Date: - 01/09/2018

Vivekanand College, Kolhapur

Notice For B. Sc. III (Chemistry) Students

Seminar Activity 2018-19

All the students of B. Sc.III (Chemistry) are hereby informed that Department of Chemistry is going to conduct seminar activity for B. Sc. III students as per planning. The following students are going to deliver the seminar on Wednesday 05/09/2018 at 1.00 pm in Hall No. 42. This activity is compulsory for all students of B. Sc. III Chemistry. All the students should remain present for the same.

Sr. No.	Roll No.	Name of the Students	Name of the Topic
1	8526	Mr. Desai Pritam Anil	Dual nature of matter and energy
2	8527	Miss. Patil Amruta Annaso	Soaps and its raw materials
3	8528	Mr. Daur Ashish Bajirao	Introduction of spectroscopy
4	8529	Miss. Barwade Snehal Suhas	Chemistry in everyday life
5	8532	Miss. Chougule Namrata Sarjerao	UV-Vis spectroscopy

(Dr. Mrs. S. D. Shirke)
Incharge

(Dr. D. B. Patil)
Head
Dept. of Chemistry
Vivekanand College Kolhapur

Date: - 22/09/2018

Vivekanand College, Kolhapur

Notice For B. Sc. III (Chemistry) Students

Seminar Activity 2018-19

All the students of B. Sc.III (Chemistry) are hereby informed that Department of Chemistry is going to conduct seminar activity for B. Sc. III students as per planning. The following students are going to deliver the seminar on Wednesday 26/09/2018 at 1.00 pm in Hall No. 42. This activity is compulsory for all students of B. Sc. III Chemistry. All the students should remain present for the same.

Sr. No.	Roll No.	Name of the Students	Name of the Topic
1	8534	Miss. Patil Prajakta Deepak	Inorganic polymers
2	8537	Miss. Deshmane Komal Uttam	Anisotropic effect in benzene
3	8539	Miss. Dhokare Priyanka Digambar	Beer Lamberts law
4	8551	Miss. Jadhav Maya Sambhaji	Derivation of Schrodinger equation
5	8553	Miss. Jadhav Priyanka Dnyadev	Steam distillation

(Dr. Mrs. S. D. Shirke)
Incharge

(Dr. D. B. Patil)
Head
Dept. of Chemistry
Vivekanand College Kolhapur

Date: - 28/09/2018

Vivekanand College, Kolhapur
Notice For B. Sc. III (Chemistry) Students
Seminar Activity 2018-19

All the students of B. Sc.III (Chemistry) are hereby informed that Department of Chemistry is going to conduct seminar activity for B. Sc. III students as per planning. The following students are going to deliver the seminar on Wednesday 03/10/2018 at 1.00 pm in Hall No. 42. This activity is compulsory for all students of B. Sc. III Chemistry. All the students should remain present for the same.

Sr. No.	Roll No.	Name of the Students	Name of the Topic
1	8530	Mr. Chougule Shridhar Rangrao	Gas electrode
2	8533	Miss. Choure Minakshi Vaman	Chromophore and Auxochrome
3	8535	Miss. Deshinge Ketaki Kuntinath	Beer Lamberts law
4	8540	Mr. Doiphode Abhijeet Bajrang	Raoults law
5	8541	Mr. Gat Pritam Sanjay	Second law of photochemistry
6	8542	Mr. Gawade Prakash Balu	Dual nature of matter
7	8543	Miss. Gholap Sanyuja Bhagwwant	Corrosion
8	8546	Miss. Ghudubhai Simran Shahabuddin	Nerst equation

(Dr. Mrs. S. D. Shirke)
Incharge

(Dr. D. B. Patil)
Head
Dept. of Chemistry
Vivekanand College, Kolhapur

Date: - 29/09/2018

Vivekanand College, Kolhapur

Notice For B. Sc. III (Chemistry) Students

Seminar Activity 2018-19

All the students of B. Sc.III (Chemistry) are hereby informed that Department of Chemistry is going to conduct seminar activity for B. Sc. III students as per planning. The following students are going to deliver the seminar on Wednesday 04/10/2018 at 1.00 pm in Hall No. 42. This activity is compulsory for all students of B. Sc. III Chemistry. All the students should remain present for the same.

Sr. No.	Roll No.	Name of the Students	Name of the Topic
1	8536	Miss. Deshinge Pratiksha Rajendrakumar	Derivation of Schrodinger equation
2	8544	Mr. Gholave Aviraj Dhananjay	Soaps and detergents
3	8545	Mr. Ghorpade Ganesh Ramesh	Quantum numbers
4	8547	Miss. Hajare Aarati Yashwant	Inductive effect
5	8557	Mr. Patil Yogesh Jaywant	Methods of protection of metals from corrosion
6	8560	Mr. Kale Aadarsh Uday	Electromagnetic radiations
7	8562	Mr. Kamble Aadarsh Sadashiv	Nernst equation

(Dr. Mrs. S. D. Shirke)
Incharge

(Dr. D. B. Patil)
Head
Dept. of Chemistry
Vivekanand College, Kolhapur

Date: - 08/12/2018

Vivekanand College, Kolhapur
Notice For B. Sc. III (Chemistry) Students
Seminar Activity 2018-19

All the students of B. Sc.III (Chemistry) are hereby informed that Department of Chemistry is going to conduct seminar activity for B. Sc. III students as per planning. The following students are going to deliver the seminar on Wednesday 12/12/2018 at 1.00 pm in Hall No. 42. This activity is compulsory for all students of B. Sc. III Chemistry. All the students should remain present for the same.

Sr. No.	Roll No.	Name of the Students	Name of the Topic
1	8555	Miss. Jadhav Snehal Suresh	Adsorption

(Dr. Mrs. S. D. Shinde)
Incharge

(Dr. D. B. Patil)
Head
Dept. of Chemistry
Vivekanand College Kolhapur

Date: - 15/12/2018

Vivekanand College, Kolhapur
Notice For B. Sc. III (Chemistry) Students
Seminar Activity 2018-19

All the students of B. Sc.III (Chemistry) are hereby informed that Department of Chemistry is going to conduct seminar activity for B. Sc. III students as per planning. The following students are going to deliver the seminar on Wednesday 19/12/2018 at 1.00 pm in Hall No. 42. This activity is compulsory for all students of B. Sc. III Chemistry. All the students should remain present for the same.

Sr. No.	Roll No.	Name of the Students	Name of the Topic
1	8558	Mr. Jojare Devashish Sanjay	Haber's Process
2	8559	Mr. Kalawant Sameer Raju	Fundamental Modes of Vibration
3	8565	Miss. Kamble Rama Ashok	Isomerism and Their Classification

(Dr. Mrs. S. D. Shinde)
Incharge

(Dr. D. B. Patil)

Head
Dept. of Chemistry
Vivekanand College Kolhapur

Date: - 22/12/2018

Vivekanand College, Kolhapur
Notice For B. Sc. III (Chemistry) Students
Seminar Activity 2018-19

All the students of B. Sc. III (Chemistry) are hereby informed that Department of Chemistry is going to conduct seminar activity for B. Sc. III students as per planning. The following students are going to deliver the seminar on Wednesday 26/12/2018 at 1.00 pm in Hall No. 42. This activity is compulsory for all students of B. Sc. III Chemistry. All the students should remain present for the same.

Sr. No.	Roll No.	Name of the Students	Name of the Topic
1	8561	Miss. Kale Harshali Harish	Functional Drugs
2	8563	Mr. Kamble Gaurav Gautam	Schrodinger Wave Equation
3	8564	Miss. Kamble Mrunalee Shital	Chemotherapeutic Drugs
4	8567	Miss. Karade Sonali Sachin	Constitution of Citral and its analytical evidences
5	8570	Miss. Khodbale Gayatri Suresh	Classification of Solids on the basis of band theory

(Dr. Mrs. S. D. Shinde)
Incharge

(Dr. D. B. Patil)

Head
Dept. of Chemistry
Vivekanand College, Kolhapur

Date: - 11/01/2019

Vivekanand College, Kolhapur
Notice For B. Sc. III (Chemistry) Students
Seminar Activity 2018-19

All the students of B. Sc. III (Chemistry) are hereby informed that Department of Chemistry is going to conduct seminar activity for B. Sc. III students as per planning. The following students are going to deliver the seminar on Wednesday 16/01/2019 at 1.00 pm in Hall No. 42. This activity is compulsory for all students of B. Sc. III Chemistry. All the students should remain present for the same.

Sr. No.	Roll No.	Name of the Students	Name of the Topic
1	8587	Miss. Gavase Pooja Pandit	Fluorocarbons
2	8601	Miss. Patil Supriya Mahadev	Classification of Inorganic Polymers
3	8605	Miss. Kadam Noopur Prakash	Introduction and General Principles of Flame Photometry
4	8613	Miss. Patil Sonali Sarjerao	Factors affecting to Corrosion
5	8631	Miss. Zade Ashwini Nandkumar	Types of Soaps
6	8632	Miss. Patil Mrunal Mukund	Oppenauer Oxidation Reaction

(Dr. Mrs. S. D. Shinde)
Incharge

(Dr. D. B. Patil)

Head
Dept. of Chemistry
Vivekanand College Kolhapur

Date: - 18/01/2019

Vivekanand College, Kolhapur
Notice For B. Sc. III (Chemistry) Students
Seminar Activity 2018-19

All the students of B. Sc.III (Chemistry) are hereby informed that Department of Chemistry is going to conduct seminar activity for B. Sc. III students as per planning. The following students are going to deliver the seminar on Wednesday 23/01/2019 at 1.00 pm in Hall No. 42. This activity is compulsory for all students of B. Sc. III Chemistry. All the students should remain present for the same.

Sr. No.	Roll No.	Name of the Students	Name of the Topic
1	8566	Mr. Kamble Rohan Prakash	Opposing Reaction
2	8569	Mr. Khan Zulbab Haider Zaighumlli	Catalytic Converter
3	8571	Mr. Khot Rakesh Rangrao	Instrumentation of NMR
4	8573	Mr. Kurundwade Yogesh Mahaveer	Basic Terms in Spectroscopy
5	8602	Mr. Patil Vipul Shivaji	Principles of Green Chemistry

(Dr. Mrs. S. D. Shinde)
Incharge

(Dr. D. B. Patil)

Head
Dept. of Chemistry
Vivekanand College, Kolhapur

Date: - 25/01/2019

Vivekanand College, Kolhapur
Notice For B. Sc. III (Chemistry) Students
Seminar Activity 2018-19

All the students of B. Sc. III (Chemistry) are hereby informed that Department of Chemistry is going to conduct seminar activity for B. Sc. III students as per planning. The following students are going to deliver the seminar on Wednesday 30/01/2019 at 1.00 pm in Hall No. 42. This activity is compulsory for all students of B. Sc. III Chemistry. All the students should remain present for the same.

Sr. No.	Roll No.	Name of the Students	Name of the Topic
1	8568	Miss. Katware Shweta Deepak	Synthesis of Drugs
2	8594	Miss. Patil Aishwarya Sanjay	Bessemer Process
3	8615	Miss. Savant Rajashri Sanjay	Gibbs and Helmholtz Function
4	8626	Mr. Tahsildar Omkar B.	Range of α particle and its Geiger Nuttal Reaction

(Dr. Mrs. S. D. Shinde)
Incharge

(Dr. D. B. Patil)

Head
Dept. of Chemistry
Vivekanand College, Kolhapur

Vivekanand College, (Autonomous) Kolhapur

Department of Chemistry

B. Sc.-III Attendance Sheet

2018-19

Seminar Activity

Date: 05/09/2018.

Time 01.03 pm.

Roll No.	Sign	Roll No.	Sign	Roll No.	Sign	Roll No.	Sign
8526		8560		8594		8628	
8527		8561		8595		8629	
8528		8562		8596		8630	
8529	Snehal	8563		8597		8631	
8530		8564		8598		8632	
8531		8565		8599	ABSENT	8633	
8532		8566		8600		8634	
8533		8567		8601		8879	
8534		8568		8602			
8535		8569		8603			
8536		8570		8604			
8537		8571		8605			
8538		8572		8606			
8539		8573		8607			
8540		8574		8608			
8541		8575		8609			
8542		8576		8610			
8543		8577		8611			
8544		8578		8612			
8545		8579		8613			
8546		8580		8614			
8547		8581		8615			
8548		8582		8616			
8549		8583		8617			
8550		8584		8618			
8551		8585		8619			
8552		8586		8620			
8553		8587		8621			
8554		8588		8622			
8555		8589		8623			
8556		8590		8624			
8557		8591		8625			
8558		8592		8626			
8559		8593		8627			

Name of teacher:

1) Mrs. Shinde S.D.

2) Mr. Shinke S.D.

Sign.-

3) Bhi Kadam S.S.

4) Dhoi Ankushrao -

5) Sh. Kale

Vivekanand College, (Autonomous) Kolhapur

Department of Chemistry

B. Sc.-III Attendance Sheet

2018-19

Date: 26- sep- 2018 Seminar activity Time 1.00 pm

Roll No.	Sign	Roll No.	Sign	Roll No.	Sign	Roll No.	Sign
8526		8560		8594		8628	
8527		8561		8595		8629	
8528		8562		8596		8630	
8529		8563		8597		8631	
8530		8564		8598		8632	
8531		8565		8599		8633	
8532		8566		8600		8634	
8533		8567		8601			
8534		8568		8602			
8535		8569		8603			
8536		8570		8604			
8537		8571		8605			
8538		8572		8606			
8539		8573		8607			
8540		8574		8608			
8541		8575		8609			
8542		8576		8610			
8543		8577		8611			
8544		8578		8612			
8545		8579		8613			
8546		8580		8614			
8547		8581		8615			
8548		8582		8616			
8549		8583		8617			
8550		8584		8618			
8551		8585		8619			
8552		8586		8620			
8553		8587		8621	Rajesh		
8554		8588		8622			
8555		8589		8623			
8556		8590		8624			
8557		8591		8625			
8558		8592		8626			
8559		8593		8627			

Dr. Shinde S.P.
Mr. R.A. Kadam
Dr. Shinde S.P.

Name of teacher:

Sign.-

Vivekanand College, (Autonomous) Kolhapur

Department of Chemistry

B. Sc.-III Attendance Sheet

2018-19

Date: 3-10-2018 Seminar activity Time 1:00 to

Roll No.	Sign	Roll No.	Sign	Roll No.	Sign	Roll No.	Sign
8526		8560		8594		8628	
8527		8561		8595		8629	
8528		8562		8596		8630	
8529		8563		8597		8631	
8530		8564		8598		8632	
8531		8565		8599		8633	
8532		8566		8600		8634	
8533		8567		8601			
8534		8568		8602			
8535		8569		8603			
8536		8570		8604			
8537		8571		8605			
8538		8572		8606			
8539		8573		8607			
8540		8574		8608			
8541		8575		8609			
8542		8576		8610			
8543		8577		8611			
8544		8578		8612			
8545		8579		8613			
8546		8580		8614			
8547		8581		8615			
8548		8582		8616			
8549		8583		8617			
8550		8584		8618			
8551		8585		8619			
8552		8586		8620			
8553		8587		8621	Rajesh		
8554		8588		8622			
8555		8589		8623			
8556		8590		8624			
8557		8591		8625			
8558		8592		8626			
8559		8593		8627			

Po-Shinde S.D. Prof.
Mr. R.A. Kale
Po. Shitre S.D.

Name of teacher:

Sign.-

Vivekanand College, (Autonomous) Kolhapur

Department of Chemistry

B. Sc.-III Attendance Sheet

2018-19

Date: 04/12/18 — Seminar — Time 1.20 pm.

