** Define Hybridization.

Watch Video Solution

**78.** What are bond angles of $HCH$ in $CH_4, C_2H_4$ and $C_2H_2$ molecules?

Watch Video Solution

**79.** How do you understand the marking(writings) of a pencil on a paper?

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**80.** Allotting completely one special branch in chemistry to compounds of only one element. Is it justified when there are so many elements and their compounds but not with any special branches?

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**81.** What are hydrocarbons?

Watch Video Solution

**82.** Do all the organic compounds have equal number of 'C' and 'H' atoms?

Watch Video Solution

**83.** Can carbon form bonds with the atoms of other elements?

Watch Video Solution

**84.** In the following two structures the relationship is....

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**85.** How about their structures ? Are they same ?

Watch Video Solution

**86.** How many carbon and hydrogen atoms are there in (a) ethane and (b) propane ?

Watch Video Solution

**87.** Write the condensed molecular formulae for (a) and (b) Do they have same molecular formulae ?

Watch Video Solution

**88.** Can we write the structure of a compound if the name of the compound is given ?

Watch Video Solution

**89.** Why do sometimes cooking vessels get blackened on a gas or kerosene stove?

Watch Video Solution

**90.** Do you know what is a catalyst ?

Watch Video Solution

**91.** Do you know how the police detect whether suspected drivers have consumed alcohol or not?

Watch Video Solution

**92.** What are esters?

Watch Video Solution

**93.** Whenever you buy clothes or ready made garments observe the brand label. What do you notice ?What do you see ?

Watch Video Solution

**94.** Do you know what 'soap' is?

Watch Video Solution

**95.** What is a true solution?

Watch Video Solution

**96.** Do you know what 'soap' is?

Watch Video Solution

**97.** Can you see the oil and water layers separately in both the test tubes.

Watch Video Solution

**98.** Can you see the oil and water layers separately in both the test tubes.

Watch Video Solution

**99.** Can you see the oil and water layers separately in both the test tubes.

Watch Video Solution

**100.** What is the action of soap particles on the greasy cloth?

Watch Video Solution

**101.** Write an activity to show esterification.

Watch Video Solution

**102.** Write an activity to show soap solution separates oil from water.

Watch Video Solution

**103.** Why we are advised not to use animal fats for cooking?

Watch Video Solution

**104.** Which oil is recommended for cooking? Why?

Watch Video Solution

**105.** Valency of carbon is .....

Watch Video Solution

**106.** The bond angle in methane molecule

Watch Video Solution

**107.** Structure of the complex with $sp^3$ hybridisation

Watch Video Solution

**108.** Name the element which is example for triple. Bond.

Watch Video Solution

**109.** Which allotropic form of carbon has layered structure ?

Watch Video Solution

**110.** Which of the following has a foot-ball like structure?

Watch Video Solution

**111.** Nanotubes were discovered by

Watch Video Solution

**112.** Name the property in which bonds among its own atoms to give big molecules.

Watch Video Solution

**113.** What are the compounds of carbon and hydrogen ?

Watch Video Solution

**114.** A spherical aggregate of soap molecules in water is called

Watch Video Solution

**115.** Write a note on the allotrophy of carbon.

Watch Video Solution

**116.** Explain briefly about the structure of 'Diamond'?

Watch Video Solution

**117.** Explain briefly about the structure of 'Graphite'?

Watch Video Solution

**118.** "Diamond is an extremely bad conductor of electricity. " Why?

Watch Video Solution

**119.** What is catenation? Give an example.

Watch Video Solution

**120.** What is an alkyl group?

Watch Video Solution

**121.** What is the bond length in diamond?

Watch Video Solution

**122.** What is polymerization? Explain with one example.

Watch Video Solution

**123.** Name some functional groups.

Watch Video Solution

**124.** What is the bond angle in diamond?

Watch Video Solution

**125.** What is the $C - C$ bond length in graphite?

Watch Video Solution

**126.** What is the bond angle in graphite ?

Watch Video Solution

**127.** Define Isomerism.

Watch Video Solution

**128.** What is hydrocarbon?

Watch Video Solution

**129.** What are saturated hydrocarbons?

Watch Video Solution

**130.** What are alkanes

Watch Video Solution

**131.** What are unsaturated hydrocarbons?

Watch Video Solution

**132.** What are alkenes ?

Watch Video Solution

**133.** What are alkynes?

Watch Video Solution

**134.** What is Homologous series ?

Watch Video Solution

**135.** What is organic chemistry ?

Watch Video Solution

**136.** What is halogenation ?

Watch Video Solution

**137.** Diamond is a bad conductor of heat'.Why ?

Watch Video Solution

**138.** What is 'cleavage'?

Watch Video Solution

**139.** "Diamond is the hardest natural substance but is brittle". Why ?

Watch Video Solution

**140.** Write the importance of "Graph" in finding the refractive index of prism.

Watch Video Solution

**141.** What do you mean by a functional group?

Watch Video Solution

**142.** What is the density of diamond ?

Watch Video Solution

**143.** What is the refracitve index $(\mu)$ of diamond ?

Watch Video Solution

**144.** What is the distance between any two adjacent layers in graphite ?

Watch Video Solution

**145.** How many rings are there in buckminster fullerene ?

Watch Video Solution

**146.** What is C - C bond length in $C_{60}$ ?

Watch Video Solution

**147.** What is pyrolysis? Give one example.

Watch Video Solution

**148.** Give example for homolgous series.

Watch Video Solution

**149.** Mention the natural sources of carbon compounds.

Watch Video Solution

**150.** Explain about methanol (or) methyl alcohol.

Watch Video Solution

**151.** How do you appreciate the role of diamond in space probes ?

Watch Video Solution

**152.** How do you appreciate the role of diamond in surgery ?

Watch Video Solution

**153.** How do you appreciate the role of acetic acid as a preservative?

Watch Video Solution

**154.** How do you detect leakage in the cylinder ?

Watch Video Solution

**155.** What is the position of carbon in periodic table ?

Watch Video Solution

**156.** What is hybridisation?

Watch Video Solution

**157.** Draw the diagram showing $sp^3$ - s overlap in Methane.

Watch Video Solution

**158.** Define allotropy.

Watch Video Solution

**159.** What are the amorphous forms of carbon allotropes ?

Watch Video Solution

**160.** Name some crystalline forms of allotropes of carbon.

Watch Video Solution

**161.** What do you call the property of carbon to form long chains ?

Watch Video Solution

**162.** Why carbon is versatile element in nature?

Watch Video Solution

**163.** What are hydrocarbons?

Watch Video Solution

**164.** Give one example for straight chain compound.

Watch Video Solution

**165.** Give an example for branched chain compound.

Watch Video Solution

**166.** The formula of a hydrocarbon is $C_{12}H_{24}$ Name the family to which it belongs and also predicts its nature.

Watch Video Solution

**167.** What do you mean by a functional group?

Watch Video Solution

**168.** What is the difference between two successive homologs?

Watch Video Solution

**169.** Write the structure of 3-bromo-2-chloro-5 oxo hexanoic acid.

Watch Video Solution

**170.** What is saponification?

Watch Video Solution

**171.** What is a micelle? Give an example of micelle formation.

Watch Video Solution

**172.** What is a soap ?

Watch Video Solution

**173.** Draw the shape of methance molecule

Watch Video Solution

**174.** Define Isomerism.

Watch Video Solution

**175.** How do you appreciate the role of oxygen in combustion process?

Watch Video Solution

**176.** Gasohol is a godd motor fuel which reduces upto 30% carbon monoxide emission. Give the composition of Gasohol.

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**177.** Identify the compounds those contain double bond $C_5H_8, C_5H_{10}, C_6H_{12}$.

