DR ACADEMY

DO RIGHT FOR GENUINE EDUCATION

NELMANGALA : LTM BOYS CAMPUS
#2/5, NARAYANAPPA PALYA,
DASANPURA, TUMKUR ROAD,
BENGALURU - 560 062
Phone : 9513330438
8139966644 / 9980533120

#42, 100FT ROAD,
KAMMAGONDANAHALLI,
JALAHALLI WEST,
BENGALURU - 560 015
Phone : 9008030463
9008030896 / 9513330437

HOSKOTE - MALUR ROAD,
ISRI CROSS, KATTIGENAHALLI,
JADIGENAHALLI HOBLI,
BENGALURU - 562114
Phone : 9741332998
8147397999 / 9535527713

KCET EXAMINATION - 2026

DATE : 23-04-2026 | CHEMISTRY | CODE - A2 | TIME : 02:30 PM TO 03:50 PM

LONG TERM COACHING

1ST BATCH FOR NEET – 2027

STARTS ON 5TH JUNE - 2026

NEET - 2025 TOPPERS

607 MARKS
AFNAAN PASHA
App No. 250410602893

605 MARKS
RAKESH KUMBAR
App No. 250410893858

589 MARKS
M LEENA REDDY
App No. 250410154513

588 MARKS
JAYANTH K S
App No. 250410619327

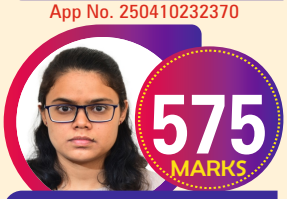
581 MARKS
CHANDANA REDDY N G
App No. 250410232370

581 MARKS
BHAGYASHRI PATTAR
App No. 250410153733

579 MARKS
KOTTAPALLI ABDUL KALAM
App No. 250410865706

577 MARKS
RAJMANE TRUPTI RAHUL
App No. 250410324087

575 MARKS
CHANDANA B M
App No. 250410272395



575 MARKS
CHANDRIKA SAJJANAR
App No. 250410695592

572 MARKS
VIJAY M
App No. 250410629648

571 MARKS
ANMOL SHEGUNASI
App No. 250410421533

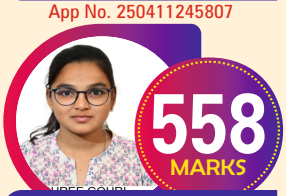
569 MARKS
AKSHATA GURAPPA J
App No. 250411245807

563 MARKS
SUHAS GOWDA B R
App No. 250410159008

562 MARKS
SAMEERAHMAD SAIFANSAB
App No. 250411621485

562 MARKS
RAKSHITH KUMAR S
App No. 250410518308

560 MARKS
M L THANMAYI ANNAPOORNA
App No. 250411113373



558 MARKS
SHREE GOURI
App No. 250410227908

555 MARKS
SUHAS MAHANTESH H
App No. 250410499664

555 MARKS
YOGITHA D
App No. 250410071616

555 MARKS
SURAJ K R
App No. 250410942156

555 MARKS
NAGASAI CH
App No. 250410870699

553 MARKS
PRAJWAL N S
App No. 250410415967

553 MARKS
CHINMAYI SARANGAMATH
App No. 250410267618

NEET TOPPERS OF DR ACADEMY

NEET - 2024 | JIPMER - PUDUCHERRY

706 MARKS

VENKATA SURYA TEJA GUDURI

NEET - 2021 | JIPMER - PUDUCHERRY

695 MARKS

LAKSHMAN REDDY B V

NEET - 2024 | BMC - BANGALORE

690 MARKS

ABHISHEK A BADAGOUDAR

NEET - 2024 | BMC - BANGALORE

686 MARKS

RAHUL KADLAGOND

NEET - 2024 | BIMC - BELAGAVI

686 MARKS

AMEERMUSADDIQ SANADI

NEET - 2024 | KIMS - HUBLI

686 MARKS

ADITYA SAKRI

NEET - 2024 | BMC - BANGALORE

681 MARKS

UTTAM SUBHASH HUKKERI

NEET - 2024 | SABVIMS - BENGALURU

681 MARKS

MOHAMMED NAASIRUDDEEN D

NEET - 2024 | MMCRI - MYSORE

680 MARKS

SUHAS L KORABU

NEET - 2023 | BMC, BANGALORE

680 MARKS

SHRAVAN REDDY C N

NEET - 2023 | JIPMER PUDUCHERRY

677 MARKS

KAMALIKA CHALLA

NEET - 2022 | BIMC, BELAGAVI

677 MARKS

SACHI KALLOLI

NEET - 2023 | AIIMS, NAGPUR

676 MARKS

MOHAMMED SULEMAN

NEET - 2022 | AIIMS, BHOPAL

675 MARKS

CHATHUSH GOWDA D S

NEET - 2022 | BMC, BANGALORE

672 MARKS

CHANDANA D

NEET - 2022 | BMC, BANGALORE

672 MARKS

SOWRAV B

NEET - 2024 | ESIMC - BANGALORE

671 MARKS

ZOYA FIRDOUSE

NEET - 2024 | MMCRI - MYSORE

671 MARKS

GIRISH J PARAMAGOND

NEET - 2024 | KIMS - HUBLI

670 MARKS

SNEHA SUBHAS PATIL

NEET - 2024 | KIMS - HUBLI

666 MARKS

RAJIV BHEEMASHANKAR CHOUDHARI

NEET - 2024 | KIMS - HUBLI

665 MARKS

C SATHYAM

NEET - 2021 | BMC, BANGALORE

665 MARKS

RASHMI PATIL

NEET - 2020 | BMC, BANGALORE

665 MARKS

JAYANTH L S

NEET - 2024 | GIMS - GULBARGA

663 MARKS

MOHAMMED ZEESHAN

NEET - 2024 | MIMS - MANDYA

662 MARKS

POOJA U

NEET - 2024 | MMCRI - MYSORE

662 MARKS

SAMPAT GOPAL GOKAK

NEET - 2022 | BMC, BANGALORE

662 MARKS

SIDDHARTH A S

NEET - 2024 | KIMS - HUBLI

661 MARKS

DIVYA M YALIGAR

NEET - 2023 | JIPMER PUDUCHERRY

661 MARKS

SHASHANK SURAPOOR

NEET - 2024 | BIMC - BELAGAVI

660 MARKS

ANMOL R KOTNAL

NEET - 2024 | KIMS - BANGALORE

660 MARKS

ADHITHYA SUDARSAN GOKHALE

NEET - 2024 | MMCRI - MYSORE

660 MARKS

SHRIDHAR BIRADAR

NEET - 2024 | SABVIMS - BENGALURU

660 MARKS

POOJA N

NEET - 2024 | SABVIMS - BENGALURU

660 MARKS

TARUN N

NEET - 2021 | KIMS, HUBLI

660 MARKS

NACHIKET KEMPANNA

NEET - 2024 | KIMS - HUBLI

657 MARKS

SINDHU VADAVADAGI

NEET - 2024 | MIMS - MANDYA

657 MARKS

S SUHAS

NEET - 2024 | SABVIMS - BENGALURU

657 MARKS

SHREEHARINATH A B

NEET - 2024 | GMC - SAMBHAJINAGAR

656 MARKS

PRATEEK SUBHASH TOPINATTI

NEET - 2024 | KIMS - HUBLI

656 MARKS

YASEEN MULLA

NEET - 2024 | MIMS - MANDYA

656 MARKS

KUSUMA M

NEET - 2024 | SIMS - SHIMOGA

656 MARKS

NAGAVARDHAN MR

NEET - 2024 | VIMS - BELLARY

656 MARKS

N POOJITHA SHREE

NEET - 2023 | BMC, BANGALORE

656 MARKS

BHANU PRAKASH D M

NEET - 2021 | AIIMS, HYDERABAD

656 MARKS

VARUN KAJAGAR

NEET - 2024 | AIIMS, HYDERABAD.

