

Padasalai.Net – Half Yearly Exam Model Question Paper
(full portion)

Subject : Chemistry
Max. Marks : 70

Standard: XII
Time : 2:30 hrs

PART – I

Note: (i) Choose and write the correct answer.
(ii) answer the all questions.

15X 1=15

- The compound used as smoke screen. (Sep 08)
a) PCl_3 b) PCl_5 c) PH_3 d) H_3PO_3
- The components of brass are
a) Cu, Zn, Sn b) Cu, Zn c) Cu, Sn d) Cu, Zn, Ni
- According to Fajan's rule decrease in size of Ln^{3+} ion in $\text{Ln}(\text{OH})_3$
a) Increase the covalent character b) decreases the covalent character
c) increase the basic character d) increase the ionic character
- The co-ordination no. of Nickel in the complex ion $[\text{NiCl}_4]^{2-}$ is _____
a) +1 b) +4 c) +2 d) +6
- Which radiation has a very short wave length and very high frequency and energy
a) γ -radiation b) α -emission c) β -emission d) sound
- Semi conductor are not used in
a) rectifiers b) Solar Cells c) Super Conducting Magnets d) transistors
- At chemical equilibrium
a) $K_f = K_r$ b) $R_f = R_r$ c) $K_p = K_c$ d) all of these
- Colloidal gold is used as
a) toxic b) eye lotion c) pain killer d) intra muscular infection
- The pH of 0.01 M KOH solution is
a) 2 b) 8 c) 14 d) 12
- The colour of phenolphthalein in basic solution is
a) colourless b) pink c) Red d) yellow
- The characteristic odour of Lower phenols is
a) carbolic acid b) fruity c) oil of bitter almonds d) rotten fish
- The acid which is used to remove ink and iron stains and also used in calico printing
a) HCOOH b) $(\text{COOH})_2$ c) CH_3COOH d) $\text{CH}_3\text{CHOHCOOH}$
- Organic compound that does not undergo diazotisation is _____
a) m-toluidine b) aniline c) p-amino phenol d) benzyl amine
- The amino acid without Chiral carbon.
a) Glycine b) Alanine c) Proline d) thyrosine
- Which of all following produces ether when heated with con. H_2SO_4 at 413 K
a) organic acid b) Aldehyde c) Alcohol d) ketene

PART – II

Note: Answer any six questions.

Question No.18 is compulsory

6x 2=12

- Compare the first ionization energy of Aluminum ($Z = 13$) with that of Mg ($Z = 12$).
Justify your answer.
- What is purple of Cassius? How is it used?
- Calculate the momentum of a particle which has de-Broglie wavelength of 1Å .
- Write a short note on Actinides
- Write the uses of Radio carbon dating.
- Sketch the following lattice
a) Simple cubic b) Face centre cubic c) Body centred cubic
- Differentiate between racemic and mesoforms.
- What is Rosenmund's reduction?
- Formic acid reduces Tollen's reagent, but acetic acid does not why?

PART – III

Note: Answer any six questions.

Question No.27 is compulsory

6x 3=18

- Write a short note on Actinides
- Write a note on molecular crystals.
- Write the reaction of Ag with a) dil. HNO_3 b) conc. HNO_3
- What is buffer solution? Give an example?
- Write a note on construction of SHE
- Write the cis-trans isomeric structure for the formula C_5H_{10} .
- An organic compound (A) having molecular formula $\text{C}_3\text{H}_7\text{N}$ is treated with Nitrous acid to give (B) of M.F $\text{C}_2\text{H}_6\text{O}$ which answer iodoform test. Identify (A) and (B) and explain the reaction.
- Explain the formation of dipeptide bond in glycylalanine.
- What are artificial sweetening agents? Give two examples?

PART – IV

Note: (i) Answer any FIVE questions

(ii) choosing at least two questions from each section. 5x 5 =25

- Give any 5 postulates of MOT. (5)

(OR)

- Define Periodicity. (2)
- How do electro negativity values help to find out the nature of bonding between atoms. (3)

35. (i) Discuss the structure of interhalogen compound of Ax (3)
(ii) Mention the two uses of silicones. (2)

(OR)

Explain the following terms: (i) neutral Ligand (ii) chelates (5)

36. (i) What is Gibb's free energy(2)
(ii) What types of liquids (or) substance deviate from Trouton's rule (3)

(OR)

Discuss the effect of temperature and pressure on the following equilibrium.



37. (i) What are zero order reaction? (2)
ii) Give the units of first, third and zero order rate constant. (3)

(OR)

Write briefly on intermediate compound formation theory of catalysis with an example. (5)

38. (i) What happens when glycerol reacts with KHSO_4 ? (2)
(ii) How are 1 – propanol and 2 – propanol distinguished by oxidation method (3)

(OR)

- (i) How do ethers react with HI? (2)
(ii) What are simple and mixed ethers? (3)

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