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**178.** $CH_2 = CH_2 + H_2 \underrightarrow{Ni} CH_3 - CH_3$ is an addition reaction. $CH \equiv CH + H_2 \underrightarrow{Ni}$? Predict and write the products.

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**179.** Give example for homologous organs.

Watch Video Solution

**180.** What are nanotubes?

Watch Video Solution

**181.** Do you know what is a catalyst ?

Watch Video Solution

**182.** Why oils are in liquids at room temperature?

Watch Video Solution

**183.** Why fats are solids at room temperature ?

Watch Video Solution

**184.** Do you know how the police detect whether suspected drivers have consumed alcohol or not?

Watch Video Solution

**185.** What is $pk_a$

Watch Video Solution

**186.** Name the gas evolved when acetic acid is react with sodium hydrogen carbonate.

Watch Video Solution

**187.** Name the organic acid present in vinegar-write it's chemical formula.

Watch Video Solution

**188.** Write the valency of carbon in $CH_3 - CH_3$, $CH_2 = CH_2$ and $HC \cong CH$?

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**189.** Out of butter and ground nut oil which is unsaturated in nature?

Watch Video Solution

**190.** What are hydrophobic and hydrophillic parts in soap?

Watch Video Solution

**191.** Name the carboxylic acid used as preservation.

Watch Video Solution

**192.** Among objects made of glass and diamond, which one shines more ?

Why ?

Watch Video Solution

**193.** Why are vegetable oils healthy us compared to vegetable ghee ?

Watch Video Solution

**194.** Why organic compounds present in such a large number ?

Watch Video Solution

**195.** Draw the structure of the following compounds. 2-Methyl penten-3-ol

Watch Video Solution

**196.** Draw various structure of $C_5H_{12}$

Watch Video Solution

**197.** Draw various structure of :$C_6H_{14}$.

Watch Video Solution

**198.** Explain the occurrence of carbon.

Watch Video Solution

**199.** Explain about allotropic forms of carbon.

Watch Video Solution

**200.** How do you prepare Ethanol from ethene?

Watch Video Solution

**201.** Write the reactions of ethanol with sodium and conc.$H_2SO_4$ –

Watch Video Solution

**202.** Write the reactions of ethanoic acid with metals, metal hydroxide, metal carbonates and metal hydrogen carbonates.

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**203.** Draw the structure of butanoic acid $C_3H_7COOH$.

Watch Video Solution

**204.** How do you appreciate the role of esters in daily life ?

Watch Video Solution

**205.** Why are vegetable oils healthy us compared to vegetable ghee ?

Watch Video Solution

**206.** Complete the following reactions: $CH_3 - COOH + NaHCO_3 \rightarrow$

Watch Video Solution

**207.** Complete the following reactions: $CH_2 = CH_2 + H_2 \underrightarrow{Ni}$

Watch Video Solution

**208.** Identify the unsaturated compounds of the following : $CH_3 - CH_2 - CH_2$

Watch Video Solution

**209.** Identify the unsaturated compounds of the following : $CH_3 - CH = CH_2$

Watch Video Solution

**210.** What are the two properties of carbon which lead to the huge number of carbon compounds we see around us?

Watch Video Solution

**211.** What are the uses of fullerenes?

Watch Video Solution

**212.** What happens when a small piece of sodium is dropped into ethanol?

Watch Video Solution

**213.** Why do sometimes cooking vessels get blackened on a gas or kerosene stove?

Watch Video Solution

**214.** Write the IUPAC names of the following compounds.

$CH_3 - CHO - CH_2 - CH_2 - CH_2 - CH_2 - CH_2 - CH_2 - CH_2 \_ CH$

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**215.** Write the IUPAC names of the following compounds:

$CH_3 - CH_2 - CH = CH - CH_2 - C \equiv CH$

Watch Video Solution

**216.** Write the IUPAC names of the following compounds:

$CH_3 - CH_2 - CH_2 - CH_2 - CHO$

Watch Video Solution

**217.** How do you appreciate the role of carbon in everyday life ?

Watch Video Solution

**218.** Explain briefly about the structure of 'Diamond'?

Watch Video Solution

**219.** Explain briefly about the structure of 'Graphite'?

Watch Video Solution

**220.** How do you appreciate the role of ethanol as a fuel?

Watch Video Solution

**221.** How do you appreciate the role of oxygen in combustion process?

Watch Video Solution

**222.** How ethanol useful in pharmaceutical industry ?

Watch Video Solution

**223.** The purest form of carbon is

Watch Video Solution

**224.** Why does carbon form compounds mainly by covalent bonding?

Watch Video Solution

**225.** Why carbon does not form $C^{4+}$ ?

Watch Video Solution

**226.** "Diamond is an extremely bad conductor of electricity. " Why?

Watch Video Solution

**227.** How synthetic detergents are harmful for environment?

Watch Video Solution

**228.** An organic compound X with a molecular formula $C_2H_6O$ undergoes oxidation with in presence of alkaline $KMnO_4$ to form a compound Y. X on heating in presence of con. $H_2SO_4$ at 443 k gives Z. Which on reaction with $Br_2$ and decolorizes, it. Identify X, Y and Z write the reactions involved.

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**229.** What type of reaction takes place between ethane and chlorine?

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**230.** Define Isomers. Write structural formula of isomers of butane.

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**231.** Allotropy is a property shown by which class of substances:elements, compounds or mixtures? Explain allotropy with suitable examples.

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**232.** Two carbon compounds A and B have molecular formulae $C_3H_8$ and $C_3H_6$ respectively. Which one of the two is most likely to undergo addition reactions? Justify your answer.

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**233.** Draw the structure for the following compounds : Propanoic acid

Watch Video Solution

**234.** Draw the structure for the following compounds : Chlorobutane

Watch Video Solution

**235.** Draw the structure for the following compounds : Hexanone

Watch Video Solution

**236.** Draw the structure for the following compounds : Pentanal

Watch Video Solution

**237.** Draw the structure of the methane molecule. Write its bond angle.

Watch Video Solution

**238.** Draw the structure of the following compounds. 2-Methyl penten-3-ol

Watch Video Solution

**239.** Draw various structure of $C_5H_{12}$

Watch Video Solution

**240.** Draw various structure of :$C_6H_{14}$.

Watch Video Solution

**241.** Draw the structure of isomers of butane.

Watch Video Solution

**242.** Draw the structure of: propanol

Watch Video Solution

**243.** Draw the structures of the following.

Propene

Watch Video Solution

**244.** Draw the structures of the following : 2-Chloro Propene.

Watch Video Solution

**245.** Draw the structure of ethane and electron dot structure of chlorine.

Watch Video Solution

**246.** Draw the structuers of the following compounds.

butanol

Watch Video Solution

**247.** Draw the structures of the following compounds.

1-hexyne

Watch Video Solution

**248.** Draw the electron dot structure of ethanoic acid and ethyne(acetylene)

Watch Video Solution

**249.** Write the molecular formula of the first four compounds of the homologous series of Aldehydes.

Watch Video Solution

**250.** How many isomers can be drawn for pentane with molecular formula $C_5H_{12}$? What are they? Draw their structures and mention their common names.

