

# SIR C R REDDY COLLEGE FOR WOMEN

(Affiliated to AdikaviNannaya University, Rajahmendravaram)

Vatluru (Post), Pedapadu Mandal, West Godavari Dist., (A.P)



## PG ENTRANCE COACHING For M.Sc., (CHEMISTRY)

**Date:** 01-Aug-2020 To 30-Aug-2020

**Time:** 9:30 am to 12:30 Pm

**Organized by**

**CAREER GUIDANCE & PLACEMENT CELL**

2019–2020

# INDEX

<b>S. No</b>	<b>Particulars</b>	<b>Page No</b>
<b>1</b>	<b>About Programme</b>	<b>1</b>
<b>2</b>	<b>Learning Objectives and Learning Outcomes</b>	<b>2</b>
<b>3</b>	<b>Permission Letter</b>	<b>3</b>
<b>4</b>	<b>Notice to Staff and Students</b>	<b>4</b>
<b>5</b>	<b>Course Structure</b>	<b>5</b>
<b>6</b>	<b>Course Material</b>	<b>6</b>
<b>7</b>	<b>Students List</b>	<b>15</b>
<b>8</b>	<b>Student attendance register</b>	<b>16</b>
<b>9</b>	<b>Report</b>	<b>17</b>
<b>10</b>	<b>List Of Students Qualified in MS.c Chemistry</b>	<b>18</b>
<b>11</b>	<b>Rank Cards</b>	<b>19</b>
<b>12</b>	<b>Photo Gallery</b>	<b>21</b>

# About Programme

The Career Guidance and Placement Cell at Sir CR Reddy College for Women organized PG entrance coaching classes for NANNAYACET 2019 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:**

- April 5th, 2019, to May 4th, 2019 (30 days)

### **Time:**

- 9:30 AM to 12:30 PM (Morning sessions)

### **Organized By:**

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

### **Resource Person:**

- Coaching by Mrs V.Raja Rajeswari senior lecturer in chemistry

### **Program Overview:**

- Specifically designed coaching program focusing on NANNAYACET 2019 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 NANNAYACET exam pattern, syllabus, 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 NANNAYACET 2019 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 syllabi specific to NANNAYACET 2019.
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

26-07-2020  
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.**

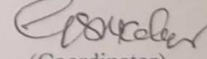
This is to bring to your kind notice that, Career Guidance and Placement Cell is planning to conduct P.G Entrance test Coaching Classes for interested III B.Sc/B.Com students specializing life Sciences, Mathematics, Physics, Chemistry, Commerce .

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 1<sup>st</sup> August 2020 to 30<sup>th</sup> August 2020. The duration of these classes will be from 9:30 am to 12:30 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  
Saluja  
Principal  
Sir C.R.Reddy College for Women  
ELURU

Yours Faithfully,

  
(Coordinator)

Career Guidance and Placement Cell

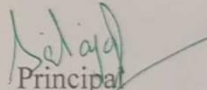
# Notice to Students

## NOTICE

27-07-2020

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 1<sup>st</sup> August 2020 to 30<sup>th</sup> August 2020 running from 9:30 am to 12:30 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 block elements, Organ metallic Chemistry, Organ metallic Chemistry, Spectral and Magnetic Properties of Metal Complexes, Stability of metal complexes

### **Organic Chemistry**

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

### **Physical chemistry:**

Liquid State, Gaseous State, Physical State, Electro chemistry, chemical kinetics.

### **General Chemistry**

Theory of quantities analysis, Chemical Bonding, Molecular symmetry, Evaluation of analytical data  
Liquid State, Gaseous State, Physical State, Electro chemistry, chemical kinetics.

### **General Chemistry**

Theory of quantities analysis, Chemical Bonding, Molecular symmetry, Evaluation of analytical data  
General principal of inorganic quantities analysis.

