Second Half portion test (chemistry- xi) Time. :2 30 h

I) Mulitiple choice questions. PART-A. Marks : 70

1. If Kb and Kf for a reversible reactions are. 0.8x10~5 and 1.6x10~4 respectively the value of the equilibrium constant is

A) 20. B) 0.2x10~1. C).0.05. D) none of these

2 Kc/Kp for the reaction N2. + 3H2 --------> 2NH3 is

A) 1/RT. B) √RT. C) RT. D) (RT)^2

3. Osomatic pressure (π) of a solution is given by the relation

A) π=nRT. B) πv=nRT. C) πRT=n. D) none of these

4. What is the molality of a 10 % W/W aqueous sodium hydroxide solution?

A) 2.2778. B) 2.5. C).10. D) 0.4

5. In which of the following molecule ions BF3 , NO2~, H2O the central atom is SP2 hybridized ?

A) NH2- and H2O. B) NO2- and H2O. C) BF3. and NO2-. D) BF3 and NH2-

6. Which of the following is electron deficient?

A) PH3. B) (CH3)2 C) BH3. D) NH3

7. The general formula for alkadiene is

A) CnH2n. B) CnH2n-1. C) CnH2n-2. D) CnHn-2

8. The isomer of ethanol is

A) acetaldehyde. B) dimethyl ether. C) acetone. D). Methyl carbinol

9. - I effect is shown by

A) - Cl. B) - Br. C) Both a and b. D) - CH3

10 which of the following species does not acts as a nucleophile?

A) ROH. B) ROR. C) PCl3. D) BF3

11 which one of the following is non-aromatic?

A) B). C). D)

12 which of the following is optical active

A) 2- methyl pentane. B) citric acid. C) glycerol. D) none of these

13 The name of C2F4 Cl2 is------

A) Freon - 112. B) Freon -113. C) Freon - 114 D) Freon- 115

14 The raw material for rasching process

A) chloro benzene. B) phenol. C) Benzene. D) Anisole

15 Ozone depletion will cause

A) Forest fires. B) eutrophication. C) Bio magnification. D) global warming

Ii) Answer the following .q No:21 compulsory. 6×2=12

16 what is green chemistry?

17 write short notes on I) Rasching process ii) Dow's process III) Darzens process

18 complete the following. I) 2- Butyne ----------->. ?

Ii)

19 Explain electrometric effect?

20 Explain paper chromatography?

21 write position isomerism ? give exmple.

22. Draw MO diagram of CO and calculate it's bond order?

23 state and explain henrry's law?

24 state le- chatelier principle?

III) Answer the following q No: 29 compulsory. 6×3=15

25 Deduce the can't Hoff equation?

26 write limitations of Henry's law?

27 Draw the MO diagram for acetlyide ion (.). and calculate it's bond order?

28 Give the structure for the following

I) Butan- 2,2-diene. Ii) 2-chlorobut-3-ene. III) 2-methyl butan-3-ol

Iv) Acetaldehyde

29 write short notes on I) Resonance ii) Hyper conjucation ?

30 Define I) molality. Ii) Normality

31 Derive relationship between Kp and Kc

32 The equalibrium constant Kp for the reaction?

N2 + 3H2. ----------->. 2NH3 is 8.19×10^2 at 298K and 4.6×10~1 at 498K calculate ΔH° for

the reaction

33 write notes on I) Evaporation and Ii) condensation

Iv) Answer the following. 5×5=25

34 a) I) what is the effect of added inert gas on the reaction at equilibrium.--- 3 mark

Ii) Derive equilibrium constant for HI. ------. 2 mark. (Or)

b) I) Vapour pressure of binary solution liquide in liquide--- 2 1/2 mark

Ii) Vapour pressure of binary solution solide in liquide---2 1/2 mark

35 a) Define the following I) Bond order ii) Hybridization III) Bond energy iv) Dipolemovement

(or)

b) Explain various types of constituent isomerism (structural isomerism) in organic Compounds

36 a) write notes on I) Inductive effect ii) Electromeric effect III) Addition reaction (or)

b) write the preparation of alkane I) sabatier sendersens reaction ii) kolbe's electrolytic III) wurtz-reaction. Iv) corey- house mechanism

37 a) write the recycling plastics- - ethene based addition reaction (or)

b). Write the preparation haloalkane. I) Swartz reaction ii) Finkelstein reaction III) Hunsdiceker reaction iv) from Lucas reagent

38 a) write the uses of I) chloro benzene ii) methylene chloride III) freons (or)

b) Differentiate the following. I) BOD and COD. Ii) viable and non- viable particulate Pollutants.

---------- All the best ----------