655 MARKS

AMODH NAIK

NEET - 2024 | BIMC - BELAGAVI

655 MARKS

SAKSHI CHANDRASHEKHAR YALARADDI

NEET - 2024 | HIMS - HASSAN

655 MARKS

NITYA REDDY C

NEET - 2024 | SIMS - SHIMOGA

655 MARKS

MAHIPAL SINGH

NEET - 2024 | VIMS - BELLARY

654 MARKS

NIVEDITA

NEET - 2023 | BMC, BANGALORE

654 MARKS

ABHISHEK V G

NEET - 2021 | BMC, BANGALORE

654 MARKS

KUMARESH HIREMATH

NEET - 2024 | BIMC - BELAGAVI

653 MARKS

SIDDANAGOUDA S PATIL

NEET - 2024 | KIMS - HUBLI

653 MARKS

VINDHYA B G

NEET - 2024 | BIMC - BELAGAVI

652 MARKS

BHOOMIKA BAYAKOL

NEET - 2024 | VIMS - BELLARY

652 MARKS

CHIRANTHAN J

NEET - 2024 | VIMS - BELLARY

652 MARKS

B K V KARTHIKEYA

NEET - 2024 | KIMS - HUBLI

651 MARKS

SHASHANK VALIMARAD

NEET - 2024 | KIMS - HUBLI

650 MARKS

PARASHURAM KYADIGGERI

NEET - 2024 | MIMS - MANDYA

650 MARKS

PREETHAM K M

DAY & RESIDENTIAL

SEPARATE HOSTEL FOR BOYS & GIRLS

LTM ADMISSIONS OPEN

QUESTION PAPER ANALYSIS

CHAPTER	NO. OF QUESTIONS
I PUC	
SOME BASIC CONCEPTS OF CHEMISTRY	2
STRUCTURE OF ATOM	2
CLASSIFICATION OF ELEMENTS AND PERIODICITY IN PROPERTIES	1
CHEMICAL BONDING AND MOLECULAR STRUCTURE	3
THERMODYNAMICS	3
EQUILIBRIUM	3
REDOX REACTIONS	2
ORGANIC CHEMISTRY – SOME BASIC PRINCIPLES AND TECHNIQUES	3
HYDROCARBONS	2
II PUC	
SOLUTIONS	4
ELECTROCHEMISTRY	4
CHEMICAL KINETICS	4
THE D-AND F-BLOCK ELEMENTS	3
COORDINATION COMPOUNDS	4
HALOALKANES AND HALOARENES	2
ALCOHOLS, PHENOLS AND ETHERS	5
ALDEHYDES, KETONES AND CARBOXYLIC ACIDS	4
AMINES	3
BIOMOLECULES	4
PRACTICAL CHEMISTRY	2

1. During the electrolysis of acidified water, 16 g of O_2 gas is formed at anode. The volume of H_2 gas liberated at cathode under STP conditions is

1) 22.4 L 2) 11.2 L 3) 2.24 L 4) 1.12 L

Ans. 1

Sol. Faraday's IInd law $\frac{wt_{O_2}}{wt_{H_2}} = \frac{E.wt_{O_2}}{E.wt_{H_2}}$

$\frac{16}{wt_{H_2}} = \frac{8}{1}$

$wt_{H_2} = 2$ gm

Vol of $H_2 = n_{H_2} \times 22.4$ lit

$= \frac{2}{2} \times 22.4 = 22.4$ lit

2. $\wedge^{O}_{m(NH_4OH)}$ is equal to ____

1) $\wedge^{0}_{m(NH_4OH)} + \wedge^{0}_{m(NH_4Cl)} - \wedge^{0}_{m\ (HCl)}$

2) $\wedge^{0}_{m(NH_4Cl)} + \wedge^{0}_{m(NaOH)} - \wedge^{0}_{m(NaCl)}$

3) $\wedge^{0}_{m(NH_4Cl)} + \wedge^{0}_{m(NaCl)} - \wedge^{0}_{m(NaOH)}$

4) $\wedge^{0}_{m(NaOH)} + \wedge^{0}_{m(NaCl)} - \wedge^{0}_{m(NH_4Cl)}$

Ans. 2

Sol. Conceptual

$\wedge^{0}_{m(NH_4Cl)} + \wedge^{0}_{m(NaOH)} - \wedge^{0}_{m(NaCl)}$

3. Given below are the half-cell reactions:

$Mn^{2+} + 2e^- \longrightarrow Mn\left(E^0 = -1.18\ V\right)$

$2\left(Mn^{3+} + e^-\right) \longrightarrow Mn^{2+}\left(E^0 = +1.51\ V\right)$

The E^0_{cell} for $3Mn^{2+} \longrightarrow Mn + 2Mn^{3+}$ will be _____.

1) -2.69 V, the reaction will not occur (Non-Spontaneous)

2) -2.69 V, the reaction will occur (Spontaneous)

3) -0.33 V, the reaction will not occur (Non-Spontaneous)

4) -0.33 V, the reaction will occur (Spontaneous)

Ans. 1

Sol.

$Mn^{2+} + 2e^- \rightarrow Mn, E^o = -1.18V \quad ...(i)$

$\Delta G^o = -nFE^o \left[\begin{array}{l}\text{here, n = number of} \\ e^- \text{ involved in the reaction}\end{array}\right]$

$\Delta G^o_1 = -2F(-1.18) = 2.36F$

$2Mn^{3+} + 2e^- \rightarrow 2Mn^{2+}, E^o = +1.51V \quad ...(ii)$

$\Delta G^o_2 = -2F[-1.51] = -3.02F$

Subtracting Eq. (ii) from Eq. (i), we get

$3Mn^{2+} \rightarrow Mn + 2Mn^{3+}, [n \mid 2]$

$\Delta G^o_3 = \Delta G^o_1 - \Delta G^o_2 = 5.38F$

$\Rightarrow -2FE^o = 5.38F$

$\Rightarrow E^o = -2.69\,V$

Since, the value of E^o is -ve, therefore the reaction is non-spontaneous.

4. The conductivity of centimolar solution of KCl at 298 K is $0.021\ Ohm^{-1}cm^{-1}$ and the resistance of the cell containing the solution at 298 K is $60\,\Omega$. The value of cell constant (G*) is _____.

1) 3.28 cm^{-1} 2) 1.26 cm^{-1}

3) 3.34 cm^{-1} 4) 1.34 cm^{-1}

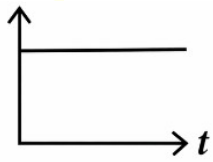
Ans. 2

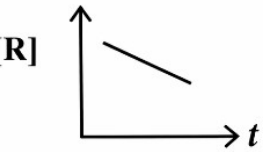
Sol. $K = 0.021$ $R = 60\Omega$

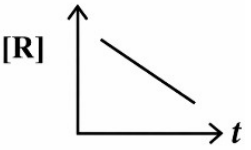
Cell constant $\frac{l}{a} = R \cdot K$

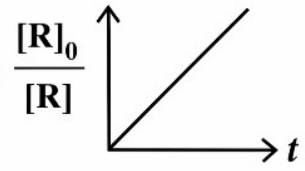
$= 0.021 \times 60 = 1.26\ cm^{-1}$

5. Which one of the following graph is not applicable for a 1st order reaction $(R \rightarrow P)$?

1) 

2) 

3) 

4) 

Ans. 1

Sol. Conceptual

6. For a reaction having three steps, the overall rate constant is $K = \frac{k_1 k_2}{k_3}$. The values of Ea_1, Ea_2 and Ea_3 (activation energies stepwise) are 40, 50 and 60 kJ mol^{-1} respectively. Then the overall E_a (activation energy) of the reaction is ____

1) 30 kJ mol^{-1} 2) 40 kJ mol^{-1}
3) 50 kJ mol^{-1} 4) 60 kJ mol^{-1}

Ans. 1

Sol. $k = \frac{k_1 k_2}{k_3} \Rightarrow E_a = Ea_1 + Ea_2 - Ea_3$

$E_a = 40 + 50 - 60 = 30$ kJ mol^{-1}

7. For a 1st order change $R \rightarrow P$, the concentration of Reactant R changes from 0.1 M to 0.025 M in 40 minutes. The rate of reaction when the concentration of R is 0.01 M is ____

1) 1.73×10^{-5} M min^{-1} 2) 3.47×10^{-4} M min^{-1}
3) 3.47×10^{-5} M min^{-1} 4) 1.73×10^{-4} M min^{-1}

Ans. 2

Sol. $R_0 = 0.1 \quad R = 0.025 \quad t = 40$ min

$k = \frac{2.303}{40} \log \frac{0.1}{0.025}$

$k = \frac{2.303}{40} \times \log 4 = 0.0346$ min^{-1}

$Rate = k[R]^1$

$r = 0.0346(0.01)$

$r = 3.47 \times 10^{-4}$ M/min

8. The activation energy for the reaction $X \rightarrow Y$ is 150 kJ mol^{-1}. The change in enthalpy for the above reaction is -135 kJ mol^{-1}. Then the activation energy for $Y \rightarrow X$ is

1) 280 kJ mol^{-1} 2) 285 kJ mol^{-1}
3) 270 kJ mol^{-1} 4) 15 kJ mol^{-1}

Ans. 2

Sol. $E_a^f = 150$ kJ/mol $\quad \Delta H = -135$ kJ/mol

$\Delta H = E_a^f - E_a^b$

$E_a^b = E_a^f - \Delta H$

$E_a^b = 150 - (-135) = 285$ kJ/mol

9. The intermediates in heteropolar reactions are

1) Free radicals only 2) Cations only
3) Anions only 4) Both anions and cations

Ans. 4

Sol. During Heterolytic/heteropolar reactions anions and cations (carbocation, carbanion) produced.

10. **Statement-I:** Nitrogen in pyridine cannot be estimated by Kjeldahl's method.
Statement-II: Nitrogen in pyridine changes to ammonium sulphate when heated with conc. H_2SO_4 in Kjeldahl's method.
Read the above given statements and choose the correct answer from the given options.