Roll No.	Sign	Roll No.	Sign	Roll No.	Sign	Roll No.	Sign
8526		8560		8594		8628	
8527		8561		8595		8629	
8528		8562		8596		8630	
8529	Snehal	8563		8597		8631	
8530		8564		8598		8632	
8531		8565		8599		8633	
8532		8566		8600		8634	
8533		8567		8601			
8534		8568		8602			
8535		8569		8603			
8536		8570		8604			
8537		8571		8605			
8538		8572		8606			
8539		8573		8607			
8540		8574		8608			
8541		8575		8609			
8542		8576		8610			
8543		8577		8611			
8544		8578		8612			
8545		8579		8613			
8546		8580		8614			
8547		8581		8615			
8548		8582		8616			
8549		8583		8617			
8550		8584		8618			
8551	M.S.Jadhav	8585		8619			
8552		8586		8620			
8553		8587		8621			
8554		8588		8622			
8555		8589		8623			
8556		8590		8624			
8557		8591		8625			
8558		8592		8626			
8559		8593		8627			

Name of teacher: 1) Dr. R.D. Swinde

2) Dr. S.D. Swire — Sign.-

3) Dr. R.A. Kalel

4) Shri S.S. Kadam

Vivekanand College, (Autonomous) Kolhapur

Department of Chemistry

B. Sc.-III Attendance Sheet

2018-19

Date: 12/12/2018 Seminary Activity Time 1.00 to 2.00

Roll No.	Sign	Roll No.	Sign	Roll No.	Sign	Roll No.	Sign
8526		8560		8594		8628	
8527		8561		8595		8629	
8528		8562		8596		8630	
8529		8563		8597		8631	
8530		8564		8598		8632	
8531		8565		8599		8633	
8532		8566		8600		8634	
8533		8567		8601		8879	
8534		8568		8602			
8535		8569		8603			
8536		8570		8604			
8537		8571		8605			
8538		8572		8606			
8539		8573		8607			
8540		8574		8608			
8541		8575		8609			
8542		8576		8610			
8543		8577		8611			
8544		8578		8612			
8545		8579		8613			
8546		8580		8614			
8547		8581		8615			
8548		8582		8616			
8549		8583		8617			
8550		8584		8618			
8551		8585		8619			
8552		8586		8620			
8553		8587		8621			
8554		8588		8622			
8555		8589		8623			
8556		8590		8624			
8557		8591		8625			
8558		8592		8626			
8559		8593		8627			

Dr. Shinde S.P. Patil
Mr. R.A. Kalal
Dr. S.D. Shirke

Name of teacher:

Sign.-

Seminar activity

Vivekanand College, (Autonomous) Kolhapur

Department of Chemistry

B. Sc.-III Attendance Sheet

2018-19

Date: 19/12/18 Time 1.00 to 1.45

Roll No.	Sign	Roll No.	Sign	Roll No.	Sign	Roll No.	Sign
8526		8560		8594		8628	
8527		8561		8595		8629	
8528		8562		8596		8630	
8529	Snehal	8563		8597		8631	
8530		8564		8598		8632	
8531		8565		8599		8633	
8532		8566		8600		8634	
8533		8567		8601			
8534		8568		8602			
8535		8569		8603			
8536		8570		8604			
8537		8571		8605			
8538		8572		8606			
8539		8573		8607			
8540		8574		8608			
8541		8575		8609			
8542		8576		8610			
8543		8577		8611			
8544		8578		8612			
8545		8579		8613	S.S.Patil		
8546		8580		8614			
8547		8581		8615			
8548		8582		8616			
8549		8583		8617			
8550		8584		8618			
8551		8585		8619			
8552		8586		8620			
8553		8587		8621			
8554		8588		8622			
8555		8589		8623			
8556		8590		8624			
8557		8591		8625			
8558		8592		8626			
8559		8593		8627			

Dr Shinde S.D.

Mr. R.A.Kalel

Name of teacher:

Sign.- Dr Shinde S.D.

Vivekanand College, (Autonomous) Kolhapur

Department of Chemistry

B. Sc.-III Attendance Sheet

2018-19

Date: 26/12/18 Seminar Activity Time 1.00 to 2.00

Roll No.	Sign	Roll No.	Sign	Roll No.	Sign	Roll No.	Sign
8526		8560		8594		8628	
8527		8561		8595		8629	
8528		8562		8596		8630	
8529	Gochal	8563		8597	P.B.Patil	8631	
8530		8564		8598		8632	
8531		8565		8599		8633	
8532		8566		8600		8634	
8533		8567		8601			
8534		8568		8602			
8535		8569		8603			
8536		8570		8604			
8537		8571		8605			
8538		8572		8606			
8539		8573		8607			
8540		8574		8608			
8541		8575		8609			
8542		8576		8610			
8543		8577		8611			
8544		8578		8612			
8545		8579		8613			
8546		8580		8614			
8547		8581		8615			
8548		8582		8616			
8549		8583		8617			
8550		8584		8618			
8551		8585		8619			
8552		8586		8620			
8553		8587		8621			
8554		8588		8622			
8555		8589		8623			
8556		8590		8624			
8557		8591		8625			
8558		8592		8626			
8559		8593		8627			

Dr. Shinde S.P. Prof.
Mr. R.A. Kadam Staff

Name of teacher:

Sign. Mr. Kadam S.S.

Seminar Activity

Vivekanand College (Autonomous), Kolhapur
Department of Chemistry
B. Sc. III – Roll call
2018-19

Name of Faculty: Time: 1.00 to 2.15 Date: 16/2/19

Roll No.	Sign.	Roll No.	Sign.	Roll No.	Sign.	Roll No.	Sign.
8526		8563		8600			
8527		8564		8601			
8528		8565		8602			
8529		8566		8603			
8530		8567		8604			
8531		8568		8605			
8532		8569		8606			
8533		8570		8607			
8534		8571		8608	PARTH		
8535		8572		8609			
8536		8573		8610			
8537		8574		8611			
8538		8575		8612			
8539		8576		8613	S.S.Patil		
8540		8577		8614			
8541		8578		8615			
8542		8579		8616			
8543		8580		8617			
8544		8581		8618			
8545		8582		8619			
8546		8583		8620			
8547		8584		8621	Rajesh		
8548		8585		8622			
8549		8586		8623			
8550		8587		8624			
8551	M.S.Jadhav	8588		8625			
8552		8589		8626			
8553		8590		8627			
8554		8591		8628			
8555		8592		8629			
8556		8593		8630			
8557		8594		8631			
8558		8595		8632			
8559		8596		8633			
8560		8597	P.B.Patil	8634			
8561		8598		8878			
8562		8599		8879			

Dr. S.D. Sonde

Sign: Mr. R.A. Kadu

Mr. S.S. Kadam

Seminar Activity 23/11/19

Roll No	sign
8534	
8532	
8576	
8579	
8532	
8556	
8535	
8565	
8568	
8578	
8609	
8630	
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Dr. shinde S.D.

Mr. R.A. Kalel

Mr. S.S. Kadam

Seminar Activity

Vivekanand College (Autonomous), Kolhapur
Department of Chemistry
B. Sc. III – Roll call
2012-13

Name of Faculty: Time: 1.00 to 2.00 30/1/13

Roll No.	Sign.	Roll No.	Sign.	Roll No.	Sign.	Roll
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8527		8564		8601		
8528		8565		8602		
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Dr Shinde S.D.
Sign: Mr. R.A. Kalel
Dr. Shinde S.D.
Mr. Kadam S.S.

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Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand (Autonomous) College, Kolhapur

Department of Chemistry

S E M I N A R

Name of the Student Pritam Anil Desai.

Class B.Sc.-3rd Roll No. 8526

Date 05-09-2018 Subject Chemistry

Title of the Seminar Dual Nature of Matter and Energy (de-Broglie Hypothesis) - de-Broglie Equation -

SYNOPSIS

Electromagnetic radiations were explained on the basis of two theories, one based on particle model & other based on wave model.

In 1924, French Scientist Louis de-Broglie combined these two theories of radiation in his hypothesis now called as de-Broglie Hypothesis.

De-Broglie Equation -

According Planck's theory, Energy (E) of photon is

$$E = h\nu \quad \text{——— (i)}$$

where h = Planck's constant = 6.623×10^{-34} J·s

ν = Freq.^{n} of radiation.

According to theory of relativity, energy (E) of photon (particle) of mass by Einstein's eq.^{n} -

$$E = mc^2 \quad \text{——— (ii)}$$

where c = velo. of light = $3.0 \times 10^{8}\ m \cdot s^{-1}$

From eq.^{n} (i) & (ii) we get

$$h\nu = mc^2$$

PADesai

Signature of the Student

Seminar Incharge

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Department of Chemistry

S E M I N A R

Name of the Student Prajakta Deepak patil

Class BSc III Roll No. 8534

Date 2/9/18 Subject Chemistry

Title of the Seminar

Inorganic polymer.

SYNOPSIS

• Defination of polymer :
"The word of polymer means many (poly) parts (mer) because it is formed by joining large number of small molecule"

• Type of polymer
(i) Homopolymer

(ii) Hetempolymer.

• classification of polymers.
on the basis of nature of back bone.
(i) organic polymer

(ii) inorganic polymer

• comparision between Organic and inorganic polymer.
: organic - PVC, nylon, terylene.

• inorganic - glass silicones.

Signature of the Student

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Department of Chemistry

S E M I N A R

Name of the Student Maya Sambhaji Jadhav

Class B.Sc.III Roll No. 8551

Date 26/9/2018 Subject Chemistry

Title of the Seminar Schrondinger wave equation

SYNOPSIS

* Derivation of Schrondinger wave equation

An austrian scientist schrondinger suggested that if microparticles like electrons behave as a wave, the equations of wave motions can be applied to them. schrodinger used classical time - independent wave equation to describe the particle wave. schrodinger wave equation is the fundamental of quantum mechanics.

The schrodinger wave equation is

$$\frac{\partial^2\psi}{\partial x^2} + \frac{8\pi^2 m}{h^2}(E-V)\psi = 0$$

here ψ = wave function

V = Potential energy of electron

∂ = del sign indicates partial derivative at position x

E = total energy of electron

m = Mass of Electron

h = Planck's constant

M.S. Jadhav
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Vivekanand (Autonomous) College, Kolhapur

Department of Chemistry

S E M I N A R

Name of the Student Miss. Deshinge Rekha K.

Class B.Sc. III Roll No. 8535

Date 3/12/18 Subject Chemistry

Title of the Seminar---Beer Lambert's Law

SYNOPSIS

Beer Lambert's law:- On passing a beam of monochromatic light through a soln of an absorbing substance (or a homogeneous absorbing solvent the absorption may be absorbed completely or partially so the intensity of the transmitted beam (I) will be less than the intensity of incident beam (I_0). The quantitative relationship between light absorbed and the conc. (c) as well as the path length (l) of the absorbing compound is given by Beer and Lambert

Lambert's law:- When a ray of monochromatic light passes through an absorbing medium, its intensity decreases exponentially as the length (l) of the absorbing medium increases mathematically it can be written as, $I = I_0 e^{-kl}$ ---①

Beer's law:- When a ray of monochromatic light passes through absorbing solution, its intensity decreases exponentially as the conc. of absorbing solution

$I = I_0 e^{-kc}$ ---②

Beer-Lambert's law:- $I = I_0 e^{-kcl}$

Logarithum of eq?

$\log_e \frac{I}{I_0} = -kcl$ $\log_e \frac{I_0}{I} = kcl$

$\log_{10} \frac{I_0}{I} = \frac{k}{2.303} \times cl$

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Vivekanand College (Autonomous), Kolhapur

Department of Chemistry

S E M I N A R

Name of the Student Pritam sanjay Gat

Class BSc - III Roll No. 8541

Date 3/10/18 Subject chemistry

Title of the Seminar

Stark - einstein law

SYNOPSIS

Q) Explain the Stark - einstein law?

→ The second law of photochemistry, proposed by stark and einstein, states that each molecule absorbs a single photon of light in primary process. This law is known as law of photoch -emical equivalence as well as principle of quan -tum activation.

explanation :- a malecule acquires energy to be act by absorbing photon as

$$A + h\nu \rightarrow A^*$$

if ν is the frequency of absorbed photon, the energy of single photon is given by

$$E = h\nu$$

where h = plank's constant = 6.624×10^{-34} Js

The energy of 1 mol photons, called as einstein is given by

$$E = Nh\nu$$

where N = avogadro's number = 6.023×10^{23} mol^{-1}

since $\nu = c/\lambda$, we get

$$E = \frac{Nhc}{\lambda}$$

where, c = velocity of light = 3×10^8 ms^{-1}

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inserting the values of N, h and c, we get

$$E = \frac{6.023 \times 10^{23}\ mol^{-1} \times 6.624 \times 10^{-34}\ Js \times 3 \times 10^{8}\ ms^{-1}}{\lambda \times 10^{-9}}$$

$$E = \frac{1.1962 \times 10^{8}}{\lambda}\ J\text{-}mol^{-1} \quad (\lambda \text{ in nanometer})$$

$$E = \frac{119620}{\lambda}\ KJ\ mol^{-1}$$

a mole of photons can excite a mole of molecules. However the second law is NOT valid under all conditions. if the electromagentic radiation is extremely intense, as in a laser beam, a molecule may absorb two or several photons.

$$A + 2h\nu \longrightarrow A^{*}$$

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Department of Chemistry

S E M I N A R

Name of the Student Gavade prakash Balu

Class B.Sc-III Roll No. 8542

Date 03/10/2018 Subject- physical chemistry

Title of the Seminar- Quantum theory.

(Dual Nature of matter and Energy.)

SYNOPSIS

Defn:- Electromagnetic radiations were explained on the basis of two theories one based on particle nature and other based on wave nature. In 1924 French scientist Louis de Broglie combined these two theories of radiation (light) behaves as a wave & also can be associated with particle nature similarly particle can be believe as wave and particle. this is called as wave particle duality of matter & radiation.

de-Broglie equation.

According to plank's theory

Energy (E) of a photon of a light is given by

$E = h\nu$ ——— (1)

Where, h = Plank's constant = 6.625×10^{-34} Js

ν = Frequency of radiation.

According to theory of relativity Energy (E) of a photon (particle) of mass m is given by Einstein's equations.

$E = mc^2$ ——— (2)

Where, c = velocity of light = 3×10^8 ms^{-1}

from eqn (1) & (2) we can write

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$$h\nu = mc^2 \quad \text{——— (3)}$$

But we know that $\nu = \frac{c}{\lambda}$

$$\therefore \frac{hc}{\lambda} = mc^2$$

i.e. $\frac{h}{\lambda} = mc$

thus, $\lambda = \frac{h}{mc}$

If photon travels in space with velocity 'c' then its momentum 'p' is given as

$$p = m \times c$$

Hence, $\lambda = \frac{h}{p}$

where, p = momentum photon.

de Broglie suggested that any particle with mass 'm' & velocity 'v' will exhibit a wave nature & its wavelength will be given by.

$$\lambda = \frac{h}{m \cdot v} = \frac{h}{p} \quad \text{——— (4)}$$

velocity $v = 0 \quad \lambda = \infty$

$v = \infty \quad \lambda = 0$

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Department of Chemistry

S E M I N A R

Name of the Student Sanyuja Bhagwant Gholap

Class BSc-III Roll No. 8543

Date 3/10/18 Subject Industrial chemistry

Title of the Seminar Corrosion And It's types:

SYNOPSIS

Corrosion :-

Introduction:

Corrosion is a natural process which converts a refined metal to a more chemically-stable form such as its oxide, hydroxide, or sulfide. It is the gradual destruction of materials by chemical & or electrochemical reaction with their environment.

In Corrosion there are two types of corrosion:

1) Aqueous Corrosion.
2) Environmental Corrosion.

1) Aqueous Corrosion →

Aqueous Corrosion is an electrochemical reaction of materials due to a wet environment, resulting in deterioration of the materials & its vital properties. In aqueous corrosion, the reaction rate depends on - Materials ion concentration, Electrolyte reactivity, Ambient air Pressure.

2) Environmental Corrosion →

Corrosion is the atmospheric oxidation of metals. That means that oxygen combines with the metal & forms a flaw layer. This layer can be good or bad. Rusting is process of oxidation in which iron combines with Oxygen to form rust. the reddish-brown oxide is form. It is depends upon the humidity, metal impurity present in

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Department of Chemistry

S E M I N A R

Name of the Student - Deshinge Pratiksha Rajendra Kumar

Class - B.Sc III

Roll No. - 65336

Date - 4.11.16

Subject - Chemistry

Title of the Seminar -

Derivation of Schrodinger wave eqn

SYNOPSIS

Schrodinger wave eqn is the fundamental of quantum mechanics or wave mechanics. Electron is moving as a standing wave or stationary wave around the nucleus. Consider an electron wave moving along the x-axis & behaving like a stationary wave. The eqn for the standing wave compared with wave of stretched string is given as

$$\psi = A \sin \frac{2\pi x}{\lambda} \quad \text{---(1)}$$

where ψ is a mathematical function which is amplitude function called as wave function. x is displacement in given direction (x-direction). λ is wave length of a wave function.

Diff twice eqn (1) with respect to x we get,

$$\frac{\partial \psi}{\partial x} = A \frac{2\pi}{\lambda} \cos \frac{2\pi x}{\lambda} \quad \text{---(2)}$$

& 2nd differentiation -

$$\frac{\partial^2 \psi}{\partial x^2} = -A \frac{4\pi^2}{\lambda^2} \times \sin \frac{2\pi x}{\lambda} \quad \text{---(3)}$$

But $A \sin \frac{2\pi x}{\lambda} = \psi$. Hence above eqn becomes

$$\frac{\partial^2 \psi}{\partial x^2} = -\frac{4\pi^2}{\lambda^2} \psi$$

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i.e $\frac{\partial^2\psi}{\partial x^2} + \frac{4\pi^2}{\lambda^2}\psi = 0$ ——④

Now total energy of a particle is given as

$T.E = K.E + P.E$

We know that $K.E = \frac{1}{2}mv^2$ & $P.E = V$

$\therefore E = \frac{1}{2}mv^2 + V$

Hence $K.E = \frac{1}{2}mv^2 = E - V$ ——⑤

We know that $K.E = \frac{1}{2}mv^2$

i.e $\frac{1}{2}mv^2 = \frac{1}{2}\frac{m \times mv^2}{m}$

$K.E = \frac{1}{2}mv^2 = \frac{m^2v^2}{2m}$ ——⑥

According to de broglie eqn

$\lambda = \frac{h}{mv}$

$\lambda^2 = \frac{h^2}{m^2v^2}$ or $m^2v^2 = \frac{h^2}{\lambda^2}$

Putting this value of m^2v^2 in eqn ⑥

$K.E = \frac{1}{2}mv^2 = \frac{h^2}{\lambda^2} \times \frac{1}{2m} = \frac{1}{2} \times \frac{h^2}{\lambda^2 \times m}$ ——⑦

From eqn ⑥ & ⑦ we can write

$\frac{h^2}{2\lambda^2 m} = (E - V)$

i.e $\frac{1}{\lambda^2} = \frac{2m}{h^2}(E - V)$ ——⑧

We have eqn ④ as $\frac{\partial^2\psi}{\partial x^2} + \frac{4\pi^2}{\lambda^2}\psi = 0$

Putting this value of $\frac{1}{\lambda^2}$ from eqn ⑧ & ④

$\frac{\partial^2\psi}{\partial x^2} + \frac{4\pi^2 \times 2m}{h^2}(E - V)\psi = 0$

$\frac{\partial^2\psi}{\partial x^2} + \frac{8\pi^2 m}{h^2}(E - V)\psi = 0$ ——⑨

This eqn ⑨ is nothing but schrodinger wave eqn in

Here ψ = wave function

V = potential energy of electron

∂ = (del) sign indicates partial derivative at positi

E = Total energy of electron

m = mass of electron &

h = plank's Constant

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Vivekanand (Arts, Commerce) College, Kolhapur

Department of Chemistry

S E M I N A R

Name of the Student Ganesh Ramesh Ghorpade

Class B.Sc.-III Roll No. 8545

Date 4/10/18 Subject Physical chemistry.