# Course material

<h2 style="text-align: center;">Index</h2>	
12. Phase rule .....	519
13. Photo Chemistry .....	527
<b>ORGANIC CHEMISTRY .....</b>	<b>533-738</b>
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
<b>CHEMISTRY &amp; INDUSTRY .....</b>	<b>739-880</b>
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

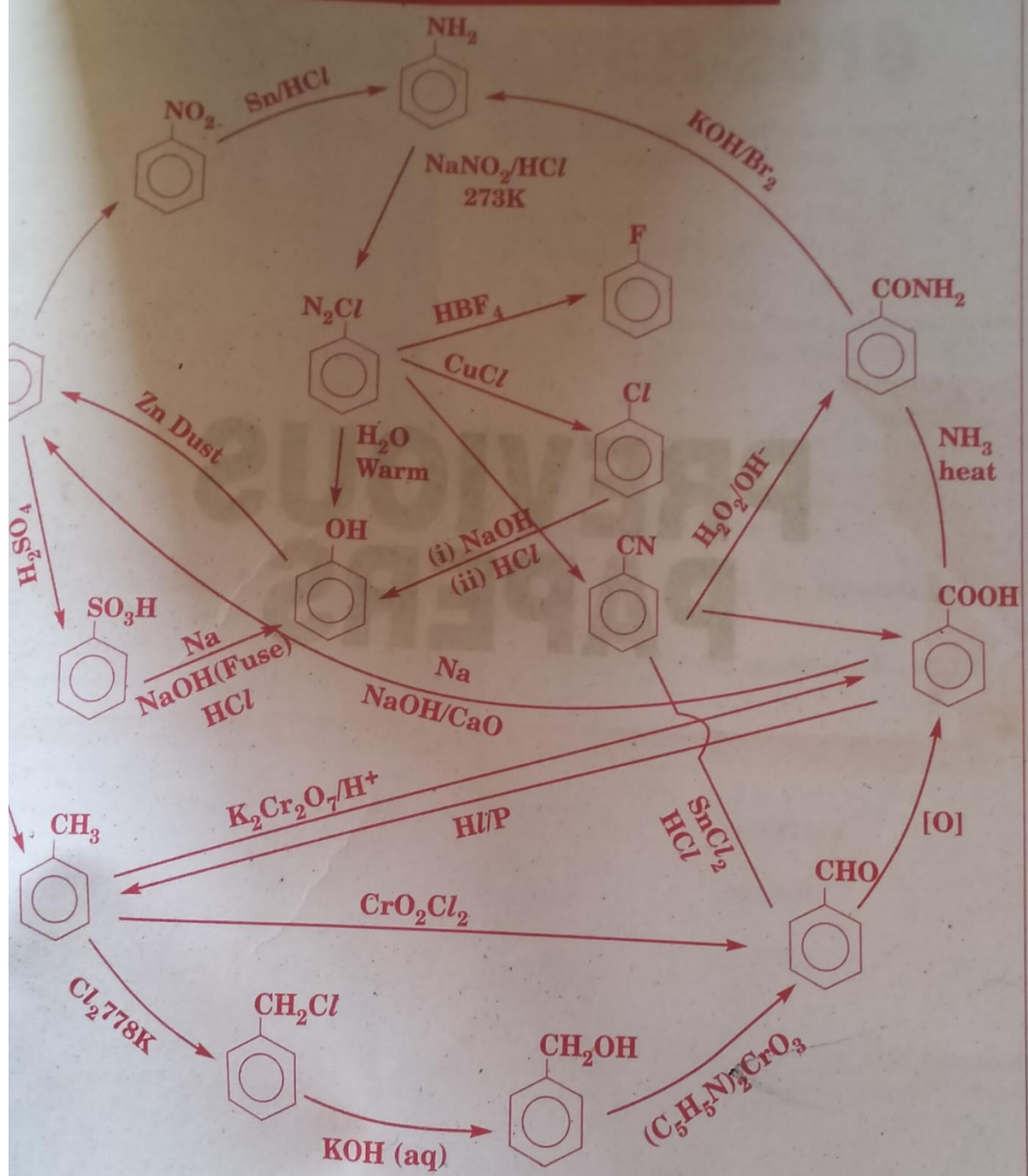
## INORGANIC CHEMISTRY.....223-382

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.....	497

# 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  $\text{Fe}^{2+}$ ,  $\text{CO}^{2+}$ ,  $\text{Ni}^{2+}$ ,  $\text{Cu}^{2+}$  for the given ligand is:

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

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

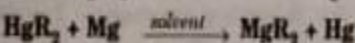
1.  $3d_x^2$       2.  $3d_{x^2-y^2}$       3.  $4d_x^2$       4.  $4d_{x^2-y^2}$

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?

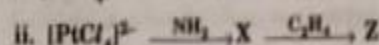
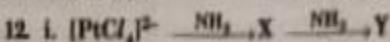
- $\text{C}_2\text{B}_{10}\text{H}_{12}$
- $\text{C}_2\text{B}_4\text{H}_8$
- $\text{C}_2\text{B}_7\text{H}_{13}$
- $\text{C}_2\text{B}_{10}\text{H}_{10}$

Which one of the following is correct?

- $\text{VO}_2^{3+}$  is hard acid
- $\text{SC}^{3+}$  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:

- $-6 \text{ Dq}$
- $-12 \text{ Dq}$
- $-18 \text{ Dq} + \text{P}$
- $-16 \text{ Dq} + \text{P}$



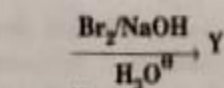
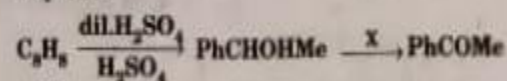
In the above reactions Y and Z respectively are:

- 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'?

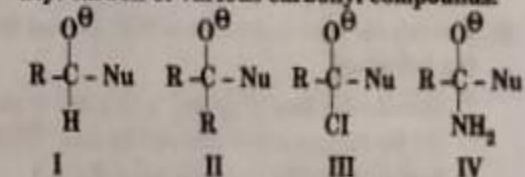
1. Fe      2. Cu      3. Co      4. Ni

14. Identify X and Y in the following reaction sequence



- |                                    |                        |
|------------------------------------|------------------------|
| X                                  | Y                      |
| 1. mCPBA                           | PhCOCH <sub>2</sub> Br |
| X                                  | Y                      |
| 2. H <sub>2</sub> CrO <sub>4</sub> | PhCOOH                 |
| X                                  | Y                      |
| 3. H <sub>2</sub> CrO <sub>4</sub> | PhCOOBr                |
| X                                  | Y                      |
| 4. KMnO <sub>4</sub>               | 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?

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

- 
- 
- 
- 

- II, III
- I, III
- I, IV
- 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. $\text{PhCOCH}_3$         | I. 1725   |
| B. $\text{PhCH}_2\text{OH}$  | II. 1760  |
| C. $\text{PhCH}_2\text{CHO}$ | 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  $\text{cm}^{-1}$  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  $91.0 \times 10^{-4}$ ,  $426.16 \times 10^{-4}$  and  $126.45 \text{ s.m}^2 \cdot \text{mol}^{-1}$ , respectively at  $25^\circ\text{C}$ . 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  $25^\circ\text{C}$  are +0.80 and -0.40 V respectively. Which of the following statement is correct?

1. In electrochemical cell reaction Ag becomes  $\text{Ag}^+$  and  $\text{Cd}^{2+}$  becomes Cd
2. Both Ag and Cd electrodes undergo oxidation reaction
3. In electro chemical cell reacting  $\text{Ag}^+$  reduces to Ag and Cd oxidises to  $\text{Cd}^{2+}$
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  $\text{N}_2\text{O}_5$  concentration to be reduced to 10% of the original value.