Watch Video Solution

**251.** What are the characteristics of homologous series ?

Watch Video Solution

**252.** Write the IUPAC names of the following compounds.

$$CH_3 - CH_2 - \underset{\underset{CH_3}{|}}{CH} - CH_3$$

Watch Video Solution

**253.** Write the IUPAC names of the following compounds.

$CH_3 - CH_2 - CH_2 - CH = CH_2$

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**254.** Write the IUPAC names of the following compounds.

$CH_3 - C = OCH_2 - CH_3$

Watch Video Solution

**255.** Write the IUPAC names of the following compounds.

$$CH_3 - \underset{\underset{Cl}{|}}{CH} - CH = CH_2$$

Watch Video Solution

**256.** What is hybridisation?

Watch Video Solution

**257.** Draw the electronic dot structure of ethane molecule($C_2H_6$).

Watch Video Solution

**258.** Diamond and graphite are Allotropes of carbon. Graphite is good conductor but not diamond. This is due to:

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**259.** Write about the structures of buckminsterfullerene.

Watch Video Solution

**260.** What are nanotubes?

Watch Video Solution

**261.** Write the names of the organic compounds which have the following structure : $CH_3 - CH_2 - CH_2 - CH_2 - CH_3$

Watch Video Solution

**262.** Write the name of the organic compound which have the following structure.

$$CH_3 - CH_2 - \underset{\underset{CH_3}{|}}{C}H - CH_3$$

Watch Video Solution

**263.** Write the name of the organic compound which have the following structure.

$$CH_3 - CH_2 - \underset{\underset{CH_3}{|}}{C}H - CH_3$$

Watch Video Solution

**264.** Write the names of the organic compounds which have the following structure ? $CH_3 - CH_2 - \underset{\underset{Cl}{|}}{CH_2} - CH - CH_3$

Watch Video Solution

**265.** Write the name of the organic compound which have the following structure.

$CH_3 - CH_2 - CH_2 - \underset{\underset{Cl}{|}}{CH} - CH_3$

Watch Video Solution

**266.** Which among the following is a branched chain polymer.

Watch Video Solution

**267.** Explain the possibility of bonds formation by a carbon atom with examples.

Watch Video Solution

**268.** What is the information given by the IUPAC name of an organic compound ?

Watch Video Solution

**269.** Complete the following reactions.

$CH_3 - CH_2 - OH \xrightarrow[Con.\,H_2SO_4]{/\ (Heat)}$

Watch Video Solution

**270.** Complete the following reactions: $CH_3 - COOH + NaHCO_3 \rightarrow$

Watch Video Solution

**271.** Complete the following reactions: $CH_2 = CH_2 + H_2 \xrightarrow{Ni}$

Watch Video Solution

**272.** What are hydrocarbons?

Watch Video Solution

**273.** The radii of curvatures ( R ) of biconvex lens is same. An object is kept at center of curvature. The refractive index of material is n. Lens is kept in air.

What is focal length ?

Watch Video Solution

**274.** The radii of curvatures ( R ) of biconvex lens is same. An object is kept at center of curvature. The refractive index of material is n. Lens is kept in air.

Find out image distance.

Watch Video Solution

**275.** The focal length of an equi-convex lens is greater than the radius of curvature of any of the surfaces. Then, the refractive index of the material of the lens is

Watch Video Solution

**276.** An electric circuit is formed with a copper wire as shown in figure. We know that resistance is directly proportional to the length of the conducotr. Find out the effective resistance between the points A and C.

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**277.** In the following cases calculate the magnification values for a concave mirror. Give reason.

When the object is at the focal point of the mirror.

Watch Video Solution

**278.** In the following cases calculate the magnification values for a concave mirror. Give reason.

When the object is at the focal point of the mirror.

Watch Video Solution

**279.** Kishore wore spectacles. When you saw through his spects the size of his eyes seemed bigger than their original size.

Which lens did he use ?

Watch Video Solution

**280.** Kishore wore spectacles. When you saw through his spects the size of his eyes seemed bigger than their original size.

Explain that defect of vision (with the help of a diagram)

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**281.** In a classroom four students measured focal length of a given lens experimentally. They got the values as 12.1 cm, 12.2 cmm, 12.05 cm , 12.3 cm respectively. They discussed reasons for getting different values. Explain the reasons ?

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**282.** Assume that an object is kept at a distance of 20 cm in front of a concave mirror. If its focal length is 30 cm then

What is the image distance ?

Watch Video Solution

**283.** Assume that an object is kept at a distance of 20 cm in front of a concave mirror. If its focal length is 30 cm then

What is the magnification of mirror in this case ?

Watch Video Solution

**284.** There is an object infront of convex mirror at a distance of 5 cm. If its focal length is 10 cm then

What is the image distance ?

Watch Video Solution

**285.** Focal length of a concave mirror is f. The distance from its focal point to the object is P. Find the ratio of heights of image.

Watch Video Solution

**286.** Consider 4 kg of water at $100^{\circ}C$. How much amount of heat is required to convert it into steam ?

Watch Video Solution

**287.** The image formed by a concave mirror

Watch Video Solution

**288.** Answer the following questions if the magnification of concave mirror = 1.

What are the properties of an image ?

Watch Video Solution

**289.** The radius of curvature of a plano-convex lens is R. The refractive index of material of prism is n then find the focal length of the lens ?

Watch Video Solution

**290.** Assume that an object is kept at a distance of 20 cm in front of a concave mirror. If its focal length is 30 cm then

What is the image distance ?

Watch Video Solution

**291.** Assume that an object is kept at a distance of 20 cm in front of a concave mirror. If its focal length is 30 cm then

What is the magnification of mirror in this case ?

Watch Video Solution

**292.** Explain the reason for using lead in fuse wires.

Watch Video Solution

**293.** In which case incident angle and refracting angle are same ?

Watch Video Solution

**294.** The focal length of convex mirror is 16 cm. What is its radius of curvature ?

Watch Video Solution

**295.** The focal length of concave mirror is f . Is there any change in focal length when it is completely immersed in water ? If not why ?

Watch Video Solution

**296.** The minimum distance of an object from concave mirror for which the mirror forms real image is.....(Let 'f' be the focal length of concave mirror)

A. f

B. 2f

C. 4f

D. zero

**Answer:**

Watch Video Solution

**297.** A resistor is connected to a battery by which the temperature of wire increased. Which value does not change ?

A. Drift speed of electrons

B. Electrical resistivity

C. Resistance

D. Density of electrons

**Answer:**

Watch Video Solution

**298.** The resistance of A and B are $R_A$ and $R_B$ and $R_A < R_B$ the electrical resistivities are $S_A$ and $S_B$ then the correct explanation is

A. $S_A > S_B$

B. $S_A = S_B$

C. $S_A < S_B$

D. We cannot derive any relation between $S_A$ and $S_B$ by given data

**Answer:**

Watch Video Solution

**299.** Different gases are situated at same temperature. Which value remians same for all gases ?

A. 1. Mass

B. 2. Velocity

C. 3. Linear moments

D. 4. Average kinetic energy

**Answer:**

Watch Video Solution

**300.** A positively charge body is projected in the east direction. Now charged particle deflected in North direction. Then the direction of magnetic field is

A. West

B. South

C. Vertically upwards

D. Vertically downwards

**Answer:**

Watch Video Solution

**301.** A bulb is designed with potential $P_0$ and voltage $V_0$. Now the bulb is connected to a voltage V then the bulb's electrical power P =

A. $\frac{V_0}{V}P_0$

B. $\frac{V}{V_0}P_0$

C. $\left(\frac{V}{V_0}\right)^2 P_0$

D. $\left(\frac{V_0}{V}\right)^2 P_0$

**Answer:**

Watch Video Solution

**302.** Take a long cylindrical copper tube. Hold it so that it is perpendicular to the horizontal. A stone and a bar magnet are left freely, so that bar magnet passes through the tube and stone outside the tube. Which one reaches the earth first. Guess why it is so ? Give proper reasons.

