

SIR C R REDDY COLLEGE FOR WOMEN

(Affiliated to AdikaviNannaya University, Rajahmendravaram)

Vatluru (Post), Pedapadu Mandal, Eluru Dist., (A.P)



PG ENTRANCE COACHING

For

M.Sc., (CHEMISTRY)

Date: 28-April-2023 to 27 -May-2023

Time: 8:30 am to 9:30 am

&

4.30pm to 5.30pm

Organized by

CAREER GUIDANCE & PLACEMENT CELL

2022-2023

INDEX

S. No	Particulars	Page No
1	About Programme	1
2	Learning Objectives and Learning Outcomes	2
3	Permission Letter	3
4	Notice to Staff and Students	4
5	Course Structure	5
6	Course Material	6
7	Students List	15
8	Student attendance register	16
9	Report	17
10	Rank Cards	18
11	Photo Gallery	19

About Programme

The Career Guidance and Placement Cell at Sir CR Reddy College for Women organized PG entrance coaching classes for AP PG CET 2023 in Commerce, Mathematics, Physics, Chemistry, and Life Sciences. These classes were conducted by senior faculty members who specialize in the respective subjects at the college.

Program: PG Entrance Coaching for M.Sc. Chemistry

Subjects Covered:

- Chemistry

Target Audience:

- III B.SC(MPC,MCCS,CBZ) students aspiring for postgraduate studies

Duration: [

- 28 April 2023 to 27 May 2023

Time:

- 8:30 AM to 9:30 AM & 4.30PM to 5.30PM

Organized By:

- Career Guidance and Placement Cell at Sir CR Reddy College for Women

Resource person:

- Coaching by Mrs .P.Ramya krishna senior lecturer in chemistry

Program Overview:

- Specifically designed coaching program focusing on AP PG CET 2023 for M.Sc. aspirants.
- Conducted by seasoned faculty members from Sir CR Reddy College, each specializing in MSC Chemistry.
- Comprehensive curriculum comprising subject-specific lectures, problem-solving sessions, practice tests, and exam strategy workshops.
- Tailored content to acquaint students with the AP PG CET exam pattern, syllabi, and effective preparation methodologies.

Benefits for B.Sc. Students:

- Early guidance and preparation assistance for M.Sc. entrance exams.
- Exposure to exam patterns, aiding in better preparedness.
- Access to experienced faculty for subject-specific guidance and doubt resolution.
- Enhanced readiness for M.Sc. studies by initiating preparation in advance.

This coaching program aims to support B.Sc. students in their aspirations for pursuing postgraduate studies by providing structured coaching specifically aligned with the requirements of the AP PG CET 2023 examination.

Learning Objectives and Learning Outcomes

Learning Objectives:

1. Subject Mastery: To facilitate a comprehensive understanding of the core concepts and subject-specific knowledge required for M.Sc.Chemistry entrance exams.
2. Exam Familiarity: To familiarize students with the exam pattern, question types, and syllabus specific to AP PGCET 2023.
3. Problem-Solving Skills: To enhance problem-solving abilities and critical thinking necessary to tackle complex questions in the entrance exams.
4. Time Management: To equip students with effective time management strategies for the exam and optimize their performance within the stipulated time frame.
5. Exam Strategy: To provide guidance on effective exam strategies, including question selection, prioritization, and efficient answering techniques.

Expected Outcomes:

1. Strong Foundation: Students are expected to build a strong foundational understanding of their respective subjects, providing a basis for advanced studies.
2. Improved Performance: Enhanced problem-solving skills and a better grasp of exam patterns can result in improved performance in mock tests and the actual entrance exam.
3. Confidence: Through regular practice and guidance, students are likely to gain confidence in handling diverse questions and scenarios during the examination.
4. Effective Preparation: Students should be better prepared to face the challenges of the entrance exams by utilizing learned strategies and subject-specific knowledge.
5. Readiness for Postgraduate Studies: The coaching program aims to prepare students adequately for the rigors of postgraduate studies in their chosen fields.

Permission Letter

Permission Letter

18-04-2023
Eluru

To
The Principal
Sir C.R.Reddy College for Women
Eluru

Subject: Request to grant permission to conduct P.G Entrance test Coaching Classes to final year students.

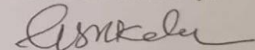
This is to bring to your kind notice that, Career Guidance and Placement Cell is planning to conduct P.G Entrance test Coaching Classes for interested III B.Sc/B.Com students specializing life Sciences, Mathematics, Physics, Chemistry, Commerce .

The coaching classes aim is to provide additional support and guidance to our ambitious students who aspire to excel in their respective fields and we believe that providing coaching classes with in our college will not only benefit our students but also contribute to the overall academic excellence of our institution. These classes will be conducted for about 30 days i.e., from 28th April 2023 to 27th May 2023. The duration of these classes will be from 8:30 am to 9:30 am and 4:30 pm to 5:30 pm. I kindly request your approval for this initiative, as it aligns with our commitment to fostering academic excellence and preparing our students for successful futures.

Thanking you Madam,

Permitted
Madam
Principal
Sir C.R.Reddy College for Women
ELURU

Yours Faithfully,


(Coordinator)

Career Guidance and Placement Cell

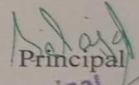
Notice To Students

NOTICE

20-04-2023

This is to inform you all that Career Guidance and placement Cell arranged P.G Entrance Test Coaching Classes for interested III B.Sc/B.Com students specializing life Sciences, Mathematics, Physics, Chemistry, Commerce. These Classes will be held within the college at Seminar Hall from 28th April 2023 to 27th May 2023 running from 8:30 am to 9:30 am and 4:30 pm to 5:30 pm. This initiative aims to enhance your preparation for P G Entrance Test offering personalized guidance to help you excel in the examination. These sessions will provide valuable insights and guidance.

We encourage all interested candidates to attend and take advantage of this valuable opportunity.