Title of the Seminar Concept of Quantum Number

SYNOPSIS

What is Quantum Number?

The schrodinger wave eqn defined with the help of four constants These constant is called as Quantum Numbers.

def^n These four index no which characterize the probability of location and energy of each electron in an atom.

The set of four no which gives the complete information of [address] energy of the electron in atom.

four sets of Quantum Numbers :

i] Principle Quantum Numbers [n]

It is denoted by letter 'n'

These no gives an idea of the major energy level in which the electron is present it also give the average distance of the electron from the nucleous.

i.e. It determine the size of the orbitals. It gives the effective volume of the electron cloud. It is denoted by 'n' letter which can have integral value excluding zero. such as 1, 2, 3, 4 ... etc.

If n=1 : 1st energy level, n=2 : 2nd level n=3 : 3rd energy level

ii] Azimuthal Quantum Numbers [l]

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Signature of the Teacher

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Azimuthal quantum no represent leter l.
It tells the subshell or sub energy level or orbital in whiche the electron present. It gives the angular kinetic energy is associated due to the angular momentum of electron.
It gives shape of orbitals in which electron is located the quantum no represented letter l for given value of 'n'.
l can have value starting from $l = 0$ to $l = n-1$ total value l is equal to the principle quantum Numbers
different value of l is corresepond to different sub shell
s, p, d, f designed as sub shal.
$l = 0$ s[subshell], $l = 1$ P-subshell, $l = 2$ d sub shell
$l = 3$ d[sub shell]

3] Magnetic Quantam Number [m]
An electron due to its angular motion arround the nucleus genererate magnetic fields
magnetism generate due to angular motion of the electron. This represent the no of orbitals in ony sub shell. This quantum no is represented as m It can have all value from -l to +l through zero each value of l, m has $(2l+1)$ value.
$l = 0$ m only one value i.e. $m = 0$ it means (s subshell) only one orientation of electron in space s subshell has one orbitals
$l = 1$ m have three value i.e. -1, 0, +1 means p-subshell 3 orbitals
$l = 2$ m can have five value i.e. -2, -1, 0, +1, +2 means having d-subshell 5 orientation of electron in spale.

4] Spin Quantum Number [s]
The spinning of electron contribute to the angular momentum of electron and it can be forward. [clock wise] or backward [anticlock wise] direction relative to the direction of path electron spinning of electron cause the increase or decrease in angular momentum due to which the sub leveles slightly diff^n energy levels. possible the spin quant. no dehoted by 's' 3 has clock wise or anticlock wise direction clock wise indicated [↑] upward direction. anticockwise spin show [↓] down word direction.

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Vivekanand (Autonomous) College, Kolhapur

Department of Chemistry

S E M I N A R

Name of the Student Aarati Yashwant Hajare

Class B. Sc. III Roll No. 8547

Date ~~26/10/18~~ 4/10/18 Subject Chemistry

Title of the Seminar Inductive effect

SYNOPSIS

Permanent displacement of sigma electrons along the carbon chain when an atom or group of atoms having different electronegativity is attached with this chain is called inductive effect.

Characteristics of inductive effect :

① It is a permanent effect

② Inductive effect is distance dependent electronic factor

③ It depends upon the electronegativity of the substituent

④ It is transmitted through sigma bond

Applications of IE :

① Stability of carbocation $\propto \frac{+IE}{-IE}$

② Stability of carbanion $\propto \frac{-IE}{+IE}$

③ Acidic nature of comp. $\propto \frac{-IE}{+IE}$

Types of I effect :

① $-IE$ - Groups or atoms which are more electronegative than hydrogen atom are said to be $-I$ effect

② $+IE$ - Groups or atoms which are less electronegative than hydrogen are said to be $+I$ effect

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Vivekanand (Autonomous) College, Kolhapur

Department of Chemistry

S E M I N A R

Name of the Student Yogesh Jayawant Patil

Class B.Sc.III Roll No. 8557

Date 4/10/18 Subject Chemistry

Title of the Seminar Methods of Protection of Metals from Corrosion

SYNOPSIS

Any process of chemical or electrochemical decay or destruction of metal due to surrounding medium is known as corrosion.

Corroded metal looses its mechanical properties i.e. metals become useless after corrosion. One quarter of the total production of iron is destroyed every year due to corrosion. It is therefore necessary to prevent corrosion of metal. Different methods are used to protect the metal from corrosion. Some of the important methods are as follows :

(i) Alloy formation
(ii) Removal of impurity
(iii) Polishing of surface
(iv) Removal of strain
(v) Formation of oxide film
(vi) Formation of phosphate coating

Patil
Signature of the Student

Pande
Seminar Incharge

(Dr. D. B. Patil)
Head
Dept. of Chemistry

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Vivekanand (Autonomous) College, Kolhapur

Department of Chemistry

S E M I N A R

Name of the Student Kale Adarsh uday

Class B.Sc - III Roll No. 8560

Date 04 - 10 - 2018 Subject Chemistry (Physical)

Title of the Seminar Spectroscopy

* Electromagnetic radiation *

SYNOPSIS

* Electromagnetic radiation :- Electromagnetic radiation is a form of energy that is transmitted through space at very high velocities. Maxwell proposed that light consists of electromagnetic waves. Electromagnetic waves are oscillating electric and magnetic fields perpendicular to each other and are perpendicular to the direction of motion of the wave. The electromagnetic radiation can thus, be described as wave with properties of wavelength, frequency & velocity. Electromagnetic radiation does not require any medium for it's transmission. thus, it easily passes through vacuum.

1) Wavelength (λ) :- Wavelength of a wave is the distance bet^n successive crests (or troughs)

$1 A^\circ = 10^{-8} cm = 10^{-10} m$, $1 \mu m = 10^{-6} m$

$1 nm = 10^{-9} m = 10 A^\circ$, $1 pm = 10^{-12} m$

2) Frequency (ν) :- Frequency of wave is the number of cycles passing a given point per unit time. Unit of frequency is hertz (Hz) :- $1 Hz = 1 s^{-1}$

$1 kHz = 10^3 Hz$, $1 MHz = 10^6 Hz$, $1 GHz = 10^9 Hz$

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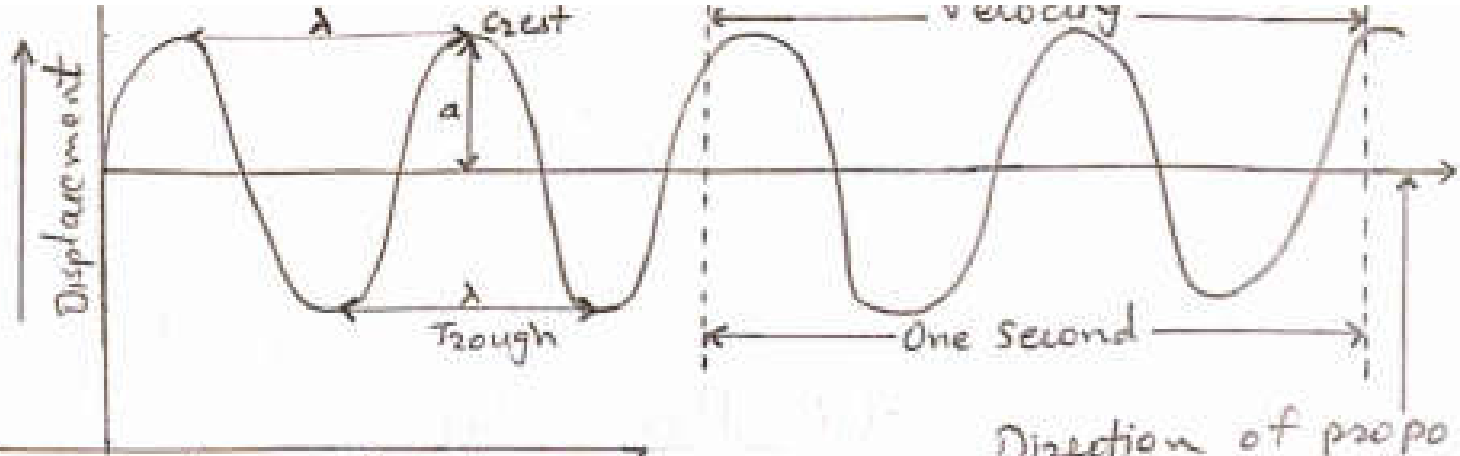

* Propogation of Wave

3) Velocity (c) -: It is the distance travelled by the wave in unit time. Velocity is expressed is $cm^3 s^{-1}$ or ms^{-1}. In vacuum light travels at it's maximum velocity equal to $3 \times 10^8 ms^{-1}$

4) Wavenumber ($\bar{\nu}$) -: It is the reciprocal of wavelength λ. $\bar{\nu} = \frac{1}{\lambda}$ —(i) $\bar{\nu}$ is expressed in cm^{-1} or m^{-1}. SI-approved unit of $\bar{\nu}$ is m^{-1} but cm^{-1} is used almost exclusively.

The wavelength, frequency, velocity & wave numbers are related by the expression,

$$\bar{\nu} = \frac{c}{\lambda} = c\bar{\nu} \quad \text{——(ii)}$$

The electromagnetic radiation consists of various types of radiations such as visible light, ultraviolet, Infrared, x-rays, radiowaves. $c = 3 \times 10^8 ms^{-1}$, in vacuum.

The wave model of electromagnetic radiation, as described above, explains the phenomenon like reflection, refraction, interference etc. but does not explain photoelectric effect. The light is considered to consist of photons or quanta. The energy of single photon is given

$$E = h\nu = h\frac{c}{\lambda} = hc\bar{\nu} \quad \text{——(iii)}$$

where,

h = planck's constant. It is evident that higher the frequency of radiation, higher is the energy.

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S E M I N A R

Name of the Student :- Adarsh Sadashiv Kamble.

Class :- B.Sc- III rd. Roll No. 8562.

Date 04/10/2018. Subject chemistry.

Title of the Seminar- Electromotive force.

(Nernst equation for electrode & cell potential)

SYNOPSIS

Introduction:-

Electrochemistry is the branch of the science which deals with energy changes:
a) electrical energy is converted to chemical energy &
b) chemical energy is converted to electrical energy.
A basic device used for this purpose is electro-chemical cell.

1. Electrochemical cell:-

A pair of electrodes dipping into an ionic solution and connected by an external metallic wires forms a electrochemical cell.

It is of two types: The cell that converts electrical energy into chemical energy is electrolyte cell, and that converts chemical energy into electrical energy is called voltaic or galvanic cell.

Nernst equation for electrode and cell potential:-

We know the relation bet" Free energy change ΔG and cell potential E_e:

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Thus,

ΔG is equal to the product of the cell potential E_c and quantity of electricity, nF.

$\therefore \quad \Delta G = -nE_cF$ J. ——— (1).

Where, F is Faraday's const = 96485 coul.

EMF of the cell and activities:-

consider a reversible cell for which the overall reaction is,

$$aA + bB \rightleftharpoons cC + dD.$$

$$Q_a = \frac{a_C^c + a_D^d}{a_A^a + a_B^b}$$

Ther free energy change ΔG of the reaⁿ is,

$$\Delta G = \Delta G^\circ + RT \ln Q_a. \quad \text{——— (2).}$$

Further, according to eqⁿ (1).

$\Delta G = -nE_cF$ Thus, $\Delta G^\circ = -nE_c^\circ F$.

$\therefore$ eqⁿ (2) becomes,

$$-nE_cF = -nE_c^\circ F + RT \ln Q_a.$$

Dividing by $-nF$ both side, we get.

$$E_c = E_c^\circ - \frac{RT}{nF} \ln Q_a \quad \text{——— (3).}$$

$$\therefore E_c = E_c^\circ - \frac{2.303\,RT}{nF} \log_{10} Q_a \quad \text{——— (4).}$$

Eqⁿ (3) & (4) is known as Nernst equation.

if E_c is in V, $F = 96485$, $R = 8.314$ and $T = 298$ K.

$\therefore$ eqⁿ (4) becomes,

$$E_c = E_c^\circ - \frac{2.303 \times 8.314 \times 298}{n \times 96485} \log_{10} Q_a = E_c^\circ - \frac{0.0591}{n} \log_{10} Q_a$$

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S E M I N A R

Name of the Student Snehal Suresh Jadhav

Class B.Sc III rd Roll No. 8555

Date 17/9/2018 Subject physical chemistry

Title of the Seminar Surface Chemistry (Adsarption)

SYNOPSIS

A surface is the boundary or interface between two media. There is often a higher concentration of molecules at an interface than in either media.

- **Adsorption :-** It is the collection or accumulation of one substance on the surface of another substance due to physical forces.
- **Adsorbent :-** To substance which adsorbs the another substance on its surface is called as adsorbent.
- **Adsorbate :-** The substance which itself gets adsorbed on the surface of another substance.
- **Absorption :-** It is a phenomenon in which a substance penetrates through the surface and gets uniformly distributed throught the body of another substance.
- Distinction Between Adsorption and adsorption
- Factors affecting Adsorption

Types of adsorption :-

1) physical adsorption

2) chemical adsorption

Distinguish between physical and chemical adsorption

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S E M I N A R

Name of the Student Devashish S. Jojare

Class BSc III Roll No. 5558

Date 19/12/18 Subject Chemistry

Title of the Seminar Habers process

Habers process for the extraction of Ammonia

SYNOPSIS

The haber process combines nitrogen from the air with hydrogen derived mainly from natural gas into Ammonia. The reaction is reversible and production of ammonia is exothermic. The catalyst is actually slightly more complicated than pure iron. The temperature required is between 400–450 °C and the atmospheric pressure is about 200 atm. They are taken in the proportion of 1:3. It was developed by the German chemist Fritz Haber and carl Bosch. It is an artificial nitrogen fixation process

$$N_2 + 3H_2 \longrightarrow 2NH_3$$

$\Delta H^\circ = 0\ kJ$ $\Delta H^\circ = -91.8\ kJ\ mol^{-1}$

Here Fe is used as the catalyst. This has now become the industrial process to acquire Ammonium by the such means. Iron is used as catalyst because it is contact process. It is used in production of H_2SO_4. In haber process N_2 and H_2 are absorbed forming temporary bonds the contact process involves a temporary chemical change in the catalyst. This the Haber process for the Ammonia.

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S E M I N A R

Name of the Student Kalawant Sameer Raju

Class B.Sc-III Roll No. 8559

Date 19/12/18 Subject Chemistry

Title of the Seminar Fundamental modes of vibrations

SYNOPSIS

At all temperature including absolute zero, the constituent atom of the molecule vibrate & rotate in a variety of ways- the motion leading to change in bond distance & bond angles (means stretching & bending) are called vibrational motion these stretching & bending vibration are known as fundamental modes of vibration. Fundamental modes of vibration calculate

For a non-linear molecular having N number of atoms

No. of fundamental modes of vibrations = 3N-6

3N is degree of freedom because three cartesian coordinates are needed to locate each atom in space

For linear molecules there are only two axes

No. of Fundamental modes = 3N-5

Carbondioxide is linear triatomic molecule

Example - O=C=O

No. of fundamental modes of vibration = 3x3-5

= 4

The fundamental vibrations are grouped & subgrouped

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S E M I N A R

Name of the Student Miss. Rama Ashok kamble.

Class B.Sc. III Roll No. 8565.

Date 19/12/18 Subject Chemistry (Inorganic Chemistry)

Title of the Seminar

Isomerism & their classification

SYNOPSIS

Isomerism:- Compounds which have same chemical composition but diff. physical & chemical properties are called isomers & the phenomenon is called isomerism.
They are classified into a) Stereoisomerism & b) Structural isomerism

Stereoisomerism:-
The isomers having same structural formula but diff. relative arrangement of atoms of ligands in space are called stereoisomers & the phenomenon is known as stereoisomerism.
There types are

- Geometrical isomerism :-
Coordination compounds with same chemical formula but differing only in relative positions in space occupied by their constituent ligands or atoms is known as geometrical isomerism.
- This type of isomerism is commonly known as cis-trans isomerism.
- The various possible geometrical isomers of coordination compounds having CN is equal to 4 & 6 are more common & are discussed in brief as follows:-

• CN = 4
These possible structures will be tetrahedral &

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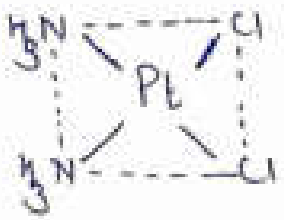
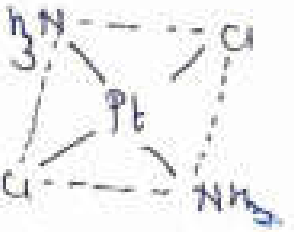
In Geometrical isomerism is not possible in tetrahedral complexes as all four positions are in some adjacent to one another.

square planar complexes are possible in geometrical isomerism

e.g. $[Ma_2b_2]$ type - $[Pt(NH_3)_2Cl_2]$



cis



trans.