Watch Video Solution

**303.** Kalyan got up at midnight 12'O clock and he switch on the tube light in his room. Then in that light he felt difficult to open his eyes. Guess the reasons for it.

Watch Video Solution

**304.** A spring is suspended as shown in diagram. A battery and switch are connected between the ends of the spring. What happens when the switch is closed ? Guess the answer .

Watch Video Solution

**305.** Observe the conversation of Siri and Bhavya. Siri: Bhavya, I am not able to draw the ray diagrams of mirror. Bhavya : Siri, do you know the laws of reflection . Do you know the Fermat's principle. Basing on above conversation, Bhavya taught how to draw ray diagrams to Siri, asking her some questions which she known. Do you know what Bhavya asked Siri.Write atleast 4 questions.

Watch Video Solution

**306.** An object is placed at a distance of 10 cm before a convex lens of focal length 20 cm. find the position and nature of the image?

Watch Video Solution

**307.** Varun see his image in a concave mirror. When he moves away he was unable to see his image. Distinguish between those two images.

Watch Video Solution

**308.** Nikith and Vamsi are friends. They are walking on tar road at the afternoon time. Vamsi has seen that images of water on roads. He has shown it to Nikith, Vamis asked Nikith to guess the reasons for the shades of water. If you were asked the same what will you guess ?

Watch Video Solution

**309.** Lokesh told to his teacher that he is not able to recognize the difference between evaporation and boiling. Then the teacher asked some questions and made him to understand the difference between them. What are the questions asked by teacher to Lokesh ?

Watch Video Solution

**310.** We often see the boards "High voltage is dangerous". But we are not seeing "High electricity is dangerous". Guess it and write the answer.

Watch Video Solution

**311.** Assertion (A) : When light refracts, if changes the direction (when angle of incidence is not $0^\circ$)Reason (R ) : Light, when it changes its medium in changes it speed.

A. A is wrong, R is correct

B. A,R are correct and R is the correct explatnation for A

C. A, R are correct , but R is not the correct explanation for A

D. A and R both are wrong

**Answer:**

Watch Video Solution

**312.** A wire of length 10 meter is connected between the terminals of a battery of e.m.f. 8 volts. Later that wire is cut into 5 equal parts. These are connected parallel and the end terminals are connected to battery. In the second case battery give more electric power which is the incorrect option of the following ?

A. The current flowing in second case is 25 times more than that of first case

B. The electric power utilized in second case is 10 times less than first case.

C. The electric utilized in second case is 25 times more than first case

D. The resistance in second case is 1/25th of that of first case.

**Answer:**

Watch Video Solution

**313.** Harsha told that Magnetic field lines are closed loops. But Krishna is not agreeing with Harsha. How Harsha will convince Krishna with an experiment ? What are the apparatus required ? How the experiment will be conducted ?

Watch Video Solution

**314.** Aravind requires a concave mirror of focal length 10 cm for an experiment of light. He is having lot of concave mirrors in his lab without its focal length values. To determine the focal length of mirror in his laboratory, what are the apparatus required ? How focal length can be determined ?

Watch Video Solution

**315.** A company wants to make transparent part of a helmet whoe refractive index is equal to refractive index of air. For that purpose they want to determine the refractive index of different materials of which

shape the material has to be selected. How the refractive index can be determined experimentally ?

Watch Video Solution

**316.** In the experiment of melting point of ice, what main point you have noticed while ice completely metls into water ?

Watch Video Solution

**317.** Explain the procedure of making solenoid on a wooden plank using copper wire to know the magnetic field created by solenoid.

Watch Video Solution

**318.** In the experiment of observing a stone kept at the bottom of a water beaker through a convex lens which is also kept in water. What are the conclusions you have arrived ?

Watch Video Solution

**319.** Explain an experiment to show that the rays from the source at distance will be parallel.

Watch Video Solution

**320.** Name the apparatus required in the experimental demonstration of verifying the relation between the resistance of a conductor and its length.

Watch Video Solution

**321.** How will you arrange a plane mirror inside water tray to see the different colour in sunlight in your class-room ?

Watch Video Solution

**322.** What is the need of using semi-circular glass disc in the experimental demonstration of deriving the relation between the angle of incldence (i) and angle of refraction ?

Watch Video Solution

**323.** A horse shoe magnets two poles are kept on both sides to a current carrying conductor. In this experiment the direction of force is observed as

A. Current wire deflects towards the North pole of magnet

B. Current wire deflects towards the South pole of magnet

C. No deflection in the current wire

D. The wire deflects according to right hand thumb's rule

**Answer:**

Watch Video Solution

**324.** The properties of image when a real object is kept in between focus and centre of curvature of a concave mirror.

A. Size of image is greater than size of object

B. Image is inverted

C. Image is real

D. All the above

**Answer:**

Watch Video Solution

**325.** Doctor advised to use a lens of - 2D for Karthik. By above statement what information you can give ? Explain the eye defect and also how you will correct it.

Watch Video Solution

**326.** A student collected information as follows. It is better to purchase a camera having less focal length. How you will analyse whether the above information is correct or not ?

Watch Video Solution

**327.** Write any one of the experiment conducted by Faraday on electromagnetism.

Watch Video Solution

**328.** We cannot decide the image distance in the case of virtual image formed by lenses. Is above statement correct or incorrect ? Explain with reasons.

Watch Video Solution

**329.** The following statement was read by Saritha. The induced emf in a coil is independent of the resistance of the coil. How you will verify and prove the above statement is true ?

Watch Video Solution

**330.** Nikita gave an information to Rupa as "The magnetic flux passing through a closed area kept inside a magnetic field is zero". How you will agree with it ?

Watch Video Solution

**331.** Your friend told a formula to you as 1/f = (n - 1) $\left(\frac{1}{R_1} - \frac{1}{R_2}\right), \frac{1}{f} = \frac{1}{v} - \frac{1}{u}$ then he put the following questions.

What are the precautions that you have to take while using these formulae ?

Watch Video Solution

**332.** Your friend told a formula to you as 1/f = (n - 1) $\left(\frac{1}{R_1} - \frac{1}{R_2}\right), \frac{1}{f} = \frac{1}{v} - \frac{1}{u}$ then he put the following questions.

In what context you have to use the two formulae ?