Principal
Sir C.R.Reddy College for Women
ELURU

Course Structure

Chemical Sciences

Inorganic Chemistry:

s-block elements, p-block elements, Chemistry of d block elements, f block elements, Organometallic Chemistry, Organometallic Chemistry, Spectral and Magnetic Properties of Metal Complexes, Stability of metal complexes

Organic Chemistry

Hydroxyl Compounds, Carboxylic acids and derivatives, Exercises in inter conversion, heterocyclic compounds, Amino Acids and proteins.

Physical Chemistry

Liquid State, Gaseous State, Physical State, Electrochemistry, chemical kinetics.

General Chemistry

Theory of quantities analysis, Chemical Bonding, Molecular symmetry, Evaluation of analytical data

General principles of inorganic quantitative analysis.

Course Material

Index

12. Phase rule	519
13. Photo Chemistry	527

ORGANIC CHEMISTRY533-738

1. Structure of organic molecules and their reaction mechanisms	534
2. Nomenclature of organic compounds	544
3. Stereo chemistry	550
4. Alkanes	591
5. Cyclo alkanes	598
6. Alkenes and alkadienes	602
7. Alkynes	609
8. Aromatic hydrocarbons	614
9. Halogen compounds	625
10. Aldehydes and Ketones	636
11. Alcohols	645
12. Phenols	657
13. Carboxylic acids	664
14. Ethers	668
15. Active methylene compounds (esters)	671
16. Nitrogen compounds	678
17. Amino acids	696
18. Hetero cyclic compounds	705
19. Carbohydrates	714
20. Alkaloids and Terpenes	724
21. Named and Important organic reactions	728

CHEMISTRY & INDUSTRY739-880

1. Solvent Extraction Chromatography Methods	740
2. Spectroscopy	772
3. Drug Chemistry	820
4. Macro Molecules	844
5. Catalysis	865

Index

19. Andhra University, 2010	983
20. University of Hyderabad, 2010	987

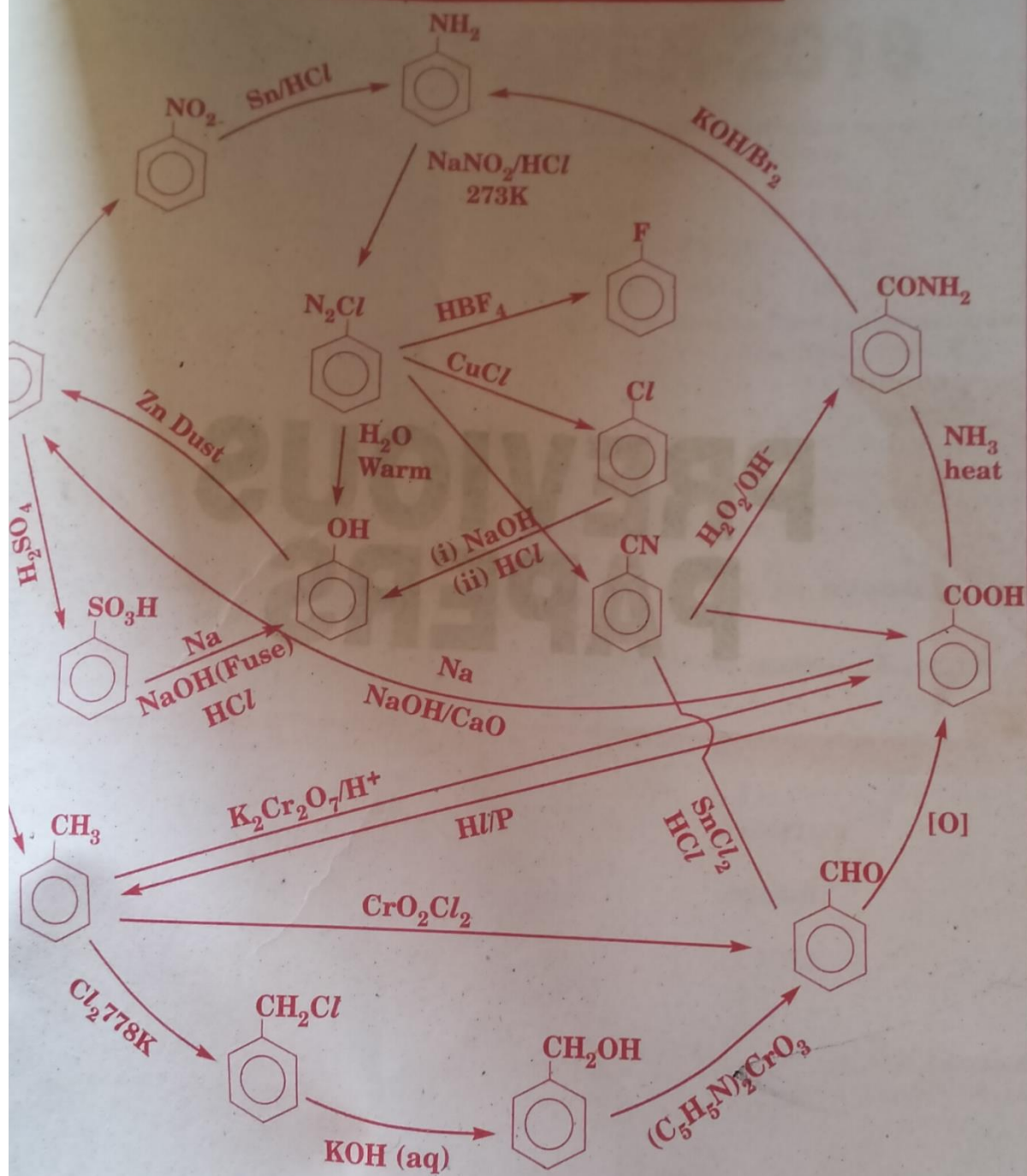
INORGANIC CHEMISTRY.....223-382

1. Periodic properties	224
2. Alkali metals (Group I A Elements)	236
3. Alkaline earth metals (Group II A Elements).....	248
4. Boron family (Group III A Elements)	258
5. Carbon family (Group IV A Elements).....	271
6. Nitrogen family (Group V A Elements)	284
7. Oxygen family (Group VI A Elements).....	294
8. Halogens (Group VII A Elements).....	306
9. Transition elements	320
10. Lanthanides and Actinides	327
11. Zero group elements	330
12. Hydrogen and its compounds.....	341
13. Metallic bond, Metallurgy and Alloys	348
14. Organometallic compounds	353
15. Coordination compounds.....	360
16. Nuclear Chemistry.....	371

