NOTICE

Date: 6.6.2022

This is hereby notified that 4th semester B.Com Program students are to submit the following assignments, in respect of their Compulsory English – 'Appreciating Poetry' (ENGLC 401) course, positively by 28.06.2022 at the English Department office. The assignment should be hand written on plain A4 size paper:

1. Features of the Sonnet
2. "Daffodil" as a nature poem.

Subhadeep Roy

Coordinator, Dept of English,
Bidhan Chandra College, Asansol

Name : Sheikh Nadim

Roll No : 10320041130510 58

Registration No. : KNU201030034 58

Phone No : 6294982657

Date : 28.06.2022

B.Com Semester IV Program (2022) Internal.

Subject Discipline : Compulsary English

Subject Name : Appreciating Poetry (Englis

Subject Code : ENGLC401

Question 1 :- What is Sonnet?

Answer :- Traditionally, the sonnet is a fourteen-line poem written in iambic pentameter, employing one of several rhyme schemes, and adhering to a tightly structured thematic Organization. The name is taken from the Italian sonetto, which means "a little sound or song". Discover more poetic terms. Types of Sonnets.

Salient Features of Sonnet :-

1) They are fourteen lines long.
2) The fourteen lines are divided into four subgroups.
3) The first 3 subgroups have four lines each, which makes them "quatrain" with the 2nd and 4th lines of each group containing rhyming words.
4) The sonnet then concludes with a two-line subgroup, and these 2 lines rhyme with each other.
5) There are typically ten syllables per line, which are phrased in a iambic pentameter.
6) All sonnets have 14 lines, which can be broken down into four sections called quatrains.
7) The rhyme scheme of a Shakespearian sonnet, for example, is ABAB / CDCD / EFEF / GG.
8) Sonnets are written in iambic pentameter, a poetic meter with 10 beats per line made up of alternating unstressed and stressed syllables.

Q2:- Consider Daffodil as a Nature Poem.

Answer:- William Wordsworth, the most prominent poet of the romantic age, is known as a nature-lover and a nature poet. The term "Daffodils" is one of the finest examples of the expression of the poet's love of nature from the very first line of the poem to the finishing end, he shows this love in the first stanza of "Daffodils" Wordsworth compares himself to a cloud that floats high over valleys and hills. Then he goes on to describe how he came across a host of golden daffodils which are "fluttering and dancing in the breeze". He personifies the daffodils as if they were happy and dancing just like a human being would do, Compares the flowers to the shining stars on the Milky way, and compares their happiness with that of the waves in the lake beside them. Finally, the poet reflects on What Joy the memory of the flowers bring to his mind When he is in a vaccant or pensive mood.

The poet acclaims "A poet could not be gay/ in such a jound company". He also uses "I gaced and gazed" to express how charmed he had been by the daffodils. And the final lines And then my heard with pleasure fills./ and dances with the daffodils" says it all. Moreover; Flowers, Lake, trees, valleys, Hills, Cloud, Stars - mention of all these natural object is not a mere coincidence. This is deliberate attempt from the poet to write all these things that bring him joy, that makes him happy, that esentially suggests only one thing that The poet is a lover of Nature.

Bidhan Chandra College

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Asansol – 713304, Dist – Paschim Bardhaman , West Bengal , Ph : 0341-2283020
Visit us: www.bccollegeasansol.ac.in; E. Mail: bccollege.office@gmail.com

Ref. No.: _____ Date: _____

DEPARTMENT OF CHEMISTRY

NOTICE
(Session 2021-2022)

It is hereby informed to all VI-th Semester students that Assignments will be provided to all of you on 20-04-2022. All the students are asked to be present on that day.

Note: This is mandatory for all Vith Semester students.

Date: 12/04/2022

for
Head
Department of Chemistry

Assignment 2022

Subject: Chemistry (Honours)

Semester : VI

1. Write a comprehensive note on Pinacol-Pinacolone rearrangement. Your note should contain basic introduction, mechanism, factors influence the rearrangement and its application. Your writing should be within 500 words.

Pinacol - Pinacolone Rearrangement

- **Presented By :-** *Rina Chand*
- **College :-** *Bidhan Chandra College,Asansol*
- **Course :-** *B.sc (Hons) in Chemistry*
- **Univ. Regn. No. :-** *KU/REG/18/03000935 of 2018 -19*

Molecular Rearrangements

Molecular Rearrangements

- Rearrangement reactions involves the migration of a group or an atom from one center (migration origin) to another (migration terminus) - within the same molecule.

- Rearrangements are divided into intramolecular and intermolecular processes. In intramolecular process, the group that migrates is not completely detached from the system in which rearrangement is taking place. On the other hand, in intermolecular process, the migrating group is first detached and later reattached at another site.

- Rearrangements can be roughly classified on the basis of the migration origin and migration termines.

i) Rearrangements to Electron Deficient Carbon

ii) Rearrangements to Electron Deficient Nitrogen.

iii) Rearrangements to Electron Deficient Oxygen

iv) Sigmatropic Rearrangements.

v) Other Rearrangements.

Rearrangements to Electron Deficient Carbon

→ Pinacol - Pinacolone Rearrangement

→ Wagner - Meerwein Rearrangement

→ Demjanov Rearrangement

→ Benzil - Benzilic acid Rearrangement

→ Wolff Rearrangement

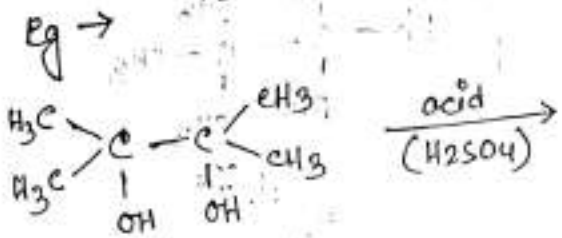
→ Dienone - Phenol Rearrangement

• Pinacol - Pinacolone Rearrangement •

Vicinal diol type compound is called pinacol when it is treated with acid (H_2SO_4) a special type of rearrangement take place through carbocation intermediate giving carbonyl compound known as pinacolone and the rearrangement is termed as pinacol - pinacolone rearrangement.