Watch Video Solution

**333.** Ganesh told me that we can catch the virtual image on the screen. How you will analyse it ?

Watch Video Solution

**334.** Which one of the following statement is true regarding the focal power of a lens is 1D for a person suffering from eye defect ?

A. Long sightedness : Convex lens focal length = 100 cm

B. Short sightedness : Concave lens focal length = 100 cm

C. Long sightedness : Convex focal length = 50 cm

D. Short sightedness : Concave lens focal length = 50 cm

**Answer:**

Watch Video Solution

**335.** The three resistance A,B and C have values 3R,6R and R respectively.When some potential difference is applied across the network,the thermal powers dissipated by A,B and C are in the ration

A. 2 : 3 : 4

B. 2 : 4: 3

C. 4 : 2 : 3

D. 3 : 2 : 4

**Answer:**

Watch Video Solution

**336.** Student : As temperature increases what happens to resistance ?

Teacher : As temperature increases resistance increases.

A. As temperature increases density of electrons increases

B. The charge on each electron increases

C. The mass of each electron increases

D. Number of collisions increases

**Answer:**

Watch Video Solution

**337.** A student connected Ammeter and Voltmeter in series to a battery. The readinfs are A and V. If a resistance is connected in parallel to the voltmeter then

A. Both A and V values increases

B. Both A and V values decreases

C. A value increases, V value decreases

D. A value decreases, V value increases

**Answer:**

Watch Video Solution

**338.** Goutam saw his face in car rear view mirror. He observed that his image is smaller than the original.

What type of mirror it is ?

Watch Video Solution

**339.** Goutam saw his face in car rear view mirror. He observed that his image is smaller than the original.

What is the nature of image ?

Watch Video Solution

**340.** Goutam saw his face in car rear view mirror. He observed that his image is smaller than the original.

Draw the ray diagram for it.

Watch Video Solution

**341.** In the given below diagram discuss the image properties.

Watch Video Solution

**342.** Akhil told Avinash that convex lens converts the three types of rays i.e., parallel, divergent, convergent rays to convergent rays. Avinash does not agree with Akhil's words. Support your argument with ray diagrams.

Watch Video Solution

**343.** What represents this ray diagram ?

Watch Video Solution

**344.** What is the mirror used in car head light ?

Watch Video Solution

**345.** Where are the bulbs kept in a car ?

Watch Video Solution

**346.** Draw the ray diagram in the case of formation of virtual image when an object is kept on the principal axis of a concave mirror ?

Watch Video Solution

**347.** Draw the ray diagram of image position formed at a point sized object due to a plane mirror.

Watch Video Solution

Watch Video Solution

**348.** Vikas who is having eyesight consulted an Opthalmologist. He suggested to use concave lens. Then what is the nature of defect Vikas suffering from ? How the defect will be corrected ?

Watch Video Solution

**349.** Draw the picture which shows the connections of electrical in your home. Mention the names of symbols used.

Watch Video Solution

**350.** When white light incident on a prism it sends out 7 colours ? Draw a diagram showing this phenomenon.

Watch Video Solution

**351.** Name the different types of lenses .

Watch Video Solution

**352.** How do you appreciate the role of ciliary muscles in controlling the eye lens ?

Watch Video Solution

**353.** Grandfather of Daya Is not able to read the newspaper. Obersving that, Daya gave a lens to his grandfather and asked him to read newspaper.

Name the lens that was given by him.

Watch Video Solution

**354.** Grandfather of Daya is not able to read the newspaper. Obersving that, Daya gave a lens to his grandfather and asked him to read newspaper.

Explain various factors for him to give such lens. Take the help of the diagram for clarity.

Watch Video Solution

**355.** Lisa is playing with plane mirror, she has seen her image in it.

What is the reason for forming that image ?

Watch Video Solution

**356.** Lisa is playing with plane mirror, she has seen her image in it.

She kept mirror in the Sun, when she touched it later, she felt that it is hot.What could be reason for that ?

Watch Video Solution

**357.** Lisa is playing with plane mirror, she has seen her image in it.

She stood away from the mirror which is exposed to sunlight and observed that the mirror is shining. What could be the reason for it ?

Watch Video Solution

**358.** Why do stars twinkle?

Watch Video Solution

**359.** For a car 40 watt power is utilised for its head lights to show less intensity of light and 50 watt power is utilised to show more intensity of light. In which case the resistance of head lights is more ? Discuss.

Watch Video Solution

**360.** Your friend needs 10 ohms resistance. He came to you and asked, but you have 40 ohms resistance.

How many resistors your friend will ask you ?

Watch Video Solution

**361.** Your friend needs 10 ohms resistance. He came to you and asked, but you have 40 ohms resistance.

How the resistors which are taken are connected ?

Watch Video Solution

**362.** Your friend needs 10 ohms resistance. He came to you and asked, but you have 40 ohms resistance.

Show that their effective resistance is 10 ohms.

Watch Video Solution

**363.** Convert the following temperature in degree centigrade.

0 K

Watch Video Solution

**364.** Convert the following temperature in degree centigrade.

25 K

Watch Video Solution

**365.** Convert the following temperature in degree centigrade.

100 K

Watch Video Solution

**366.** Convert the following temperature in degree centigrade.

210 K

Watch Video Solution

**367.** A, B are two bulbs, they are manufactured so that they can work at same voltage. The electric powers $P_A > P_B$.If $P_A, P_B$ are connected in series with 'V' volts.

A. A consumers more power than B

B. B consumers more power than A

C. The ratio of powers utilised depend on 'V'

D. A and B utilise same power

**Answer:**

Watch Video Solution

**368.** Which is not suitable for domestic electric circuit ?

A. All the electric appliances are connected in parallel.

B. Switch is connected parallel to the electric appliance, so that it consumes electricity even if the switch is closed or opened.

C. Switch is connected parallel to the electric appliance. If switch is closed the fuse will melt.

D. Switch can be connected in series or parallel with electricl appliances.

**Answer:**

Watch Video Solution

**369.** In a circuit the battery is related to.

A. Battery supplies electrons to the circuit

B. Battery supplies electrons towards high potential

C. Battery pushes electrons towards low potential

D. Battery increases the speed of the electron and accelerates them

**Answer:**

Watch Video Solution

**370.** If the length of filament in a heater is reduced by 10%, then the electric power utilized by it

A. Increases by 9%

B. Increases by 11%

C. Increases by 19%

D. Increases by 10%

**Answer:**

Watch Video Solution

**371.** In the flow of electricity AC current is better than DC current. Why ?

A. AC can be rectified.

B. AC can be produced easily

C. Thin conductors can be used

D. This is very safe

**Answer: All the above**

Watch Video Solution

**372.** A container made up of Aluminium is at $30^\circ$. It is filled with hydrogen gas to $80^\circ C$. Answer the following basing on above information.

What is the change when an ion of hydrogen collides with some velocity ? Compare with its initial velocity after collision takes place.

Watch Video Solution

**373.** A container made up of Aluminium is at $30^\circ$. It is filled with hydrogen gas to $80^\circ C$. Answer the following basing on above information.

The temperatures of both (vessel & ion) reaches to $45^{\circ}C$. Does heat transfer take place ?

Watch Video Solution

**374.** A container made up of Aluminium is at $30^{\circ}$. It is filled with hydrogen gas to $80^{\circ}C$. Answer the following basing on above information.