PHYSICAL CHEMISTRY.....383-532

1. Structure of atom.....	384
2. Theory of chemical bonding.....	395
3. Gaseous state (Kinetic molecular theory of gases).....	409
4. Solutions.....	424
5. Liquid state (Binary liquid mixtures)	427
6. Colligative properties of dilute solutions	433
7. The Solid state.....	443
8. Chemical equilibrium.....	456
9. Chemical Kinetics	465
10. Chemical Thermodynamics (Chemical energetics).....	478
11. Electro Chemistry.....	487

INTER-CONVERSIONS OF AROMATIC COMPOUNDS



Inter-conversions involving benzene and its derivatives

The number of possible geometrical isomers for $[\text{Pt}(\text{NO}_2)(\text{C}_2\text{H}_5\text{N})(\text{NH}_2\text{OH})]^{+}$ is

1. 2 2. 4 3. 3 4. 6

The order of stability of complexes Fe^{3+} , CO^{3+} , Ni^{2+} , Cu^{2+} for the given ligand is:

- $\text{Fe}^{3+} > \text{CO}^{3+} > \text{Ni}^{2+} > \text{Cu}^{2+}$
- $\text{Fe}^{3+} > \text{Ni}^{2+} > \text{CO}^{3+} > \text{Cu}^{2+}$
- $\text{Cu}^{2+} > \text{Ni}^{2+} > \text{CO}^{3+} > \text{Fe}^{3+}$
- $\text{Cu}^{2+} > \text{CO}^{3+} > \text{Fe}^{3+} > \text{Ni}^{2+}$

Which of the following complexes do not obey Effective atomic number rule?

- $[\text{Cr}(\text{NH}_3)_6]^{3+}$
 - $[\text{Ni}(\text{NH}_3)_6]^{2+}$
 - $[\text{CO}(\text{NH}_3)_6]^{2+}$
 - $[\text{Pt}(\text{NH}_3)_6]^{4+}$
1. ii, iv only 2. i, ii, iii only
3. iv only 4. i, ii only

The d orbital involved in hybridization of orbitals of Fe during the formation of $\text{Fe}(\text{CO})_5$ is

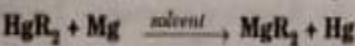
1. $3d_{z^2}$ 2. $3d_{x^2-y^2}$ 3. $4d_{z^2}$ 4. $4d_{x^2-y^2}$

The pair in which both the molecules have same magnetic moment:

- $[\text{Cr}(\text{H}_2\text{O})_6]^{2+}$, $[\text{CoCl}_4]^{2-}$
- $[\text{Cr}(\text{H}_2\text{O})_6]^{2+}$, $[\text{Fe}(\text{H}_2\text{O})_6]^{2+}$
- $[\text{Mn}(\text{H}_2\text{O})_6]^{2+}$, $[\text{Fe}(\text{H}_2\text{O})_6]^{2+}$
- $[\text{COCl}_4]^{2-}$, $[\text{Mn}(\text{H}_2\text{O})_6]^{2+}$

Which one of the following is not coloured?

- $[\text{Ti}(\text{H}_2\text{O})_6]^{3+}$
- $[\text{Co}(\text{H}_2\text{O})_6]^{2+}$
- $[\text{Cu}(\text{H}_2\text{O})_6]^{2+}$
- $[\text{Sc}(\text{H}_2\text{O})_6]^{3+}$



The solvent used in the above reaction is:

- Ethanol
- Methanol
- Benzene
- Ether

The number of bridging carbonyls present in $\text{Fe}_3(\text{CO})_{12}$ is

1. 1 2. 2 3. 3 4. 4

Which one of the following is nido-carborane?

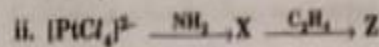
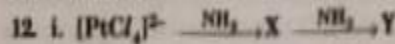
- $\text{C}_2\text{B}_{10}\text{H}_{12}$
- $\text{C}_2\text{B}_4\text{H}_8$
- $\text{C}_2\text{B}_7\text{H}_{13}$
- $\text{C}_2\text{B}_{10}\text{H}_{10}$

Which one of the following is correct?

- VO_2^{2+} is hard acid
- SC^{3+} is soft acid
- CO is hard base
- ROH is soft base

11. The crystal field stabilisation energy for high-spin d^4 octahedral complex is:

- $-6 Dq$
- $-12 Dq$
- $-18 Dq + P$
- $-16 Dq + P$



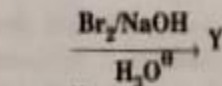
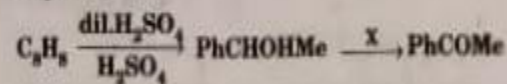
In the above reactions Y and Z respectively are:

- trans $[\text{PtCl}_2(\text{NH}_3)_2]$, trans $[\text{PtCl}_2(\text{NH}_3)(\text{C}_2\text{H}_4)]$
- trans $[\text{PtCl}_2(\text{NH}_3)_2]$, cis $[\text{PtCl}_2(\text{NH}_3)(\text{C}_2\text{H}_4)]$
- cis $[\text{PtCl}_2(\text{NH}_3)_2]$, trans $[\text{PtCl}_2(\text{NH}_3)(\text{C}_2\text{H}_4)]$
- cis $[\text{PtCl}_2(\text{NH}_3)_2]$, cis $[\text{PtCl}_2(\text{NH}_3)(\text{C}_2\text{H}_4)]$

13. X is an essential trace element. Its use in industry (particularly electroplating) causes severe water pollution. What is X?