1.  $4.6 \times 10^3$
2.  $4.6 \times 10^{-2}$
3.  $5.93 \times 10^2$
4.  $5.93 \times 10^4$

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.  $\text{S}^{-1}$

33. -3, 100  $\text{J} \cdot \text{mol}^{-1}$  work is done during the conversion of one mole of water at  $100^\circ\text{C}$  to steam at 1 atm. pressure. Heat of vapourisation of water at  $100^\circ\text{C}$  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,  $\mu_{J-T}$  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  $110^\circ\text{C}$  and  $25^\circ\text{C}$  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.  $8.33 \times 10^{-7}$
2. 120
3.  $12 \times 10^5$
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.  $1 \times 10^6$
3.  $1 \times 10^2$
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

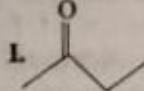
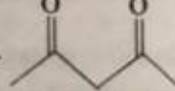

40. The organic compound with molecular formula  $\text{C}_3\text{H}_6$  shows only one NMR signal is

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?

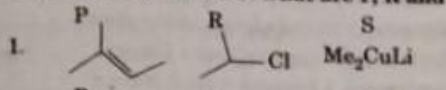
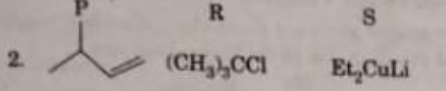
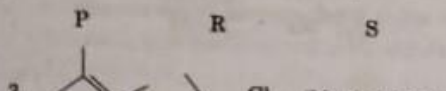
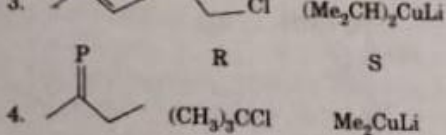
1. react readily with water and liberate  $\text{H}_2$
2. react with nitrogen and form nitrides
3. dissolve in mercury
4. soluble in anhydrous liquid ammonia

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?
- Cu
  - Fe
  - Zn
- i, ii
  - ii, iii
  - i, iii
  - i, ii, iii
45. The number of amphoteric oxides in the following:  $CO_2$ ,  $SnO_2$ ,  $NO_2$ ,  $ZnO$ ,  $SnO$ ,  $NO$ ,  $CO$ ,  $V_2O_5$ ,  $Al_2O_3$ ,  $CrO_2$
- 5
  - 6
  - 3
  - 4
46. Which of the following are the properties of interhalogen compounds?
- Polar molecules
  - Reducing agents
  - Low thermal stability
- i, ii only
  - i, ii, iii only
  - i, iii only
  - ii, iii only
47. Which of the following are the common hydrolysis products of  $XeF_4$  and  $XeF_6$ ?
- Xe
  - HF
  - $O_2$
  - $XeO_3$
- i, ii, iii
  - ii, iv
  - ii, iii, iv
  - i, ii, iv
48. The order of stability of +2 oxidation state of Cr, Mn, Fe and Co is:
- $Mn > Fe > Cr > Co$
  - $Cr > Mn > Co > Fe$
  - $Co > Mn > Fe > Cr$
  - $Fe > Mn > Co > Cr$
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?
- $La^{3+}$ ,  $Ce^{3+}$
  - $Eu^{3+}$ ,  $Gd^{3+}$
  - $Dy^{3+}$ ,  $Sm^{3+}$
  - $Lu^{3+}$ ,  $Yb^{3+}$
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.