What is the average kinetic energy of free electrons of the metal if the average kinetic energy of $H_2$ ion is 20 units ?

Watch Video Solution

**375.** Suppose you are in a cold country. You will wear silk cloth so that your body is hot.How the silk is useful for you body to be warm ?

Watch Video Solution

Exercise

**1.** Which of the following solution of acetic acid in water can be used as preservative?

A. 5 - 10%

B. 10 - 15 %

C. 15 - 20 %

D. 1

**Answer:**

Watch Video Solution

**2.** The suffix used for naming an aldehyde is___

A. -ol

B. -al

C. -one

D. -ene

**Answer:**

Watch Video Solution

**3.** Acetic acid when dissolved in water it dissociates into ions reversibly because it is a_____

A. weak acid

B. strong acid

C. weak base

D. strong base

**Answer:**

Watch Video Solution

**4.** Which one of the following hydrocarbons can show isomerism?

A. $C_2H_4$

B. $C_2H_6$

C. $C_3H_3$

D. $C_4H_{10}$

**Answer:**

Watch Video Solution

**5.** Combustion of hydrocarbon is generally accompanied by the evolution of_____

A. Heat

B. Light

C. Both heat and light

D. Electric current

**Answer:**

Watch Video Solution

**6.** 2ml of ethanoic acid was taken in each of the three test tubes A, B and C and 2ml, 4ml and 8ml of water was added to them respectively. A clear solution is obtained in____