1) Statement I is true but Statement II is false
2) Both Statement I and Statement II are false
3) Both Statement I and Statement II are true
4) Statement I is false but Statement II is true

Ans. 1

Sol. Kjeldahl's method failed to estimate the amount of nitrogen if 'N' atom is present inside the ring and cannot produce ammonium sulphate as it cannot react with ammonia.

11. The number of chain isomers possible for the hydrocarbon with molecular formula C_5H_{12} is

1) 4 2) 3 3) 2 4) 1

Ans. 2

Sol. Conceptual

12. The compound with molecular formula $C_{20}H_{42}$ is

1) Decane 2) Dodecane
3) Eicosane 4) Hicosane

Ans. 3

Sol. Conceptual

13. C – Cl bond in methyl chloride compared to C – Cl bond in chlorobenzene is

1) Longer and stronger
2) Shorter and stronger
3) Shorter and weaker
4) Longer and weaker

Ans. 4

Sol. In Halo alkanes the C-Cl bond length increases with sp^3 hybridization.
In Halo arenes the C-Cl bond length decreases with sp^2 hybridization and resonance.

14. The compound from which chlorobenzene cannot be prepared easily is

1) Aniline
2) Benzene
3) Phenol
4) Benzene diazonium chloride

Ans. 1

Sol. Conceptual

15. In S_N1 reaction, the alkyl halide that on hydrolysis produces racemic mixture is
1) Tertiary butyl bromide
2) 2-bromobutane
3) Isopropyl bromide
4) Methyl bromide

Ans. 2

Sol. Only chiral compounds show optical isomerism configuration.

16. Match the compounds of List-I with their effects in List-II:

	List-I		List-II
(a)	Chloramphenicol	(i)	Malaria
(b)	Thyroxine	(ii)	Anaesthetic
(c)	Chloroquine	(iii)	Goiter
(d)	Chloroform	(iv)	Typhoid fever

1) a–i, b–ii, c–iii, d–iv 2) a–iv, b–iii, c–i, d–ii
3) a–i, b–iii, c–iv, d–ii 4) a–iv, b–iii, c–ii, d–i

Ans. 2

Sol. Conceptual

17. $R-CH_2OH$ is converted into $R-CHO$ by reacting with _____.
1) Alkaline $KMnO_4$ 2) $LiA\ell H_4$
3) Na / C_2H_5OH
4) PCC (Pyridinium Chlorochromate)

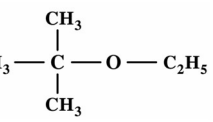
Ans. 4

Sol. Conceptual

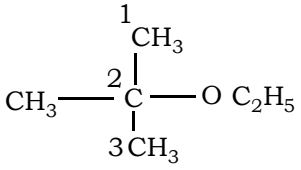
18. Glycerol is a trihydric alcohol. It contains ____.
1) One primary, one secondary and one tertiary alcoholic groups
2) Two primary and one secondary alcoholic groups
3) Two secondary and one primary alcoholic groups
4) One primary and two tertiary alcoholic groups

Ans. 2

Sol. Glycerol — $1^0\ CH_2-OH$ | $2^0\ CH-OH$ | $1^0\ CH_2-OH$

19. The correct IUPAC name of  is
1) Tertiary butoxy ethane
2) 1, 1-Dimethyl-1-ethoxyethane
3) 2-ethoxy-2-methyl propane
4) Ethoxy tertiary butane

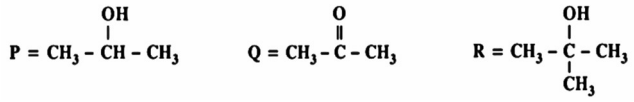
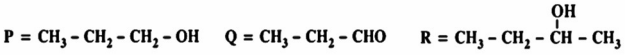
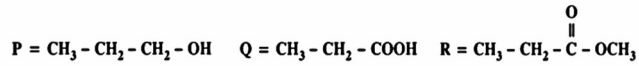
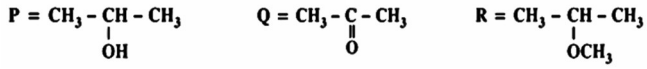
Ans. 3

Sol. 

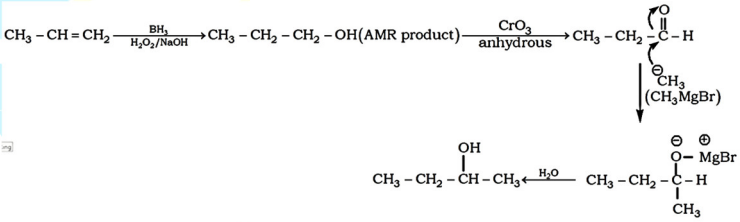
2-ethoxy 2-methyl Propane

20. $C_3H_6 \xrightarrow[(ii)H_2O_2/NaOH]{(i)(BH_3)_2} P \xrightarrow[\text{anhydrous medium}]{CrO_3} Q \xrightarrow[(ii)H_3O^+]{(i)CH_3MgBr} R^+Mg(OH)Br,$

The organic compounds **P**, **Q** and **R** are

1) 
2) 
3) 
4) 

Ans. 2

Sol. 

21. Match the reagents in List - I with products obtained from their carbonyl compounds in List - II.

	List-I		List-II
(a)	NH_2OH	(i)	Cyanohydrin
(b)	$R-NH_2$	(ii)	Oxime
(c)	$R-OH$	(iii)	Schiff base
(d)	$H-C\equiv N$	(iv)	Acetal

1) a-ii, b-iii, c-iv, d-i 2) a-i, b-ii, c-iii, d-iv
3) a-iii, b-ii, c-i, d-iv 4) a-i, b-iii, c-ii, d-iv

Ans. 1

Sol. Conceptual

ಡಿ.ಆರ್. ಅಕಾಡೆಮಿ
DR ACADEMY
DO RIGHT FOR GENUINE EDUCATION

BENGALURU | HYDERABAD

JEE MAIN - 2025 ACHIEVERS

99.42
NANDISH M

99.24
JAYANTH K S

Congratulations

EXEMPLARY PERFORMANCE IN THE JEE MAIN - 2026

JAYANTH GOWDA R
98.94
APP.NO. 260320062280

TEJAS KENCHAPPA
98.81
APP.NO. 260310597858

REDDY SRIHARI V
98.10
APP.NO. 260310192057

 ABHISHEK ARAVIND P **97.96** APP.NO. 260310493466	 MANOJ H **97.75** APP.NO. 260310797312	 PAVAN R **97.34** APP.NO. 260310637090	 AKASH J **97.21** APP.NO. 260310806003	 MALLIKARJUN M **96.62** APP.NO. 260310638056	 P SANJANA SHREE **96.43** APP.NO. 260310718943	 SINCHANA R **96.34** APP.NO. 260310349746
 NITHIN PATEL R **96.24** APP.NO. 260310917297	 DEEPTHI T M **95.92** APP.NO. 260310488132	 PUSHKAR GOWDA R **95.84** APP.NO. 260310537512	 PUNARAV **95.24** APP.NO. 260310674654	 SHASHANK A Y **95.22** APP.NO. 260310867415	 HARSHITH P **95.06** APP.NO. 260310594915	 GADHADHAR P **95.02** APP.NO. 260310439376
 SHARAN KUMAR M S **94.82** APP.NO. 260310635875	 MAHESHWAR NAYAK **94.82** APP.NO. 260310789905	 SANJAY M **94.79** APP.NO. 260310303978	 MOHAMMED ZAID N A **94.72** APP.NO. 260310669444	 UPPULEETHI NITISH **94.61** APP.NO. 260310627277	 ABHINAVA B G **94.50** APP.NO. 260310506801	 ABHILASH M REDDY C **94.42** APP.NO. 260310586338
 K DYUTHIDHAR **94.39** APP.NO. 260310393311	 GAGAN S GOWDA **94.36** APP.NO. 260310808333	 NOOR ADIBA **94.07** APP.NO. 260310867994	 SANDEEP REDDY **93.98** APP.NO. 260310616723	 KRUTHIKA N **93.76** APP.NO. 260310589098	 ROHITH A C **93.41** APP.NO. 260310802775	 NIKHIL B V **93.11** APP.NO. 260310963076
 ROHITH V **92.94** APP.NO. 260310871388	 HARSHA VARDAN REDDY N **92.93** APP.NO. 260310623906	 T L SHILPA **92.71** APP.NO. 260310347432	 KRISHNA PRASAD D M **92.52** APP.NO. 260310913612	 VISHRUTH R P **92.46** APP.NO. 260310654142	 SHAIKSHA REDDY K **92.32** APP.NO. 260320222435	 RAHUL T L **91.71** APP.NO. 260310922910
TEJAS GOWDA H E **91.70** APP.NO. 260310403807	NITHIN K M **91.64** APP.NO. 260310854947	ROHIT DASHARATH MOLE **91.38** APP.NO. 260310299883	ABHISHEK KARDI **91.25** APP.NO. 260310512048	VIDHYA SHREE H R **91.09** APP.NO. 260310496161	SOUMYAMANI P L **90.94** APP.NO. 260311006807	PRADEEP M R **90.82** APP.NO. 260310908623
NANDHI VARDHAN R **90.68** APP.NO. 260310894844	DEEPTHI J **90.67** APP.NO. 260310594083	SIRI PARTHIPALLI GOPAL **90.37** APP.NO. 260311002818	NANDITHA M **90.35** APP.NO. 260311118010	ROHAN SUSHANT I **90.32** APP.NO. 260310656589	MARGAM HARIPRIYA **90.25** APP.NO. 260310177214	DIVYA SHREE A **90.11** APP.NO. 260310351712
SAMRUDDI S **90.11** APP.NO. 260310402671	SINCHANA U **90.10** APP.NO. 260310807475	K AISHWARYA REDDY **90.06** APP.NO. 260310955599	TARUN C N **90.00** APP.NO. 260310685286			

