

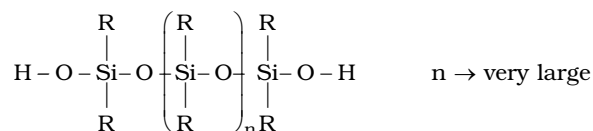
Level - 2	DTS-8
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96.(A) A silica garden or chemical garden is an experiment normally performed by adding coloured metals salt such as CuSO_4 or CoCl_2 to an aqueous solution of sodium silicate. This results in growth of plant like forms.

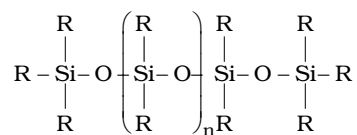
97.(A) Silicon carbide is a hard substance hence used as abrasive.

98.(D) Because some of the silicon chloride gets hydrolyzed.

99.(A) Silicon have large number of alkyl groups which have appreciable hydrophobic properties. As general representation of linear silicon is

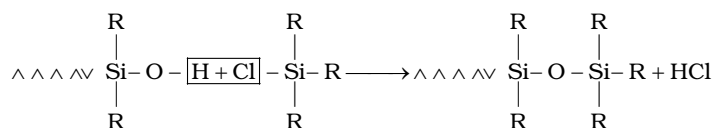


Or



100.(BC) O-C-O bond angle is 180° due to sp hybridization of carbon and also due to $p-p$ bonding between carbon and oxygen.

101.(AB) Organic silicone chain shows condensation reaction with R_3SiCl as shown



102.(BCD) Graphite is thermodynamically more stable than Diamond because of

(1) Double bond character in C-C bond

(2) e^- are delocalized in a manner that aromaticity get introduced in graphite sheets.

(3) Graphite has greater entropy which is because of

(a) Layers are much distant

(b) Layers can get align randomly in AB AB packing and ABC ABC packing [XIth Class Solid State]

C_{60} , Buckminster has cage like structure.

Due to slippery nature of graphite. It is used as dry lubricant : Other such example is molybdenum disulfide.

103.(BD) $\text{O}=\text{C}=\text{O} \longleftrightarrow \text{O}^+ \equiv \text{C} - \text{O}^-$

104.(C) $\text{Si} + \text{HF} \xrightarrow{\text{excess}} \text{H}_2\text{SiF}_6$

105.(B) Gas P and Q are same i.e. H_2