The name is originated from the conversion of pinacol to pinacolone on treatment with acid.

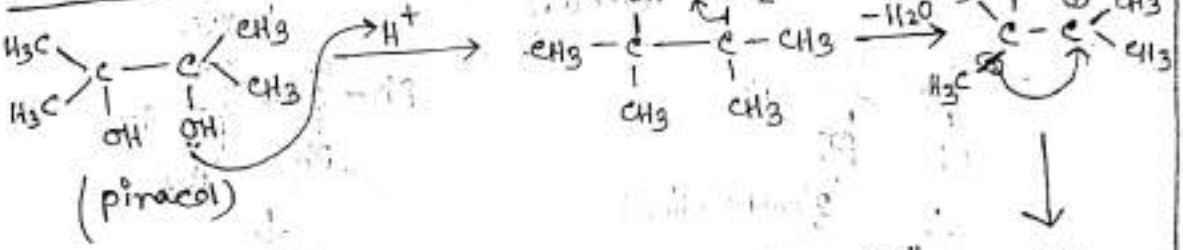
Eg →



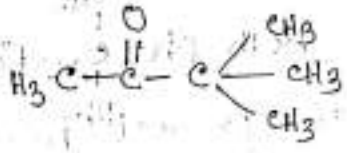
(piracol)

(piracolone)

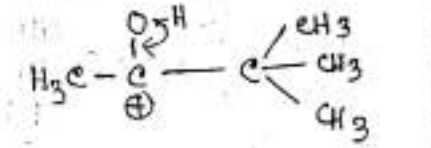
Mechanism :-



(piracol)



(piracolone)

