



CHEMISTRY

BOOKS - V PUBLICATION

CHEMICAL BONDING

Question Bank

1. Complete the table given below and answer the following questions (Symbols are not real)

a) Which element in the table is the most

stable one? Justify your answer

b) Which element donates electron in chemical reaction?

c) Write the chemical formula of the compound formed by combining element S with P.



[Watch Video Solution](#)

2. Electronegativity values of some elements are given. Analysing these values, find whether the following compounds are ionic or covalent.

(Electronegativity of Ca=1.0, O=3.5, C=2.5,

S=2.58, H=2.2, F=3.98)

a) Sulphur dioxide (SO_2)

b) Water (H_2O)

c) Calcium fluoride (CaF_2)

d) Carbon dioxide (CO_2)



[Watch Video Solution](#)

3. a) Write the chemical formula of barium chloride

b) Write the chemical formula of zinc oxide

c) The chemical formula of calcium oxide is CaO. What is the valency of calcium?



[Watch Video Solution](#)

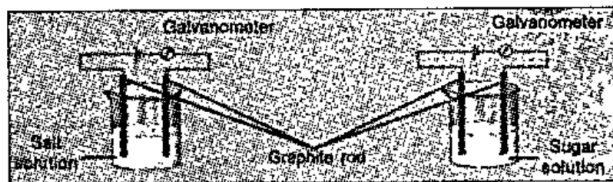
4. Draw the electron dot diagram of chemical bonds in ethane (C_2H_6).



[Watch Video Solution](#)

5. Perform the experiment arranging the apparatus as shown in figure.

Record your observation and identify what type of compounds sodium chloride and sugar are



[Watch Video Solution](#)

6. P,Q,R,S are four elements. Their atomic numbers are 8, 17, 12 and 16 respectively. Find the type of chemical bond in these compounds formed by combining the

following pairs of elements. Construct and exhibit the type of bonds using different substances. (eg. beads, seeds)

(Electronegativity values: P=3.44, Q=3.16, R=1.31, S=2.58)

1. P,R

2. P,S

3. Q, R?



[Watch Video Solution](#)

7. The capacity of an atom to take part in chemical reaction is called.



[Watch Video Solution](#)

8. Why do atoms take part in CHEMICAL BONDING?



[Watch Video Solution](#)

9. Atoms donate electron and changed toions.



[Watch Video Solution](#)

10. Which of the following is a monoatomic molecule? (Oxygen, Argon, Chlorine)



[Watch Video Solution](#)

11. The compound formed when magnesium burns in oxygen is



Watch Video Solution

12. Find the relation and fill up suitably

The CHEMICAL BONDING formed by the attraction between ions: Ionic bonding

The CHEMICAL BONDING formed by sharing of electrons:



Watch Video Solution

13. The element which does not take part in CHEMICAL BONDING are



Watch Video Solution

14. Helium is an example formolecule



Watch Video Solution

15. In which state are most ionic compounds found?



Watch Video Solution

16. Write an example for covalent compound in liquid state.



Watch Video Solution

17. The bonding in calcium chloride is



Watch Video Solution

18. If the difference in electronegativity between two constituent element is ... the compound formed will have equal ionic and covalent character.



Watch Video Solution

19. The molecular formula of aluminium chloride is $AlCl_3$. Find the valencies of

compound elements in it.



[Watch Video Solution](#)

20. The atomic number of fluorine is 9. Draw the electron dot diagram of the formation of fluorine molecule by the combination of two fluorine atoms.



[Watch Video Solution](#)

21. Find the relation and fill up suitably:

Hydrogen: Single Bond

Nitrogen:



[Watch Video Solution](#)

22. Identify the wrong and the correct statements

a) Covalent compounds are not a conductor of electricity.

b) Ionic compounds exists in solid, liquid and

gaseous states.

c) Ionic compounds are insoluble in water.

d) Covalent compounds melting points is usually low.



[Watch Video Solution](#)

23. Electronegativity values of some elements are given. Using these values, find whether the following compounds are ionic or covalent.