ADMISSION OPEN
2026 - 2027

DAY & RESIDENTIAL
SEPARATE HOSTEL FOR BOYS & GIRLS

#42, 100FT ROAD, KAMMAGONDANAHALLI,
JALAHALLI WEST, BENGALURU - 560 015
90080 30463 / 90080 30896 / 97400 79996

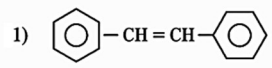
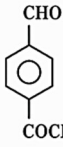
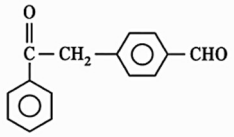
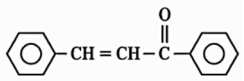
NELAMANGALA : #2/5, NARAYANAPPA PALYA,
DASANAPURA, TUMKUR ROAD, BENGALURU - 560 062.
95133 30438 / 81399 66644 / 99805 33120

info@dracademy.co.in | https://dracademy.co.in | @dr_academy12

22. The major product 'A' in the given reaction is

Benzaldehyde $\xrightarrow[OH^-/293K]{\text{Acetophenone}}$ 'A'

(Major product)

1) 
2) 
3) 
4) 

Ans. 4

Sol. $PhCHO + PhCOCH_3 \rightarrow Ph - CH = CH - \overset{\overset{O}{\|}}{C} - Ph$

(Crossed aldol condensation)

23. Carboxylic acids are more acidic than phenols because

1) Formation of dimers
2) Intermolecular hydrogen bonding
3) More covalent nature
4) More resonance stabilisation of their conjugate base

Ans. 4

Sol. Carboxylic acids are more acidic than phenols because of greater resonance stabilisation of their conjugate base.

24. The compound that does not answer iodoform test is

1) Ethanal
2) Acetone
3) Ethanoic acid
4) Acetophenone

Ans. 3

Sol. CH_3COOH does not give iodoform test.

25. Nitration of aniline in strong acidic medium gives significant amount of m-nitroaniline because

1) In electrophilic substitution reaction, amino group is meta directing
2) In strong acidic medium, aniline is present as anilinium ion.
3) - NH_2 group always directs to meta position.
4) m-nitroaniline has higher molar mass than o & p nitroanilines.

Ans. 2

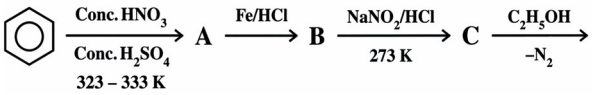
Sol. Aniline is present as anilinium ion in strong acidic medium.

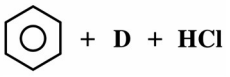
26. Basic strength of alkylamines in aqueous phase is not decided by _____.

1) Inductive effect
2) Solvation effect
3) Steric hindrance
4) Hyperconjugation effect

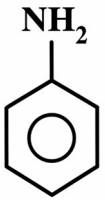
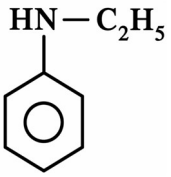
Ans. 4

Sol. Basic strength of alkyl amines in aqueous phase is not decided by hyperconjugation effect.

27. 

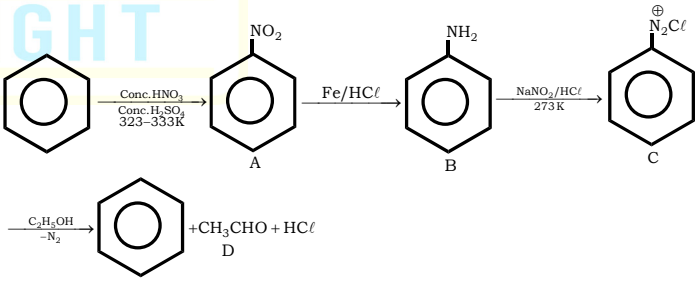


Organic compound 'D' is

1) 
2) CH_3COOH
3) CH_3CHO
4) 

Ans. 3

Sol.



28. **Statement I:** Staggered conformation of ethane is more stable than the eclipsed conformation.

Statement II: The torsional strain in staggered conformation is more.

Read the above statements and choose the correct answer from the options given below.

1) Both Statement I and Statement II are false
2) Both Statement I and Statement II are true
3) Statement I is true but Statement II is false
4) Statement I is false but Statement II is true

Ans. 3

Sol. Statement – I correct

Torsional strain in staggered is less than eclipsed conformation

29. From the given information, select the suitable law of chemical combination:

Cupric Carbonate	% of Cu	% of C	% of O
Natural Sample	51.35	9.74	38.91
Synthetic Sample	51.35	9.74	38.91

1) Law of Multiple Proportions
2) Gay Lussac's Law of Gaseous Volumes
3) Law of Definite Proportions
4) Law of Conservation of Mass

Ans. 3

Sol. According law of definite proportions, irrespective of source a given chemical compound always contains exactly same proportion of elements

30. Match List - I with List - II and select the correct option (Based on mole concept):

	List – I		**List – II**
(a)	2 moles of ethene	(i)	11.2 L . volume at STP
(b)	Molar mass is equal to 66 g	(ii)	56 g
(c)	1 g of H_2	(iii)	12.04×10^{23} Molecules
(d)	2 moles of water vapours	(iv)	1.5 mole of CO_2

1) a-ii, b-iv, c-i, d-iii 2) a - iii, b-i, c-iv, d-ii
3) a-i, b-iv, c-ii, d-iii 4) a-ii, b-iii, c-i, d-iv

Ans. 1

Sol. (a) 2 moles of ethene

1 mole of $H_2C=CH_2-28\,g$

2 moles of ethene $-56\,g$

(b) 1 mole of $CO_2-44\,g$ of CO_2

Molar mass ie equal to $60\,g\rightarrow1.5$ moles of CO_2

(C) $1\,g$ of H_2

$2g$ of $H_2-22.4\,L$ of volume at STP

$1g$ of $H_2-11.2\,L$ of volume at STP

(d) 2 moles of water vapours

1 mole of water contains

6.02×10^{23} molecules

2 moles of water contains

$=2\times6.02\times10^{23}$ molecules

$=12.04\times10^{23}$ molecules

31. Match List - I with List - II:

List – I (Element-Atomic number)	**List – II (Position in periodic table)**
(a) Ra – 88	(i) 4^{th} period, 13^{th} group
(b) Ga – 31	(ii) 6^{th} period, 6^{th} group
(c) W – 74	(iii) 5^{th} period, 10^{th} group
(d) Pd – 46	(iv) 7^{th} period, 2^{nd} group

Choose the correct answer from the options given below.

1) a-iv, b-i, c-ii, d–iii 2) a-i, b-ii, c-iii, d-iv
3) a-iv, b-ii, c-iii, d–I 4) a-iii, b-iv, c-i, d-ii

Ans. 1

Sol. Conceptual

32. The types of hybrid orbitals of nitrogen in NO_2^+, NO_3^- and NH_4^+ respectively are

1) sp, sp^3 and sp^2 2) sp, sp^2 and sp^3
3) sp^2, sp and sp^3 4) sp^2, sp^3 and sp

Ans. 2

Sol. NO_2^+ – SP

NO_3^- – SP^2

NH_4^+ – SP^3

33. In which of the following option/options, the order of arrangement does not agree with the variation of property indicated against it?