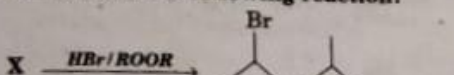
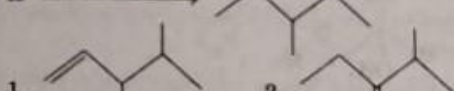
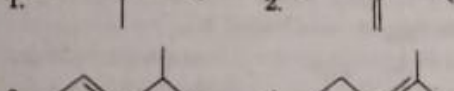
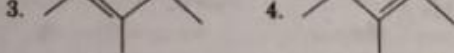
53. Which of the following is paramagnetic in nature?
- CO
  - $CN^-$
  - NO
  - $NO^+$
54. The indicator which can be used to determine equivalence point in the titration of  $NaOH$  with HCl is:
- Methyl red
  - Cresol red
  - Phenol red
  - Phenolphthalein
55. Which of the following is not correct?
- 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:
- 3,1; 4,2; 5,1
  - 3,1; 4,1; 5,2
  - 3,2; 4,1; 5,1
  - 3,2; 4,2; 5,2
61. Arrange the following in the correct acidic order of the  $\alpha$ - $CH_2$  protons.
- I.  II.  III. 
- I > III > II
  - III > II > I
  - I < II < III
  - 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?
- 2-Methyl-2-butene
  - 2-Methyl-1-butene
  - 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 ( $C_5H_{10}$ ) 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?

1. 
2. 
3. 
4. 

64. What is X in the following reaction?

- 
1. 
2. 
3. 
4. 

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?

- Twist boat conformation is free from angle strain.
- Chair conformation is free from torsional strain.
- Boat form possess Pitzer strain.
- Boat conformation is free from van der Waals strain.

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

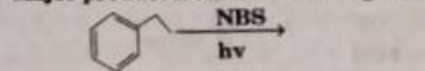
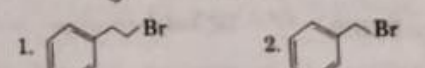
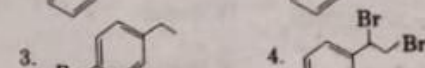
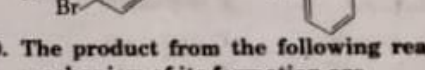
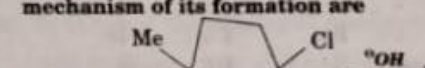
- Benzene  $\xrightarrow[\text{iii. Z}]{\text{i. X, ii. Y}}$  m-Nitrobenzoic acid
- X                      Y                      Z
1.  $CH_3Cl/AlCl_3$      $HNO_3 + H_2SO_4$      $KMnO_4/OH^-, H_3O^+$
- X                      Y                      Z
2.  $CH_3Cl/AlCl_3$      $KMnO_4/OH^-, H_3O^+$      $HNO_3 + H_2SO_4$
- 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

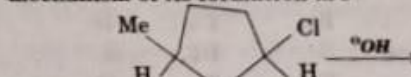
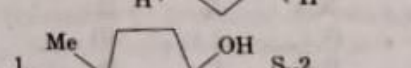
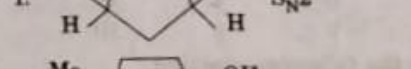
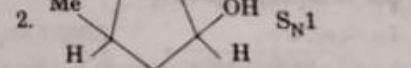
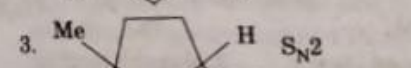
Substituent on benzene	Influence on benzene
I. -OMe	+M & -I
II. -NO <sub>2</sub>	+M
III. -NHCOCH <sub>3</sub>	-M
IV. -CHO	-M

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

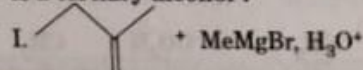
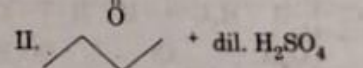
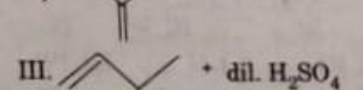
69. Major product from the following reaction is

- 
1. 
2. 
3. 
4. 

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

- 
1.   $S_N2$
2.   $S_N1$
3.   $S_N2$
4.   $S_N1$

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?

- I. 
- II. 
- III. 