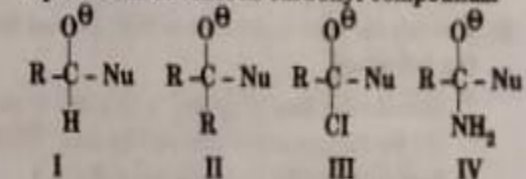
- Fe
- Cu
- Co
- Ni

14. Identify X and Y in the following reaction sequence



- | | |
|------------------------------------|------------------------|
| X | Y |
| 1. mCPBA | PhCOCH ₂ Br |
| X | Y |
| 2. H ₂ CrO ₄ | PhCOOH |
| X | Y |
| 3. H ₂ CrO ₄ | PhCOOBr |
| X | Y |
| 4. KMnO ₄ | PhBr |

15. Observe the following tetrahedral intermediates that are formed when nucleophile attacks acyl carbon of various carbonyl compounds.



Which of these intermediates will lead to a substitution product?

- III, IV
- I, III
- II, IV
- II, III, IV

16. The product of a nitro compound A ($C_6H_7NO_2$) and nitrous acid, does not dissolve in sodium hydroxide. Nitro compound A gave B when reacted with NaOH followed by H_2SO_4 . Isomer of A when reacted with $HCHO/NH_4Cl$ gave C. What are B and C?

- | | |
|---------------|--------------------------|
| 1. B | C |
| CH_3COCH_3 | $CH_2CH_2CHNO_2CH_2NH_2$ |
| 2. B | C |
| CH_2CH_2CHO | $(CH_2)_2CNO_2CH_2NH_2$ |
| 3. B | C |
| CH_3COCH_3 | $(CH_2)_2CNO_2CH_2NH_2$ |
| 4. B | C |
| CH_3COCH_3 | $CH_2CH_2CH=CH_2$ |

17. An organic compound X dissolves in dil. HCl but does not give IR absorption band in the range of $3500-3400\text{ cm}^{-1}$, whereas compound Y does not dissolve in dil. HCl but displayed IR absorption band at $3500-3400\text{ cm}^{-1}$. Identify X and Y.

- | | |
|------|---|
| 1. X | Y |
| | |
| 2. X | Y |
| | |
| 3. X | Y |
| | |
| 4. X | Y |
| | |

18. Solution of $ZnCl_2$ and conc. HCl turned cloudy on heating with an alcohol (A). A on reaction with PBr_3 and then with the reagent B is converted to C (major), which on reduction gave D. What are A, B and D?

- | | | |
|------------------|--------|----------------------|
| 1. A | B | D |
| $CH_3CH_2CH_2OH$ | $NaCN$ | $CH_3CH_2CH_2NHCH_3$ |
| 2. A | B | D |
| $CH_3CH_2CH_2OH$ | $AgCN$ | $CH_3CH_2CH_2NHCH_3$ |
| 3. A | B | D |
| $CH_3CHOHCH_3$ | $AgCN$ | $(CH_3)_2CHNHCH_3$ |
| 4. A | B | D |
| $(CH_3)_2COH$ | $NaCN$ | $(CH_3)_2CCH_2NH_2$ |

19. Identify the statement that is NOT correct from the following

- Benzene free from thiophene is obtained by shaking the mixture containing both by conc. HNO_3
- Pyrrole resembles aniline in reactivity
- Furan is less aromatic than pyrrole.
- Pyridine resembles nitrobenzene in reactivity towards electrophilic substitution

20. Which of the following represents the structure of D-Mannopyranose?

-
-
-
-

21. The amino acid containing guanidine group

- Lysine
- Valine
- Proline
- Arginine

22. Which of the following molecular orbital represents excited state HOMO of 1,3-butadiene

-
-
-
-

23. The major product from the following reaction is

Meso-2,3-dibromobutane $\xrightarrow{I^+}$?

-
-
-
-

24. Which of the following represents functional group interconversion (FGI)?

-
-
-
-

1. II, III 2. I, III 3. I, IV 4. II, IV

25. Which of the following will give doublet and a quartet in $^1\text{H-NMR}$ spectroscopy?

1. Ethyl chloride
2. Acetic acid
3. Ethane
4. Acetaldehyde

26. The number of carbon atoms present in a compound, whose mass spectrum showed M^+ at m/z 88 (% RA 50) and $M+1$ at 87 (%RA 2.8)

1. 3
2. 5
3. 2
4. 4

27. Match the following

List - I

List - II

- | | |
|------------------------------|-----------|
| A. PhCOCH_3 | I. 1725 |
| B. PhCH_2OH | II. 1760 |
| C. PhCH_2CHO | III. 3330 |
| | IV. 1685 |

Correct answer is

- | | | |
|-------|-----|----|
| A | B | C |
| 1. IV | III | I |
| A | B | C |
| 2. IV | III | II |
| A | B | C |
| 3. I | IV | II |
| A | B | C |
| 4. I | II | IV |

28. In a conductance cell, the dimensions of the electrodes are 1 cm and 1.5 cm and the two electrodes are separated by 0.5 cm, then the cell constant value in cm^{-1} is.

1. 7.5
2. 0.4
3. 1.0
4. 0.33

29. The molar conductances of sodium acetate, hydrochloric acid and sodium chloride at infinite dilution are 91.0×10^{-4} , 426.16×10^{-4} and $126.45 \text{ s.m}^2 \cdot \text{mol}^{-1}$, respectively at 25°C . The molar conductance at infinite dilution for acetic acid is

1. 461.61
2. 390.71
3. 643.61
4. 210.70

30. All electro chemical cell in construct by combining Ag and Cd electrodes. The standard reduction potentials of Ag and Cd at 25°C are +0.80 and -0.40 V respectively. Which of the following statement is correct?