(a) $BF_3 > NF_3 > NH_3$ (Dipole moment)

(b) $HgCl_2 > NH_4^+ > SF_6$ (Bond angle)

(c) $NH_3 < H_2O < HF$ (Strength of intermolecular hydrogen bonding)

(d) $H-I > H-Br > H-Cl$ (Bond length)

1) a, b and c 2) a only
3) c and d only 4) d only

Ans. 2

Sol. $NH_3 > NF_3 > BF_3$ (Dipole moment)

K.B.C. Trust ®

ASHOK PU COLLEGE

Approved by Board of Pre-University Education, Karnataka

ಡಿ.ಆರ್. ಅಕಾಡೆಮಿ
DR ACADEMY

DO RIGHT FOR GENUINE EDUCATION

Congratulations

2nd PUC SCIENCE 2026 TOPPERS

591 MARKS

DEEPTHI T M
App No. 20269156020

591 MARKS

SINCHANA R
App No. 20269156317

590 MARKS

SAMRUDDI SADALAPUR
App No. 20269156279

589 MARKS

NANDINI
App No. 20269156179

589 MARKS

PUNARAV
App No. 20269154533

588 MARKS

KRISHNA PRASAD D M
App No. 20269154352

587 MARKS

SOUMYAMANI P L
App No. 20269156330

587 MARKS

TARUN A M
App No. 20269154703

586 MARKS

KUNDAN KRISHNA
App No. 20269154353

585 MARKS

SHREYA PATIL
App No. 20269156313

585 MARKS

MALLIKARJUNA PATIL
App No. 20269154386

585 MARKS

SHARAN KUMAR M S
App No. 20269154623

585 MARKS

PRAJWAL V HIREMATH
App No. 20269154513

585 MARKS

SIRI PARTHIPALLI GOPAL
App No. 20269156322

585 MARKS

GADHADHAR P
App No. 20269154256

585 MARKS

NEHA P
App No. 20269156192

584 MARKS

BHUVI ASHOK AJARADDI
App No. 20269155988

584 MARKS

CHANDANA M
App No. 20269155997

584 MARKS

NEHA N
App No. 20269156191

584 MARKS

DEEPTHI J
App No. 20269156019

ADMISSION OPEN 2026 - 2027

100% PASS

ADMISSION OPEN
2026 - 2027

DAY & RESIDENTIAL
SEPARATE HOSTEL FOR BOYS & GIRLS

ASHOK COMPOSITE PU COLLEGE
ASHOK GIRLS PU COLLEGE

DISTINCTION **488**

FIRST CLASS **54**

100% PASS


584 MARKS
SHASHANK A Y
App No. 20269154629


584 MARKS
SPOORTHI B R
App No. 20269156334


584 MARKS
G HEMA CHANDANA
App No. 20269156041


583 MARKS
SADIYA ISHRATH
App No. 20269156266


583 MARKS
VAISHNAVI M
App No. 20269156370


583 MARKS
ROHITHA T V
App No. 20269156259


583 MARKS
ADARSH M S
App No. 20269154097


582 MARKS
JEEVAN Y
App No. 20269154315


582 MARKS
KRUTHIKA N
App No. 20269156104


582 MARKS
SAVITHA G T
App No. 20269156291


582 MARKS
NANDU K N
App No. 20269156184


582 MARKS
NIKHIL B V
App No. 20269154465


582 MARKS
SOURAV T N
App No. 20269154670


582 MARKS
RAHUL T L
App No. 20269154549


582 MARKS
SHARATH KUMAR HUGAR
App No. 20269154626


581 MARKS
NOOTHANA H R
App No. 20269156201


581 MARKS
NANDITHA M
App No. 20269156182


581 MARKS
DEEPIKA REDDY R M
App No. 20269156017


581 MARKS
LIKHITHA S
App No. 20269156123


581 MARKS
MOUNIKA B M
App No. 20269156168


581 MARKS
AKASH J
App No. 20269154108


581 MARKS
JEEVAN JAGRUTH B
App No. 20269154310


581 MARKS
KALMESH NINGAPPA N
App No. 20269154325


581 MARKS
AKSHAY
App No. 20269154119


581 MARKS
SAHASRA P S
App No. 20269156273


581 MARKS
ARYA RAO
App No. 20269154149

AND MANY MORE...

COURSES OFFERED
PCMCs / PCMB
JEE MAIN / NEET / KCET

JALAHALLI

#42, 100FT ROAD, KAMMAGONDANAHALLI, JALAHALLI WEST, BENGALURU - 560 015

+91 90080 30463 / +91 90080 30896 / +91 97400 79996

NELAMANGALA

DASANAPURA : #2/5, NARAYANAPPA PALYA, DASANAPURA, TUMKUR ROAD, BENGALURU - 560 062.

+91 95133 30438 / +91 99805 33120

info@dracademy.co.in https://dracademy.co.in @dr_academy12

34. With respect to resonance structures of CO_3^{2-} ion, which of the following statements are correct?

(a) All C – O bonds in CO_3^{2-} are equivalent

(b) There are three resonance structures possible for CO_3^{2-} ion

(c) The position of carbon and oxygen should change in every resonance structure

(d) The formal charge on carbon atom is –2

1) a, b and c 2) a and b only

3) b and d only 4) a, b and d

Ans. 2

Sol. c) No position of carbon & oxygen changes. Only lone pair of electron changes in resonance

d) Formal charge on carbon atom is '0'

35. Given below are two statements.

Statement-I: In H_2O_2, each oxygen atom is assigned an oxidation number of -1, in RbO_2 each oxygen atom is assigned an oxidation number of $-\frac{1}{2}$.

Statement-II: Representation of $HAuCl_4$ and MnO_2 in stock notation is $HAu(III)Cl_4$ and $Mn(II)O_2$, respectively

Examine the above statements and choose the correct answer.

1) Both Statement I and Statement II are correct

2) Both Statement I and Statement II are incorrect

3) Statement I is correct but Statement II is incorrect

4) Statement I is incorrect but Statement II is correct

Ans. 3

Sol. Statement I is correct

Statement II is Incorrect

$HAuCl_4 \rightarrow HAu(III)Cl_4$ – Correct

$MnO_2 \rightarrow Mn(II)O_2$ is given which is incorrect because correct one is $MnO_2 \rightarrow Mn(IV)O_2$

36. $aC_2O_4^{2-} + bMnO_4^- + cH^+ \rightarrow xMn^{2+} + yH_2O + zCO_2$

a and x respectively are

1) 5, 2 2) 4, 1 3) 3, 2 4) 4, 2

Ans. 1

Sol. $5C_2O_4^{-2} + 2MnO_4^- + 16H^{\oplus} \rightarrow 2Mn^{+2} + 8H_2O + 10CO_2$

37. Which of the following will not act as an oxidising agent?

1) CrO_3 2) MoO_3 3) CrO_4^{2-} 4) $Cr_2O_7^{2-}$

Ans. 2

Sol. Mo^{+6} is more stable.

38. The highest oxidation state of manganese in fluoride is $+4(MnF_4)$, but the highest oxidation state in oxides is $+7(Mn_2O_7)$, because

1) Fluorine is more electronegative than oxygen

2) Fluorine possesses d-orbitals

3) Fluorine stabilises lower oxidation state

4) In covalent compounds, fluorine can form single bond only, while oxygen forms double bond

Ans. 4

Sol. In covalent compound fluorine can form single bond only, while oxygen forms double bond.

39. The calculated spin only magnetic moment of Cr^{2+} ion is

1) 3.87 BM 2) 4.90 BM

3) 5.92 BM 4) 2.84 BM

Ans. 2

Sol. $Cr^{+2}[Ar]3d^4 4s^o$

$n = 4$

$\mu = \sqrt{n(n+2)}\,BM$

$\mu = \sqrt{4(4+2)}$

$\mu = \sqrt{24}$

$\mu = 4.90\,BM$

40. Which of the following is the most stable complex?

1) $[Fe(CO)_5]$ 2) $[Fe(CN)_6]^{3-}$

3) $\left[Fe(C_2O_4)_3\right]^{3-}$ 4) $\left[Fe(H_2O)_6\right]^{3+}$

Ans. 3

Sol. $C_2O_4^{-2}$: Bidentate ligand, chelating complexes are more stable.

As per stability constants, cyanide complexes are more stable

$CN^-\left(k_s = 1.2\times10^{31}\right)$

$C_2O_4^{-2}\left(k_s = 1\times10^{20}\right)$

41. How many ions per molecule are produced from the complex $\left[Co(NH_3)_6\right]Cl_2$ in solution?

1) 6 2) 4 3) 3 4) 2

Ans. 3

Sol. $\left[Co(NH_3)_6\right]C\ell_2 \rightarrow \left[Co(NH_3)_6\right]^{+2} + 2C\ell^-$

Number of ions 3.

42. Given below are two statements:

Statement-I: The M – Cσ bond is formed by the donation of lone pair of electrons on the carbonyl carbon into a vacant d-orbital of the metal

Statement-II: The M - C π bond is formed by the donation of a pair of electrons from a filled d-orbital of metal into the vacant antibonding π^* orbital of carbon monoxide.

In the light of the above statements, choose the correct answer from the options given below:

1) Both Statement I and Statement II are correct

2) Both Statement I and Statement II are incorrect

3) Statement I is correct but Statement II is incorrect

4) Statement I is incorrect but Statement II is correct

Ans. 1

Sol. Back bonding (or) synergic effect

43. Match List - I with List – II

List - I (Complex)	**List – II (Geometry)**
(a) $\left[Co(NH_3)_6\right]^{3+}$	(i) Trigonal bipyramidal
(b) $[NiCl_4]^{2-}$	(ii) Octahedral
(c) $[Ni(CN)_4]^{2-}$	(iii) Tetrahedral
(d) $[Fe(CO)_5]$	(iv) Square planar

Choose the correct answer from the options given below.