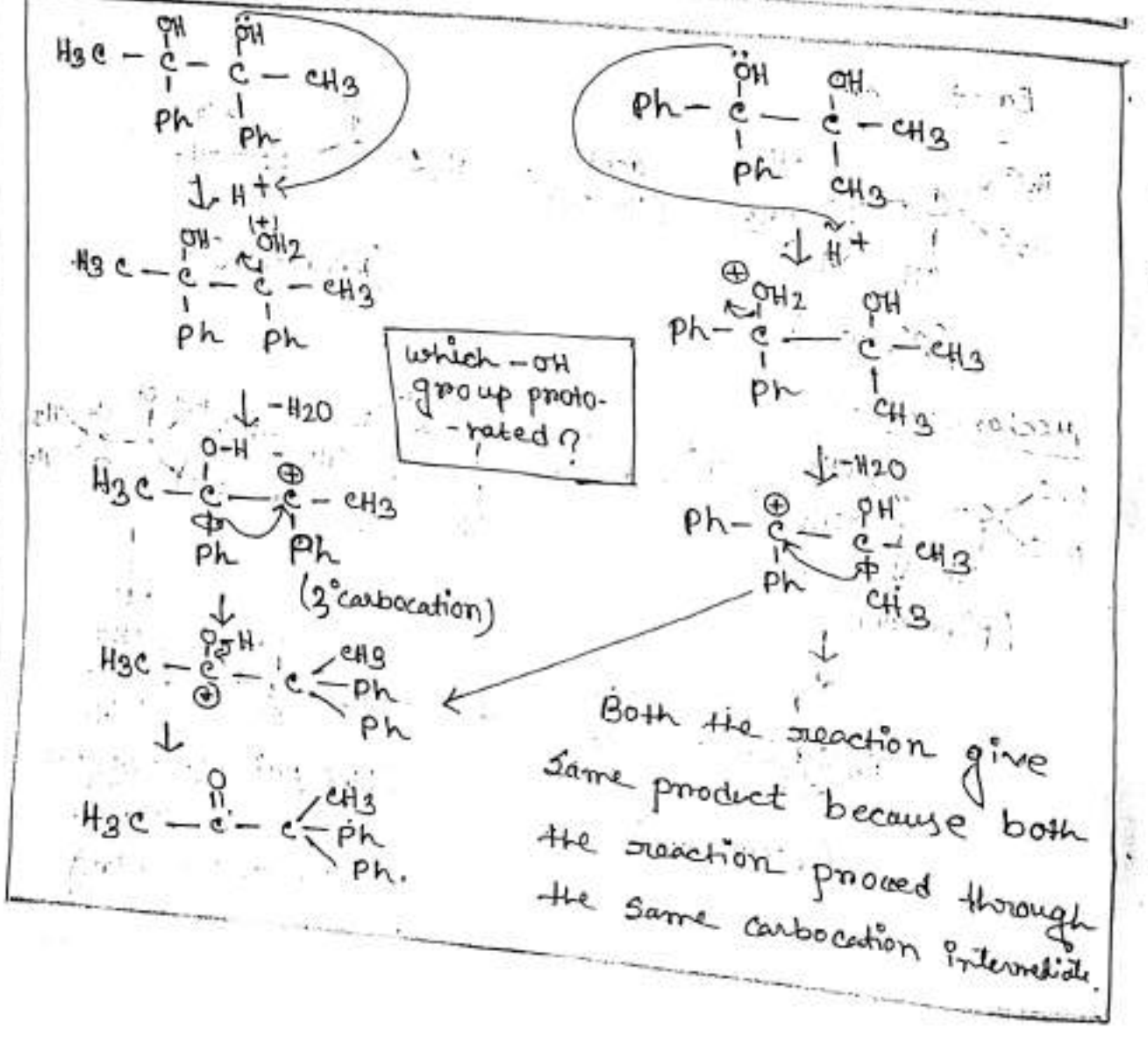


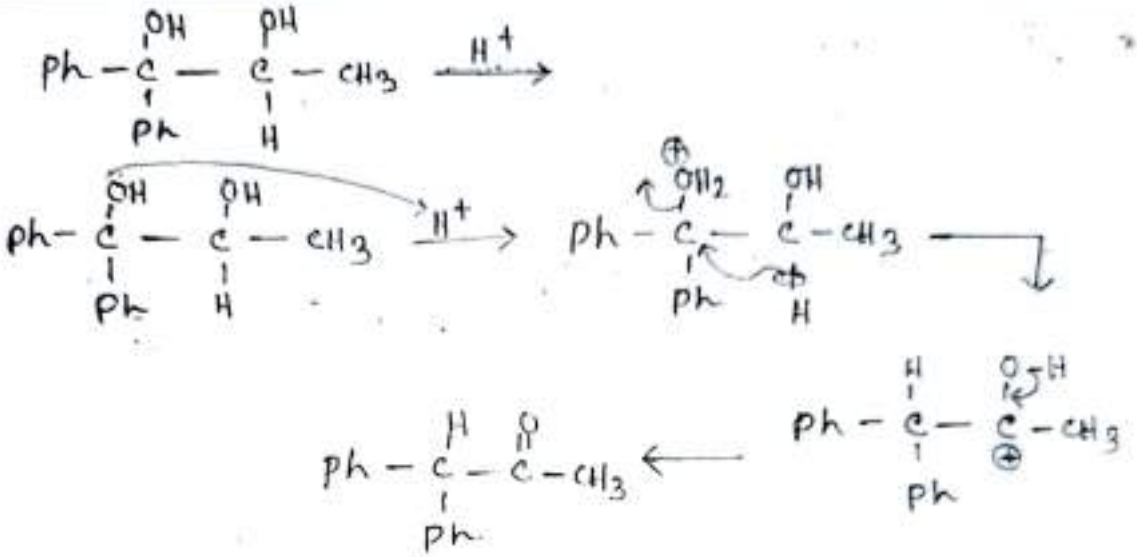
(lone pair of oxygen gives stability to the carbocation)

- Migratory aptitude :-

  Aryl group > 3° alkyl group > 2° alkyl group > 1° alkyl group.

- Electron donating group at pera and meta position in aryl system will increase the migratory aptitude.
- Electoorg withdrawing group at ary position in aryl system will decrease the migratory aptitude.

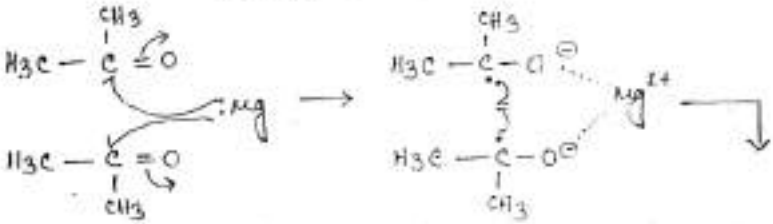

which –OH group protonated?
(3° carbocation)
Both the reaction give same product because both the reaction proceed through the same carbocation intermediate.

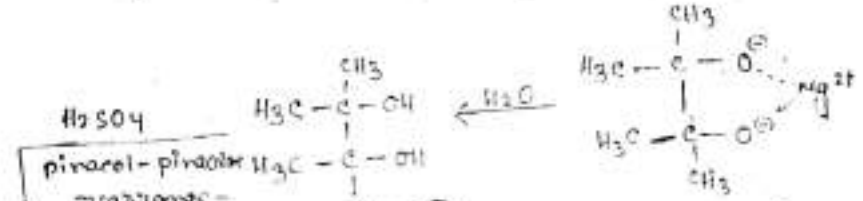


Hydrogen will migrate preferably than the other group due to steric factor.

How pinacol is prepared ?

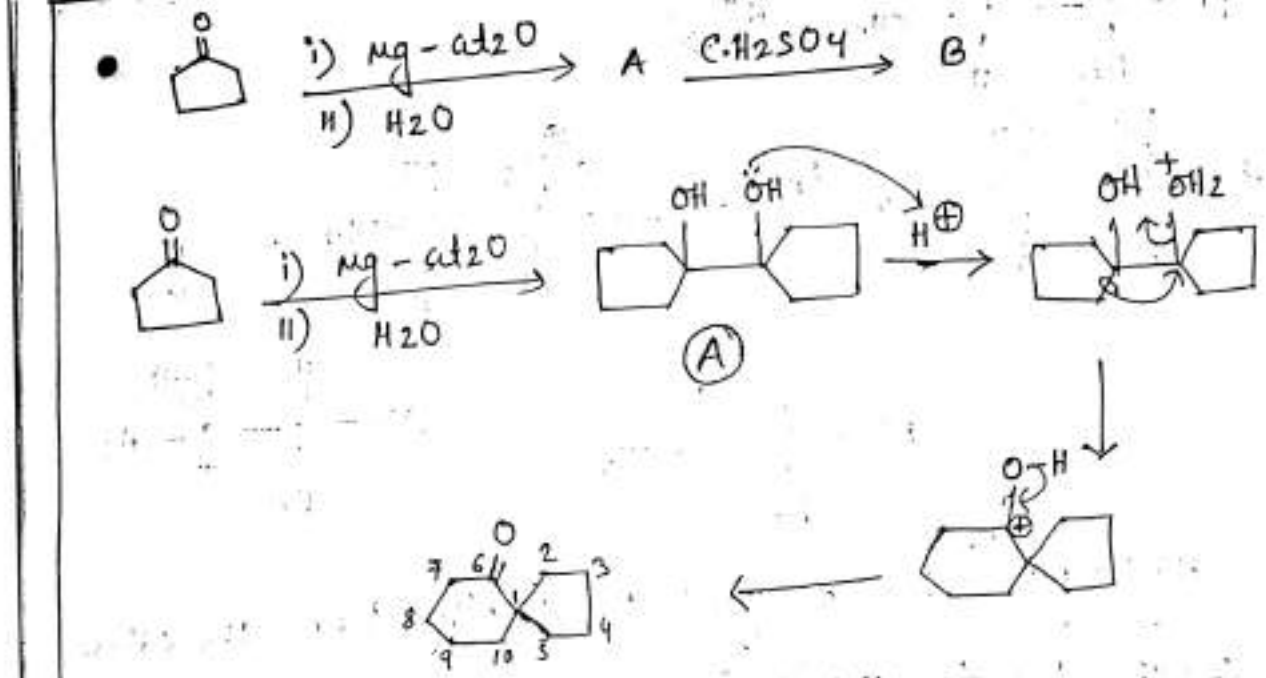
- $CH_3-\overset{O}{\overset{\|}{C}}-CH_3 \xrightarrow[ii)\ H_2O]{i)\ Mg\text{-}dry\ Et_2O} A \xrightarrow{H_2SO_4} B.$