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

72. Which of the following conversions represent Kolbe reaction?

- Phenol  $\rightarrow$  Salicylaldehyde.
- Phenol  $\rightarrow$  Anisole
- Phenol  $\rightarrow$  Salicylic acid
- Phenol  $\rightarrow$  Picric acid



# Students List

**SIR C.R.REDDY COLLEGE FOR WOMEN, ELURU**

**PG ENTRANCE COACHING**

**2019-2020**

**SUB: CHEMISTRY**

**ATTENDANCE SHEET**

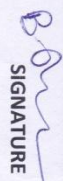
S.NO	ROLL.NO	NAME OF THE STUDENT	CLASS	SIGNATURE OF THE STUDENT
1	174029	G.SANDHYA RANI	MPC	G.SANDHYA RANI
2	171055	B.V.S.LAKSHMI	MPC	B.V.S. LAKSHMI
3	174041	P.BABY RANI	CBZ	P. BABY RANI
4	171003	B.GNAPIKA	MPC	B. GNAPIKA
5	171064	K.RAJANI	MPC	K. RAJANI
6	171067	K.JAYANTHI	MPC	K. JAYANTHI
7	17158	J.RAMYA	MPC	J. RAMYA
8	174014	N.S.DEEPIKA	CBZ	N.S. DEEPIKA
9	174015	N.PRINKA	CBZ	N. PRINKA
10	174020	Y.NAMARATHA	CBZ	Y. NAMARATHA

B. O. S.

SIGNATURE

# ATTENDANCE LIST

SIR C R REDDY COLLEGE FOR WOMEN, ELURU																													
CAREER GUIDANCE & PLACEMENT CELL																													
PG ENTRANCE COACHING 2019-2020																													
SUB: CHEMISTRY																													
S.N	ROLL.NO	CLASS	NAME OF THE STUDENT	10/10/20	11/10/20	12/10/20	13/10/20	14/10/20	15/10/20	16/10/20	17/10/20	18/10/20	19/10/20	20/10/20	21/10/20	22/10/20	23/10/20	24/10/20	25/10/20	26/10/20	27/10/20	28/10/20	29/10/20	30/10/20	31/10/20	01/11/20	02/11/20	03/11/20	04/11/20
1	171003	MPC	B.GNAPIKA	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2	171029	MPC	G.SANDHYA RANI	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
3	171055	MPC	B.V.S.LAKSHMI	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
4	171058	MPC	J.RAMYA	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
5	171064	MPC	K.RAJANI	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
6	171067	MPC	K.JAVANTHI	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
7	174014	CBZ	N.S.DEEPIKA	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8	174015	CBZ	N.PRINKA	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
9	174020	CBZ	Y.NAMARATHA	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
10	174041	CBZ	P.BABY RANI	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

  
 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 (CBZ,MPC). This significant decision forms an integral part of the report on the PG entrance coaching classes in **Chemistry** subject conducted from 01-Aug-2020 to 30-Aug-2020 from 9:30 to 12:30 .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 2019. 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.

10 members were participated in this coaching and out of 10 members 4 were qualified and secured good ranks.

The outcomes of these coaching classes have been highly encouraging. 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.

A Standout achievement includes one of our students BVS Lakshmi Pursuing 3rd Bsc. MPC who distinguishing themselves by securing outstanding 140<sup>th</sup> rank in NANNAYA CET and secured more ranks like 140, 589, 692, 706.


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



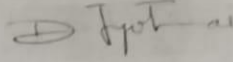
**LIST OF STUDENTS QUALIFIED IN M.Sc CHEMISTRY ENTRANCE EXAM 2019-2020**

<b>S.NO</b>	<b>NAME OF THE STUDENT</b>	<b>GROUP</b>
1	VENKATA SAI LAKSHMI	MPC
2	GANPIKA BILLA	MPC
3	RAJANI KASAGANI	MPC
4	BABY RANI PEDDIBOYINA	CBZ