1) a-ii, b-iii, c-iv, d-i 2) a-ii, b-i, c-iii, d-iv

3) a-iii, b-ii, c-iv, d-I 4) a-i, b-iii, c-iv, d-ii

Ans. 1

Sol. $\left[Co(NH_3)_6\right]^{+3}$ – octahedral

$[NiC\ell_4]^{-2}$ – Tetrahedral

$\left[Ni(CN)_4\right]^{-2}$ – square planar

$\left[Fe(CO)_5\right]$ – Trigonal bipyramidal

44. Match List - I with List – II

List – I (Vitamins)	**List – II (Deficiency Diseases)**
(a) B_1	(i) Convulsions
(b) B_2	(ii) RBC deficiency in haemoglobin
(c) B_6	(iii) Retarded growth
(d) B_{12}	(iv) Burning sensation of the skin

Choose the correct answer from the options given below.

1) a-ii, b-iv, c-iii, d-i 2) a-iii, b-iv, c-i, d-ii

3) a-i, b-ii, c-iii, d-iv 4) a-iv, b-iii, c-ii, d-i

Ans. 2

Sol. B_1 - Retarded growth

B_2 - Burning sensation of the skin

B_6 - Convulsions

B_{12} - RBC deficiency in haemoglobin

45. Consider the following statements:

Statement-I: All monosaccharides are reducing sugars.

Statement-II: Sucrose can reduce ammoniacal silver nitrate solution.

Choose the correct answer from the options given below.

1) Both Statement I and Statement II are correct

2) Both Statement I and Statement II are incorrect

3) Statement I is correct but Statement II is incorrect

4) Statement I is incorrect but Statement II is correct

Ans. 3

Sol. All mono saccharides & disaccharides are reducing sugars except sucrose

46. Incorrect statement about α-amino acids of proteins among the following is

1) Methionine is an essential amino acid

2) Glycine doesn't exhibit enantiomerism

3) Glycylalanylglutamine has three amide linkages

4) Zwitterion of valine exhibits amphoteric behaviour

Ans. 3

Sol. Glycylalanylglutamine has two amide linkages.

INDO SUNRISE PU COLLEGE

Approved by Board of Pre-University Education, Karnataka - BB 0212

DO RIGHT

ಡಿ.ಆರ್. ಅಕಾಡೆಮಿ
DR ACADEMY

DO RIGHT FOR GENUINE EDUCATION

Congratulations

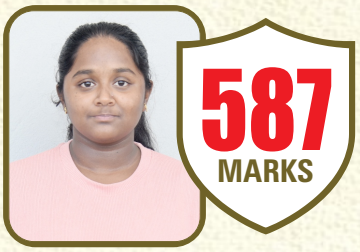
2nd PUC SCIENCE 2026 TOPPERS

591 MARKS

DIVYASHREE A
App No. 20269235504

589 MARKS

HARSHITH P
App No. 20269235547



587 MARKS

T L SHILPA
App No. 20269235908

586 MARKS

VARSHA CHANNABASU M
App No. 20269235936

586 MARKS

GANGOTRI RAMAPPA B
App No. 20269235524

585 MARKS

SREEDHAR NANDHAN REDDY M
App No. 20269235872

583 MARKS

MOHAN G V
App No. 20269235691

582 MARKS

VARSHINI K
App No. 20269235939

580 MARKS

HIMASHREE M
App No. 20269235560

579 MARKS

ROOPA K Y
App No. 20269235803

579 MARKS

IMPANA K B
App No. 20269235565

578 MARKS

CHANDANA I N
App No. 20269235468

576 MARKS

USHA
App No. 20269235926

575 MARKS

CHAITHANYA N
App No. 20269235463

575 MARKS

GANESH N
App No. 20269235522

572 MARKS

CHAITHANYA P V
App No. 20269235464

572 MARKS

SHREYA N K
App No. 20269235846

571 MARKS

MONIKA S M
App No. 20269235695

571 MARKS

SHASHANK K M
App No. 20269235837

570 MARKS

KUSUMITHA N
App No. 20269235616

ADMISSION OPEN 2026 - 2027

100% PASS SCIENCE

ADMISSION OPEN
2026 - 2027

DAY & RESIDENTIAL
SEPARATE HOSTEL FOR BOYS & GIRLS

DISTINCTION 153

FIRST CLASS 61

100% PASS SCIENCE


570 MARKS
KOUSHAL P N
App No. 20269235604


569 MARKS
NAGAPOORVI B
App No. 20269235705


569 MARKS
SHUBHASHREE H R
App No. 20269235850


569 MARKS
VAIBHAV G M
App No. 20269235929


568 MARKS
CHANDANA V
App No. 20269235469


568 MARKS
TANUJA R
App No. 20269235912


568 MARKS
SYED ASHAR IMAM
App No. 20269235893


568 MARKS
JAGAN G N
App No. 20269235571


567 MARKS
SINCHANA
App No. 20269235855


566 MARKS
DIKSHITHA S
App No. 20269235501


566 MARKS
KUSHITHA B
App No. 20269235612


565 MARKS
ASRA HARMAIN
App No. 20269235423


565 MARKS
SYEDA IFFATH FATHIMA
App No. 20269235906


565 MARKS
TEJAS GOWDA H E
App No. 20269235914


564 MARKS
POOJITHA P
App No. 20269235763


564 MARKS
PREKSHA B L
App No. 20269235778


564 MARKS
DHRUTHI R
App No. 20269235497


563 MARKS
LAXMI MURAGESH BHANGI
App No. 20269235625


563 MARKS
SUKRUTH G
App No. 20269235885


562 MARKS
PAVANA A
App No. 20269235756


562 MARKS
DEEPTHI B
App No. 20269235493


562 MARKS
JAYANTH V
App No. 20269235575


560 MARKS
KISHAN GOWDA R
App No. 20269235597


560 MARKS
HARIHARAN J
App No. 20269235538


559 MARKS
SNEHA N
App No. 20269235863


559 MARKS
SANJANA
App No. 20269235822


559 MARKS
HIMALATHA T L
App No. 20269235558


558 MARKS
AASIYA BUSHRA
App No. 20269235375


558 MARKS
HARSHA VARDAN REDDY N
App No. 20269235543


558 MARKS
SRUJAN K N
App No. 20269235874


558 MARKS
KOMAL S R
App No. 20269235601


558 MARKS
MOUINUDDIN SHARIFF
App No. 20269235697


558 MARKS
PRAMITH K P
App No. 20269235770

AND MANY MORE...

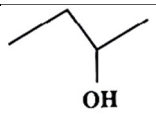
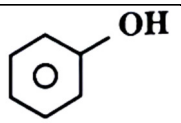
COURSES OFFERED
PCMCs / PCMB
JEE MAIN / NEET / KCET

8147397999 / 9741332998 / 9535527713

Hoskote - Malur road, ISRI Cross, Kattigenahalli, Jadigenahalli Hobli, Bengaluru - 562114

info@dracademy.co.in https://dracademy.co.in @dr_academy12

47. Match List I with List II and select the correct options

List – I (Functional group)		List – II (Functional group reagent)	
(a)		(i)	Neutral ferric chloride test
(b)	$C_6H_5NH_2$	(ii)	Azo dye test
(c)	CH_3CH_2CHO	(iii)	Ceric ammonium nitrate test
(d)		(iv)	Tollen's reagent test

Codes:

1) a - iv, b - i, c - ii, d – iii
2) a - iii, b - ii, c - iv, d – i
3) a - iii, b - ii, c - i, d – iv
4) a - ii, b - iii, c - iv, d – i

Ans. 2

Sol. Neutral $FeC\ell_3$ test : Test for phenols
Azodye test : Test for aromatic amines
Ceric ammonium nitrate test : Test for alcohols
Tollen's reagent test: Test for aldehydes

48. When salt BA is treated with Conc. H_2SO_4 reddish brown gas is liberated. The aqueous solution of BA gives pale yellow precipitate with $AgNO_3$ solution. Which of the following anion $\left(A^-\right)$ is present in the salt BA?

1) Cl^- 2) CO_3^{2-} 3) SO_4^{2-} 4) Br^-

Ans. 4

Sol. Reddish brown gas Br_2

$$BA + AgNO_3 \rightarrow AgBr\,(\text{pale yellow ppt})$$

49. Which of the following represents de Broglie equation?

1) $\lambda = \frac{h}{\sqrt{mv}}$ 2) $\lambda = \frac{h}{mv}$

3) $\lambda = \frac{h}{mp}$ 4) $\lambda = \frac{\mu}{p}$

Ans. 2

Sol. Conceptual

50. Which of the following is the CORRECT statement about Ψ^2 ?

1) Ψ^2 represents atomic orbit
2) Probability density of the electron at that point
3) $\Psi^2 \neq 0$ for nodes
4) Ψ^2 has no physical meaning

Ans. 2

Sol. Conceptual

51. A: Entropy of a perfect crystalline solid at absolute zero approaches zero.
B: For spontaneity of a reaction, $T\Delta S > \Delta H$.
Among the two statements given above, identify the correct answer from the options given below.