$H_3C-\overset{CH_3}{\overset{|}{C}}(OH)-\overset{CH_3}{\overset{|}{C}}(OH)-CH_3$ (A) (pinacol)

$H_3C-\overset{O}{\overset{\|}{C}}-\overset{CH_3}{\overset{|}{C}}(CH_3)-CH_3$ (pinacolone) (B)

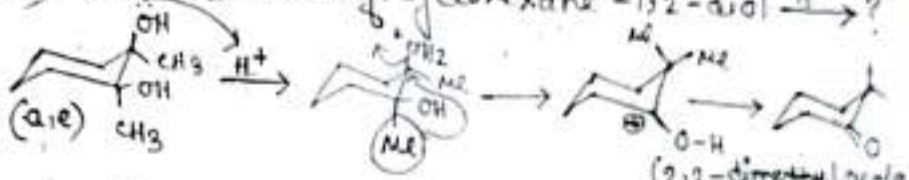


'Spiro [4.5] Decan - 6-one'

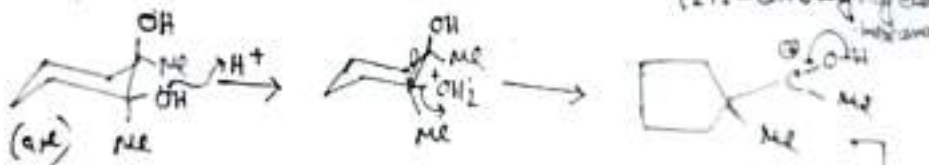
- Pinacol - pinacolone rearrangement in alicyclic System like cyclohexane :→

In cyclohexane System the group on bond which is situated anti to that of leaving group i.e H_2O will migrate preferably.

eg → i) cis - 1,2 - dimethyl cyclohexane - 1,2 - diol $\xrightarrow{H^+}$?

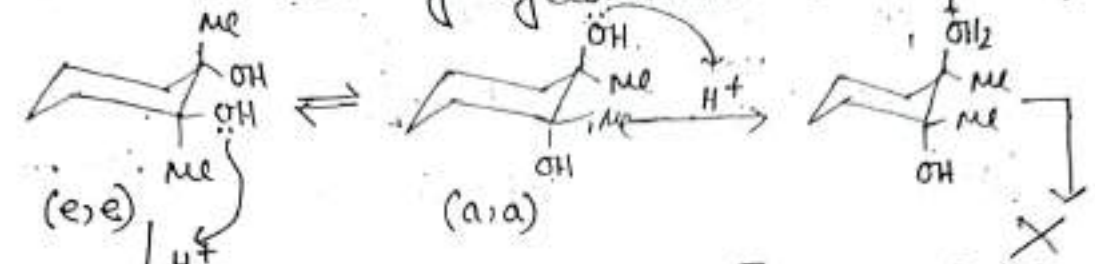


(2,2 - dimethyl cyclo- hexanone)

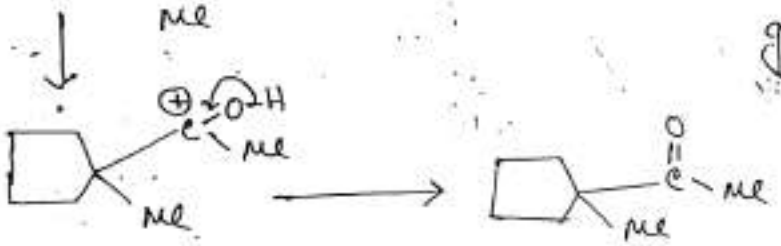


(1-acetyl-1-methyl cyclo pentane)

11) Trans -1,2- dimethyl cyclohexane -1,2-diol $\xrightarrow{H^+}$?