A. Test tube A only

B. Test tubes A and B only

C. Test tubes B and C only

D. All the test tubes

**Answer:**

Watch Video Solution

**7.** If 2ml of acetic acid was added slowly in drops to 5ml of water then we will notice

A. The acid forms a separate layer on the top of water.

B. Water froms a separate layer on the top of the acid.

C. Formation of a clear and homogeneous solution.

D. Formation of a pink and clear solution.

**Answer:**

Watch Video Solution

**8.** A few drops of ethanoic acid were added to solid sodium carbonate. The possible results of the reactions are

A. A hissing sound was evolved

B. Brown fumes evolved

C. Brisk effervescence occurred

D. A pungent smelling gas evolved

**Answer:**

Watch Video Solution

**9.** When acetic acid reacts with ethyl alcohol, we add conc. $H_2SO_4$, it acts as.....

A. Oxidizing agent, saponification

B. Dehydrating agent, esterification

C. Reducing agent, esterification

D. Acid & esterification

**Answer:**

Watch Video Solution

**10.** Commercially available ethanol is known is

A. rectified spirit

B. absolute alcohol

C. adulterated alcohol

D. natured alcohol

**Answer:**

Watch Video Solution

**11.** Which of the following are molecules of varying sizes and also called Buckyballs ?

A. Diamond

B. Graphite

C. Buckminster fullerene

D. Nano tubes

**Answer:**

Watch Video Solution

**12.** $CH_3 - CH_2 - CH_2 - COOH$ is the IUPAC structure of

A. Butanal

B. Butanoic acid

C. Butane

D. But-1-ene

**Answer:**

Watch Video Solution

**13.** The IUPAC secondary suffix to the functional group for aldehydes is

A. -ol

B. -al

C. - one

D. -oic acid

**Answer:**

Watch Video Solution

**14.** The process of producing soaps is called

A. Esterification

B. Formation of micelle

C. Saponification

D. None

**Answer:**

Watch Video Solution

**15.** Which of the following is used as catalyst in the hydrogenation of vegetable oils ?

A. Iron

B. Cobalt

C. Nickel

D. Lead

**Answer:**

Watch Video Solution

**16.** $CH_3 - CH_2 - CH_2 - CH_3$ what is IUPAC name of the chain ?

A. Butane

B. But -1- ene

C. Butanal

D. Butan - 1 - ol

**Answer:**

Watch Video Solution

**17.** Which of the following is the general formula of a soap ?

A. RCOONa

B. RCOOK

C. A or B

D. None

**Answer:**

Watch Video Solution

**18.** Which of the following is known as tri-hy-droxy alcohol ?

A. Glycerol

B. Tristearin

C. Sodium stearate

D. ester

**Answer:**

Watch Video Solution

**19.** A spherical aggregate of soap molecules in water is called

A. Hydrophilic end

B. Hydrophobic end

C. Micelle

D. Cation

**Answer:**

Watch Video Solution

**20.** How much % solution of acetic acid in water is called vinegar ?

A. 3 - 5 %

B. 5 - 8%

C. 8 - 10 %

D. 10 - 12 %

**Answer:**

Watch Video Solution

**21.** Which of the following solution in gasoline is a good motor fuel ?

A. 1% ethanol

B. 10% ethanoic acid

C. 10% acetic acid

D. 10% ethanol

**Answer:**

Watch Video Solution

**22.** The suffix used for naming an carboxylic acids is

A. ol

B. -al

C. - one

D. - oio acid

**Answer:**

Watch Video Solution

**23.** Which of the following is the formula for the IUPAC name of Butan - l - ol ?

A. $CH_3CH_2\_CH_2-CH_2-COOH$

B. $CH_3-CH_2-CH_2-CH_2-CHO$

C. $CH_3-CH_2-CH_2-CH_2-OH$

D. $CH_3 - CH_2 - CH_2 - CH_2 - OR$

**Answer:**

Watch Video Solution

**24.** Which of the following is the general formula of homologous series of Alkanes ?

A. $C_nH_2n + 2$

B. $C_nH_2m$

C. $C_nH_2n - 2$

D. $C_nH_2n + 1$

**Answer:**

Watch Video Solution

**25.** The general formula of alkynes is

A. $C_nH_2n + 2$

B. $C_nH_2n$

C. $C_nH_2n - 2$

D. $C_nH_2n + 1$

**Answer:**

Watch Video Solution

**26.** Which of the following is the formula of chloroform ?

A. $CH_3Cl$

B. $CH_2Cl_2$

C. $CHCl_3$

D. $\mathbb{C}l_4$

**Answer:**

Watch Video Solution

**27.** Which of the following is the formula for the functional group of Esters ?

A. - OR

B. - COOR

C. -C = O

D. - CN

**Answer:**

Watch Video Solution

**28.** Which of the following is called absolute (100%) alcohol ?

A. Ethene

B. Ethanoic acid

C. Ethanal

D. Gasohol

**Answer:**

Watch Video Solution

**29.** When fats are treated with sodium hydroxide, sodium salts the fatty acids and.....is form ?

A. ester

B. alcohol

C. gasohol

D. glycerol

**Answer:**

Watch Video Solution

**30.** Which of the following gives low concentrated solutions. When it is put in water ?

A. micelle

B. soap

C. alcohol

D. ester

**Answer:**

Watch Video Solution

**31.** Which of the following are the compounds of carbon and hydrogen ?

A. Hydrocarbons

B. Alkanes

C. Alkynes

D. Alkenes

**Answer:**

Watch Video Solution

**32.** Which of the following is the formula of palmtic acid ?

A. $C_{15}H_{31}COOH$

B. $C_{17}H_{35}COOH$

C. $C_{17}H_{33}COOH$

D. $C_6H_{12\ -}O_6$

**Answer:**

Watch Video Solution

**33.** $C_{17}H_{35}COOH$ is the formula of

A. Palmitic acid

B. Stearic acid

C. Oleic acid

D. Soap

**Answer:**

Watch Video Solution

**34.** Which of the following is the formula of oleic acid ?

A. $C_{15}H_{31}COOH$

B. $C_{17}H_{35}COOH$

C. $C_{17}H_{33}COOH$

D. $CH_3COOH$

**Answer:**

Watch Video Solution

**35.** Carbon and its compounds burn in presence of oxygen air to give

A. $CO_2$

B. heat

C. light

D. all

**Answer:**

Watch Video Solution

**36.** Which of the following contribute to the flavours and fragrances of fruits and flowers ?

A. Ethers

B. Esters

C. Ketones

D. Nitriles

**Answer:**

Watch Video Solution

**37.** The self linking property of carbon is called

A. fermentation

B. catenation

C. esterification

D. saponification

**Answer:**

Watch Video Solution

**38.** Which of the following is the formula of Ammonium cynate ?

A. $NH_4CO$

B. $NH_4CN$

C. $NH_4CNO$

D. $NH_3CNO$

**Answer:**

Watch Video Solution

**39.** When Ethanoic acid is added to a solution of substance X, a colourless and odourless gas Y is liberated. The gas Y turns lime-water milky. The substance X is ___

A. $NaHCO_3$

B. NaOH

C. $CH_3COONa$

D. NaCl

**Answer:**

Watch Video Solution

**40.** Soaps do not create water pollution because _____

A. Soaps are insoluble in water

B. Soaps are soluble in water

C. Soaps are 100% bio-degradable

D. Soaps are non-biodegradable

**Answer:**

Watch Video Solution

**41.** What percent of acetic acid is present in the vinegar that is used to preserve pickles ?

A. 5 - 8

B. 10 - 15

C. 100

D. 50

**Answer:**

Watch Video Solution

**42.** Which of the following compound is not a hydrocarbon ?

A. $R - CH_3$

B. $RCH = CH_3$

C. $RCH_2OH$

D. $CH_3CH = CH_2$

**Answer:**

Watch Video Solution

**43.** A few drops of ethanoic acid were added to solid sodium carbonate. The possible results of the reactions are

A. A hissing sound was evolved

B. Brown fumes evolved

C. Brisk effervescence occurred

D. A pungent smelling gas evolved

**Answer:**

Watch Video Solution

**44.** In integrated circuit.....are used instead of copper to components together Model Paper Issued by AP Board, 2016

A. Graphite

B. $C_{60}$

C. Nano tube

D. PVC

**Answer:**

Watch Video Solution

**45.** The bond angle in HCH in the Methane molecule in

A. $180^\circ$

B. $120^\circ$

C. $109^\circ 28$

D. $90^\circ$

**Answer:**

Watch Video Solution

**46.** The number of sigma and pi bonds present in ethyne is

A. 2,3

B. 5,1

C. 1,5

D. 3,2

**Answer:**

Watch Video Solution

**47.** Soaps are

A. Calcium salts of acids

B. Sodium or potassium salts of long chain fatty acids

C. Magnesium salts of acids

D. Salts of bases

**Answer:**

Watch Video Solution

**48.** They by-product of soap is

A. Glycerol

B. Isoprene

C. Butene

D. Ethylene glycol

**Answer:**

Watch Video Solution

**49.** Give the IUPAC name is HCOOH

A. Propanoic acid

B. Methanoic acid

C. Butanoic acid

D. Ethanoic acid

**Answer:**

Watch Video Solution

**50.** $KMnO_4$ is in.....colour.

A. Purple

B. Yellow

C. Orange

D. Green

**Answer:**

Watch Video Solution

**51.** Which process is involved in dirt cleaning ?

A. Oxidation

B. Reduction

C. Emulsification

D. saponification

**Answer:**

Watch Video Solution

**52.** Main constituent of biogas is

A. Butane

B. Ethane

C. Propane

D. Methane

**Answer:**

Watch Video Solution

**53.** $C_{15}H_{31}COOH$ is commonly known as

A. Lauric acid

B. Stearic acid

C. Oleic acid

D. Palmitic acid

**Answer:**

Watch Video Solution

**54.** Which of the following molecular formula belongs to alkyne family ?

A. $C_3H_6$

B. $C_4H_8$

C. $C_3H_4$

D. $C_3H_8$

**Answer:**

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**55.** The correct IUPAC name of compound with molecular formula $(CH_3)3\mathbb{C}H_3$ is

A. 2,2-Dimethyl propane

B. Pentane

C. Neopentane

D. 1,1,1-Trimethyl lethane

**Answer:**

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**56.** Which of the following can be used for the denaturation of ethyl alcohol ?

A. Pyridine

B. Copper sulphate

C. Methyl alcohol

D. All

**Answer:**

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**57.** The soap molecule has.....

A. hydrophilic head and a hydrophobic tail

B. hydrophobic head and a hydrophillic tail

C. hydrophobic head an a hydrophobic tail

D. hydrophilic head and a hydrophilic tail

**Answer:**

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**58.** In the preparation of soap.....is used as solvent

A. Alkali

B. Acetone

C. Alcohol

D. Aldehyde

**Answer:**

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**59.** Dehydration of ethyl alochol to ethylene is carried by heating with

A. Concentrated $H_2SO_4 at 200K$

B. Acidified $KMnO_4$ solution

C. Concentrated $H_2SO_4 at 443K$

D. Alkaline $KMnO_4$ solution

**Answer:**

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**60.** An ester has

A. odour less smell

B. pungent smell

C. rotten egg smell

D. pleasant fruit smell

**Answer:**

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**61.** A student takes about 2ml of ethanoic acid in a test tube and adds a pinch of $NaHCO_3$ to it. He reports the following.

Immediately a colourless and odourless gas evolves with a brisk effervescene.

The gas turns lime water milky

The gas burns with an explosion when a burning splinter is brought near it

The gas extinguishes the burning splinter.

A. I,iiand iv

B. I,iii and iv

C. ii,iii and iv

D. I,ii and iii

**Answer:**

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**62.** Alcohols can be produced by the hydration of

A. Alkynes

B. Alkenes

C. Alkanes

D. Acids

**Answer:**

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**63.** In order to show branching, an organic compound must have a minimum of

A. Three carbon atoms

B. Four carbon atoms

C. Five carbon atoms

D. Six carbon atoms

**Answer:**

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**64.** Soaps are formed by the saponification of

A. Alcohols

B. Simple esters

C. Carboxylic acids

D. Giycerides

**Answer:**

Watch Video Solution

**65.** Acid + Alcohol

A. Ketone

B. Soap

C. Ester

D. Aldehyde

**Answer:**

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**66.** .....end of soap bonds with dirt.

A. Hydrophilic only

B. Hydrophobic only

C. Both A and B

D. None

**Answer:**

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**67.** Which one of the following statemens is not correct ?

A. Acetic acid is highly soluble in water

B. Acetic acid turns red litmus blue but it does not effect blue litmus.

C. Acetic acid is a weak acid and it ionizes partially

D. Acetic acids reacts with $NaHCO_3$ to form colourless and odourless gas.

**Answer:**

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**68.** Soap micelles in water will not come together to precipitate because of

A. Electro positivity of micelles

B. Electro negativity of micelles

C. Ion-Ion attraction between micelles

D. Ion-Ion repulsion between micelles

**Answer:**

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**69.** A spherical aggregate of soap molecule in water is called.