1) Both 'A' and 'B' are true
2) 'A' is true but 'B' is false
3) Both 'A' and 'B' are false
4) 'A' is false but 'B' is true

Ans. 1

Sol. Step-I : According to 3^{rd} law of thermodynamics entropy of a perfect crystalline solid at absolute zero approaches zero.
Step-II: For spontaneous process $\Delta G = -ve$
$\Delta G = \Delta H - T\Delta S$
$T\Delta S > \Delta H$

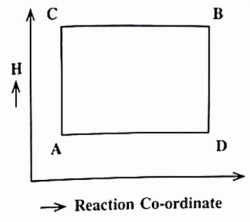
52. Which of the following is a correct statement for a thermodynamic system?

1) The internal energy changes in all processes
2) Internal energy and entropy are state functions
3) Work is a state function
4) The work done in an adiabatic process is always zero

Ans. 2

Sol. Conceptual

53. A gas can be taken from A to B via two different paths ACB and ADB.



When path ACB is used, 60 J of heat flows into the system and 30 J of work is done by the system. If path ADB is used, work done by the system is 10 J.

The heat flow into the system in path ADB is

1) 80 J 2) 20 J 3) 100 J 4) 40 J

Ans. 4

Sol. Step-I: Path ACB

$q = 60\,J,\ w == 30\,J$

$\Delta U = q - w$

$= 60 - 30 \Rightarrow 30$

Step-II: Path ADB

$w = 10\,J,\ q = ?$

From step-I $\Delta U = 30$

$\Delta U = q - w$

$30 = q - 10$

$q = 40\,J$

54. For the reversible reaction,

$N_{2(g)} + 3H_{2(g)} \rightleftharpoons 2NH_{3(g)}$

When the partial pressure is measured in atmosphere, the value of K_p at 500^0C is 1.44×10^{-5}. The value of K_c when the concentration is expressed in mol L^{-1} is:

1) $\dfrac{1.44 \times 10^{-5}}{(0.082 \times 500)^{-2}}$ 2) $\dfrac{1.44 \times 10^{-5}}{(8.314 \times 773)^{-2}}$

3) $\dfrac{1.44 \times 10^{-5}}{(0.082 \times 773)^{2}}$ 4) $\dfrac{1.44 \times 10^{-5}}{(0.082 \times 773)^{-2}}$

Ans. 4

Sol. $N_2 + 3H_2 \rightarrow 2NH_3$

$K_P = K_C (RT)^{\Delta n}$

$K_P = 1.44 \times 10^{-5}$

$T = 500\ ^oC = 773\,K$

$\Delta n = 2 - 4 = -2$

$K_C = \dfrac{K_P}{(RT)^{\Delta n}}$

$= \dfrac{1.44 \times 10^{-5}}{(0.082 \times 773)^{-2}}$

55. For the following gaseous reversible reaction: $3\,A_{(g)} + B_{(g)} \rightleftharpoons A_3\ B_{(g)}\ (\Delta_r H = -qkJ)$. The mount of product $A_3B_{(g)}$ is affected by ____

1) Temperature alone
2) Pressure alone
3) Both temperature and pressure
4) Temperature, pressure and catalyst

Ans. 3

Sol. A catalyst does not change the equilibrium amount (yield) of A_3B, it only affects the rate at which equilibrium is reached.

56. A 0.15 mole of pyridinium chloride has been added to 500 cm^3 of 0.2 M pyridine solution (a base). Assuming there is no change in volume upon mixing, the pH of the resulting solution is

1) 5 2) 6 3) 7 4) 8

Ans. 1

Sol. pKb not given

$pOH == pKb + \log \dfrac{[salt]}{[base]}$

$= pKb + \log \dfrac{0.15}{0.1}$

$= 8.75 + \log 1.5$

$= 8.93$

$pH = 14 - POH$

$= 14 - 8.93$

$= 5.07$

Note: P^{kb} value is not provided in the question so it will be given as grace

57. Which of the following is CORRECT with respect to the property mentioned against it?

1) Osmotic pressure at 298 K : 0.1MNaCl solution < 0.1M Urea solution

2) Concentration of NaCl in the solution 2ppm > 2M

3) ΔT_b :0.02 M Urea solution > 0.02MNaCl solution

4) Vapour pressure at 298 K : Salt water< Pure water

Ans. 4

Sol. Vapour pressure decreases by addition of salt to the pure water.

58. Match List - I (Laws) with the List - II Mathematical expressions):

List – I		List – II	
(a)	Henry's law	(i)	$p_1 = \chi_1 p_1^0$
(b)	Raoult's law	(ii)	$p = K_H \chi$
(c)	First law of thermodynamics	(iii)	$\Lambda_m^\circ = v_+\lambda_+^\circ + v_-\lambda_-^\circ$
(d)	Kohlrausch's law	(iv)	$\Delta U = q + w$

Codes:

1) a - i, b - ii, c - iii, d – iv
2) a - ii, b - i, c - iii, d – iv
3) a - ii, b - i, c - iv, d – iii
4) a - i, b - ii, c - iv, d – iii

Ans. 3

Sol. a-ii, b-i, c-iv, d-iii

59. When 0.0106 mole of acetic acid was dissolved in 1 kg of water, the freezing point depression for this strength of acid was 0.0205 K. If the calculated freezing point depression is 0.0197 K, Van't Hoff factor (i) and degree of dissociation of acetic acid respectively are

1) 0.041 and 1.041 2) 1.041 and 0.1041
3) 0.041 and 0.041 4) 1.041 and 0.041

Ans. 4

Sol. $i = \dfrac{\text{observed colligative property}}{\text{Calculated colligative property}}$

$= \dfrac{0.0205}{0.0197} = 1.041$

$i = 1 + (n-1)\alpha \qquad n = 2$

$1.041 = 1 + \alpha$

$\alpha = 0.041$

60. The relative lowering of vapour pressure produced by dissolving 18 g of urea (Molar mass = 60g mol^{-1}) in 100g of water is

1) 0.025 2) 0.5 3) 0.05 4) 0.25

Ans. 3

Sol. $\dfrac{P_1^o - P_s}{P_1^o} = X_2$

$= \dfrac{18/60}{18/60 + \dfrac{100}{18}}$

$= \dfrac{0.3}{0.3 + 5.55} = 0.051$

DR ACADEMY IS THE PERFECT DESTINATION FOR MEDICAL ASPIRANTS

THE JOURNEY... NEET MEDICAL SELECTIONS

2018	2019	2020	2021	2022	2023	2024	2025
123	210	182	279	445	452	569	524

DURING OUR EIGHT-YEARS JOURNEY, WE HAVE GENERATED 2784 MEDICAL AND 2900+ ENGINEERING SELECTIONS.