~~⊕ CN~~

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S E M I N A R

Name of the Student Kamble Gaurav Gautam.

Class M.Sc.-III Roll No. 8563.

Date 26/12/16 Subject Chemistry.

Title of the Seminar Schrodinger wave equation.

SYNOPSIS

Schrodinger wave equation :-

Consider an electron wave moving along the x-axis and behaving like a stationary wave.

We have the equation for the stationary wave compare with wave of streched string.

$$\psi = A \sin \frac{2\pi x}{\lambda} \quad \text{— (1)}$$

x - displacement along x - direction.

λ - wavelength

Differentiate eqn (1) twice w.r.t x, we get,

$$\frac{\partial \psi}{\partial x} = \frac{A 2\pi}{\lambda} \cdot \cos \frac{2\pi x}{\lambda} \quad \text{— (2)}$$

$$\frac{\partial^2 \psi}{\partial x^2} = -\frac{A 4\pi^2}{\lambda^2} \times \sin \frac{2\pi x}{\lambda} \quad \text{— (3)}$$

But, we know,

$$A \sin \frac{2\pi x}{\lambda} = \psi$$

$$\therefore \frac{\partial^2 \psi}{\partial x^2} = -\frac{4\pi^2}{\lambda^2} \psi$$

$$\text{i.e } \frac{\partial^2 \psi}{\partial x^2} + \frac{4\pi^2}{\lambda^2} \psi = 0 \quad \text{— (4)}$$

Now, Total Energy of Particle is given as

$$E = K.E + P.E$$

$$E = \frac{1}{2} mv^2 + V$$

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i.e $E - V = K.E$ ——— (5).

$$K.E = \frac{1}{2}mv^2$$

$$\frac{1}{2}mv^2 = \frac{m \times mv^2}{2m}$$

$$\frac{1}{2}mv^2 = \frac{m^2v^2}{2m} \quad \text{——} (6)$$

Now, According to de-broglie-equation.

$$\lambda = \frac{h}{mv}.$$

squaring both sides we get,

$$\lambda^2 = \frac{h^2}{m^2v^2}$$

$$\lambda^2 m^2 v^2 = h^2$$

$$m^2v^2 = \frac{h^2}{\lambda^2}$$

put the value of m^2v^2 in equation (6).

$$\frac{1}{2}mv^2 = \frac{h^2}{\lambda^2}\frac{1}{2m}.$$

$$\text{i.e } K.E = \frac{h^2}{2\lambda^2 m}.$$

put the value of K.E in equation (5) we get,

$$E - V = K.E.$$

$$(E - V) = \frac{h^2}{2\lambda^2 m}.$$

then,

$$\frac{1}{\lambda^2} = \frac{2m}{h^2}(E - V) \quad \text{——} (7).$$

Now, put the value of $\frac{1}{\lambda^2}$ in equation (4).

we get,

$$\frac{\partial \psi^2}{\partial x^2} + 4\pi^2 \times \frac{2m}{h^2}(E - V)\psi = 0$$

$$\frac{\partial \psi^2}{\partial x^2} + \frac{8\pi^2 m}{h^2}(E - V)\psi = 0 \quad \text{——} (8)$$

hence, eqn (8) shows the schrodinger wave equation for the standing wave compared with wave of streched string.

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S E M I N A R

Name of the Student ...Khadbale Gayatri Suresh.....

Class ...BSc-III... Roll No. ...8510...

Date ...26/12/18... Subject ...Chemistry.....

Title of the Seminar ...Classification of solid as conductors, insulators and semiconductors on the basis of band theory...

SYNOPSIS

...on the basis of band theory the filling of the band decides whether metal will be a conductor, insulator or semiconductor.

1. Conductor : According to band theory of metal, valence bands are completely filled and the next available energy bands known as conduction bands are empty. There is no gap bet. valence bands and conduction band. therefore the electrons can easily move from valence band (filled band) to conduction (vacant) band. Thus, substance becomes a good conductor. As no. of electrons in valence band increases the conductivity also increases.

2. Insulators : According to the band theory of the metal, in insulators there is large empty gap between valence band & conduction band as shown in fig so electrons cannot be easily promoted from valence band to conduction band for electric conduction. The large gap is known as forbidden band.

3. Semiconductors : Solids which are insulators at absolute zero temperature but their conductivity increases with rise in temp. are termed as semiconductors. In such a case band theory states that the valence band and the conduction bands are separated by a very small energy gap. Therefore with sufficient energy electrons can overcome the narrow gap between valence band and conduction band which accounts conductivity of semiconductors.

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S E M I N A R

Name of the Student Pooja Pandit Gavase

Class B.Sc III Roll No. 5587

Date 16/11/2019 Subject Chemistry

Title of the Seminar Inorganic Polymers - Fluorocarbons

SYNOPSIS

* Polymer - Def - a substance with high molecular weight containing large number of repeating structural units. [A Large] The word Polymer means many (Poly) parts (mer)

* classification of Polymers - Polymers into classified into (I) organic (II) Inorganic

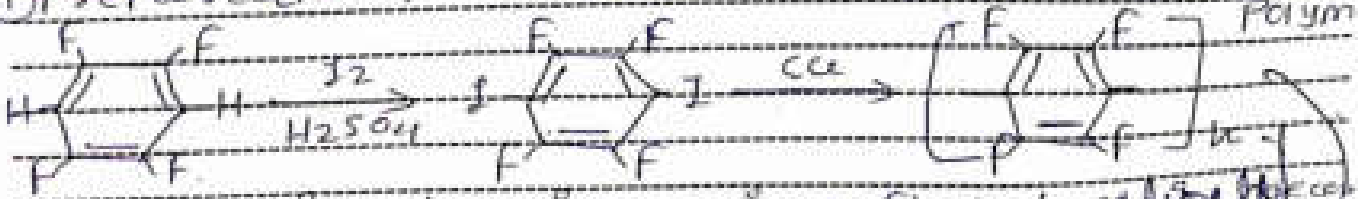
* Polymer backbone - The framework of atoms in a Polymer is known as polymer backbone.

Polymer backbone

- Homoatomic Polymers e.g Phosphorus, Fluorocarbons
- Heteroatomic Polymers e.g. silicones, Phosphonitrilic comp

Fluorocarbones:- organic hydrocarbons in which all hydrogen atoms have been replaced by fluoro are known as fluorocarbons

(1) Preparation :- Name reaction . Also Fluoroaromatic



Uses - tubing, bearings, aircraft tires etc.

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S E M I N A R

Name of the Student Supriya Mahadev Patil.

Class B.Sc III Roll No. 8601.

Date ..... Subject Chemistry.

Title of the Seminar- Inorganic polymers.

SYNOPSIS

Inorganic polymers :-

Inorganic polymers - Inorganic polymers are polymers with a skeletal structure that does not include carbon atoms in the backbone.

Classification of polymers -

Since polymers are numerous in number with different behaviours and can be classified in various ways. The following below are some basic ways in which we classify polymers

classification based on source

1) natural polymers
2) synthetic polymers
3) semi - synthetic polymers

Classification Based on structure of polymers

1) linear polymers
2) Branch chain polymers
3) crosslinked or network polymers

Based on methods of polymerisation

1) Addition polymers
2) condensation polymers

classification based on molecular forces

1) Elastomers
2) Thermoplastics
3) Thermosetting

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S E M I N A R

Name of the Student Rohan Prakash kamble

Class B.Sc - III Roll No. 8566

Date 23/11/19 Subject Chemistry

Title of the Seminar opposing / reversible / coumer Reaction.

SYNOPSIS

OPPOSING REACTION :—

Reactions in which the product of chemical change reacts to form the orginal reactants are known as opposing reaction or reversible reaction.

let us consider a simple opposing reaction in which both forward and backward reaction are of 1st order.

$$A \underset{k_b}{\overset{k_f}{\rightleftharpoons}} B$$

reactant : Product :

k_f = rate constant of forward reaction.

k_b = rate constant of backward reaction

Suppose

a = Initial concentration of A

When time passed i.e reaction after time 't' x mole of A' composed to form B

then conc. of A after time t will be (a-x) and that of B will be 'x'.

rate of forward reaction $= \left(\frac{dx}{dt}\right)_f = k_f (a-x)$

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rate of backward reaⁿ $\left(\frac{dx}{dt}\right)_b = k_b x$.

∴ overall rate of reaⁿ

$$\frac{dx}{dt} = \left(\frac{dx}{dt}\right)_f - \left(\frac{dx}{dt}\right)_b$$

$$= k_f(a-x) - k_b x \quad \text{—— (2)}$$

but at equilibrium, net rate of reaⁿ is zero.

i.e $\frac{dx}{dt} = 0$, put $x = x_e$.

$$\therefore k_f(a-x_e) - k_b x_e = 0$$

$$\therefore k_b = \frac{k_f(a-x)}{x_e} \quad \text{—— (3)}$$

put the value of k_b in eqⁿ (2).

$$\frac{dx}{dt} = k_f(a-x) - k_b x_e$$

$$= k_f a - k_f x_e - \frac{k_f(a-x)}{x_e} \cdot x_e$$

$$= k_f a - k_f x_e - \frac{k_f a x}{x_e} + \frac{k_f x_e x}{x_e}$$

$$= k_f a - k_f \frac{ax}{x_e}$$

$$= k_f a\left(1 - \frac{x}{x_e}\right)$$

common x_e,

$$\frac{dx}{dt} = \frac{k_f a}{x_e}(x_e - x)$$

$$\frac{dx}{(x_e - x)} = \frac{k_f a}{x_e} dt \quad \text{—— (4)}$$

Integrating Both sides we get,

$$-\ln(x_e - x) = \frac{k_f a}{x_e} t + c \quad \text{—— (5)}$$

when $t = 0$ & $x = 0$, then eqⁿ (5) becomes,

$-\ln x_e = c$ (integration constant)

put the value of $-\ln x_e$ in eqⁿ (5).

$$-\ln(x_e - x) = \frac{k_f a t}{x_e} - \ln x_e$$

rearrange the eqⁿ.

$$\ln x_e - \ln(x_e - x) = \frac{k_f a t}{x_e}$$

$$\ln \frac{x_e}{(x_e - x)} = \frac{k_f a t}{x_e}$$

$$\therefore k_f = \frac{x_e}{at} \log_{10}\left(\frac{x_e}{x_e - x}\right)$$

$$\therefore k_f = \frac{2.303}{at} x_e \log_{10}\left(\frac{x_e}{x_e - x}\right).$$

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Name of the Student Khan Zulkab Haider Zaigham Ali

Class B.Sc. III Roll No. 8569

Date 23-1-19 Subject Chemistry

Title of the Seminar- Catalytic Converter

SYNOPSIS

Catalytic Converter :-

A Catalytic Converter is a device used to reduce the toxicity of emission from an internal Combustion engine. First widely introduced on series production

Two Type of Converter

1. Two-way Converter -

Two way Catalytic Converter is widely used on diesel engines to reduce hydrocarbon & Carbon mono-oxide emission, & they are also used on spark ignition engines :-

- Oxidation of Carbon monoxide to Carbon dioxide.

$$2CO + O_2 \longrightarrow 2CO_2$$

- Oxidation of un-burnt & Partially-burnt hydrocarbon to Carbon dioxide & water.

$$C_xH_{2x+2} + \frac{1}{2}(3x+1)O_2 \longrightarrow xCO_2 + (x+1)H_2O$$

2. three way Converter :-

three way Catalytic Converter Converters have been used in vehicle emission Control System (Since 2 are same as two way Converter)

- Reduction of nitrogen oxides to nitrogen & oxygen.

$$2NO_x \longrightarrow xO_2 + N_2$$

Signature of the Student Seminar Incharge (Dr. D. B. Patil) Head Dept. of Chemistry

Dept. of Chemistry
Vivekanand College, Kolhapur

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शिक्षण महर्षी प.पू. डॉ. वापूजी साळुंखे.

Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College (Autonomous), Kolhapur

Department of Chemistry

S E M I N A R

Name of the Student - Aishwarya Sanjay patil

Class - B.Sc.-III Roll No. 8594

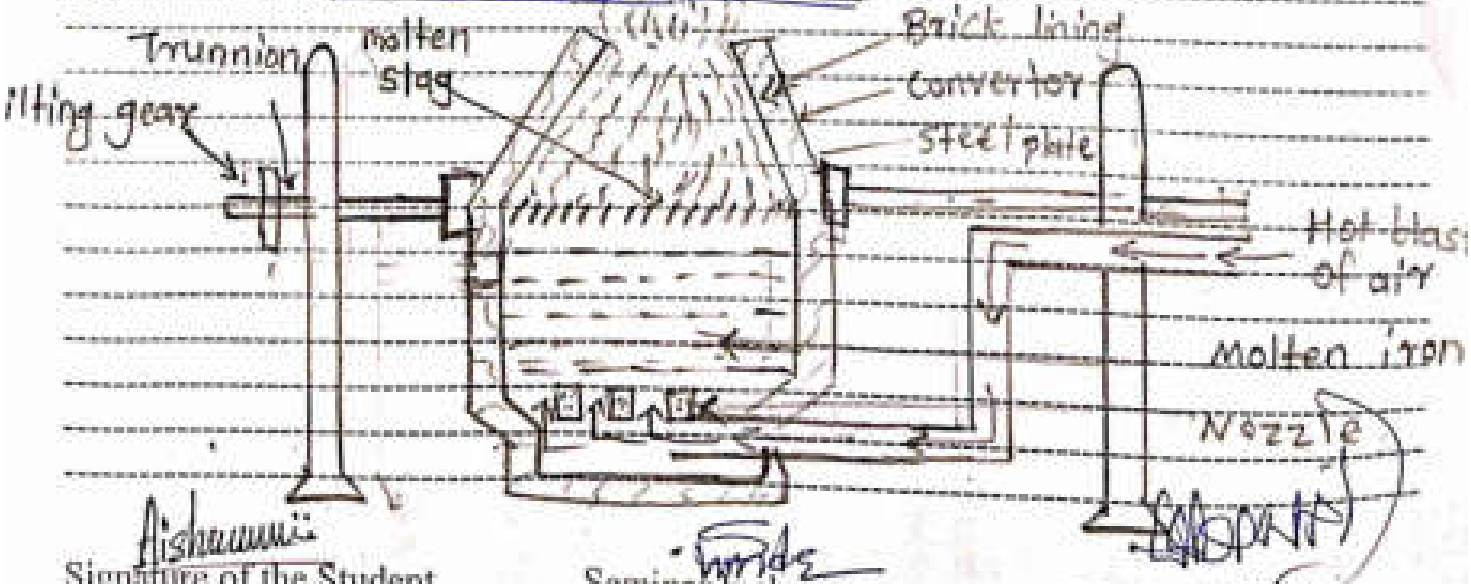
Date 30-01-2019 Subject- Inorganic chemistry.

Title of the Seminar- Iron & steel

SYNOPSIS

4.4 Conversion of cast iron into Steel.

(i) Bessemer process :- This process proposed by sir henery Bessemer in 1856 & is used to manufacture the Steel process is carried out in a large egg-shaped vessel called Bessemer Convertor which is made up of steel plates & lined with siellcius material. When acidic impurities are to be removed a basic lining such as dolomite is used, so it is then called Basic Bessemer process. When basic impurities are to be removed, an acidic lining of SiO_2 is used, so the process is called acid Bessemer Process.



Aishwarya
Signature of the Student

Seminar Incharge

(Dr. D. B. Patil)
Head
Dept. of Chemistry
Vivekanand College Kolhapur

Working:-

The Bessemer convertor is tilted into the horizontal position & about 15 to 20 tons of molten cast iron from the blast furnace are run into the convertor. then it is turned to vertical position & hot blast of air is is blown from the bottom of the convertor. when the hot blast of air passes through the molten metal, impurities start to oxidise & temperature rises upto 1900°C. the impurites of Mn, Si first oxidise & then combine with lining & finally they are removed as slag.

Thus, reactions taking place are,

$Si + O_2 \longrightarrow 2CO_2$, $2C + O_2 \longrightarrow 2CO\uparrow$.

$2Mn + O_2 \longrightarrow 2MnO$,

Here carbon is oxidised to co which burns with blue flame at mouth of convertor, when blue flame at the mouth dies, the calculated quantities of spiegeleisen is added along with scavenger such as ferrosilicon or aluminium. then all gases are removed out, mass is mixed, slag is

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शिक्षण महर्षी प.पू.डॉ.वासुदेव गायकवाड.

Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College (Autonomous), Kolhapur

Department of Chemistry

S E M I N A R

Name of the Student Rajeshri sanjay savant

Class B.Sc.-III Roll No. 8615

Date 30/01/2019 Subject Chemistry

Title of the Seminar Thermodynamics - Gibbs Function (G) and Helmholtz function (A)

SYNOPSIS

Thermodynamics:- It is a branch of science which deals with the quantitative relationship between heat energy and many other form of energy.

eg. i) Mechanical energy involved in the working of machines.

ii) Electrical energy used in the process like electrolysis.

iii) Chemical energy associated with chemical substance.

* Gibbs function (G) and Helmholtz function (A):-

The concept of entropy is a fundamental consequence of 2nd law of thermodynamics. An irreversible change is always spontaneous and all the natural process are spontaneous in which entropy increases and tends to the maximum at equilibrium.

Entropy as criterion of spontaneity, one must consider the entropy changes for both the system and surrounding together. Every time it is not convenient to do so. Hence two functions are introduced in thermodynamics.

Signature of the Student

Seminar Incharge

(Dr. D. B. Patil)
Head
Dept. of Chemistry
Vivekanand College, Kolhapur

These two functions are Gibbs free energy function or Gibbs potential and Helmholtz free energy func? or the work function.

The mathematically defined as,

$G = H - TS$. and $A = E - TS$.

Where, H, E, T and S are enthalpy, internal energy, temp. and entropy of the system resp.

H, E, T, S and also G and A are state functions and extensive properties.

* Relation between G and A.

From def? of G, we have,

$G = H - TS$.

Since, $H = E + pV$, we can write,

$G = E + pV - TS$.

i.e. $G = A + pV$. ---- ($\because A = E - TS$) — (1)

At constant pressure, the changes in the functions of eq. (1). can be written as,

$\Delta G = \Delta A + p\Delta V$.

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Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College (Autonomous), Kolhapur

Department of Chemistry

S E M I N A R

Name of the Student Omkar B. Tahasildar

Class B.Sc. III Roll No. 3626

Date 30/11/19 Subject Physical chemistry

Title of the Seminar Radioactivity, Range of α-particle & its relation with Geiger Nuttal relation

SYNOPSIS

(I) Radioactivity :- "The phenomenon of spontaneous emission of radiation from radioactive substance is known as radioactivity"

① The substance which emit these radiation are called radioactive substances

② Element having atomic mass more than 83 ($A > 83$) shows this phenomenon of radiation

③ Radioactivity is property of atom & nuclei hence unaffected by chemical & physical change

④ Radioactivity is nuclear phenomenon in which unstable nucleus undergoes a decay called radioactive decay

⑤ There are 3 types of radioactive decay they are as following (i) α-decay (ii) β-decay (iii) γ-decay

(i) In α-decay the helium nucleus emitted by element

(ii) In β decay electron & positron emitted by element

(iii) In γ decay high energy photon emitted by element

(II) Range of α-particle :- "The distance travelled by α-particle in gas from its source before it cease to cause ionization of gas is called range of α-particle"

Tahasildar
Signature of the Student

Seminar Incharge

(Dr. D. B. Patil)
Head
Dept. of Chemistry
Vivekanand College Kolhapur

① α-particle have high velocity & appreciable mass so they posses high ionising power & not deflected from their path by impact of nuclei of medium through which they pass.

② α-particle have straight line path of definite length depending upon initial velocity

③ Range varies with initial velocity of particle

④ For initial velocity of 4 Mev range of α-particle is about 2.8 cm in air & for 10 Mev energy the range is about 10 cm in air.

⑤ Range of α-particle is directly proportional to initial energy of particle & inversely proportional to half life period of respective element.

⑥ Range also depend on decay constant (λ)

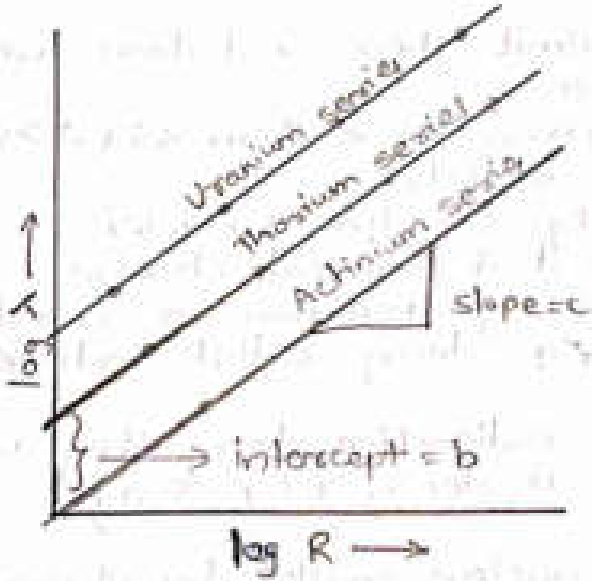
⑦ Emission of α-particle less than 4 Mev is not possible but in some cases it observed due to tunneling effect.

* Geiger - Nuttal relation :-

Geiger - Nuttal we shows close relation bet^n decay constant (λ) & range of α particle (R)

$$\log_{10}\lambda = b + c\log_e R$$

[where, λ = decay constant
R = range of α-particle in air
c = constant which vertically same for each radioactive series
b = another constant of each series



By using this rel^n, if log λ is plotted against log R, for series of element such as uranium, thorium straight line is obtained.

Slope gives value of c & intercept gives the value of b which is different for each series.

By using Geiger - Nuttal rule, we can calculate the life period of very short lived or very long lived element from range of α-particles emitted by them.

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VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)
INTERNAL QUALITY ASSURANCE CELL
2018-2019

Quality Initiatives/ Activities Report

1. **Name of Department**: Chemistry
2. **Name of Organized Activity**: Seminar Activity for the students of B.Sc.-III and M.Sc.-II
3. **Date:** Throughout the year.
   B.Sc.-III: Sem. V and Sem.- VI M.Sc.-II: Sem. III and Sem. IV
4. **Duration**: 2.53- 3.41 pm. In class room.
   B.Sc.-III: 15 min. for each student, M.Sc.-II: 30 min. for each student.

5. **Aims and Objectives:**
   1. To develop the stage daring for the students of UG and PG.
   2. To make the students confident to face the interviews for the placements in Industries, Companies and colleges for a job opportunity.
   3. It helps to enhance the personality development to have a good impression.
   4. It strengthens the hard working ability of the students to grab the success and it becomes a healthy practice throughout the life.
   5. Seminar activity develops the communication skill to have a good impact on examiners or judges.
   6. It enhances the presentation skill of the students.

6. **No. of beneficiaries**: B.Sc. III: 70 students, M.Sc.-II: 44 students

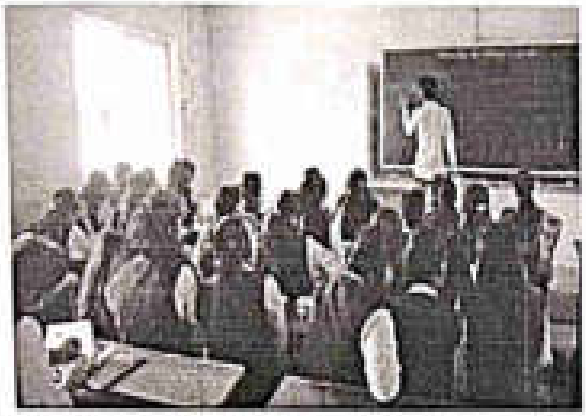
7. **Expenditure & funding agency:** Department of Chemistry

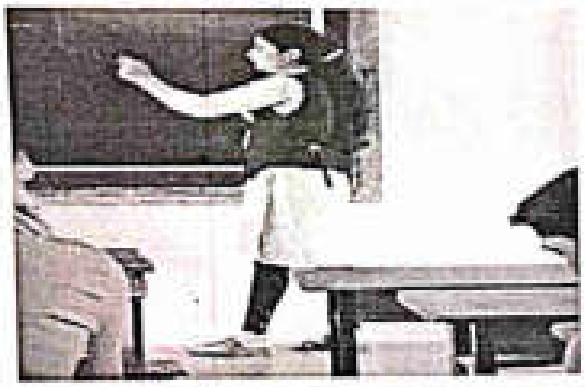
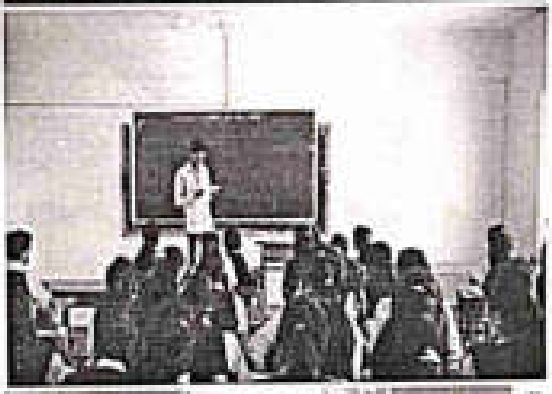
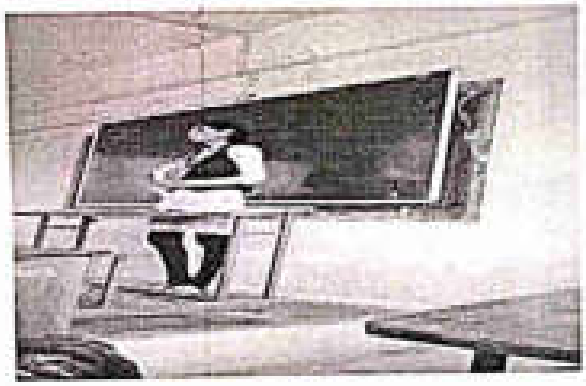
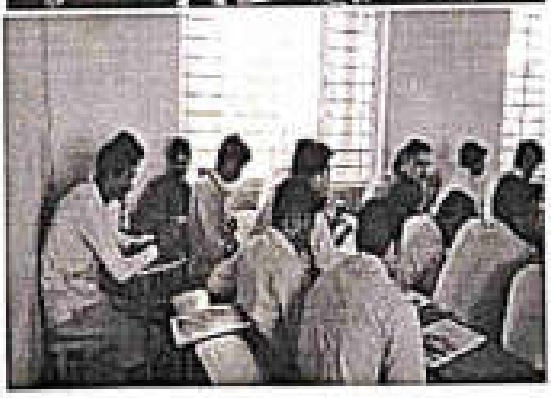
8. **Brief Description:**

Department of Chemistry has already started this practice since last 10 years for B.Sc.-III and M.Sc.-II-year students and it's proved that there is a lot of benefit of this activity to them.

The students of UG and PG use to select the topic of their choice for study and each student gives the presentation on that in the classroom. He use to prepare himself for the seminar under the guidance of the related subject -faculty member. One synopsis containing the photograph of student, name, roll number along with the abstract on which he is going to deliver a seminar he has to submit to the department. All other students and teachers attend the seminar and based upon that selected topic students and teachers ask the questions to him .The record of this Seminar activity is maintained throughout the year.

9. Photos:



10. Outcomes: The UG and PG students became self-confident, they acquired good presentation skill to explain the concepts properly and get developed themselves in communication skill with each other as well as personality development also matters a lot.

10. Signatures of coordinator/ organizer:

Dr. D. B. Patil
Head of Department

HEAD
DEPARTMENT OF CHEMISTRY
VIVEKANAND COLLEGE, KOLHAPUR
(EMPOWERED AUTONOMOUS)

VIVEKANAND COLLEGE KOLHAPUR (Empowered Autonomous)
ESTD JUNE 1964

Vivekanand College, Kolhapur (Autonomous)
Department of Chemistry
Seminar Programme of M.Sc. II Organic Chemistry
2018-2019

Date: 20/07/2018

All students of M.Sc. II Organic Chemistry are hereby informed that their seminar programme is finalized. Students are requested to take seminar on the date mentioned in following Table. The attendance to seminar is compulsory to all students.

Sr. No.	Name of the Students	Seminar Topic	Date
1	Mr. Patil Ramesh R.	Pinacol-pinacolone rearrangement	28/07/2018
2	Mr. Mirgane Harshad A.	Suzuki & Heck Coupling	28/07/2018
3	Miss. Kesarkar Shamal	Bayer-villiger reaction	04/08/2018
4	Mr. Mane Akash D.	Favorskii rearrangement	04/08/2018
5	Mr. Takildar Salim B.	Dienone-phenol rearrangement	11/08/2018
6	Miss. Chogule Namrata B.	Claisen-cope rearrangement	11/08/2018
7	Mr. Avatade Vijay P.	FMO approach for electrocyclic reaction	11/08/2018
8	Miss. Patil Asavari B.	Peterson olefination	23/08/2018
9	Miss. Arekar Pranali P.	Stereochemistry of Diels alder reaction	23/08/2018
10	Miss. Shete Snehal S.	Wolff rearrangement	23/08/2018
11	Miss. Patil Nakoshi P.	Dicyclohexyl carbodiimide (DCC)	30/08/2018
12	Miss. Gurav Anuja	IR Spectroscopy of carbonyls	30/08/2018
13	Mr. Patil Sudhir A.	Fermi resonance	30/08/2018
14	Mr. Sankpal Vaibhav B.	Diazomethane	06/09/2018
15	Miss. Panchakshari Priya S.	Synthesis and reaction of aziridine	06/09/2018
16	Mr. Gurav Akshay D.	Anaesthetic Drugs	06/09/2018
17	Miss. Mali Jyoti V.	Anti-inflamatory drugs	11/09/2018
18	Miss. Kachare Kranti S.	Barton & Shapiro reaction	11/09/2018
19	Miss. Dongale Kshitija M.	Photo fries rearrangement	11/09/2018
20	Miss. Torase Komal P.	Selenium Dioxide	11/09/2018
21	Miss. Jagdale Poonam V.	Lithium diisopropyl amide	25/09/2018
22	Mr. Ardalkar Tushar P.	Gilmans reagent	25/09/2018

23	Mr. Kalekar Vinayak V.	Multi component reaction	25/09/2018
24	Miss. Bongarde Revati A.	Reversal of polarity (Umpolung)	25/09/2018
25	Mr. Nille Omkar S.	Applications of Ionic liquid	25/09/2018
26	Mr. Salunkhe Swapnil H.	Chemical shift and coupling	01/10/2018
27	Miss. Kamble Reshma	McLafferty rearrangement	01/10/2018
28	Miss. Chavan Dhanashri	Fragmentation pattern of aldehyde and ketones	01/10/2018
29	Miss. Powar Shubhangi A.	Isotope ions in Mass spectroscopy	01/10/2018
30	Miss. Kulkarni Sayali D.	Phophorus ylides	01/10/2018
31	Mr. Ingavale Suraj B.	Synthesis and applications of Indole	06/10/2018
32	Mr. Jadhav Pritam S.	Synthesis of Bezothiazole	06/10/2018
33	Mr. Todkar Onkar S.	Protection of amines	06/10/2018
34	Mr. Chavan Shubham G.	Protection of carbonyl	06/10/2018
35	Miss. Waikul Sayali	Phase transfer catalyst	06/10/2018

Dr. D. S. Gaikwad
Teacher Incharge

Dr. D. B. Patil
Co-ordinator

Co-ordinator,
M. Sc. Organic Chemistry,
Vivekanand College, Kolhapur

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Shri Swami vivekanad Shikshan Sanstha

Vivekanand College, Kolhapur

Department of Chemistry

M.Sc. II Organic Chemistry Seminar

Attendance Sheet **Date:** 28/07/2018

Sr. No.	Name of the student	Class	Sign
1	Jadhav Pritam S	Msc II	Jadhav.
2	Takildar Saalim . B.	M.Sc II	Takildar
3.	Mane Akash D.	M.Sc-II	Akash
4.	Salunkhe Swapnil H.	M.Sc II	Salunkhe
5	Ardalkar Tushar Prakash	M.Sc-II	Ardalkar
6	Chavan Shubham Dattatray	M.Sc - II	Chavan
7.	Kalekar Vinayak Vitthal	M.Sc-II	VKalekar
8.	Ingawale Suraj Bhimrao	M.Sc-II	Ingawale
09.	Sankpal Vaibhav Bhanudas	M.Sc. II	Sankpal
10.	Gurav Akshay Dhondiram	M.Sc. II	Gurav
11.	Chougule Namrata Bhimrao	M.Sc-II	Chougule
12.	Kachare Kranti Shahaji	M.Sc II	Kachare.
13.	Gurav Anuja Rangrao	MSc II	A.R.Gurav.
14	chavan Dhanashri. M	M.Sc-II	Dhanashri
15.	Patil Aswari Bhausaheb	M Sc. II	Patil
16.	Powar Shubhangi Ashok	Msc II	Powar
17.	Areker Pranali Pandit	MSc. II	Areker
18.	Kamble Reshma Prakash	MSc II	Kamble
19	Kasaekar Khamal Vishwas	MSc II	Kasaekar

20	Waikul Sayali Raghunath	M.Sc II	@
21	Bongade Revati Ananda	M.Sc II	
22.	Mali Jyoti Vasant	MSc II	
23	Panchawari Priya.S	MSc II	

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Department of Chemistry

M.Sc. II Organic Chemistry Seminar

Attendance Sheet **Date:** 13/09/18

Sr. No.	Name of the student	Class	Sign
1	Autade Vijaykumar Popatrao	MSc-II	
2.	Patil Sudhir Ashok	MSc-II	
3	Gusav Akshay Dhondiram	M.Sc.-II	
4.	Ardalkar Tushar Prakash	M.Sc-II	
5.	Ingavale Suraj Bhimrao	M.Sc.II	
6	Chavan Shubham Dashrath	M.Sc -II	
7	Sankpal Vaibhav Bhanudas	M.Sc.II	
8	Salunkhe Swapnil Hariram	M.Sc -II	
9	Patil Ramesh Raghunath	M.Sc-II	
10.	Mirgane Harshad Anil	MSc-II	
11.	Waikul Sayali Raghunath	M.Sc.II	
12	kamble Reshma Prakash	MSc II	
13	Kesarkar Shamal Vishwas	MSc II	
14.	Jagadale Poonam Vitthal	MSc II	
15	Chavan Bhanashri M.	M.Sc-II	
16	Todase Komal P.	M.Sc.II	
17	Chougule Nomrata B.	M.Sc. II	
18.	Ahete Minchal S.	MSc-II	

Takhdar Salim.

