SHEIK FATHIMA GIRLS MATRIC .HR.SEC.SCHOOL

Kovilvayal Aranthangi

Higher Secondary-First Year

CHEMISTRY

MODEL QUARTERLY EXAMINATION -2019

Time:2.30 hrs   Marks : 70

Section- 1 $15 \times 1 = 15$

Note:Choose the correct answer

1.The number of water molecules in a drop of water weighing 0.018g is

a) 6.022×10^{26} b)6.022×10^{26} c)6.022×10^{20} d)9.9×10^{22}

2.The valume occupied by any gas at STP is _____

a) 22.4 litres   b)2.24 litres   c)224 litres   d)0.224 litres

3.Splitting of spectral lines in an electric field is called _____

a)Zeeman effect   b)Shielding effect c)Compton effect   d)stark effect

4.In Rutherford's gold foil experiment a thin gold foil was bombarded with a stream of fast moving _____

a)β particles   b) α particles   c) γ particles   d) δ particles

5.Which of the following elements will have the highest electronegativity ?

a) Chlorine   b) Nitrogen   c)Cesium   d) Fluorine

6.X,Y and Z are the three members of a Doboreiner's triad .If the atomic mass of X is 7 and that of Z is 39. What is the atomic mass of Y?

a) 23   b) 7   c)46   d)39

7.Non – stoichiometric hydrides are formed by

a)Palladium , Vanadium   b) Carbon, Nickel c) Manganese,Lithium

d) Nitrogen,chlorine

8._____ is extensively used as a moderator in nuclear reactors.

a)H_2O b) H_2O_2 c) D_2O d) D_2O_2

9.In which process ,fused sodium hydroxide is eletrolysed for extraction of sodium?

a) Castner's process b) Cyanide process   c) Down process d) All of these

10. The most electro positive element of the periodic table is _____

a) Gold   b) Platinum   c) Cesium   d) Calcium

11.The temperature at which real gases obey the ideal gas laws over a wide range of pressure is called _____

a) Critical temperature b) Boyle temperature c) Inversion temperature

 d) Redudced temperature

12.When the gas behaves ideally , the compression factor Z is_____

a) >1   b) <1   c) =0   d) =1

13. Which of the following is not a thermodynamic function?

a) internal energy b) enthalpy   c) entropy   d) frictional energy

14. For a cyclic process the volume of ΔU is _____

a)Maximum   b)Minimum   c) Zero d) does not change

15. The unit of pressure is_____.

a)Pascal   b) Torr   c) Bar   d) All the above

Section-2   6×2=12

Note :Answer any six of the following questions.Q.No.24 is compulsory

16.Define equivalent mass.

17.Write the electronic concept of oxidation and reduction reactions.

18.The stabilization of a half filled d-orbital is more pronounced than that of the

p- orbital why?

19. State Heisenberg's uncertainty principle and give its mathematical expression.

20.Explain the diagonal relationship.

21. Write short notes on Duetrium.

22.Beryllium halides are covalent where as magnesium halides are ionic.Why?

23.Distinguish between diffusion and effusion

24.Give Kelvin statement of second law of thermodynamics

Section-3   6×3=18

Note:Answer any six of the following Questions.Q.No:33 is compulsory.

25.How many moles of glucose present in 720g of glucose?

26.state and explain pauli's exclusion principle.

27.Noble gases have maximum ionization energy justify.

28.Explain principal quantum number(n).

29.An alkalimetal (x) forms a hydrated , $X_2SO_4.10H_2O$.Is the metal more likely to be sodium or potassium.

30.Why do astronauts have to wear protective suits when they are on the surface of moon?

31.State Boyle's law and Charles law.

32. Define molar heat capacity. Give its unit.

33. Why is Na atom bigger than the atoms of both lithium and magnesium?

Section-4

Note :Answer all the questions.   5×5=25

34. Derive critical temperature, critical pressure and critical volume by Vanderwaals method.

(or)

a) Describe the Auf bau principle

b) Why halogens act as oxidizing agents ?

35. a) How do you convert para hydrogen into ortho hydrogen?

b) Mention the uses of deuterium .

(or)

Describe briefly the biological importance of calcium and magnesium.

36. Explain the experimental verification of Boyle's law along with the graphical representations of PV relationship .

(or)

Give a detailed account on compressibility factor.

37. Explain how heat absorbed at constant volume is measured using bomb calorimeter with a neat diagram.

(or)

List the characteristics of Gibbs free energy.

38. Derive the relation between ΔH and ΔU for an ideal gas. Explain each tern involved in the equation.

<div align="center">(or)</div>

List out the uses of Hydrogen.

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