1. In electrochemical cell reaction Ag becomes Ag^+ and Cd^{2+} becomes Cd
2. Both Ag and Cd electrodes undergo oxidation reaction
3. In electro chemical cell reacting Ag^+ reduces to Ag and Cd oxidises to Cd^{2+}
4. Both Ag and Cd electrodes undergo reduction reaction.

31. The rate constant value for the decomposition of gaseous $\text{N}_2\text{O}_5 \rightleftharpoons 2\text{NO}_2 + \frac{1}{2}\text{O}_2$ is $5 \times 10^{-4} \text{ S}^{-1}$.

Calculate the time required for the N_2O_5 concentration to be reduced to 10% of the original value.

1. 4.6×10^3
2. 4.6×10^{-2}
3. 5.93×10^2
4. 5.93×10^4

32. Persulphate - Iodide reaction follows second order kinetics. The units for the rate of the above reaction is

1. $\text{dm}^3 \cdot \text{mol}^{-1} \cdot \text{S}^{-1}$
2. $\text{mol} \cdot \text{dm}^3 \cdot \text{S}^{-1}$
3. $\text{dm}^6 \cdot \text{mol}^{-2} \cdot \text{S}^{-1}$
4. S^{-1}

33. -3, 100 $\text{J} \cdot \text{mol}^{-1}$ work is done during the conversion of one mole of water at 100°C to steam at 1 atm. pressure. Heat of vapourisation of water at 100°C is $40,670 \text{ J} \cdot \text{mol}^{-1}$. Change in internal energy during the process in $\text{J} \cdot \text{mol}^{-1}$ is

1. 0
2. 43,770
3. -13.1
4. 37,570

34. Joule - Thomas coefficient, μ_{J-T} is defined as

1. $\left(\frac{\partial E}{\partial T}\right)_V$
2. $\left(\frac{\partial T}{\partial P}\right)_H$
3. $\left(\frac{\partial H}{\partial P}\right)_T$
4. $\left(\frac{\partial P}{\partial T}\right)_V$

35. The efficiency of an engine operating between 110°C and 25°C is

1. 17.7%
2. 28.5%
3. 22.2%
4. 77.8%

36. The molar extinction coefficient of phenanthroline complex of iron (II) is $12,000 \text{ dm}^3 \cdot \text{mol}^{-1} \cdot \text{cm}^{-1}$, and the minimum detectable absorbance is 0.01. The minimum concentration of the complex in molarity that can be detected in a Lambert - Beer law cell of path length 1.00 cm is

1. 8.33×10^{-7}
2. 120
3. 12×10^5
4. 0.01

37. The quantum yield of the following reaction is $2\text{HI} \xrightarrow{h\nu} \text{H}_2 + \text{I}_2$

1. < 1
2. 1×10^6
3. 1×10^2
4. 2

38. The selection rules for spectral transitions in atomic spectra are (i) $\Delta n = 1, 2, 3, 4, \dots$ And (ii) $\Delta l = \pm 1$. Using these selection rules, determine which of the following transitions are allowed

- I. $1s \rightarrow 2p$
- II. $2s \rightarrow 3s$
- III. $2p \rightarrow 3s$
- IV. $4p \rightarrow 5f$

1. I & II
2. I & III
3. II & IV
4. II & III

39. Which of the following spectra are shown by molecules when vibrational motion is accompanied by a change in the dipole moment of the molecule?

1. Microwave
2. Raman
3. IR.
4. uv-visible

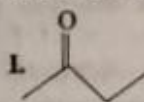
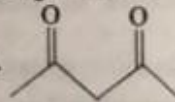

40. The organic compound with molecular formula C_3H_6 shows only one NMR signal is

1. cyclo propane
2. 1-propene
3. n-propane
4. cyclopropene

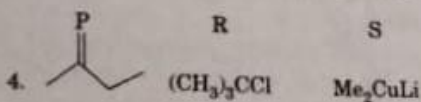
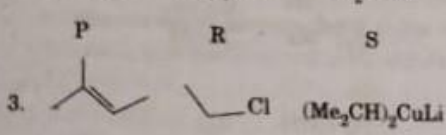
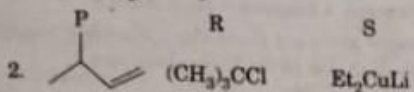
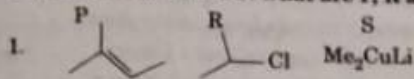
41. With respect to all alkali metals, which of the following is not correct?

1. react readily with water and liberate H_2
2. react with nitrogen and form nitrides
3. dissolve in mercury
4. soluble in anhydrous liquid ammonia