NEET-2022 | BMC, BANGALORE	NEET-2022 | KIMS, HUBLI	NEET - 2024 | VIMS - BELLARY	NEET - 2024 | VIMS - BELLARY	NEET - 2024 | BMC - BANGALORE	NEET - 2024 | BIMC - BELAGAVI
 650 MARKS	 650 MARKS	 649 MARKS	 648 MARKS	 647 MARKS	 647 MARKS
SANKALP	ABHIJIT RAMESH MIRJI	KEERTI VEERANNA KORI	SONIYA S	NAVYA	SIDDANAGOUDA PATIL
NEET - 2024 | BIMC - BELAGAVI	NEET-2024 | MIMS - MANDYA	NEET-2022 | BMC, BANGALORE	NEET-2021 | BMC, BANGALORE	NEET-2020 | BMC, BANGALORE	NEET-2024 | CIMS - CHAMARAJANAGAR
 647 MARKS	 647 MARKS	 647 MARKS	 647 MARKS	 647 MARKS	 646 MARKS
OMKAR N MUDENUR	VIJAY KUMAR B DEYANNAVAR	SUPRIT SAMJAY K	PRAMOD I HONAGOUD	CHANDAN S	BUTHESH G
NEET-2024 | GIMS - GADAG	NEET-2024 | VIMS - BELLARY	NEET-2022 | BMC, BANGALORE	NEET-2022 | KIMS, HUBLI	NEET-2024 | BIMC - BELAGAVI	NEET-2024 | GIMS - GADAG
 646 MARKS	 646 MARKS	 646 MARKS	 646 MARKS	 645 MARKS	 645 MARKS
BASAVAKIRAN DHAREPPANAVAR	VENKATESH REDDY	SHIVAANI S GOUNDER	ROHAN R KONGI	CHANDANA B	SHASHANK CHANDRA SHEKHAR KANDAGAL
NEET-2024 | MIMS - MANDYA	NEET-2024 | PSGIMS - COIMBATORE	NEET-2024 | VIMS - BELLARY	NEET-2023 | BMC, BANGALORE	NEET-2023 | GMC, SECUNDERABAD	NEET-2022 | BMC, BANGALORE
 645 MARKS	 645 MARKS	 645 MARKS	 645 MARKS	 645 MARKS	 645 MARKS
PRASHANTGOUDA MENASAGI	GOURAV S	MEHANTH SAI REDDY G R	NABIYA MUSHTAQ AHMED M	VIJESH KANNA K	SAATHVIK S G
NEET-2021 | MMCRI, MYSORE	NEET-2024 | HIMS - HASSAN	NEET-2024 | MIMS - MANDYA	NEET-2023 | MMCRI, MYSORE	NEET-2022 | BMC, BANGALORE	NEET-2022 | SMC, CHENNAI
 645 MARKS	 644 MARKS	 644 MARKS	 643 MARKS	 643 MARKS	 643 MARKS
AJEETH MALLAPPA T	DEEPTHI S M	SANJANA R	VISHAL S PATIL	VAISHNAVI REDDY	S NAYANA
NEET-2021 | MMCRI, MYSORE	NEET-2024 | RIMS - RAICHUR	NEET-2024 | SABVIMS - BENGALURU	NEET-2021 | SMC, CHENNAI	NEET-2024 | CIMS - CHAMARAJANAGAR	NEET-2023 | BMC, BANGALORE
 643 MARKS	 642 MARKS	 642 MARKS	 642 MARKS	 641 MARKS	 641 MARKS
CHANDANA N	MOHD AFFAN HUSSAIN	K RAKESH REDDY	NARENDRA BABU T V	SIDDESH C S	SUDEEP TANKASALI
NEET-2022 | BMC, BANGALORE	NEET-2022 | BMC, BANGALORE	NEET-2024 |BMC - BANGALORE	NEET-2024 | BGS - BANGALORE	NEET-2024 | CIMS - CHIKKABALLAPURA	NEET-2024 | GIMS - GADAG
 641 MARKS	 641 MARKS	 640 MARKS	 640 MARKS	640 MARKS	640 MARKS
PRAJWAL PATIL B R	FIZA ANJUM I T	SACHIN R BHAJANTRI	MOKSHITH N G	ARYA PRASAD	MOHAMMED SOHEB DOTEGAR
NEET-2024 |VIMS - BELLARY	NEET-2023 | MMCRI, MYSORE	NEET-2022 | BMC, BANGALORE	NEET-2022 | MMCRI, MYSORE	NEET-2024 |SIMS - SHIMOGA	NEET-2022 | KIMS, HUBLI
640 MARKS	640 MARKS	640 MARKS	640 MARKS	639 MARKS	639 MARKS
VINOD B	SRUJAN S PATIL	CHINMAY SWAMY A M	YASHAS T S	KOMAL GURAV	SOUMYA R BADAI
NEET-2024 | CIMS - CHAMARAJANAGAR	NEET-2024 |GIMS - GADAG	NEET-2022 | MMCRI, MYSORE	NEET-2024 |RIMS - RAICHUR	NEET-2022 | BMC, BANGALORE	NEET-2022 | BMC, BANGALORE
638 MARKS	638 MARKS	638 MARKS	637 MARKS	637 MARKS	637 MARKS
LEKHASHREE N S	SANGAMESH APPANNA MAGADUM	NATARAJ K V	BUSHRA Z K	TEJA A	AKASH S PATHRI

SUCCESS IS OUR CONSISTENT MANTRA, NO MATTER THE EXAM.

AND MANY MORE...

INDIVIDUAL ATTENTION, CARING AND MOTIVATION. WEEKLY, CUMMULATIVE AND GRAND TESTS IN THE NEET & JEE PATTERN

DR PU COLLEGE

Approved by Board of Pre-University Education Karnataka (AN-1037)

K.B.C. Trust ®

ASHOK PU COLLEGE

Approved by Board of Pre-University Education, Karnataka

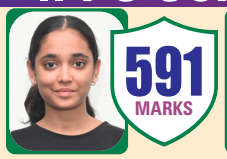
INDO SUNRISE PU COLLEGE

Approved by Board of Pre-University Education, Karnataka - BB 0212

II PU SCIENCE ANNUAL EXAM - 2026 TOPPERS

591 MARKS

DEEPTHI T M
App No. 20269156020



591 MARKS

SINCHANA R
App No. 20269156317

591 MARKS

DIVYASHREE A
App No. 20269235504

590 MARKS

SAMRUDDI SADALAPUR
App No. 20269156279

589 MARKS

NANDINI
App No. 20269156179

589 MARKS

PUNARAV
App No. 20269154533

589 MARKS

HARSHITH P
App No. 20269235547

588 MARKS

KRISHNA PRASAD D M
App No. 20269154352

587 MARKS

SOUMYAMANI P L
App No. 20269156330

587 MARKS

TARUN A M
App No. 20269154703

587 MARKS

T L SHILPA
App No. 20269235908

586 MARKS

KUNDAN KRISHNA
App No. 20269154353

586 MARKS

VARSHA CHANNABASU M
App No. 20269235936

586 MARKS

GANGOTRI RAMAPPA B
App No. 20269235524

585 MARKS

SHREYA PATIL
App No. 20269156313

585 MARKS

MALLIKARJUNA PATIL
App No. 20269154386

585 MARKS

SHARAN KUMAR M S
App No. 20269154623

585 MARKS

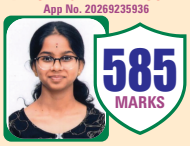
PRAJWAL V HIREMATH
App No. 20269154513

585 MARKS

SIRI PARTHIPALLI GOPAL
App No. 20269156322

585 MARKS

GADHADHAR P
App No. 20269154256

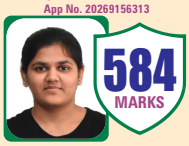


585 MARKS

NEHA P
App No. 20269156192

585 MARKS

SREEDHAR NANDHAN REDDY M
App No. 20269235872

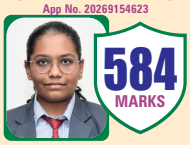


584 MARKS

BHUVI ASHOK AJARADDI
App No. 20269155988

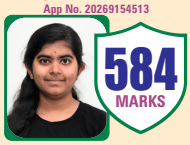
584 MARKS

CHANDANA M
App No. 20269155997



584 MARKS

NEHA N
App No. 20269156191



584 MARKS

DEEPTHI J
App No. 20269156019

584 MARKS

SHASHANK A Y
App No. 20269154629

584 MARKS

SPOORTHI B R
App No. 20269156334

584 MARKS

G HEMA CHANDANA
App No. 20269156041

583 MARKS

SADIYA ISHRATH
App No. 20269156266

583 MARKS

VAISHNAVI M
App No. 20269156370

583 MARKS

ROHITHA T V
App No. 20269156259

583 MARKS

ADARSH M S
App No. 20269154097

583 MARKS

MOHAN G V
App No. 20269235691

AND MANY MORE...

ASHOK COMPOSITE PU COLLEGE - AN 0661
ASHOK GIRLS PU COLLEGE - AN 1003
INDO SUNRISE PU COLLEGE - BB 0212 (SCIENCE)

100 % PASS

EXEMPLARY PERFORMANCE IN THE JEE MAIN - 2026 PHASE - I

98.81

TEJAS KENCHAPPA

98.10

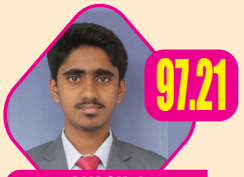
REDDY SRIHARI V

97.75

MANOJ H

97.34

PAVAN R



97.21

AKASH J

96.43

P SANJANA SHREE

JEE MAIN - 2025 ACHIEVERS

99.42
APP.NO. 250310097015
NANDISH M

99.24
APP.NO. 250310925539
JAYANTH K S

97.93
APP.NO. 250310295805
THANMAY L

97.86
APP.NO. 250310461214
SUMITH GOWDA D V

97.67
APP.NO. 250310701826
HARSH B CHOUGALA

97.63
APP.NO. 250310059123
MOKSHALAKSHMI J

97.39
APP.NO. 250310057681
PREETHI S

96.94
APP.NO. 250310088778
SHREEYA S S

96.55
APP.NO. 250311007832
VIJAY M

96.23
APP.NO. 250311024674
YASHAS N

NELMANGALA

LTM BOYS CAMPUS
DASANPURA
#2/5, Narayanappa Palya,
Dasanpura, Tumkur Road,
Bangalore - 560 062.

+91 95133 30438
+91 81399 66644
+91 99805 33120

JALAHALLI

#42, 100FT ROAD,
KAMMAGONDANAHALLI,
JALAHALLI WEST, BENGALURU - 560 015

+91 90080 30463
+91 90080 30896
+91 95133 30437

HOSAKOTE

LTM BOYS CAMPUS :- Defence Colony, Virognagar, Cheemasandra, Avalahalli South, Hoskote - 560049
LTM GIRLS CAMPUS :- Ist Main Road, Beside Adithya PU College, 4th Cross, TG Extension, Hoskote.

+91 97413 32998
+91 81473 97999
+91 95355 27713

info@dracademy.co.in https://dracademy.co.in @dr_academy12