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| **School of Pedagogical Sciences (SPS)**  **M.G University Kottayam as a part of Ph. D Programme**  Research Scholar  **: Shanavas K.E**  Supervising Teacher **: Dr Sajna Jaleel Professor SPS** | | | |
| **Action Script : E Content Lesson based on CDM 12**  Name of Teacher**:** Shanavas K.E Standard: XI Science  Subject: Chemistry Strength: 59  Topic: H-bonding. Time: 6 minutes Chapter: Chemical Bonding and Molecular structure | | | |
| Audio | Video | Tg-lg activities | Phases of CDM |
| Hello Plus One Students, Welcome to the world of  Chemistry. chapter 4 chemical bonding and molecular structure. This is the E-content lesson based on CDM 12.  We will learn an important topic “H-bonding”  What is H-bonding?  When H- bonding formed?  Before answering this questions, which is most  electronegative element in the periodic table  Which groups are having highest electronegative in the periodic table  Then can you define H- bonding?    Can you give an example of H- bonding ?  What are the causes of H- bonding ?  H2O is liquid Explain?  Can you give more examples of H-bonding?  What are the types of H- bonding?  What is intermolecular H-bonding ?  Give an example of inter molecular H-bonding ?  See the pictures of intermolecular H-bonding  What is inter molecular H- bonding ?  Give example of intramolecular H-bonding ?  See the slide of Orth nitro phenol or nitro benzoic aid  **Time gap online Assignment**  Why HCl does not form H –bonding ?  H2O is a liquid While H2S is a gas. Explain ? | Teacher presents    Slide  Topic  Slide  Fluorine, F  The electronegativity value of  First F (4.0)  Second O (3.5)  Third CI (3.16)  Fourth N (3.04)  Slide  Halogens are highest electronegativity group in the periodic table.  F (4.0) > Cl (3.16) >  Br (2.8) > I (2.5) > At (2.2).  The electronegativity values of Halogen are above 2.2.  Slide  Definition of H-bonding  The partially positively charged H∂+ atom form a bond with other more electronegative atoms F, O, N is known as H-bonding.  Slide  Pictures of H-bonding  H∂+- F∂- …... H∂+- F∂-  Slide  Causes of H-bonding  Strong electro negative element  Partial positive and negative charge or polarity of bonds  Influence of physical state  High M.P and B.P  Slide  H2O is a liquid due to H- bonding.  Here intermolecular H- bonding through association  Slide  Examples of H-bonding  HF, H2O, NH3  Slide  Intermolecular H bonding and intra molecular H-bonding.  Slide  In intermolecular H- bonding, formed between two different molecules of same or different compounds  Slide  Example of intermolecular H- Bonding  H2O, NH3  Slide  H-bond of H2O, NH3      It is formed between H atom and highly electronegative atom F, O, N within the same molecule  Slide    Slide  Despite its Electronegativity, size of Cl atom is larger and hence electron density is low. So. H Cl does not form H-bonding  Slide  H-bond of H2O and no H- bond in H2S.  In H2O.there is  intermolecular H – bonding through association.  Hence molecular mass  increase, that is liquid.  In H2S, no H-bonding. A separate or single or discrete molecules having low molecular mass. Hence H2S is a gas  Thank you  Enjoy and learn chemistry in a simple way. Every E-content lesson is 5- or 7-minutes duration or in very short time.  Revise the E-content lesson based on CDM. Learn well. | Gaining the attention to the objectives  Presentation of slides  Asking questions  Developing the content  Audio-video input entering  into the content  Audio-video input.  Causes of H- bond  Audio video input giving more applications and problems  Presentation of slides  Audio-video input giving examples  Developing more contort  and knowledge    Evaluating and assessing the content | **Phase 1**  Establishes rapport with the students.  Confrontation with stage relevant task  Insisting to think  Give perceptual cues or hints  Elicits students’ responses  Probes reasoning  **Phase II**  Inquiry  Elicits  students  responses  Probes reasoning.  Seeks justification  Elicits  students  responses  Giving perceptual cues or hints  **Phase III**  Transfer  probes  reasoning  Seeks  Justification results in assimilation  Accommodation  of new learning experience leading to ability to apply in different learning situation. |