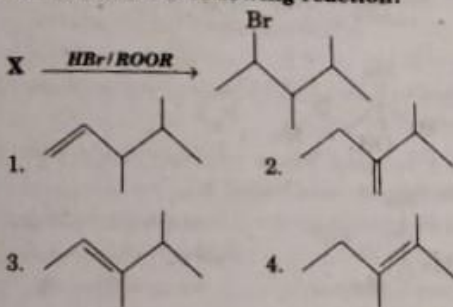
42. In which of the following reactions of N_2H_4 , N_2 is not evolved?
- $N_2H_4 + Na \rightarrow$
 - $N_2H_4 + PtCl_4 \rightarrow$
 - $N_2H_4 + O_2 \rightarrow$
 - $N_2H_4 + IO_3^- \rightarrow$
43. Zircon belongs to which type of silicates?
- Chain silicates
 - Ortho silicates
 - Pyrosilicates
 - Cyclic silicates
44. Which of the following metals react with dilute sulphuric acid and give H_2 gas?
- | | | | |
|----------|------------|-----------|---------------|
| i. Cu | ii. Fe | iii. Zn | |
| 1. i, ii | 2. ii, iii | 3. i, iii | 4. i, ii, iii |
45. The number of amphoteric oxides in the following: CO_2 , SnO_2 , NO_2 , ZnO , SnO , NO , CO , V_2O_5 , Al_2O_3 , CrO_2
- | | | | |
|------|------|------|------|
| 1. 5 | 2. 6 | 3. 3 | 4. 4 |
|------|------|------|------|
46. Which of the following are the properties of interhalogen compounds?
- | | |
|----------------------------|---------------------|
| i. Polar molecules | ii. Reducing agents |
| iii. Low thermal stability | |
| 1. i, ii only | 2. i, ii, iii only |
| 3. i, iii only | 4. ii, iii only |
47. Which of the following are the common hydrolysis products of XeF_4 and XeF_6 ?
- | | | | |
|---------------|-----------|----------------|--------------|
| i. Xe | ii. HF | iii. O_2 | iv. XeO_3 |
| 1. i, ii, iii | 2. ii, iv | 3. ii, iii, iv | 4. i, ii, iv |
48. The order of stability of +2 oxidation state of Cr, Mn, Fe and Co is:
- | | |
|------------------------|------------------------|
| 1. $Mn > Fe > Cr > Co$ | 2. $Cr > Mn > Co > Fe$ |
| 3. $Co > Mn > Fe > Cr$ | 4. $Fe > Mn > Co > Cr$ |
49. Which of the following statements is correct?
- Titanium group metals form stable interstitial metal hydrides.
 - Cr(III) compounds are strong oxidizing agents
 - Mo, W differ in their properties
 - Ti(IV), is less acidic than Ti(III)
50. Which pair of ions has same number of electrons?
- | | |
|--------------------------|--------------------------|
| 1. La^{3+} , Ce^{3+} | 2. Eu^{3+} , Gd^{3+} |
| 3. Dy^{3+} , Sm^{3+} | 4. Lu^{3+} , Yb^{3+} |
51. Which of the following reactions does not occur in liquid ammonia?
- $KCl + AgNO_3 \rightarrow AgCl + KNO_3$
 - $Zn(NH_3)_2 + 2NaNH_2 \rightarrow Na_2Zn(NH_2)_2 + 2NH_3$
 - $CuI + Na \rightarrow Cu + NaI$
 - $BF_3 + NH_3 \rightarrow BF_3 \cdot NH_3$
52. The correct statement regarding Fajan's rules is:
- The cations with smaller size have lower polarizing power
 - For effective polarization, there should be high charge on the cation or the anion or both
 - Cations with pseudo inert gas configuration have less polarizing power.
 - The anions with large size have less polarizability.

53. Which of the following is paramagnetic nature?
- CO
 - CN^-
 - NO
 - NO^+
54. The indicator which can be used to determine equivalence point in the titration of $NaOH$ with HCl is:
- Methyl red
 - Cresol red
 - Phenol red
 - Phenolphthalein
55. Which of the following is not correct?
- Copper is better conductor than bismuth.
 - Osmium is so soft that it can be cut with a knife.
 - Sodium metal is a good conductor of electricity.
 - Tungsten melts at high temperatures.
56. According to significant figure convention, the result obtained by adding 12.13, 19.0 and 2.46 is:
- 33.144
 - 33.14
 - 33
 - 33.1
57. The molecule having S_4 axis is:
- $SiCl_4$
 - $BeCl_2$
 - CCl_4
 - XeF_4
58. Which of the following is insoluble in dilute nitric acid?
- HgS
 - PbS
 - Bi_2S_3
 - CuS
59. The colour of $HgNH_2Cl$ is:
- Red
 - Yellow
 - Black
 - White
60. Number of bonding electron pairs and number of lone pairs of electrons in ClF_3 , SF_6 , BrF_3 respectively are:
- | | |
|------------------|------------------|
| 1. 3,1; 4,2; 5,1 | 2. 3,1; 4,1; 5,2 |
| 3. 3,2; 4,1; 5,1 | 4. 3,2; 4,2; 5,2 |
61. Arrange the following in the correct acidic order of the α - CH_2 protons.
- | | | |
|---|---|--|
| I.  | II.  | III.  |
| 1. I > III > II | 2. III > II > I | |
| 3. I < II < III | 4. I < III < II | |
62. Heat of hydrogenations of three alkenes X, Y, Z respectively are -28.5, -30.3 and -26.9 KJ/mol. What are X, Y, Z?
- | |
|------------------------|
| I. 2-Methyl-2-butene |
| II. 2-Methyl-1-butene |
| III. 3-Methyl-1-butene |
- | | | | |
|----|----|-----|-----|
| | X | Y | Z |
| 1. | II | III | I |
| | X | Y | Z |
| 2. | II | I | III |
| | X | Y | Z |
| 3. | I | II | III |
| | X | Y | Z |
| 4. | I | III | II |

63. An alkene P (C_3H_6) on HBr addition followed by reaction with Zn/H^+ gives Q, which can also be prepared from R and S. What are P, R and S?



64. What is X in the following reaction?



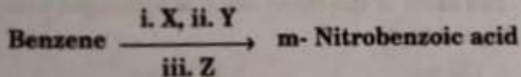
65. An alkene X (C_8H_{16}) on bromination followed by reaction with alc-KOH and then $NaNH_2$ gave Y. Y on hydration yielded Z. What is Z?

1. $PhCHOHCH_3$
2. $PhCH_2CHO$
3. $PhCOCH_3$
4. $PhCH_2CH_2OH$

66. Which of the following statements is NOT correct with respect to cyclohexane conformations?

1. Twist boat conformation is free from angle strain.
2. Chair conformation is free from torsional strain.
3. Boat form possess Pitzer strain.
4. Boat conformation is free from van der Waals strain.