[No reaction since -OH group never act as a migrating group]



(1-acetyl-1-methyl cyclopentane)

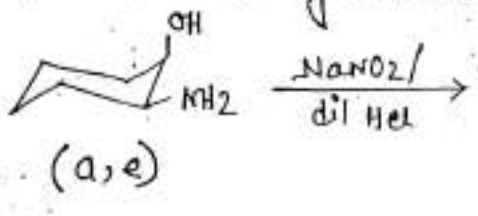
Semi pinacol - pinacolone rearrangement :→

Some rearrangement are known which are mechanistically alike with pinacol - pinacolone rearrangement but the leaving group is different these rearrangement are termed as Semi pinacol - pinacolone rearrangement.

eg → De - amination reaction

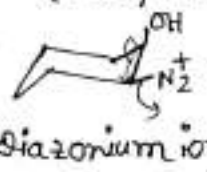
Reagent → HNO_2 ($NaNO_2$ + dil HCl)

- cis - 2 - amino cyclohexanol $\xrightarrow{HNO_2}$? ($NaNO_2$/dil HCl)

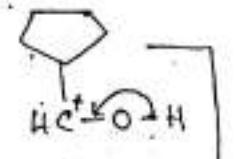


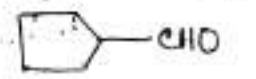
(a, e)

$\xrightarrow[\text{dil HCl}]{NaNO_2/}$

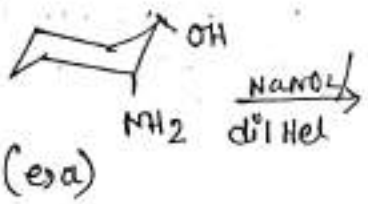


(Diazonium ion)



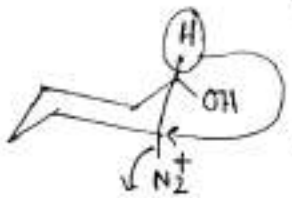


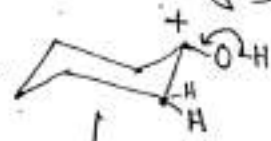
(cyclopentane carbaldehyde)



(e, a)

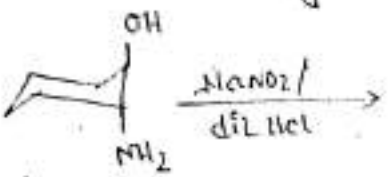
$\xrightarrow[\text{dil HCl}]{NaNO_2/}$





(cyclohexanone)

- Trans - 2-amino cyclohexanol $\xrightarrow[\text{dil HCl}]{NaNO_2/}$? (3)

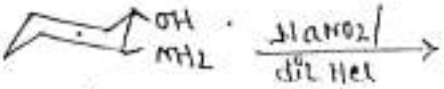


(a,a)

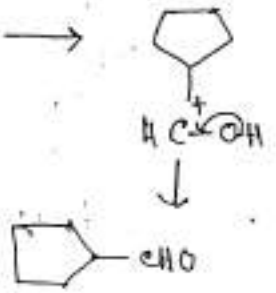
(HNO2)

→ X No reaction

(since –OH group never act as a migrating group)