Dr. K.A. Undale

Date:- 14/08/2018 Seminars

	Seminar Student.
i	Namrata Bhimrao Chougale.
ii	Vijaykumar Popatrao Autade.

Sr.	Name	Sign.
1	Suraj Bhimrao Irgawale.	
2	Vaibhav Bhanudas Sankpal.	
3.	Vinayak Vitthal Kalekar	
4.	Swapnil Hariram Salunkhe	
5.	Gurav Akshay Dhondiram	
6.	Nille Omkar Sunil	
7.	Mirgane Harshad Anil	HAM
8	Jadhav Pritam S	
9.	Patil Ramesh Raghunath	
10.	Patil Sudhir Ashok	
11.	Takildar Saalim Bashirahmad	
12.	Kulkarni Sayali Dileep.	
13.	Kachare Kranti shahaji	
14	Torase Komal Prakash	
15	Chougule Namrata Bhimrao	
16.	Arekar Pranali Pandit	
17.	Powar Shubhangi Ashok	
18	Patil Asawari Bhausaheb	
19	Panchorali Priya . S.	
20	Waikul Sayali Raghunath.	
21	Kasaekar Shamal Vishwas	
22.	Kamble Reshma Prakash	
22	Gurav Anuja Rangrao	
23.	Chavan Dharashri Madhukar	
24	Bongarde Revati Ananda	
25.	Mali Jyoti Vasant	

Seminar Student (Date - 23/8/2018)

		Sign
1)	Jhete Vishal Shrikant	
2)	Patil Aaswari Bhausah	
3)	Pranali Arekar	

	Students	sign.
1)	Kulkarni Sayali Dilcep	
2)	Kachare Kranti Shahaji	
3)	Chavan Dhanashri Madhukar	
4)	Pawar Shubhangi Ashok	
5)	Torase Komal Prakash	
6)	Chougule Nameeta Bhimrao	
7)	Kamble Reshma Prakash	
8)	Naikal Sayali Raghunath	
9)	Gurav Anuja Rangrav	
10)	Kesarkar Shamal Vishwas	
11)	Dongale Kshitija Mohan	
12)	Masi Jyoti vasant	
13)	Bongarde Rivati Ananda	
14)	Panchakshari . Priya . Siddalingappa.	
15)	Sankpal Kavita Pandurang	
16)	Bagwan Hasanali Nurulla	
17)	Sankpal Vaibhav Bhanudas	
18)	Gurav Akshay Dhandiram	
19)	Todkar ankush Shivaji	
20)	Irgonde Suraj Bhimrao	
21)	Nille Omkar Sunil	
22)	Mingore Harshad Anil	
23)	Patil Ramesh Raghunath	
24)	Dubade Vijaykumar Appasaheb	

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Department of Chemistry

M.Sc. II Organic Chemistry Seminar

Attendance Sheet **Date:** 06/09/2018

Sr. No.	Name of the student	Class	Sign
1.	Ashok Vijaykumar Patharao	M.Sc-II	Patil
2.	chavan shubham Dashrath	M.Sc.II.	
3.	Sankpal Vaibhav Chanudas.	M.Sc. II	
4.	Patil Sudhir Ashok	M.Sc II	Patil.
5.	Nille Omkar Sunil	M.Sc. II	
6.	Patil Asawari Bhausaheb	M.Sc. II.	Patil.
7.	Arekar Pranali Pandit	M.Sc. II	Arekar
8.	Powar Shubhangi Ashok	M.Sc. II	Powar
9.	Panchawati. Priyo. S	M Sc -II	
10.	Mavi Jyoti. V.	MSc. II	Jmavi
11.	Dongale Kshitija Mohan	MSc II	Kshitija
12	Kesarkar Shamal Vishwas	M Sc II	
13.	Waikul Sayali Raghunath	M.Sc II	Sayali
14.	Kamble Reshma Prakash.	M.Sc II	Rkamble
15.	chavan Dhanashri Madhukar	M.Sc-II.	Dmc
16.	Gurav Anuja Rangrao.	M.Sc II	A.R.Garrav.
17.	Sankpal Kavita Pandurang	M.Sc-II	Sankpal
18.	Bagwan Nauman Nurulla	M.Sc-II	Bagwan
19.	Kulkarni sayali Dilcep	M.Sc.II	Kulkarni

20.	Kachare Kranti Shahaji	M.Sc II	Kachare
21	Chougule Nameeta Bhimrao	M.Sc-II	Chougule
22.	Khete Kushal Khetkant	M.Sc II	Kushal
23.	Gurav Akshay D	— " —	— " —

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Vivekanand College, Kolhapur

Department of Chemistry

M.Sc. II Sem. III Organic Chemistry

Seminar Attendance

Date: 25/09/18

Sr. No.	Name of Student	Class	Sign
1	Autade Vijaykumar Papatrao	MSc II	
2.	Jadhav Pritam S.	MSc II	
3	Patil Sudhir Ashok	M.Sc II	
4.	Nille Omkar Sunil	M.Sc-II	
5	Todkar Onkar Shivaji	M.Sc-II	
6.	Gusau Akshay D.	M.Sc. II	
7.	Sankpal Vaibhav Chamudas.	M.Sc. II.	
8.	Ingavale Suraj Bhimrao	M.Sc-II	
9	Bongarde Revati A	M.Sc II	
10.	Mali Jyoti.V	MSc. II	
11.	Chavan Dhanashri M	M.Sc-II	
12.	Gursav Anuja Rangrao	M.Sc-II	
13.	Kamble Rashma Prakash	MSc II	
14.	Dongale Kshitija Mohan	M.Sc II	
15	Pancharani Priya.S.	MSc II	
16.	Dhete Snehal. M.	M.Sc II	
17	Kesarkar Shamal Vishwas	M.Sc II	

18	Waikul Sayali Raghunath	MSc II	
19.	Ankar Pranali Pandit	MSc. II	
20.	Pawar Shubhangi Ashok	MSc II	
21.	Chougule Namrata Bhimrao	M.Sc-II	
22.	Tarose Komal Prakash	M.Sc.II	
23.	Kulkarni Sayali Dileep	M.Sc.II	
24.	Kachare Kranti Shahaji	M.Sc II	
25.	Mirgane M. A.	MSc II	

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Shri Swami vivekanand Shikshan Sanstha

Vivekanand College, Kolhapur

Department of Chemistry

M.Sc. II Sem. III Organic Chemistry

Seminar Attendance

Date: 6/10/18

Sr. No.	Name of Student	Class	Sign
1	Autade Vijaykumar Pandurao	M.Sc. II	
2	Sankpal Vaibhav Bhanudas.	M.Sc. II	
3	Chavan Shubham Dashrath	M.Sc - II	
4	Jogavale Suraj Bhimrao	M.Sc - II	
5)	Patil Ramesh Raghunath	M.Sc - II	
6)	Patil sudhir Ashok.	M.Sc-II	
7)	Tedkar omkar Shivaji	M.Sc-II	
8)	Nille Omkar Sunil	M.Sc.II	
9)	Gurav Akshay D.	M.Sc. II	
10)	Mirgane Harshvardhan A.	M.Sc. II	
11)	Kulkarni Sayali Dileep	M.Sc. II	
12)	Kachare Kranti Shahaji	M.Sc II	
13)	Patil Asawari Bhausaheb	M.Sc. II	
14)	Pawar Shubhangi Ashok	M.Sc. II	
15)	Arekar Pranali Pandit	M.Sc. II	
16)	Kesarkar Shamal Vishwas	M.Sc II	
17)	Waikul Sayali Raghunath	M.Sc II	

18)	Torase Komal Prakash	M.Sc.II	
19)	Namrata Bhimrao Chougule	M.Sc.II	
20)	Chavan Dhanashri Madhukar	M.Sc.II	

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Vivekanand College, Kolhapur

PG Department of Organic Chemistry

S E M I N A R

Name of the Student -- Harshad Anil Mirgane

Class -- M.Sc. II (organic) Roll No. -- 163

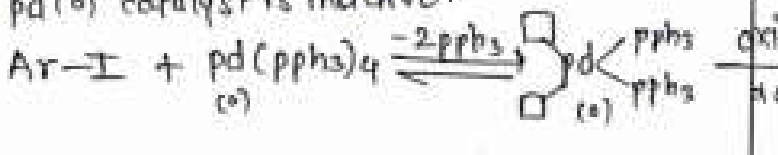
Date -- 28/7/18 Subject -- chemistry

Title of the Seminar -- Heck and suzuki reaction under organo pd catalyst.

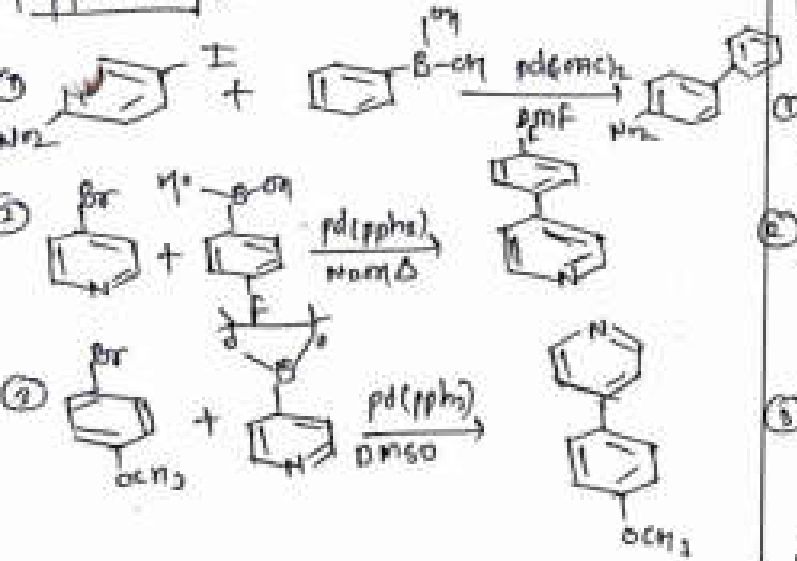
SYNOPSIS

① Suzuki reaction :-

- aromatic or allylic halide on reaction with organo boron comp. (Boronic ester, Boronic acid) to form a carbon-carbon bond called suzuki reaction.
- Both reaction have oxid^n addition and transmetallation a step common.
- pd(0) catalyst is inactive.



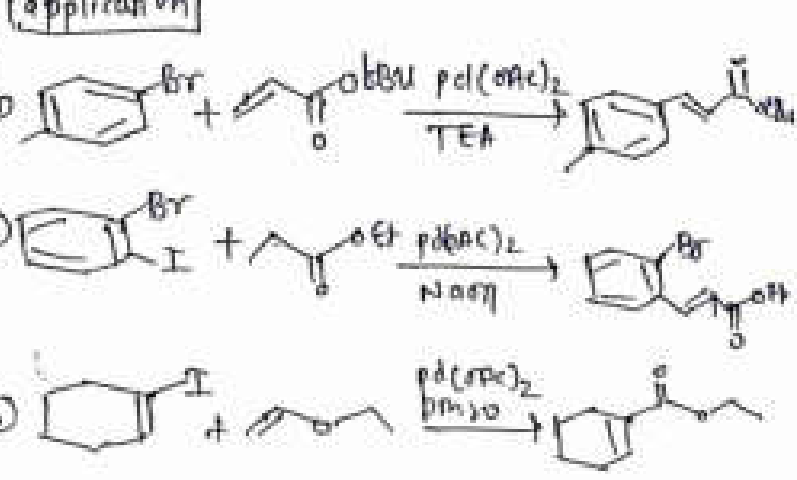
application :-



② Heck reaction :-

- allylic or aromatic halide on reaction with alkenes to give new carbon - carbon bond it called heck rea^n.

application



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(Dr. D. B. Patil)

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S E M I N A R

Name of the Student Patil Ramesh Raghunath

Class M.Sc-II Roll No. 169

Date 29/07/2018 Subject Organic Chemistry

Title of the Seminar

Pinacol - Pinacolone rearrangement

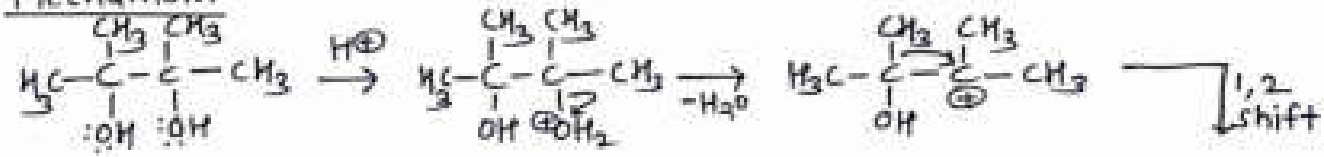
SYNOPSIS

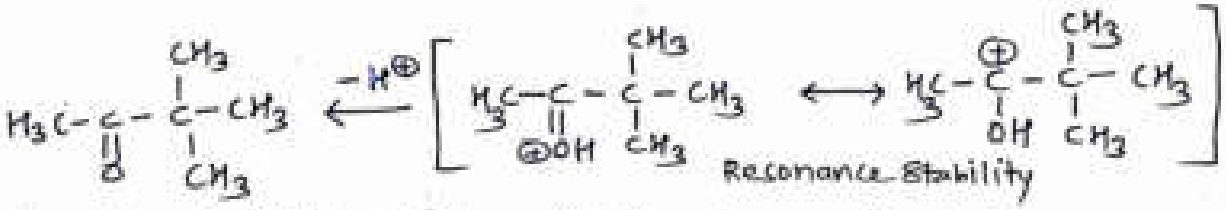
Definition - Acid catalysed dehydration of 1,2 diol usually leads to rearrangement with foemation of ketone.

General Reaction -

Pinacol Pinacolone

Mechanism -





Migratory Aptitude - Order of Migratory aptitude is =

Ar > H > CH_3

Patil.

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S E M I N A R

Name of the Student Kavita Pandurang Sankpal

Class M.Sc.-II Roll No. 174

Date 13-08-2018 Subject

Title of the Seminar: Nuclear Overhouser Effect (NOE)

SYNOPSIS

1) American Physicist Albert Overhouser in 1953 proposed Nuclear Overhouser Effect

2) It is useful in NMR spectroscopy for assigning structure, simplification of complex spectra

3) It occured through the space not through chemical bond

4) It can be noticable through short distance

5) E.g of NOE –

If H proton is irradiated then nuclei present at close proximity had charge in intensity upto 17%. i.e. Normal intensity of CH_3 will be increased due to irradiation of neighbouring proton. This effect is known as Nuclear Overhouser Effect

6) It is also used for study of steriochemistry in molecule In cis isomer NOE effects are observered but not observed in Trans.

Signature of the Student

Sankpal

Prof. Incharge

(Dr. D. B. Patil)

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PG Department of Organic Chemistry

S E M I N A R

Name of the Student Chougule Namrata Bhimrao

Class M.Sc.-II Roll No. 143

Date 13-08-2018 Subject Organic chemistry

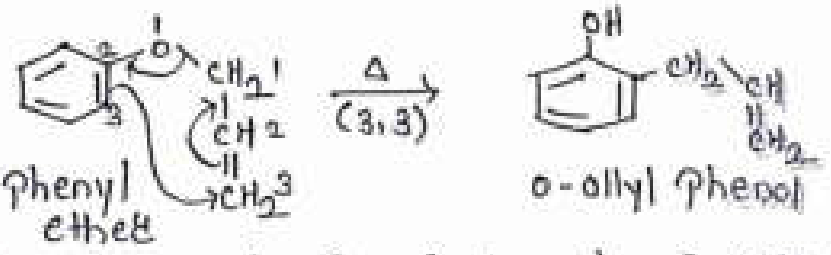
Title of the Seminar

Claisen Rearrangement

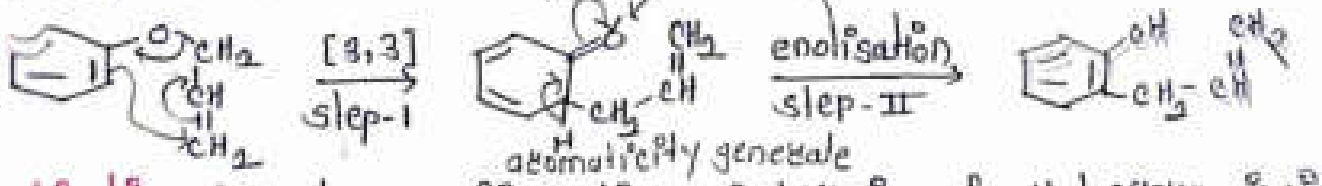
SYNOPSIS

Def^n:- When allyl Phenyl ether is heated the sigmatropic rearrangment takes place to give o-allyl Phenol.