Hints: Electronegativity values: C- 2.5, O-3.5, Na- 0.9, Cl-3.16, Mg-1.31

a) $NaCl$

b) $MgCl_2$



Watch Video Solution

24. Electronegativity difference is responsible for polar nature of molecules.

a) Polar nature of hydrogen fluoride is represented as $H^{\delta+} - F^{\delta-}$. Which element is more electronegative?

b) How will you represent the polar nature of HCl?



[Watch Video Solution](#)

25. write the chemical formula of compounds formed by the combination of elements.

a) Calcium (Ca) and Oxygen (O)

b) Zinc (Zn) and Chlorine (Cl)



[Watch Video Solution](#)

26. The outermost shell of an element with three shells contain 8 electrons.

a) Write the electronic configuration of the

element

b) Does the element take part in the chemical reaction. Give reason?



[Watch Video Solution](#)

27. Give two conditions in which covalent compounds show polar nature.



[Watch Video Solution](#)

28. Some statements are given below. Select those suitable for ionic compounds.

a) Soluble in water

b) Do not conduct electricity.

c) Conducts electricity in both aqueous and molten states.

d) They exist in all three states.



Watch Video Solution

29. Draw the electron dot diagram of the formation of magnesium oxide from the combination of magnesium and oxygen.

(Hint: Atomic number- Mg=12, O=8)



Watch Video Solution

30. Find the chemical bond in $MgCl_2$ and CH_4 based on the electronegativity values. Justify your answer.

(Hint: Electronegativity : Mg 1.31, Cl=3.16,
C=2.55, H=2.2)



[Watch Video Solution](#)

31. Electronic configuration of elements P, Q
and R are given.

P= 2,1

Q = 2,8,2

R= 2,8,6

a) Which of the above elements belong to the
same period?

b) Which among the elements has the highest electronegativity?

c) Write down the chemical formula of the compound formed by P and R?



[Watch Video Solution](#)

32. The chemical bond formed as a result of the sharing of electrons between the combining atoms is called as covalent bond.

Illustrate the chemical bond present in nitrogen molecule.



Watch Video Solution

33. a) What is the valency of carbon?

b) How many electrons are needed for carbon to attain octet configuration?

c) Draw the electron dot diagram of methane (CH_4), the compound formed by the combination of carbon and hydrogen.



Watch Video Solution

34. The electronic configuration of some elements are given below. (These are not actual symbols). Analyse the configurations and answer the following questions:

X - 2,8,6

Y-2,8,8

Z-2,8,1

a) Which element is chemically stable?

b) What is the atomic number of the element

Z?

c) What is the nature of CHEMICAL BONDING

in the compound formed between the element Z with element X?



[Watch Video Solution](#)

35. Fluoride ion is formed from fluorine atom.

Write the chemical equation for the reaction.



[Watch Video Solution](#)

36. Some elements and their valencies are given below.

a) Write the chemical formula of barium chloride.

b) Write the chemical formula of zinc oxide.



Watch Video Solution

37. a) What is the common name of the bonds found in the above compounds?

b) Write the difference between each molecule.

c) Name the each bond.

(##VPU_TTCHEIXC02 – E03₀₃₁ – Q01##)



[View Text Solution](#)

38. a) What is electronegativity?

b) Who proposes electronegativity scale?

c) Most electronegative element.



[Watch Video Solution](#)

39. Some examples for polar compounds are given below:

(i) H_2O (ii) HF (iii) NH_3

What do you mean by a polar compound.



Watch Video Solution

40. Atomic number of 2 elements are given below. (symbols are not true).

$X = 17, Y=11$

- Write the electronic configuration of both:
- Which is electropositive? Which is electronegative?
- Name the chemical bond.
- Write the chemical formula of the compound formed by combining element X and Y.



Watch Video Solution

41. A compound formed by the combination of Mg and N atom.

a) Write the chemical formula of these compound.

b) Which type of chemical bond is seen in this reaction?

c) Draw the CHEMICAL BONDING these reaction.



