

Semester IV

Paper: CC T 08 (Physical Chemistry)

FM = 10

Answer any four questions:

1x4=4

1. Why molality not molarity is used as concentration term in Colligative property expressions?
2. In the equilibrium system of $\text{CaCO}_3 = \text{CaO} + \text{CO}_2$, find F or Degrees of Freedom.
3. Write down Schrodinger Wave Equation in Spherical polar coordinates.
4. How dipole moment can be determined using Debye equation?
5. What is the unit of polarizability in CGS ?

Answer any three questions:

3x2=6

1. 4.2 gm of NaCl is dissolved in 125 ml of water. What will be the Freezing point of the solution?
2. What conditions must be satisfied for a binary liquid mixture to show azeotropic nature?
3. Given that $E^{\circ}_{\text{Sn}^{+2}/\text{Sn}} = - 0.14 \text{ V}$, $E^{\circ}_{\text{Pb}^{+2}/\text{Pb}} = - 0.13 \text{ V}$. Calculate equilibrium constant of the involved cell reaction.
4. How emf measurement help in determining enthalpy change of a cell reaction?

Kandi Raj College
Department of Chemistry
Internal Assessment-2021
B.Sc. (Hons) Sem-IV
Paper-CHEMTH-9(Inorganic)

1. Answer any five

5x2=10

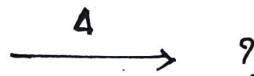
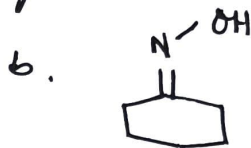
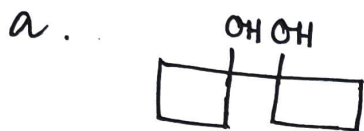
- a) What is artificial radioactivity? Give an example.
- b) What are isodiapheres. Give an example.
- c) Write the identification test of phosphate (PO_4^{3-}) with supporting balance equation.
- d) What happen
 $\text{AsCl}_3 + \text{H}_2\text{O} \rightarrow$
 $\text{SbCl}_3 + \text{H}_2\text{O} \rightarrow$
- e) At room temperature SO_2 is gas but SeO_2 is colorless crystalline solid-Explain.
- f) What is wackenroder's solution?
- g) The acid strength of boric acid many times increase with presence of cis-diol.
- h) Borazine is more reactive than inorganic benzene.

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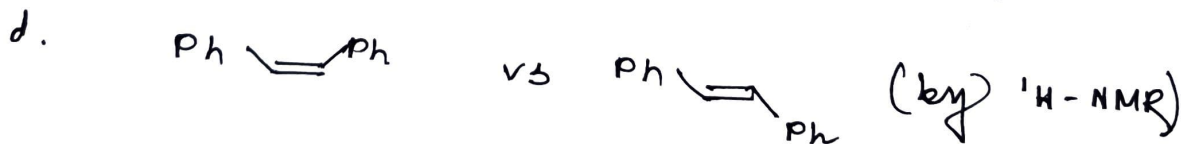
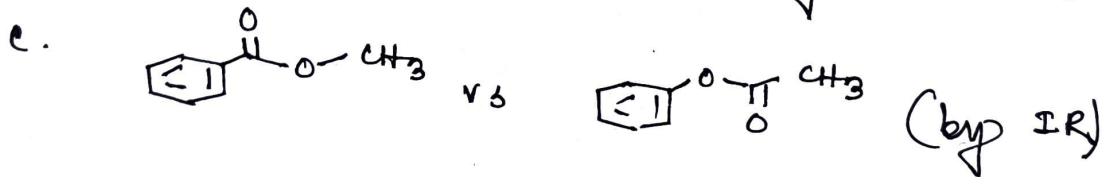
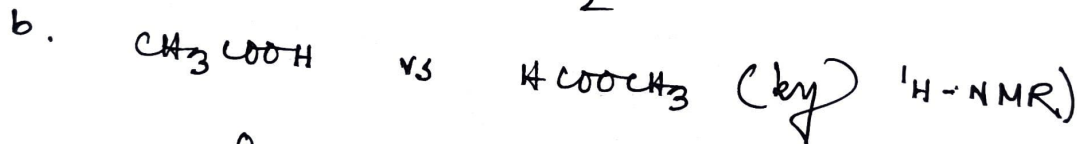
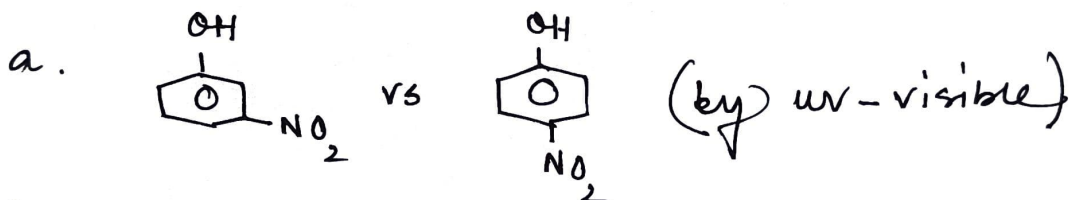
4th Semester Int. Exam. 2021

Paper - CHEMHT-10.

1. Predict the prod(s) of following rxn and suggest suitable mechanism (any 2) - 2x2=4



2. Distinguish between following compd. by spectroscopic method as mentioned (any 3) 2x3=6



Kandi Raj College

Department of chemistry

4th Sem Internal Exam

Paper : CHEMHS-2

- 1.a. Give one example of following type of drugs with their structure: analgesic, antiinflammatory, antifungal. 3
- b. What are antibiotics ? Give example. 2

Or

- 2.a. Briefly write about primary, secondary and tertiary structure of protein. 3
- b. What are coenzyme and cofactors ? 2

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Dept. of chemistry

4th - Semester Hons (GE)

PAPER - CHEMGT-2

Internal Examination Full Marks - 10

Q অনুসন্ধান কি প্রশ্নের সংখ্যা লেখ:- $5 \times 2 = 10$

- ১) আকৃতির উৎস উৎসের প্রকার লক্ষণ লেখ।
- ২) জ্যাকসন-এর সক্রিয়তা বর্ণন উৎসের আণবিক রূপটি লেখ এবং ব্যাখ্যা কর।
- ৩) অক্সিজেন উৎস কি? CO_2 -এর অক্সিজেন উৎসের আণবিক লেখ।
- ৪) অক্সিজেন-নাইট্রোজেন ও অক্সিজেন-নাইট্রোজেন-এর মর্ফি কার্বন অক্সিজেন বর্ণন ও লেখ?
- ৫) VSEPR সূত্র প্রয়োগে বিভিন্ন গ্যাসের আণবিক রূপ লেখ এবং ব্যাখ্যা কর।
- ৬) N_2 ও O_2 অণুগুলির মর্ফি লেখ এবং পরমাণুগুলির এবং লেখ?
- ৭) জল এক আণবিক সক্রিয়তা লক্ষণ লেখ? উৎসের দাও।
- ৮) অক্সিজেন কি? উৎসের প্রকার?