A. Hydrophilic end

B. Hydropholic end

C. Miscelle

D. Cation

**Answer:**

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**70.** $2C_2H_6 + 7O_2 \rightarrow 4CO_2 + 6H_2O + e \neq rgy$.This is.....type of reaction.

A. reduction

B. oxidation

C. combustion

D. addition

**Answer:**

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**71.** Which of the following represents the correct increasing order of unsatured carbon ?

A. Alkynes, Alkanes, Alkenes

B. Alkanes, Alkynes, Alkenes

C. Alkenes, Alkynes, Alkanes

D. Alkanes, Alkenes, Alkynes

**Answer:**

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**72.** Bad conductor of electricity is

A. Graphite

B. Graphen

C. Diamond

D. Nanotube

**Answer:**

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**73.** $sp^3$ hybridization is found in

A. $CH_4$

B. $C_2H_2$

C. $C_2H_4$

D. $C_2H_6$

**Answer:**

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**74.** Draw the structure of:3-amino-2-bromo hexan-1-Ol

A. $CH_3 - CH_2 - CH_2 - \underset{NH_2}{\underset{|}{CH}} - \underset{Br}{\underset{|}{(CH)}} - \overset{OH}{\overset{|}{CH_2}}$

B. `overset(OH)overset(|)(CH_2)-underset(Br)underset(|)(CH)-CH-CH-

underset(NH_2)underset(|)(CH_2)-CH_2-CH_3

C. $CH_3 - \underset{\underset{Br}{|}}{CH} - CH_2 - \underset{\underset{NH_2}{|}}{CH} - CH_2 - \overset{\overset{OH}{|}}{CH_2}$

D. None

**Answer:**

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**75.** Glycerol is.....

A. $\begin{array}{l} CH_2OH \\ | \\ CHOH \\ | \\ CH_2 \end{array}$

B. $\begin{array}{l} CH_2OH \\ | \\ CH_2OH \\ | \\ CHOH \end{array}$

C. $C_{17}H_{35}COONa$

D. $\begin{array}{l} CH_2OH \\ | \\ CHOH \\ | \\ CH_2OH \end{array}$

**Answer:**

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**76.** Which of the following is a good conductor of heat and electricity?

A. Anthracite

B. Charcoal

C. Diamond

D. Graphite

**Answer:**

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**77.** Which of the following is alkane?

A. $C_4H_{10}$

B. $C_4 - H_8$

C. $C_4H_6$

D. $C_6H_6$

**Answer:**

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**78.** The functional group of Ketones is ____

A. - OH

B. - CHO

C. - O -

D. 

**Answer:**

Watch Video Solution

**79.** The functional group present in ethers is

A. 

B. - C - OH

C. C - O - C

D. - COOH

**Answer:**

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**80.** $C_{60}$has arranged by _____pentagons and _____hexagons.

A. 20,12

B. 12,20

C. 21,20

D. 12,01

**Answer:**

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**81.** What is about energy and properties of newly formed orbitals ?

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**82.** Who introduced the concept of hybridisation ?

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**83.** How many types of hybridizations are there ? Either one or many ?

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**84.** Among which type of orbitals, redistribution takes place ?

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**85.** Which type of hybridisation is there in graphite ?

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**86.** Why do we use graphite in pencils for writing ?

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**87.** How is it possible to use graphite in electricity ?

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**88.** We can break the layers of graphite easily - Why ?

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**89.** How many categories that hydrocarbons classified into ?

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**90.** According to bond formation, how types of hydrocarbons are there ?

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**91.** Which hydrocarbons are called as alkanes ?

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**92.** Do straight chain compound and branched chain compound have similar properties ?

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**93.** Write any four properties of carbon and explain.

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**94.** Which allotropes are used as good conductors ? Why ?

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**95.** `2HC = CH - CH2-CH2- CH3. Write a few sentences about this compound.

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**96.** How do you say combustion is an oxidation process ? Give an example.

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**97.** Acetic acid is

A. A weaker acid than HCl

B. A stronger acid than HCl

C. A stronger acid than $HNO_3$

D. A stronger acid than $H_2SO_4$

**Answer:**

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**98.** The nature of second grade functional groups is given by

A. Primary prefix

B. Secondary prefix

C. Primary suffic

D. Secondary suffic

**Answer:**

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**99.** Identify the alkanes given below.

$C_5H_{12}, CH_4, C_3H_8, C_2H_4$

A. iv

B. I,ii

C. I,ii,iii

D. ii,iv

**Answer:**

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**100.** Identify the alkenes given below.

C_2H_4

CH_4

C_3H_6

C_4H_8`

A. ii

B. I,iii

C. ii,iii

D. I,iv,iii

**Answer:**

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**101.** Conversion of ethyl alcohol into Acetic acid is

A. combusion

B. oxidation

C. addition

D. substitution

**Answer:**

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**102.** Which of the following are aldehydes ?

CH_3CHO

$C_6H_5 - \overset{O}{\overset{||}{-}} C - H$

$CH_3 - \overset{O}{\overset{||}{C}} - CH_3$

$CH_3 - CH_2 - CH_2 - \overset{O}{\overset{||}{C}} - H$

A. I,ii

B. ii,iii,iv

C. I,ii,iii

D. I,ii,iv

**Answer:**

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**103.** Which of the following are compounds ?

Sugar

Common salt

Diamond

Plaster of Paris

A. I,ii

B. I,ii,iv

C. ii,iii,iv

D. I,ii,iii,iv

**Answer:**

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**104.** Unsaturated compound undergoes

A. Combustion

B. Oxidation

C. Addition

D. Substitution

**Answer:**

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**105.** Vegetable oils contains

A. saturated long chain fatty acid

B. saturated long chain alcohols

C. unsaturated long chain fatty acid

D. unsaturated long chain alcohols

**Answer:**

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**106.** Gasohol is a mixture of

A. Alcohol + ether

B. Alcohol + water

C. Alcohol + gasoline

D. Alcohol + kerosene

**Answer:**

Watch Video Solution

**107.** The IUPAC name of $\overset{OH}{\underset{|}{CH_2}} - \overset{OH}{\underset{|}{CH_2}}$

A. Ethylene glycol

B. 1,2 -dihydroxy ethane

C. Ethane - 1, 2 -di ol

D. All are correct

**Answer:**

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**108.** IUPAC name of $CH-\overset{\overset{O}{||}}{C}-CH_2-CH_2-CH_2-CH_2-CH_2OH$ is

A. 1 - hydroxy - heptan - 6 -one

B. 2 - oxo heptanol

C. 7 - hydroxy heptan - 2- one

D. 7 - hydroxy hepta ketone

**Answer:**

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**109.** Which of the following scientist disproved vital force theory?

A. Berzelius

B. Wurtz

C. Wohler

D. Kolbe

**Answer:**

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**110.** Hybridisation and bond angle in ethane is

A. $SP^3, 120^\circ$

B. $sp^2, 120^\circ$

C. sp,180

D. `sp3,109^28'

**Answer:**

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**111.** Write a few sentences about sp hybridisation ?

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**112.** How do $\pi$ - bonds are formed ? How many $\pi$ - bonds are there in sp hydridisation ?

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**113.** Explain any two properties of carbon.

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**114.** Write the name of an alkyne ? What is its general formula ?

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