Watch Video Solution

42. The CHEMICAL BONDING in oxygen molecule is illustrated.

a) How many pair of electrons are shared?

b) Name the chemical bond in it?

c) Which type of chemical bond is this?

d) Represent the chemical bond in oxygen molecules using symbols?



Watch Video Solution

43. Complete the table

'(##VPU_TTT_CHE_IX_CO2-E03_037_Q01##)'



[View Text Solution](#)

44. Examine the dot diagram of fluorine.

a) How many electrons are required for a fluorine atom to complete its octet?

b) How can the two fluorine atoms attain an octet configuration>

c) Illustrate the CHEMICAL BONDING of fluorine molecule?

d) Name the chemical bond.



[Watch Video Solution](#)

45. Some elements and its valencies are given in the table.

Write the maximum number of chemical compounds that can be formed by the reaction of these elements.

'(##VPU_TTT_CHE_IX_C02-E03_039_Q01##)'



View Text Solution

46. Complete the table

'(##VPU_TTT_CHE_IX_C02-E03_040_Q01##)'





[View Text Solution](#)

47. Molecular formula of aluminium chloride is $AlCl_3$. Write down the molecular formula of the oxide and fluoride of Aluminium (Valency O=2, F=1)



[Watch Video Solution](#)

48. How many single bonds are there in the carbon tetrachloride?

(3,4,2,1)



[Watch Video Solution](#)

49. Most electronegative element is

(Fluorine, Carbon, Argon, Sodium)



[Watch Video Solution](#)

50. Why do atoms take part in CHEMICAL BONDING?



[Watch Video Solution](#)

51. The bonding in chlorine molecule is



[Watch Video Solution](#)

52. Atomic number of element A is 12 and that of B is 8. (Symbols are not real)

a) Find the valencies of these elements by writing their electronic configuration.

b) Write the molecular formula of the compound formed when A and B combine together



[Watch Video Solution](#)

53. The chemical formula of magnesium chloride is MgCl_2

a) Write down the electronic configuration of the component elements in this compound.

b) Find the valencies of these elements
(Atomic number: Mg-12, Cl-17)



Watch Video Solution

54. Magnesium fluoride is an ionic compound

(Atomic number: Mg-12, F-9)

a) Identify the cation in this compound. How will you represent it?

b) Write down any one characteristic property of magnesium fluoride as an ionic compound.



Watch Video Solution

55. Magnesium combines with oxygen to form magnesium oxide

(Atomic number: Mg-12, O-8)

a) Which type of CHEMICAL BONDING is present in magnesium oxide?

b) Write down the molecular formula of magnesium oxide.



[Watch Video Solution](#)

56. The electron dot diagram representing the formation of oxygen molecule.

a) How many pair of electrons are shared between the oxygen atom?

b) Mention the type of covalent bond present here?

c) Electronic configuration of Nitrogen is 2,5.

Draw the electron dot diagram of the formation N_2 molecules.



[Watch Video Solution](#)

57. Examine the dot diagram of sodium oxide.

a) What are the valencies of sodium and oxygen?

b) Which one of these elements donates

electron? Which element accepts electrons?

c) Identify the type of chemical bond present in the given molecule.



[Watch Video Solution](#)

58. Ar-2, 8,8

The given element argon does not take part in chemical reactions.

a) Which among the following elements undergo chemical reactions forming compounds? Given reason.

(i) Ca-2,8,8,2 (ii) Ne-2,8 (iii) Kr- 2,8,18,8(iv) S-2,8,6

b) The attractive force that holds together the atoms in a molecule is known as



[Watch Video Solution](#)

59. Atomic number of Hydrogen is 1 and that of oxygen is 8.

a) Represent the CHEMICAL BONDING in H_2O molecule using electron dot diagram.

b) Water is a polar compound. Give reason.



[Watch Video Solution](#)

60. Given below are the electronic configuration of a few elements. (Symbols are not real).

A-2,8,8,2

B- 2, 8, 8

C- 2,8,1

D-2,8,7

a) Which of these atoms accepts electron?

b) Which is the stable element?

c) Write down the molecular formula of the compound formed when the element A and D

combine together.

d) Which element has a valency of two?



Watch Video Solution