|  |  |  |  |
| --- | --- | --- | --- |
| **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 3**  Name of Teacher**:** Shanavas K.E Standard: XI Science  Subject: Chemistry Strength: 59  Topic: Formation of Ionic and Covalent bond. 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 3  Students, have you been learned previous E-content lesson about chemical bonding especially Lewis structures.  Today, I focus upon the formation of different types of bonds. The formation of Ionic bond, Covalent bond.  How NaCl is formed from Na and Cl?  Write the Lewis Structure of NaCl using dot and cross symbols?  See the structure of NaCl, what type of bond formed  What type of bond formed in NaCl ?  Sodium lose one electron and chorine gains one electron from sodium to complete its octet.  Can you define Ionic bond ?  Which are the groups that show by Ionic bonds?  Can you give the examples of Ionic compounds  Draw the structure of CaF2.  Calcium has valence electron is 2 and transfer its two electrons with 2 F atom to complete the octet.  Are the Ionic bond being Directional nature.  What type of bond present in Cl2, O2, N2  Can you define covalent bond?  Can you give the examples of covalent bonds?  How many covalent bond  are in O2 and N2 molecules?  Draw the structure of O2 and N2 using dots and cross symbols.  Draw the Lewis structure of H2S. Identity the bond present in it ?  How many bonds pair and lone pair in H2S.  **Time gap online Assignment**  Draw the Lewis structure of Na2S and Identify the type of  bond present in it. | Teacher presents  Slide  The formation of Ionic bond, Covalent bond.  Slide  Na (Z= 11) 2,8,1 → Na+ + e-  Cl (Z= 17) 2,8,7 → Cl-  Slide  Lewis structure of NaCl - How to draw Lewis structure of NaCl, Polar or  Non-polar molecule, and Crystal Structure with FAQs  Slide  Ionic bond or Electrovalent bond  Slide  definition  The complete transference of one or more valence electrons from one atom to the valence shell of the other atom is called Ionic bond  The electrostatic attraction between the oppositely charged ions which always leads to a decrease in the potential energy of the system is known as Ionic bond  Slide  Group I Alkali Metals Li+, Na+, K+, Rb+, Cs+  Group II alkaline earth metals. Mg2+, Ca2+, Sr2+, Ba2+  Group III –AI  Halogens: F-, CI-, Br-, I- and N3- , P3- , O2-  Slide  K2O, CaF2, Na2S Na3P, AIH3  (Metal +Nonmetal form Ionic Compounds)  Slide    Slide  No Ionic bond is Non –directional in nature.  Covalent bond  Slide  definition of covalent bond.  The combination of 2 or more atoms involving mutual sharing of electrons is called covalent bond.  Slide  H2 molecule. H-H bond. A single bond.  Slide  Slide  Dot and cross diagrams of simple molecules | Exam Questions  O2 has two covalent bonds. Double bond.  N2 has three covalent bonds. Triple bond.  nitrogen molecule N2 Lewis dot & cross electronic diagram covalent bonds  ball & stick space filling 3D models boiling point melting point Doc  Brown's chemistry revision notes  Slide  H2S Lewis Structure & Molecular Geometry – What's Insight  Sulphur shares its electron mutually with 2 H atom to complete the octet. The bond formed is covalent bond.  BP is 2  LP is 2  Slide  SOLVED: The Name Of The Ionic Compound PbS Is Lead(II) The, 57% OFF  In Na2S, Sulphur requires two electrons from Na to complete the octet .so sodium transfer these electrons to Sulphur. The bond formed is Ionic bond.  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. Learn Well. | Gaining the attention to the objectives  Presentation of slides  Audio–video input entering into the content  Audio video input give examples  Developing the content  Audio-video input giving definition.  Audio – Video input giving more Applications and problems  Audio – video input giving more examples  Audio Video Input definition of covalent bond.  Presentation of slides  Audio Video input  Presentation of slide  Evaluate and assess the content.  Audio-video input.  Evaluate and assess the Content  Audio video input giving more Application and problems | **Phase 1**  Establishes rapport with the students.  Confrontation with stage relevant task  Presents a puzzling problem?  Insisting to think  Giving perceptual cues  **Phase II**  Inquiry  Seeks reasoning  Elicits students’ responses  Seeks justification  **Phase III** Transfer  Presents a related task  Probes reasoning  Seeks justification  Elicit students’ responses.  Offer counter suggestions  Seeks reasoning  Accommodation of new learning experience leading to ability to apply in different learning situations. |