**UDAYA PUBLIC SCHOOL AYODHYA**

**SUMMATIV ASSESSMENT 2**

**CLASS 11TH CHEMISTRY (043)**

**Maximum Marks: 70**

**Time Allowed: 3 hours**

**General Instructions:**

a. All questions are compulsory.

b. Section A: Q.no. 1 to 16 are very short answer questions (objective type) and carry 1 mark

each.

c. Section B: Q.no. 17 to 23 are short answer questions and carry 2 marks each.

d. Section C: Q.no. 24 to 30 are long answer questions and carry 3 marks each.

e. Section D: Q.no. 31 to 33 are also long answer questions and carry 5 marks each.

f. There is no overall choice. However, an internal choice has been provided in two

questions of two marks, two questions of three marks and all the three questions of five

marks weightage. You have to attempt only one of the choices in such questions.

g. Use log tables if necessary, use of calculators is not allowed.

**Section:A**

1.Bonding molecular orbital is lowered by a greater amount of energy thantheamount by which antibonding molecular orbital is raised. (True/False)

2. The radius of Na+cation is less than that of Na atom. Give reason.

3. What happens when propene is treated with alc.KOH.

4.How many sigma and pie bond present in TOLUENE. A

5. Hydrogen is prepared from H2O by adding-

a. AI, which acts as oxidising agent

b. Au, which acts as oxidising agent

c. Ca, which acts as reducing agent

d. Ag, which acts as reducing agent

6. Which of the following gases will have the lowest rate of diffusion?

a. F2b. O2c. N2d. H2

In the following questions (Q. No. 7-11) a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices.

a) Assertion and reason both are correct statements and reason is correct explanation for assertion.

b) Assertion and reason both are correct statements but reason is not correct explanation for assertion.

c) Assertion is correct statement but reason is wrong statement.

d) Assertion is wrong statement but reason is correct statement.

7.Assertion: Carbon dioxide has linear geometry involving sp hybridisation of C.

Reason: Dry ice is solid CO2.

8. Assertion: Both 32 g of SO2 and 8 g of CH4 contain the same number of molecules.

Reason: Equal moles of two compounds contain the same number 0 molecules.

9. Assertion: Oxidation number of phosphorus in P4

is zero.

Reason: Phosphorus has oxidation state zero in all its compound.

10. Assertion: Acetylene is more acidic than ethylene.

Reason: Acetylene has sp character of carbon and, therefore, more s-character.

11. Assertion: Liquefaction of H2 and He are very difficult.

Reason: Critical temperature of H2 and He gases are high.

12. How many significant figures are present in 0.0025 and 2500?

13. Give two points of difference between s and p block elements.

14. Calculate the number of molecules present in 2.5 moles of water.

15. Arrange the following metals in the order in which they displace each other from the

solution of their salts.

Al Cu, Fe, Mg, and Zn

16.Cyclobutane is less reactive than cyclopropane. Justify.

**SECTION:B**

17. The concentration of H+in a soft drink is 3.8 10-3 M. What is its pH?log3.8=0.5798.

18. Using VSEPR theory, draw the molecular structures of OSF4 and XeF4indicating thelocation of lone pair(s) of electrons and hybridization of central atoms.

19.Explain how is enthalpy and entropy related to spontaneity of a reaction.

20. Write the mechanism of sulphonation of benzene.

21. Complete the following reactions:

A.Fe (s) + H2O (g)--b. CO (s) + H2(g)---

22.How do balance MnO4- + SO2 = Mn2+ +HSO4- in an basic medium by the ion-electron method?

23. . In a process, 764 J of heat is absorbed by a system and 269 J of work is done by

the system. What is the change in internal energy for the process?

24. Define state function. Give 2 examples.

25.Give four quantum numbers of 8thand 15th electron of any element.

**SECTION:B**

26. Give Four Differences between Ionic and Covalent bond.with example.

27.calculate percentage composition of each element in Na2SO4.

28. In three moles of ethane (C2H6), calculate the following:

a. Number of moles of carbon atoms

b. Number of moles of hydrogen atoms

c. Number of molecules of ethane.

29.At 0°C, the density of a certain oxide of a gas at 2 bar is the same as that of dinitrogen at 5 bar. What is the molecular mass of the oxide?

30.How can you convert

A.Propyne in to propanoneB.Ethenoicacid into watergas

C. But 2ene in to Butene

**SECTION:D**

31. The electronic configuration of some elements are given below:

a. 1s2, 2s2, 2p6, 3s2b. 1s2, 2s2, 2p6

c. 1s2, 2s2, 2p2d. 1s2, 2s2, 2p6, 3s1

e. 1s2, 2s2, 2p5

Answer the following questions:

i. Name the elements.

ii. Which of these have the lowest Ionization enthalpy?

iii. Which is a halogen?

iv. Which is an alkali metal?

v. Which is an inert gas?

32.a. What are the product obtained after ozonolysis of the following compounds: 2,4,4-trimethylpent-2-ene; 2-methylbut-1-ene; 1-methylclohexene?

B.In halogens, which have highest negative electron gain enthalpy. And why ?.

33.**When metal X is treated with sodium hydroxide, a white precipitate (A) is obtained, which is soluble in excess of NaOH to give soluble complex (B). Compound (A) is soluble in dilute HCl to form compound (C). The compound (A) when heated strongly gives (D), which is used to extract metal. Identify (X), (A), (B), (C) and (D). Write suitable equations to support their identities.**