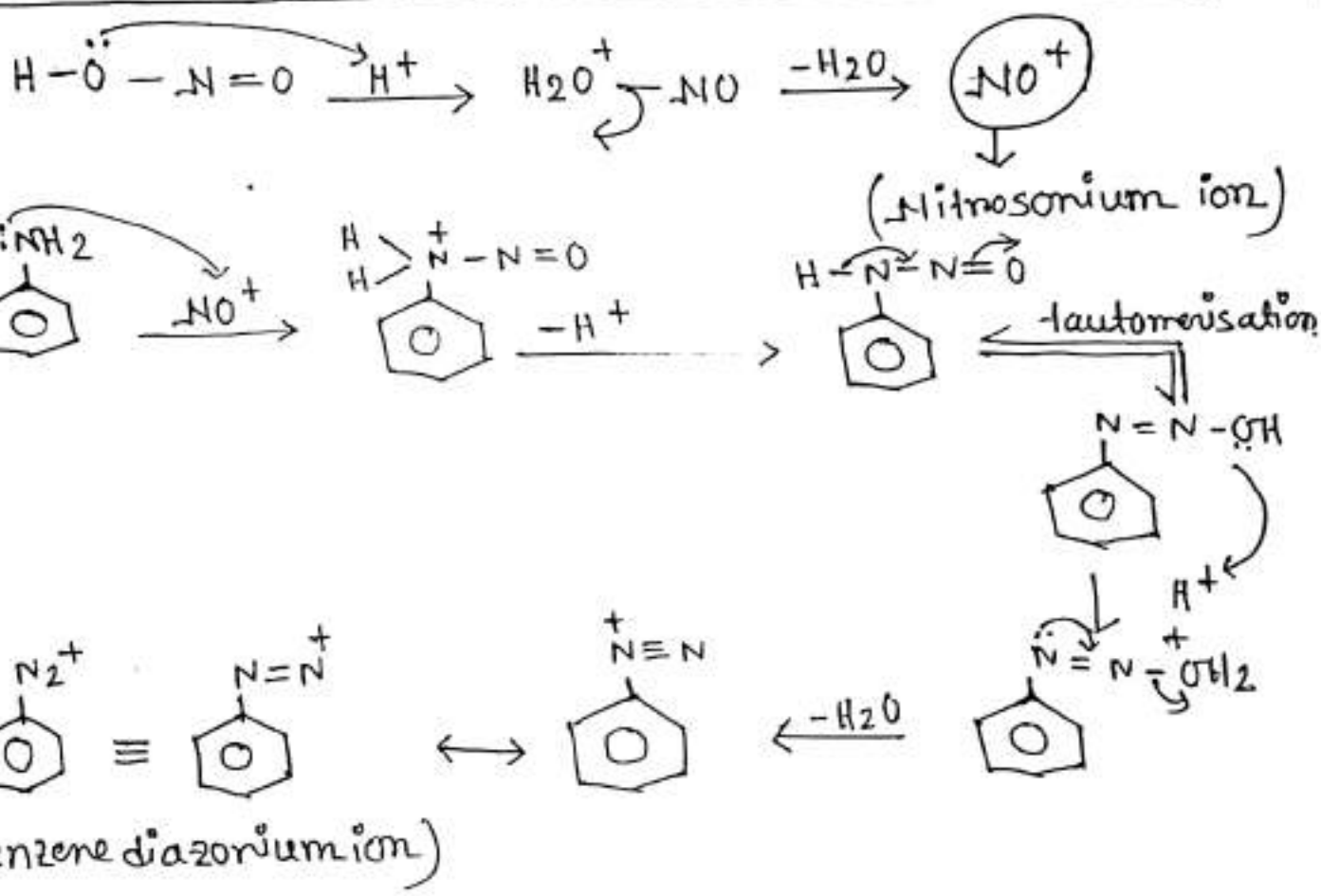


(e,e)



(cyclopentane carbaldehyde)

Mechanism of the formation of- diazonium ion:-



(Benzene diazonium ion)

Conclusion

Rearrangement reaction is a vast and important topic or chapter in organic chemistry. I try to speak a little bit of rearrangement reaction which is pinacol - pinacolone rearrangement. This rearrangement is very helpful for us to synthesise various molecule like spiro compound, carbonyl compound etc.

Thank you

Department of Philosophy

Bidhan Chandra College, Asansol-4

All concern 6th semester Philosophy (Hons .) students are here by informed that the Unit Test 1st assignment will be held as per following routine in offline mode. The respective students are asked to bring their university Reg. No. for the appearing the test.

Semester	Date	Day	Paper Code	Time	Room no
6th	19/04/2022	Tuesday	BAHPHIDSE603	12:00-01:00PM	130
6TH	20/04/2022	Wednesday	BAHPHIC602	12:00-01:00PM	130
6TH	21/04/2022	Thursday	BAHPHIDSE601	12:00-01:00PM	130
6th	22/04/2022	Friday	BAHPHIC601	12:00-01:00PM	130

11.04.22.

Head of the Department
Department of Philosophy
Bidhan Chandra College, Asansol-4

Date:11/04/2022

Bidhan Chandra College, Asansol.
Unit Test / 6th Sem Hons. - 2022.
(Assignment)
Paper : Sadhana (BAHPHIDSE603)
Dept. of Philosophy. 19.4.22.

5 × 2 = 10

Q.1. 'অবিদ্যা'-র স্বরূপ ব্যাখ্যা কর।

Q.2. 'ঈশ্বরের ইচ্ছায় অরাজকতার অনুমোদন' — বলতে কি বোঝানো হয়েছে? ব্যাখ্যা কর।

Unit Test / Assignment

BIDHAN CHANDRA COLLEGE, ASANSOL

(GOVT. SPONSORED)

Half-Yearly / Annual / Test Examination

Marks Obtained 7/10

Name Jyoti modi

Class VI-Sem Course with Subject (Hons./Programme) Hour

Univ. Roll No Univ. Regn. No. KNU1910200 2000

Subject Philosophy Paper BAHPHIL DSC-603 Date of Exam 19.4.22

Sign. of Invigilator 19.4.22

Sig of Examiner

1) 'আমি'-এর ধারণা ব্যাখ্যা কর,

2) 'আমার উপাদান অরাজকতার অনুমোদন' - বলতে কী বোঝানো হয়েছে? ব্যাখ্যা কর।

x

1) উঃ:- মানুষের অধিকার সংরক্ষণ হল তার আসতরার মতো দুইয়ের সমন্বয়, লাইফোমাস্কার - ইহাতে যুক্তির আসত্তা প্রকাশ করে - তখন মূল সুর - আমার ধর্ম ও ঐ- এমনই - তার লাভ করে - নারিমূল আইনীকৃতি, নারমাজাতকার - সকল ধারণা হল এই আইনস্বীকৃতি, সুবিচারনার এই নারমাজাতকারে 'আমি' বলেছেন, নাগরিক প্রজাতি - কল্যাণ নিতে - অহংধর্ম - বক্তব্যটি দুই প্রকার - এবং বিশেষ - বাচনায় বাচনা থেকে আকি নাম - বেন্থাম - সেখানে মানুষ তার নিজের - জন্য নি নূন - ধ্রুবকে ঐ স্বাধীন - আনতে পারলে - না, এবং নাগরিকাধিকার - বাইরে হল - বহুতর - অন্য নিয়ে - মানুষ - অধমরা - তাও তাদের আনুষ্ঠান হয়ে যায়, তাই মানুষ - দুই ভাগে, তারা আমরত ছাড়াতে থাকে - স্বাধীনতাকে কাটিনিগত - আমার আসতরার সূন - ব্রাহ্মণ এই আকৃতি তার দিদাসাদ - ফুলা, হুল্লা, লাভাকা আরো বেশী চাহিদে - সব বজার ও পথ - এবং - তখনই তারা দুইত্ব নারা - মাজার - মাঝে অবাধিকে, অধিকার মাঝে আসাদের -

[illegible] কিন্তু [illegible]
[illegible] এই [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]

$3\frac{1}{2} + 3\frac{1}{2} = 7$

Department of Commerce

NOTICE

All Students of 5th Semester of Session 2021-22 Batch are required to submit 'Enterprenuer-Ship Development' Project within 20 December 2021.