Reaction:-



Mechanism:- The mechanism is two step in first step [3,3] sigmatropic Rearrangement takes place in second step simple ionic proton transfe to regenerate aromaticity



Application:- The confirmation of turning of allyl group inside out is given by taking unsymetrical ether.

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S E M I N A R

Name of the Student TAKILDAR SAALIM BASHIRAHMAD

Class M.Sc. II Roll No. 177

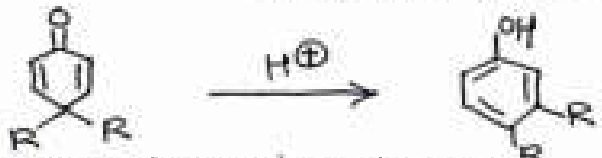
Date 13-08-2018 Subject ORGANIC CHEMISTRY

Title of the Seminar Dienone-Phenol Rearrangement

SYNOPSIS

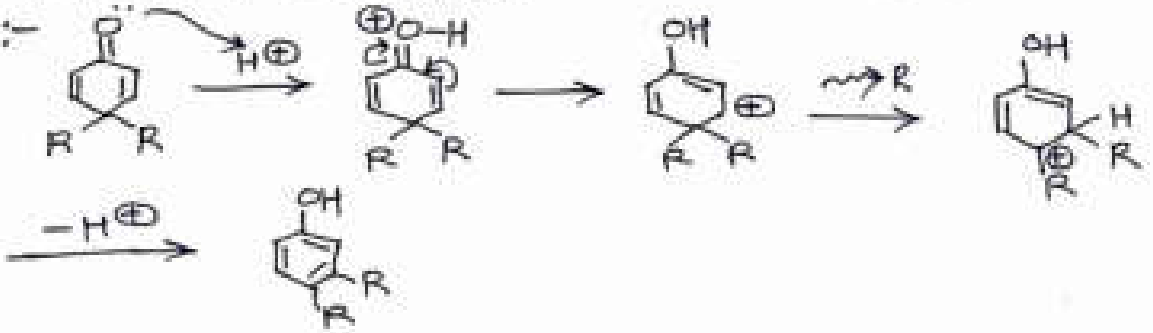
Definition :- When 4,4 dialkyl cyclohexadienone is treated with Acid, it is converted to phenol with migration of one of Alkyl group to aeljacent carbon. This is known as "Dienone-Phenol Rearrangement".

Reaction :-



4,4 dialkyl cyclohexadienone 3,4 dialkyl phenol

Mechanism :-



Migratory Aptitude :-

$$Ph^- > 3^\circ > 2^\circ > 1^\circ > CH_3^-$$

carbocation

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S E M I N A R

Name of the Student - Snehal Shrikant shete

Class - M.Sc. II Roll No. 1116

Date - 25-8-18 Subject - chemistry (organic)

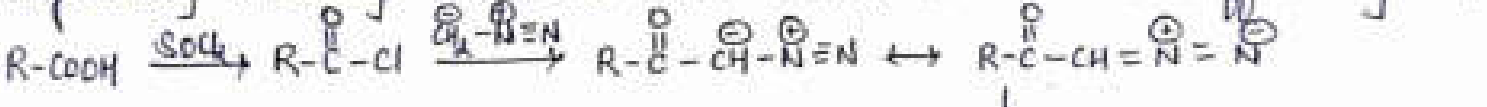
Title of the Seminar- Wolff Rearrangement

SYNOPSIS

Wolff Rearrangement

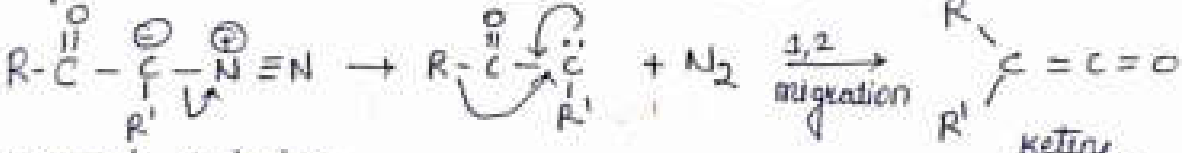
It is a photochemical reaction. in which there is formation of ketene.

Def :- Like other diazo compounds diazoketones are sensitive to both heat and light. when a diazoketones are decomposed thermally or photochemically, they usually rearrange to ketenes. This reaction is known as Wolff Rearrangement.

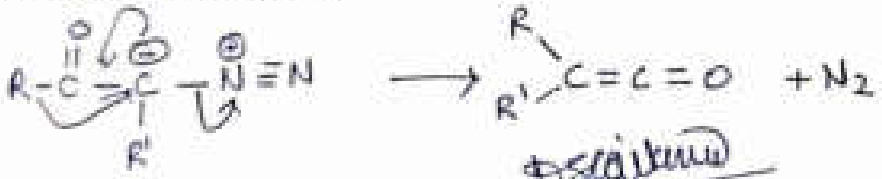


Mechanism. There are 2 types of mechanisms :

1) stepwise mechanism or carbene mechanism



by concerted mechanism :



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In-Charge

(Dr. D. B. Patil)

Snehal

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S E M I N A R

Name of the Student Patil Asawari Bhausaheb.....

Class M.Sc II.. Roll No. 167.....

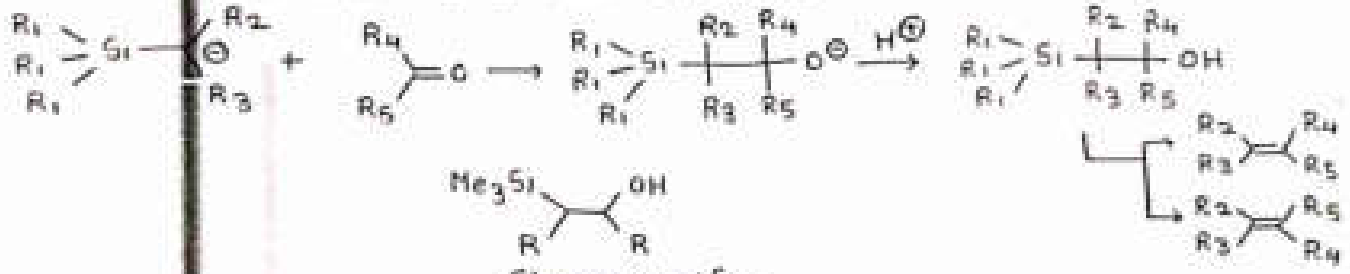
Date 23/08/2018.... Subject- Organic chemistry

Title of the Seminar-----

.....Peterson olefination.....

SYNOPSIS

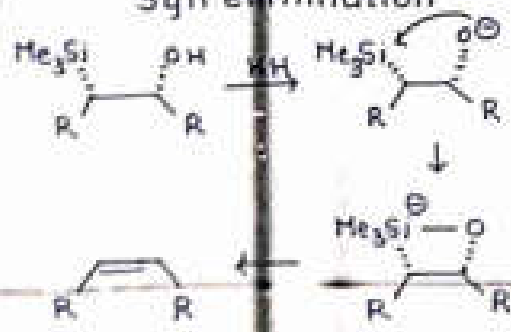
Peterson olefination: The peterson olefination is the chemical reaction of α-silyl carbanion with ketones or aldehydes to form a β-hydroxy silane which eliminates to form alkenes.



Stereospecific

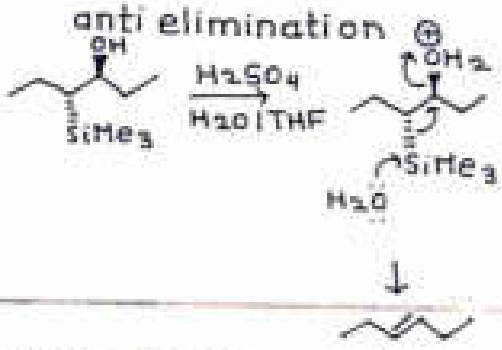
Base

Syn elimination



Acid

anti elimination



Stereochemistry: It depends on nature of reaction medium and stereochemistry of β-hydroxy silane.

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PG Department of Organic Chemistry

S E M I N A R

Name of the Student ...Pranali Pandit Arekar:.....

Class ..MSc. II.... Roll No. ..138.....

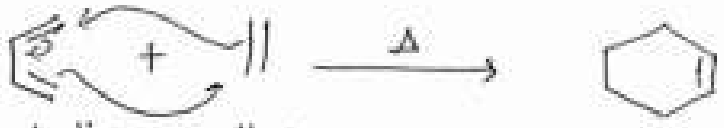
Date ..23/08/2018.... Subject..Organic Chemistry

Title of the Seminar...Stereochemistry of Diel's-Alder reaction....

SYNOPSIS

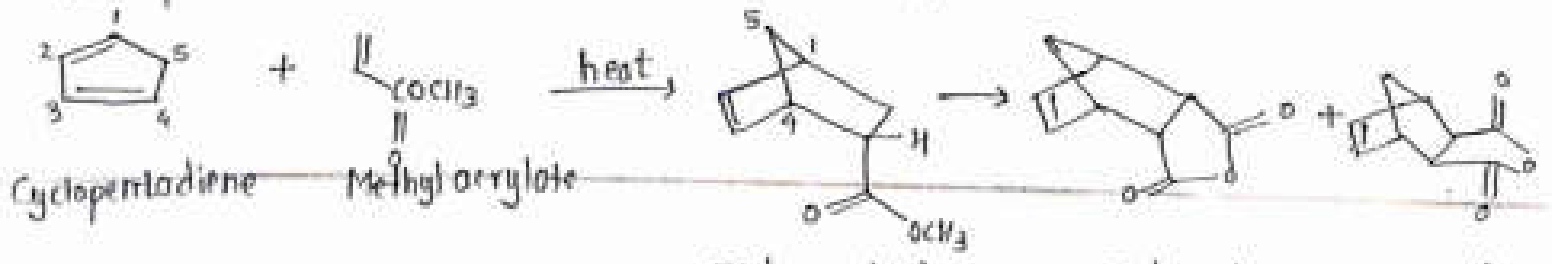
Diel's - Alder reaction is cycloaddition reaction. This reaction is thermally allowed reaction. In this reaction the 1,3 butadiene reacts with ethene and formation of cyclohexene.

Reaction -



1,3butadiene ethene Cyclohexene.

Streochemistry of Diel's Alder reaction- When cyclopentadiene reacts with acrylate endo and exo product is formed. Endo product is major. In endo product there is addition is takes place at trans. and exo product the addition takes place at cis position. But in endo product there is steric hindrence takes place.



Cyclopentadiene Methyl acrylate Endo (major) Endoproduct Exoproduct

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PG Department of Organic Chemistry

S E M I N A R

Name of the Student Pawar Shubhangi Ashok

Class M.Sc. II Roll No. ~~1870~~ 172

Date 23/04/2018 Subject Organic chemistry

Title of the Seminar- Isotopic ion in mass spectroscopy

SYNOPSIS

Def^{n} :- Isotopic ions are vary in the no. of neutrons while change in the molecular weight of molecule

1) Hydrogen too has a naturally occuring higher isotope, deuterium with about 0.015% abundance. This proportion is so small that deterium is normally ignored.

2) A compd with no S, Cl or Br has small M+1 peak & an even smaller M+2 peak.

3) If chloride is present, the M+2 peak is about athird as large as the M^{+} peak: The ratio is 3:1.

4) If bromine is present the M^{+} & M+2 ions have about equal intensities. The ration is 1:1

5) If compd contains sulphur the M+2 peak is larger than M+1 peak - about 4 present of the M^{+} peak.

6) Iodine gives a peak at m/z = 127 for I^{+}

7) The presence of nitrogen, the odd no. of nitrogen atom in a molecular ion & odd molecular wight

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S E M I N A R

Name of the Student ..Nakashi Pandurang Patil..

Class ..M.Sc. II.. Roll No. ..168..

Date ..30 Aug 2018.. Subject ..Dicyclohexylcarbodi imide..

Title of the Seminar ..Reagent - Dicyclohexylcarbodiimide (DCC)..

SYNOPSIS

* Structural Formula -  . $C_6H_{11}-N=C=N-C_6H_{11}$

* Preparation -

By Oxidation of N,N-dicyclohexylthiourea with mercuric oxide

$$C_6H_{11}-NH-\overset{S}{\overset{\|}{C}}-NH-C_6H_{11} \xrightarrow{HgO} \underset{DCC.}{C_6H_{11}-N=C=N-C_6H_{11}} + HgS + H_2O$$

* Uses & Applications -
  - Powerful dehydrating agent under mild condition.
  - Used mostly formation of peptide bond in protein synthesis

* Applications :-

1] Amide formation -

1° & 2° amine + carboxylic acid → amide.

$$\underset{Acid}{R-\overset{O}{\overset{\|}{C}}-OH} + \underset{amine}{R'NH_2} \xrightarrow[0^\circ C]{DCC} R-\overset{O}{\overset{\|}{C}}-NH-R' \quad amide.$$

mech - $R-\overset{O}{\overset{\|}{C}}-O-H + C_6H_{11}-\ddot{N}=C=N-C_6H_{11} \longrightarrow \underset{\text{carboxylate anion}}{R-\overset{O}{\overset{\|}{C}}-O^{\ominus}}$

$C_6H_{11}-NH-\overset{O}{\overset{\|}{C}}-N=C_6H_{11} \longleftarrow R-\overset{O}{\overset{\|}{C}}-O^{\ominus} + C_6H_{11}NH=\overset{\oplus}{C}=N_{C_6H_{11}} \longleftrightarrow {}^{+}C_6H_{11}-\overset{\oplus}{N}H=C=N-C_6H_{11}$

$R-\overset{O}{\overset{\|}{C}}=O$

$\pm \; \llcorner \; C_6H_{11}-NH=\overset{O^{\ominus}}{\overset{|}{C}}-\overset{\oplus}{N}-C_6H_{11} \longrightarrow R-\overset{O}{\overset{\|}{C}}-NH-R' + C_6H_{11}-NH-\overset{O}{\overset{\|}{C}}-NH-C_6H_{11}$

$R-O-\overset{O}{\overset{\|}{C}}-\overset{\oplus}{N}H-R'$ — amide — DCC.H_2O. (N,N-dicyclohexylurea)

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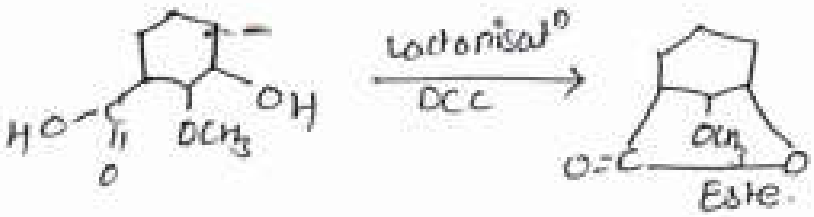
2] Formation of Ester -

$$ROH + R-\overset{O}{\overset{\|}{C}}-OH \xrightarrow{DCC} R-\overset{O}{\overset{\|}{C}}-OR + DCC.H_2O$$

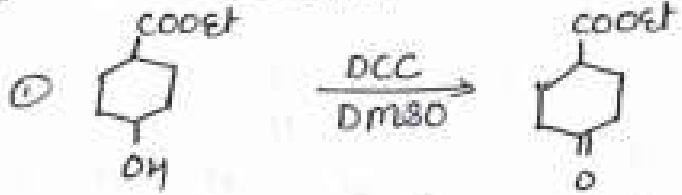
3] Formation of Lactones



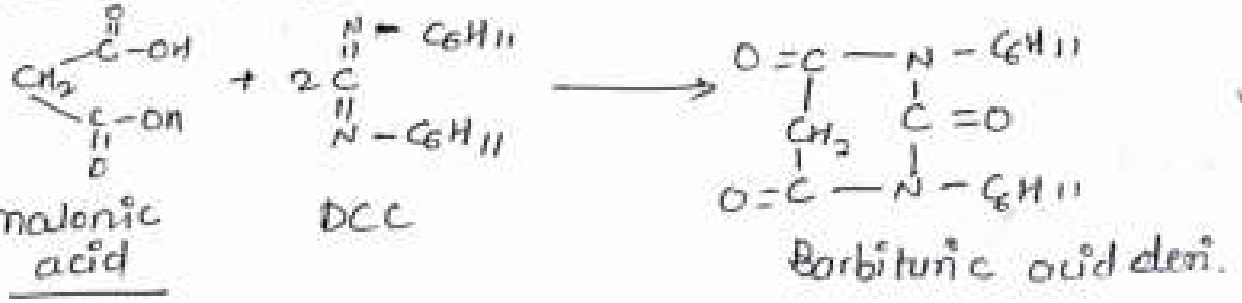
4] Formation of anhydride

$$R-COOH + R-COOH \xrightarrow{DCC} R-\overset{O}{\overset{\|}{C}}-O-\overset{O}{\overset{\|}{C}}-R + DCC.H_2O$$

5] Oxid° of alcohol -



6] Formal° of Barbituric acid.



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S E M I N A R

Name of the Student Panchaxari Priya S

Class M.Sc-II nd Roll No. 166

Date 6/9/18 Subject organic chemistry

Title of the Seminar Heterocyclic compounds

Synthesis and Reaction of Aziridines

SYNOPSIS

Aziridine:- "It is the saturated heterocyclic compound containing 2 carbon, 1 Nitrogen. *It acts as anticancer or alkylating agent. *Used in textile plastic rubber industries.  (azacyclopropane)

*Physical prop: *colourless, Amonical odour, BP = 56°C, weakly basic, 2.09 – 4.40 E-dipolemoment * strongly toxic cause eye irritation.

