

NORTH-EASTERN HILL UNIVERSITY

Department of Chemistry

Answer-sheet for M.Sc (Chemistry) Entrance Test

Name.....Roll No.....Booklet No:

.....
Student's signature with date

.....
Invigilator's signature with date

Note: (i) Write **your name, Roll No. and Booklet No** (of the question) in the space provided above; (ii) Put your signature on this sheet in presence of invigilator; (iii) Your test booklet contains 50 MCQ questions with four choices. Please check that the booklet contains all the pages, otherwise report it to the invigilator immediately; (iv) Choose **only one choice** (A, B, C or D) and mark it clearly in the space given against each question by ball point pen, **do NOT use pencil**; (v) Each correct answer gives 1 marks to your credit, while 0.25 marks will be deducted for each wrong entry; (vi) **Illegible entry, overwriting and/or multiple entry against any question will be treated as wrong answer**; (vii) Extra sheets are provided at the end of the question paper for rough calculations and no rough work should be done on this sheet; (viii) **Calculator**, mobile phone and other electronic devices **are not allowed** inside the examination hall (ix) For any doubt/clarification, consult with the invigilator(s).

Q. No.	Choice	Q. No.	Choice	Q. No.	Choice	Q. No.	Choice	Q. No.	Choice
1		11		21		31		41	
2		12		22		32		42	
3		13		23		33		43	
4		14		24		34		44	
5		15		25		35		45	
6		16		26		36		46	
7		17		27		37		47	
8		18		28		38		48	
9		19		29		39		49	
10		20		30		40		50	

-----Do not write anything below this line-----

	Correct (X)	Wrong (Y)	Not Answered (Z)	Total (X+Y+Z)
Entries				
	$X \times (+1) = P$	$Y \times (-0.25) = Q$		P + Q
Marks				

Examiner's Signature &
Date

Date:

M.Sc. Admission Test

Max. Marks: 50 Time: 120 Minutes

- Note: (i) Write your Roll No. in the space provided above of this question paper (below the Booklet No.).
(ii) Check that this booklet contains all the pages; otherwise report it to the invigilator immediately
(iii) Extra sheets are provided at the end of this test booklet for rough calculations
(iv) Hand over both the test booklet and your answer sheet to the invigilator at the end of the examination.

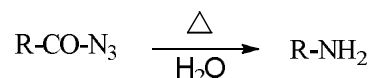
1. Strong field ligands

- [A] usually produce high spin complexes and small crystal field splittings.
[B] usually produce low spin complexes and small crystal field splittings.
[C] usually produce low spin complexes and high crystal field splittings.
[D] usually produce high spin complexes and high crystal field splittings.

2. The IUPAC name for the complex $[\text{Co}(\text{en})_2\text{Cl}(\text{ONO})]^+$ is

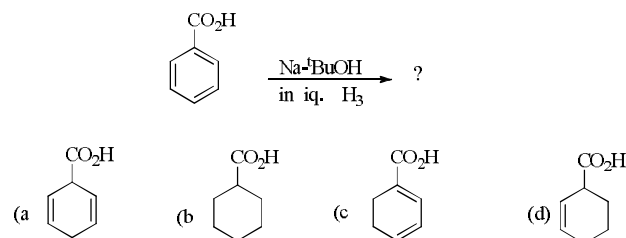
- [A] Cobalt diethylenediaminechlorantrate
[B] Chlorodiethylenediaminenitrito cobalt(II)
[C] Chloronitritodiethylenediamine cobalt(III)
[D] Chlorobis(ethylenediamine)nitrito cobalt(III)

3. The conversion below is an example of-



- [A] Hofmann rearrangement [B] Lossen rearrangement
[C] Beckmann rearrangement [D] Curtius rearrangement

4. Predict the product of the following reaction



5. In the van der Waal's equation of state for a non-ideal gas, the term that accounts for intermolecular forces is,

- [A] $(V-b)$ [B] RT [C] $(P + a/V^2)$ [D] $(RT)^{-1}$

6. The dimensions for the rate constant for a reaction of 'n'th order is expressed as

- [A] $(\text{mol L}^{-1})^{n-1} \text{ s}^{-1}$ [B] $(\text{mol L}^{-1})^{n-2} \text{ s}$ [C] $(\text{mol L}^{-1})^{1-n} \text{ s}^{-1}$ [D] $(\text{L mol}^{-1})^{-1} \text{ s}^{1-n}$