67. What are X, Y, Z in the following conversion?



- | | | |
|----------------------|-----------------------|-----------------------|
| X | Y | Z |
| 1. $CH_3Cl/AlCl_3$ | $HNO_3 + H_2SO_4$ | $KMnO_4/OH^-, H_3O^+$ |
| X | Y | Z |
| 2. $CH_3Cl/AlCl_3$ | $KMnO_4/OH^-, H_3O^+$ | $HNO_3 + H_2SO_4$ |
| X | Y | Z |
| 3. $HNO_3 + H_2SO_4$ | Sn/HCl | $CH_3Cl/AlCl_3$ |
| X | Y | Z |
| 4. $HNO_3 + H_2SO_4$ | $CH_3Cl/AlCl_3$ | RCO_3H |

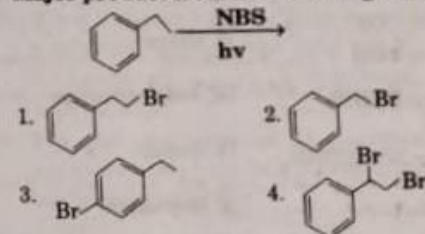
68. Identify the correct matched pair from the following

Substituent on benzene	Influence on benzene
------------------------	----------------------

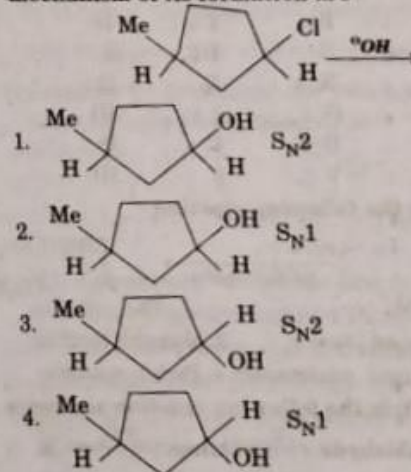
- | | |
|------------------|-------------|
| I. $-OMe$ | $+M$ & $-I$ |
| II. $-NO_2$ | $+M$ |
| III. $-NHCOCH_3$ | $-M$ |
| IV. $-CHO$ | $-M$ |

1. II, III 2. I, III 3. II, IV 4. I, IV

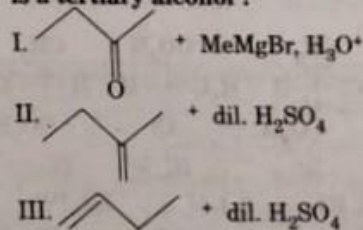
69. Major product from the following reaction is



70. The product from the following reaction and mechanism of its formation are



71. 2-Methyl-2-butene on reaction with B_2H_6/H_2O_2 , $-OH$ gave an alcohol X. Which of the following reactions give isomer of X which is a tertiary alcohol?



1. I, II 2. II, III 3. I, III 4. I, II, III

72. Which of the following conversions represent Kolbe reaction?

1. Phenol \rightarrow Salicylaldehyde.
2. Phenol \rightarrow Anisole
3. Phenol \rightarrow Salicylic acid
4. Phenol \rightarrow Picric acid

Students List

SIR C.R.REDDY COLLEGE FOR WOMEN, ELURU
PG ENTRANCE COACHING
2022-2023
SUB: CHEMISTRY
ATTENDANCE SHEET

S.NO	ROLL NO	NAME OF THE STUDENT	CLASS	SIGNATURE OF THE STUDENT
1.	200124	K.BABY BHARGAVI	MPC	K.Baby Bhargavi
2.	200113	CH.PANDU VARSHA	MPC	Ch.Panduvvarsha
3.	204657	P.SUMIYABHI	MCCS	P. Sumiyabhi
4.	201827	M.N.J.PRIYANKA	ZFC	M.N.J. Priyanka
5.	204601	B.JAHNAVI	MCCS	B. Jahnavi
6.	204602	B.KRISHNA HARI CHANDANA	MCCS	B. Krishna. Haeji Chandana
7.	204616	B.DIVYA	MCCS	B. Divya
8.	201816	CH.DEVI	ZFC	ch. Devi
9.	201820	G.MOUNIKA	ZFC	G. Mounika
10.	201838	T.ASHA JYOTHI	ZFC	T. Asha Jyothi
11.	201001	CH.SATWIKA	CBZ	Ch. Satwika
12.	2010030	M.RAMYA	CBZ	M. Ramya

B. Om

ATTENDANCE LIST

SIR C R REDDY COLLEGE FOR WOMEN, ELURU												
CAREER GUIDANCE & PLACEMENT CELL												
PG ENTRANCE COACHING 2022-2023												
SUB: CHEMISTRY												
S.N	ROLLNO	GROUP	NAME OF THE STUDENT	Att	Pre	Th	Fri	Sat	Sun	Mon	Tue	Wed
1	200124	MPC	K.BABY BHARGAVI	X	X	X	X	X	X	X	X	X
2	200113	MPC	CH.PANDU VARSHA	X	X	X	X	X	X	X	X	X
3	204657	MCCS	P.SUMIYABHI	X	X	X	X	X	X	X	X	X
4	201827	ZFC	M.N.J.PRIYANKA	X	X	X	X	X	X	X	X	X
5	204601	MCCS	B.JAHNAVI	X	X	X	X	X	X	X	X	X
6	204602	MCCS	B.KRISHNA HARI	X	X	X	X	X	X	X	X	X
7	204616	MCCS	B.DIVYA	X	X	X	X	X	X	X	X	X
8	201816	ZFC	CH.DEVI	X	X	X	X	X	X	X	X	X
9	201820	ZFC	G.MOUNIKA	X	X	X	X	X	X	X	X	X
10	201838	ZFC	T.ASHA JYOTHI	X	X	X	X	X	X	X	X	X
11	201001	CBZ	CH.SATWIKA	X	X	X	X	X	X	X	X	X
12	2010030	CBZ	M.RAMYA	X	X	X	X	X	X	X	X	X

B. Om

SIGNATURE

REPORT

PROGRAMME: PG Entrance COACHING FOR III B.Sc. Aspirants in Chemistry subject.

In association with IQAC & In accordance with the resolution made during the meeting and documented in the minutes, it was unanimously agreed to arrange PG entrance coaching classes for interested students pursuing IIB.Sc (MCCs, MPC, CBZ, ZFC). This significant decision forms an integral part of the report on the PG entrance coaching classes in **Chemistry** subject conducted from 28-April-2023 to 27-May-2023 from 9:30 to 12:30 and 4.30 to 5.30. These classes were conducted senior and expert faculty from the concerned department.