Topics :-

(i) Business on flour Mill
(ii) Tea Blending & Packaging.
(iii) Rural Transformation project.
(iv) Manufacturing Business
(v) A comprehensive group project report on 'Lunch Box delivery Service'

Thanking You
Depart. of commerce
29-11-21

SIDHAN CHANDRA COLLEGE
Govt. Sponsored
ESTD-1961
ASANSOL

KAZI NAZRUL UNIVERSITY

SESSION: 2021-2022

TOPIC: BUSINESS ON FLOUR MILL

SUBJECT: ENTERPRENEURSHIP DEVELOPMENT

A PROJECT

SUBMITTED TO THE DEPARTMENT OF COMMERCE

BIDHAN CHANDRA COLLEGE

IN PARTIAL FULFILLMENT OF THE REQUIRE FOR THE BACHELOR OF COMMERCE(PROGRAMME)DEPARTMENT

B.COM(5TH SEMESTER)

SUPERVISED BY

DEEPAK MONDAL

NOTICE

Unit Test of 2nd semester B.Sc. Physics (Honours) will be held as per the following schedule:-

Date & Day	Time	Papers
14/12/2021	11 AM onwards	1. Mathematical methods in Physics 2. Electricity and magnetism

Dated: 07.12.2021

Head of the department

Department of Physics

Bidhan Chandra College

Asansol-4

Head of the Dept. Physics
Bidhan Chandra College
(Govt. Sponsored)
Asansol-713304

Department of Physics

Bidhan Chandra College, Asansol

Second Semester Unit Test Examination

Electricity and Magnetism

Course Code: BSCHPHSC202

F.M. = 20 Time: 1hr.

Answer any four Questions: 5X4 = 20

1. State and explain Thevenin's theorem.
2. Find the potential of a uniformly charged spherical shell of radius R for points (i) inside (ii) outside it using Gauss's Law.
3. Derive expressions for magnetic field, at a point on its axis of a circular coil carrying current.
4. An alternating source of e.m.f. is connected to a circuit having resistance R, capacitance C and inductance L in series. Obtain expression for instantaneous current and impedance. Also obtain the condition of resonance and explain sharpness of resonance.
5. Obtain the generalised expression of Gauss's law in di-electric medium both in integral and differential forms. Discuss the boundary conditions for $\vec{D}$ & $\vec{E}$ across the interface between two media having surface charge density σ

Thevenin's theorem

Any electrical circuit with sources and resistances can be transformed equivalent thevenin's circuit with Thevenin voltage (V_{th}) and current (I_{th}) connected in series with terminals as original circuit.

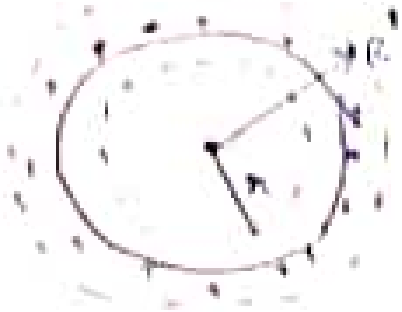
Steps to calculate I_N

1) Any voltage source replaced with corresponding internal resistance or in case of ideal voltage sources make circuit short. Now we can calculate thevenin current with series, parallel rule. across original circuit terminals.

Steps for calculating I_{th}

2) Circuit have to open. Any current source can be replaced with corresponding internal resistance or ideal case circuit could be made to open. Then state one terminal as ground. Now we can calculate thevenin voltage with voltage divider principle.

2)



Gaussian Surface at distance R to cover full Sphere

According to Gauss Law

$$\Phi_R \text{ (flux at R Surface)} = \frac{\text{Charge included}}{\varepsilon_0}$$ ← for free Space Permittivity

$$\Phi_R = \frac{\text{charge over Surface R-Shell}}{\varepsilon_0}$$

Let charge over Shell = Q

$$\therefore \Phi_R = \frac{Q}{\varepsilon_0} = E \cdot 4\pi R^2$$

$$\therefore E = \frac{Q}{4\pi\varepsilon_0 R^2}$$

↑ by definition of Electric Flux. And Symmetry of problem.

We know

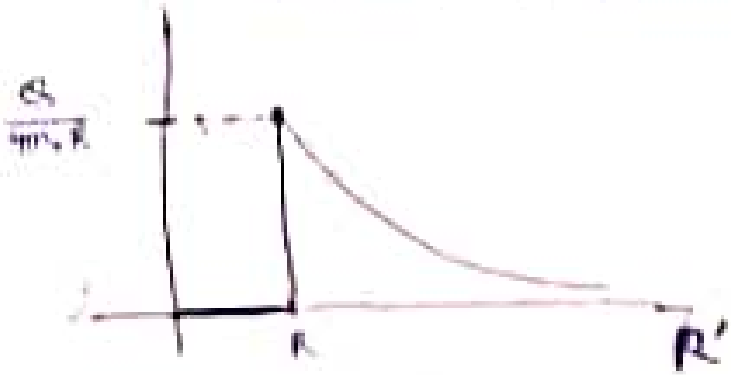
$$E = -\frac{dV}{dr}$$

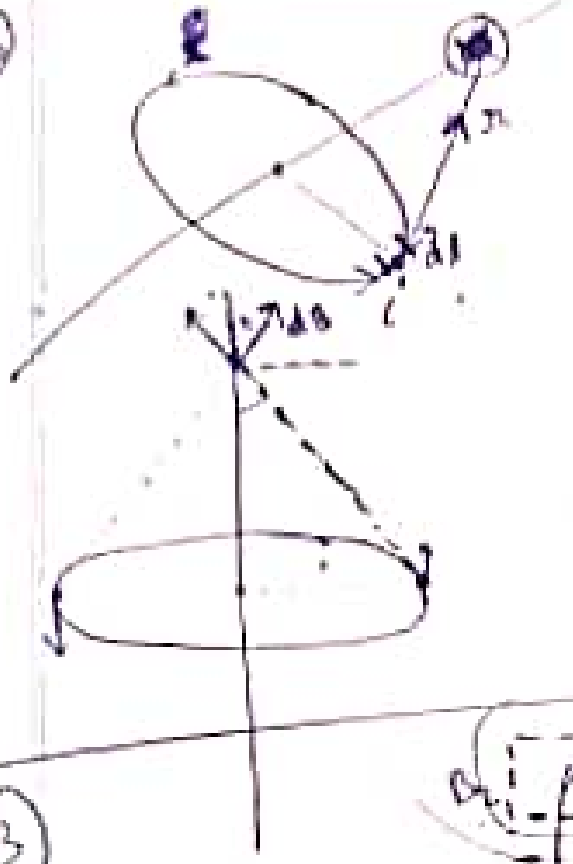
$$\therefore \int_0^V dV = -\int_\infty^R E\, dr$$