# RANK CARDS

DIRECTORATE OF ADMISSIONS ADIKAVI NANNAYA UNIVERSITY, RAJAMAHENDRAVARAM NANNAYACET - 2020 :: RANK CARD			
Roll Ticket No : 061040208	RegNo : 206128	Application No : 103558	
Name : VENKATA SAI LAKSHMI BASSA Gender : Female Date of Birth : 11-08-2000 Father's Name : BASSA SURYANARAYANA	Category : GENERAL(OC)	 <i>Venkata Sai Lakshmi</i>	 DIRECTOR, DOA NANNAYACET-2020
Address : DoorNo : 4-67/2 Street : RTC COLONY, SOMAVARAPPADU Town : DENDULURU MANDALAM City : ELURU District : WEST GODAVARI State : ANDHRA PRADESH Pin : 534450	Test : 104-Chemical Sciences Marks Obtained: 48 RANK 140		
<b>Note :</b> * Admission into any course is subject to fulfilment of eligibility criteria for that course. * Any correction in biodata should be brought to the notice of the Director at the time of Certificate verification.			

DIRECTORATE OF ADMISSIONS ADIKAVI NANNAYA UNIVERSITY, RAJAMAHENDRAVARAM NANNAYACET - 2020 :: RANK CARD			
Roll Ticket No : 081040022	RegNo : 200078	Application No : 102339	
Name : GNAPIKA BILLA Gender : Female Date of Birth : 21-04-1999 Father's Name : Satyanarayanareddy	Category : GENERAL(OC)	 <i>Gnapika</i>	 DIRECTOR, DOA NANNAYACET-2020
Address : DoorNo : 6-113 Street : JALLIPALLIVARI STREET Town : JANGAREDDIGUDEM City : JANGAREDDIGUDEM District : WESTGODAVARI State : ANDHRA PRADESH Pin : 534447	Test : 104-Chemical Sciences Marks Obtained: 37 RANK 589		
<b>Note :</b> * Admission into any course is subject to fulfilment of eligibility criteria for that course. * Any correction in biodata should be brought to the notice of the Director at the time of Certificate verification.			

**DIRECTORATE OF ADMISSIONS**  
**ADIKAVI NANNAYA UNIVERSITY, RAJAMAHENDRAVARAM**  
**NANNAYACET - 2020 :: RANK CARD**


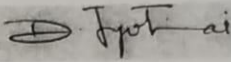


Set No : 061040122      RegNo : 203775      Application No : 108120

**RAJANI KASAGANI**      Category : BCB


Sex : Female  
 Birth : 01-11-1999  
 Name : SIVAYYA

Test : 104-Chemical Sciences
Marks Obtained:
36
<b>RANK</b>
692

  
 K. Rajani  
  
 DIRECTOR, DOA  
 NANNAYACET-2020

**Note :**  
 \* Admission into any course is subject to fulfilment of eligibility criteria for that course.  
 \* Any correction in biodata should be brought to the notice of the Director at the time of Certificate verification.

**DIRECTORATE OF ADMISSIONS**  
**ADIKAVI NANNAYA UNIVERSITY, RAJAMAHENDRAVARAM**  
**NANNAYACET - 2020 :: RANK CARD**


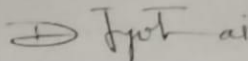


Set No : 061040015      RegNo : 200701      Application No : 104333

**BABY RANI PEDDIBOYINA**      Category : BCD

Sex : Female  
 Birth : 04-02-2000  
 Name : PEDDIBOYINA KANAKA  
 LAKSHMI

Test : 104-Chemical Sciences
Marks Obtained:
36
<b>RANK</b>
706

  
 Baby Rani Peddiboyina  
  
 DIRECTOR, DOA  
 NANNAYACET-2020

**Note :**  
 \* Admission into any course is subject to fulfilment of eligibility criteria for that course.  
 \* Any correction in biodata should be brought to the notice of the Director at the time of Certificate verification.

## PHOTO GALLERY



NANNAYA CET PG ENTRANCE COACHING CHEMISTRY

YEAR: 2019-2020