Approximately motivated students actively participated in the coaching sessions. These meticulously organized classes aimed to prepare the students comprehensively for the upcoming PG entrance examinations scheduled in the month of May 2023. The coaching sessions were diligently conducted from 9:30 AM to 12:30 PM, adhering to a structured curriculum meticulously designed to equip students with the essential skills and knowledge required for success in the examination.





12 members were participated in this coaching and out of 12 members 2 were qualified and secured good ranks.

The outcomes of these coaching classes have been highly encouraging. Close to 12 students showcased exceptional performance, securing remarkable pg. ranks demonstrating both their commitment and the effectiveness of the coaching program. Furthermore,

The successful arrangement of these coaching classes aligns directly with the decision made during the meeting. These sessions facilitated a conducive learning environment, significantly contributing to the preparedness and success of the students preparing for the PG entrance examination.

Their dedication has been instrumental in empowering our students for academic success.

RANK CARDS

APPGCET-2023		Post Graduate Common Entrance Tests		(Conducted by Andhra University, Visakhapatnam on behalf of APSCHE)		
RANK CARD				Community BC-D		
Hall Ticket No.	: 31020234713			Date of Birth 26/03/2003		
Candidate's Name	: KADUPUKUTI BABY BHARGAVI					
Father's Name	: KADUPUKUTI SIVA KUMAR					
Test Code & Paper	: 310 : Chemical Sciences					
Marks Obtained	:	49				
Rank	:	746				
				 Convener		





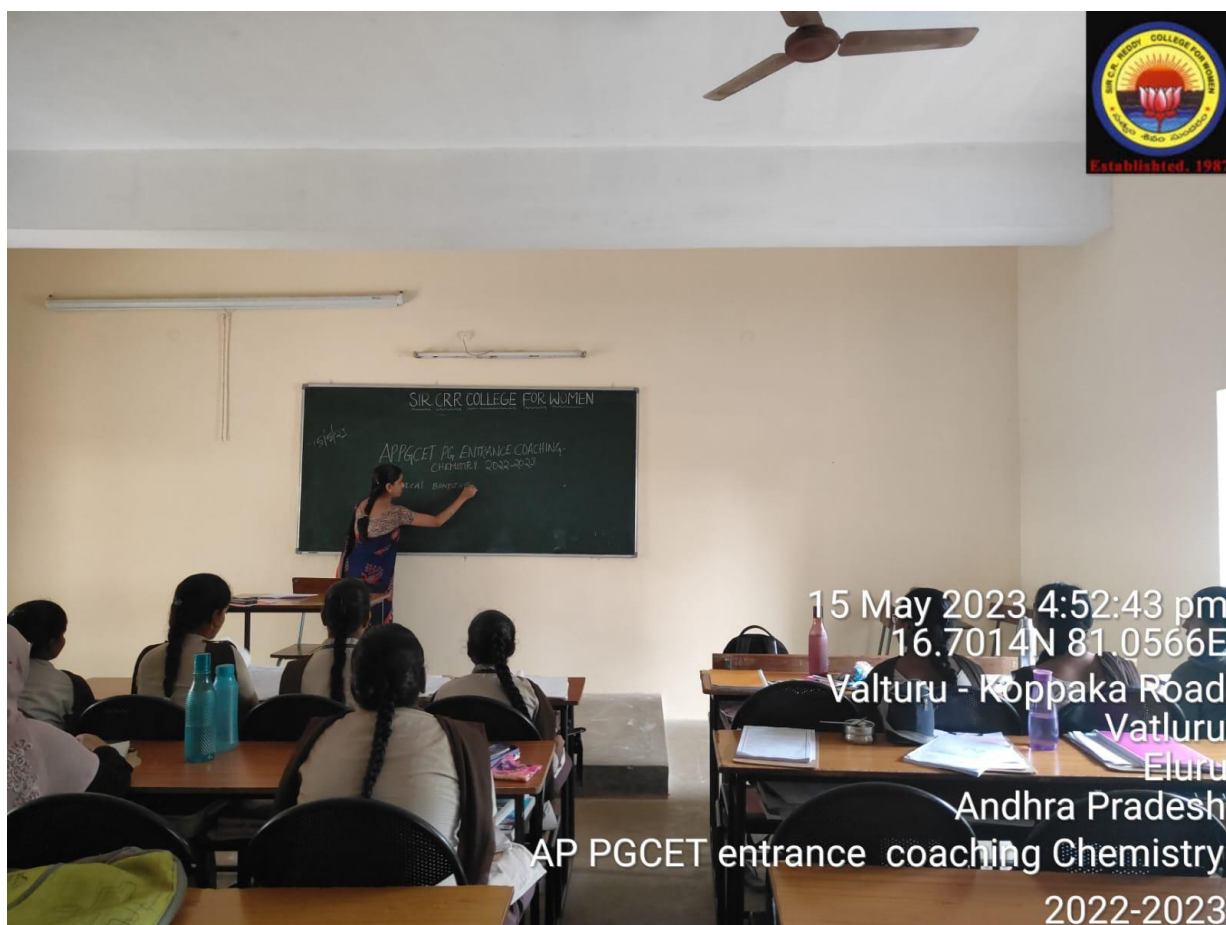
APPGCET-2023		Post Graduate Common Entrance Tests		(Conducted by Andhra University, Visakhapatnam on behalf of APSCHE)		
RANK CARD				Community OC		
Hall Ticket No.	: 31020235029			Date of Birth 28/11/2002		
Candidate's Name	: PATAN SUMIYABHI					
Father's Name	: PATAN SUBHANI					
Test Code & Paper	: 310 : Chemical Sciences					
Marks Obtained	:	41				
Rank	:	3166				
				 Convener		

PHOTO GALLERY



PG CET ENTRANCE COACHING IN CHEMISTRY

YEAR:2022-2023