$$= \frac{Q}{4\pi\varepsilon_0} \int_{R'}^{\infty} \frac{1}{R^2}\, dr = \frac{Q}{4\pi\varepsilon_0 R} = V(R)$$

at distance of the Surface inside have no Charge $\therefore \Phi_n = 0 \Rightarrow E_n = 0$

$$\therefore V(r) = 0$$

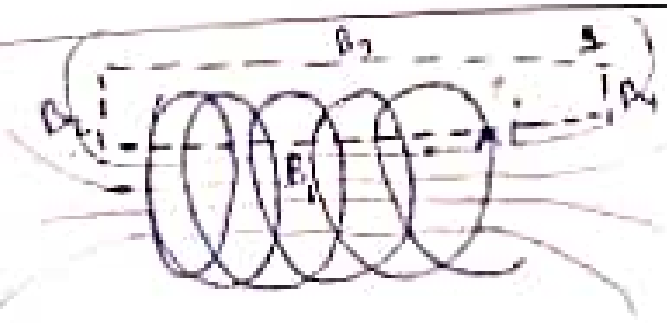




By Biot Savart's Law

$$dB = \frac{\mu_0}{4\pi} \frac{i\, d\vec{l} \times \vec{r}}{r^3}$$

$dB \cos\theta$



By Applying Ampere circuital Law at loop 1

(i) inside coil magnetic field is approx uniform (B)
let length of loop is l

$\therefore$ $(B \cdot l)$ is line integral of (B)

(ii) outside coil magnetic field is dispersed (spread) so (B→)

$\therefore$ line integral of B is (0)

(iii) at side ways of closed path length is zero ∴ the integral become (0)

$$\therefore \quad B_1 l_1 + B_2 l_2 + B_3 l_3 + B_4 l_4 = \mu_0 i$$

$$B l + B_2 \cdot 0 + 0 \cdot l_3 + B_4 \cdot 0 = \mu_0 i$$

$$B l = \mu_0 i$$

$$\therefore \quad B = \frac{\mu_0 i}{l}$$

From formula only at long distance magnetic field ∴ B=0

5) Gauss law: Charge enclosed by any arbitrary shape or size of sphere have Electric flux $\phi_E = \frac{q(\text{inclosed})}{\varepsilon_0}$

Proof: For Spherical Symmetry

Let's take a imaginary surface of sphere of radius (r) with a charge (q) at its centre.

Electric field at any point of Sphere is uniform have same value and always outward Normal to surface

$$\phi_n = \oint \vec{E} \cdot d\vec{S} = \frac{q}{4\pi\varepsilon_0 r^2} \int dS = \frac{q}{4\pi\varepsilon_0 r^2} \times 4\pi r^2 = \frac{q}{\varepsilon_0}$$

$$\therefore \vec{E} \cdot d\vec{S} = E\, dS$$

$$\therefore \quad \Phi_E = \frac{Q}{\varepsilon_0} = \oint E \cdot d\vec{s} \quad \Rightarrow \oint D \cdot d\vec{s} = Q$$

This is true for any shape of surface and size and for any position of charge inside surface.

Now $\oint E \cdot d\vec{s} = \int \nabla \cdot E \, dV$ ← According to vector calculus identity

and let $Q = \int \rho \, dV$

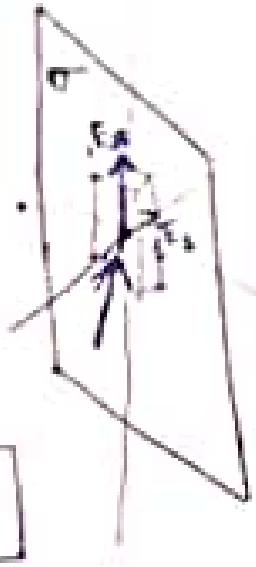
$$\therefore \quad \int \nabla \cdot E \, dV = \frac{\int \rho \, dV}{\varepsilon_0}$$

$$\therefore \quad \nabla \cdot E = \frac{\rho}{\varepsilon_0}$$

For material (ε): $\nabla \cdot E = \frac{\rho}{\varepsilon}$

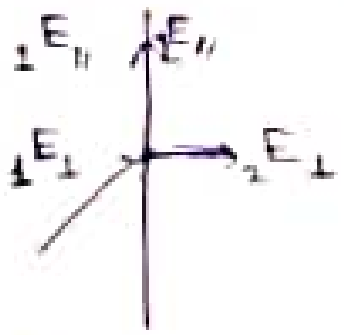
$$\therefore \nabla \cdot D = \rho$$

I



$$D_{1\perp} - D_{2\perp} = \sigma$$

II



Parallel components not involved

$$\therefore (_1E_\perp - E_{2\perp})\,ds = \frac{\sigma}{\varepsilon} d$$

$$\therefore {}_1E_\perp - E_{2\perp} = \frac{\sigma}{\varepsilon}$$