*Due to heteroatom compression of B.A & increased the ring strain

* C-C = 148°A, C-N = 1.48°A, C-C-N = 89.6°C & C-N-C = 60°C

*Synthesis:- ① Gabrial ring opening ② Wenkner synthesis.

③ By oxirane, ④ Hassner ⑤ Hoch cyncell ⑥ by methylemenes.

1) The gabriel Closure:-

Reaction: 

β-Bromo Ethylamine

Aziridine

Reactions:- Ring opening Reaction:

β-Chloroethylamine hydrochloride

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S E M I N A R

Name of the Student Sankpal Vaibhav Bhanudas

Class M.Sc. II Roll No. 135

Date 06/09/2018 Subject Organic Chemistry

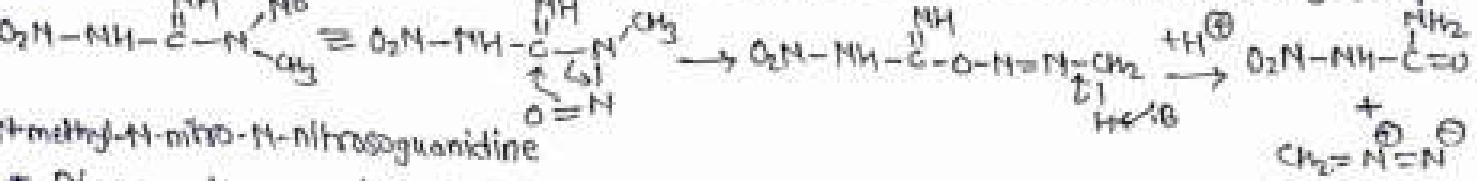
Title of the Seminar---- Diazomethane

S Y N O P S I S

Diazomethane is the chemical compound CH_2N_2, diazomethane was first discovered by Hans Von Pechmann in 1894. It is the simplest diazo compound.

Resonance Structure :- $CH_2=\overset{\oplus}{N}=\overset{\ominus}{N} \longleftrightarrow \overset{\ominus}{C}H_2-\overset{\oplus}{N}\equiv N \longleftrightarrow \overset{\ominus}{C}H_2-N=\overset{\oplus}{N}$

Preparation :- The most common & convinient method for generating diazomethane is by the base-catalysed decomposition of N-methyl-N-nitroso amines of the general structure $R-\overset{NO}{\overset{|}{N}}-CH_3$ where R represents a sulphonyl, carbonyl or similar electron withdrawing group.

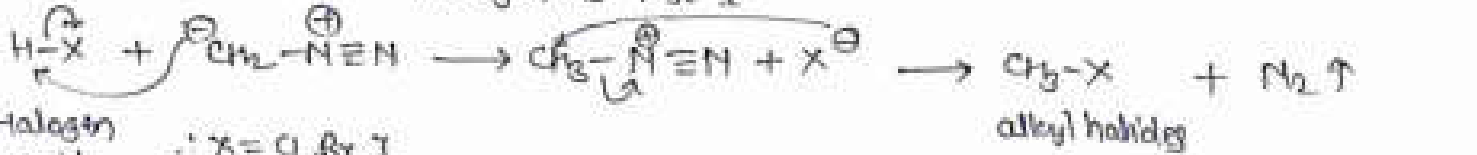


N-methyl-N'-nitro-N-nitrosoguanidine

* Diazomethane gives two types of chemical reactions :-

(i) Reaction in which nitrogen is retained.

(ii) Reaction in which nitrogen is lost :-



Halogen acid. ∴ X = Cl, Br, I.

alkyl halide

Signature of the Student

Prof. Incharge

(Dr. D. B. Patil)

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Vivekanand College, Kolhapur

PG Department of Organic Chemistry

S E M I N A R

Name of the Student Gurav Akshay Dhandiram

Class M.Sc. II Roll No. 158

Date 6/09/2019 Subject Organic Chemistry

Title of the Seminar- Anaesthetics Deugs

SYNOPSIS

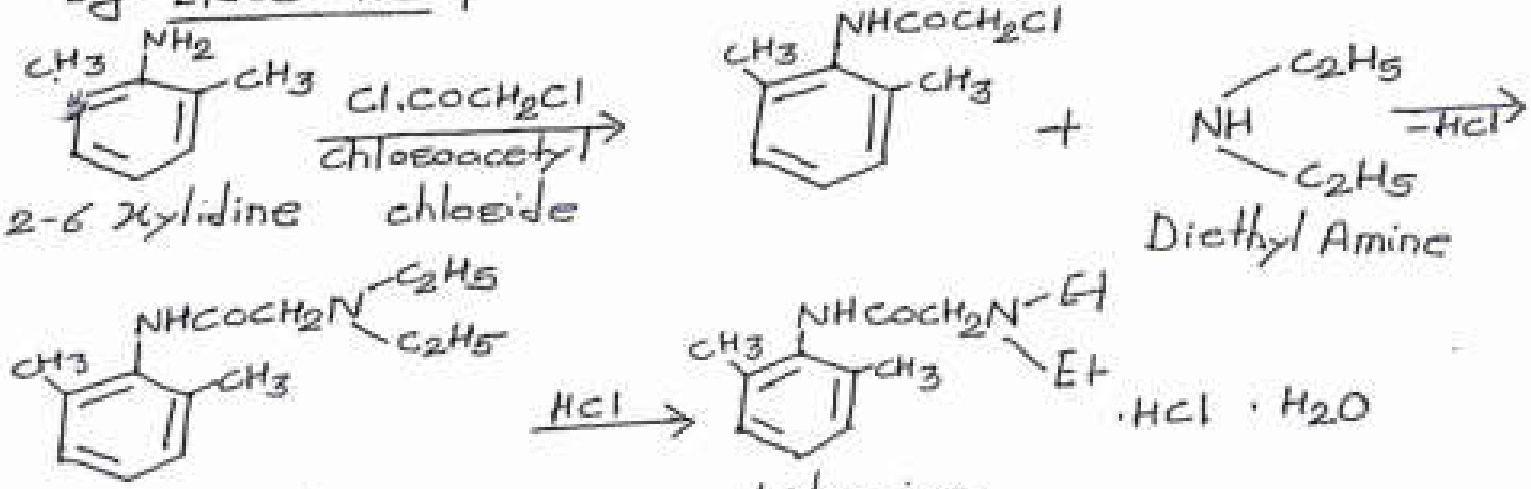
* Anaesthesia ;- The absolute loss of sensation is teemed as Anaesthesia. It is used dueing suegical opeeations to sensitivity of the pain is lost.

* Type ;- Theee aee two type of Anaesthetic Deugs.

1) Geneeal Anaesthetics ;- It depeess centeal neev-ous system hence sensitivity of pain is loss.

2) Local Anaesthetics ;- It is action is to the side wheee it is eequieed to act.

Eg. Lidocaine ;-



Signature of the Student

Prof. Incharge

(Dr. D. B. Patil)

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PG Department of Organic Chemistry

S E M I N A R

Name of the Student ...Mali Jyoti Vasant.....

Class .MSc. II. Roll No. 112

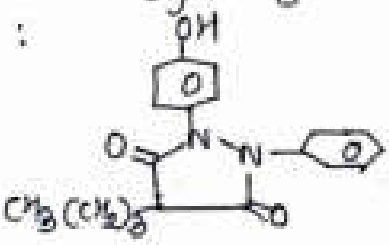
Date 11/9/2018 Subject Drug

Title of the Seminar Antiinflammatory drug

SYNOPSIS

Def^n : Anti-inflammatory drug is a non-steroidal drug. because it is a less toxic in nature. "The drug which are cure inflammation in body is called as anti-inflammatory drug."

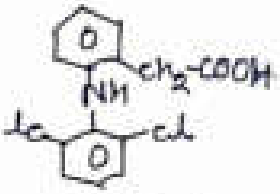
① oxyphenylbutazone :



• properties :- The drug must preferably be taken either with cold milk or with meals to avoid the possible gastric irritation.

• synthesis :

② Diclophenac :

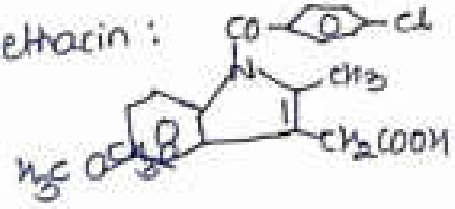


• Synthesis

• properties :-

It is anti inflammatory as well as analegesic drug. but it is more active than analegesic drug.

③ Indomethacin :



• synthesis :

• properties :- It is usually treatment of the rheumatoid arthritis, ankylosing spondylitis, gouty arthritis and osteoarthritis.

Signature of the Student Jmali

Prof. [illegible] (Dr. D. B. Patil)

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S E M I N A R

Name of the Student Kranti Shahaji Kachare

Class M.Sc II Roll No. 154

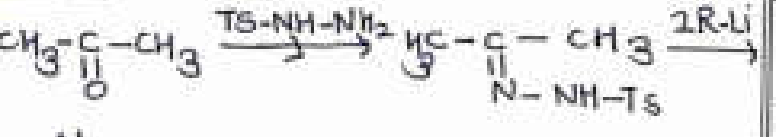
Date 11/9/18 Subject Organic chemistry

Title of the Seminar Shapiro Rea^n & Barton Rean

SYNOPSIS

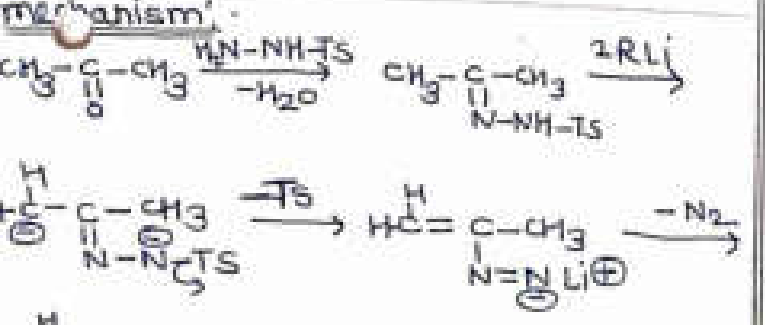
Shapiro rea^n :- Treatment of Tosyl Hydrazone of an aldehyde & ketone with excess Strong Base. i.e alkyl Lithium or LiA

Rea^n :-

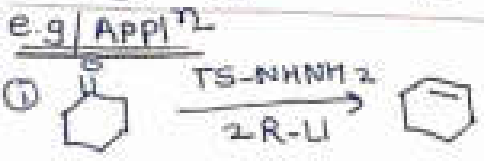


propene.

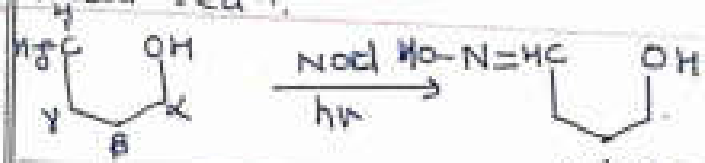
mechanism :-



Appl^n :-

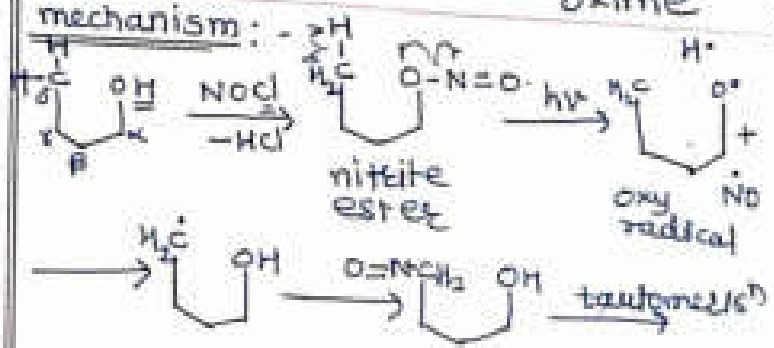


Barton Rea^n :- In this rea^n methyl group in the δ posit^n to OH group into oxime in presence of Nitrosyl chloride. This is photochemical rea^n.

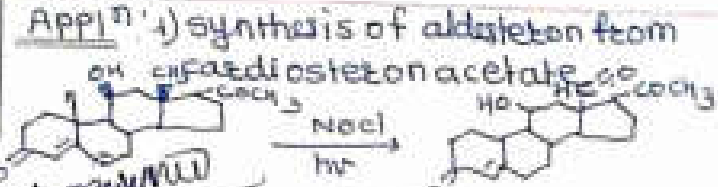


oxime

mechanism :-



Appl^n :- 1) synthesis of aldosteron from cis-fused diosteron acetate



Signature of the Student

Prof. Indrajit Chavan

(Dr. D. B. Patil)

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S E M I N A R

Name of the Student ..Bangarde...Revati...Anand...

Class ..M.Sc.II.. Roll No....182....

Date ...25-9-2018. Subject ...Umpolung.....

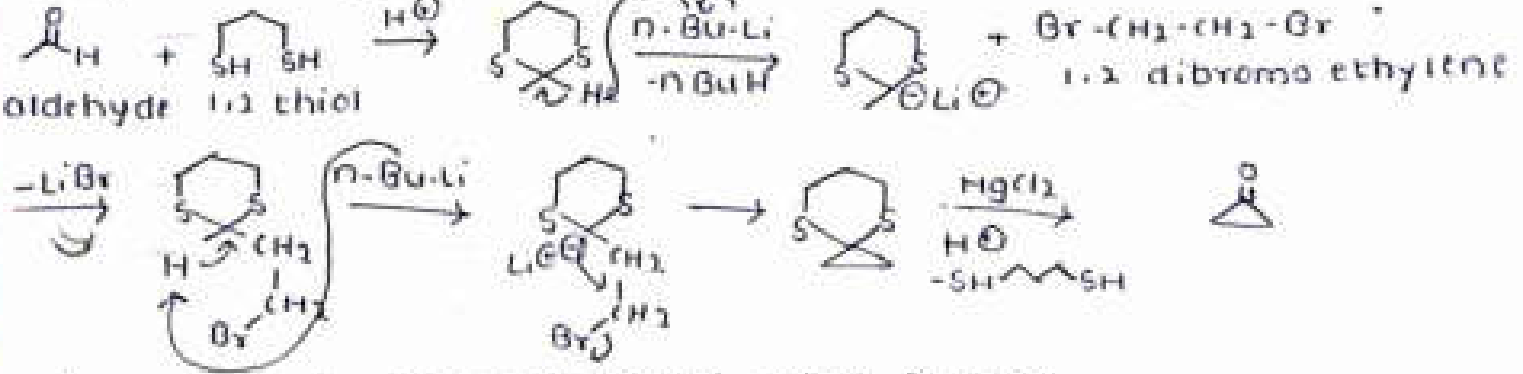
Title of the Seminar...Reversal...of...Polarity...[Umpolung]...

SYNOPSIS

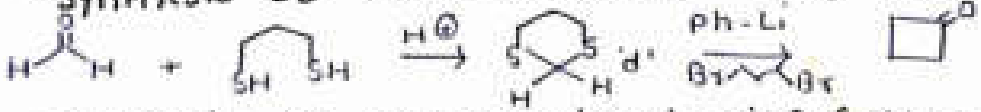
Umpolung means reverse of polarity. doner to accepter and acceptor to doner. e.g:- $\overset{\delta+\ \delta-}{CH_3I}$ (a) $+ Li \longrightarrow \overset{\delta-\ \delta+}{CH_3\text{-}Li}$ (d) $+ I$

In above eg if we consider methyl iodide 'c' atom acceptor when reacted lithium to form methyl lithium same 'c' atom donor this is known as "Umpolung."

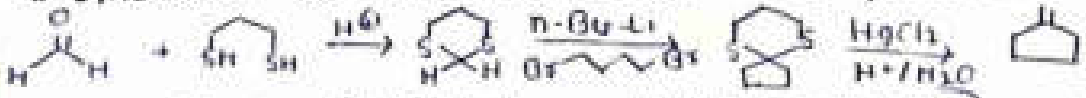
* Synthesis of three membered ring system.



* Synthesis of Four membered ring system.



* Synthesis of Five membered ring system.



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Prof. Incharge

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S E M I N A R

Name of the Student Miss. Chavan Dhanashri Madhukar.

Class M.Sc.-II. Roll No. 141

Date 25/09/2018. Subject organic chemistry

Title of the Seminar Fragmentation pattern in aldehyde and ketone (Mass spectroscopy) es.

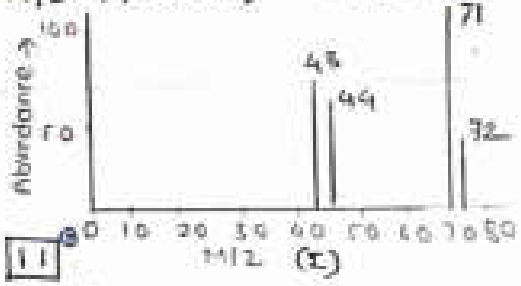
SYNOPSIS

The three important fragmentation pathways of carbonyl containing compounds are α-cleavage, β-cleavage & Mclafferty rearrangement.

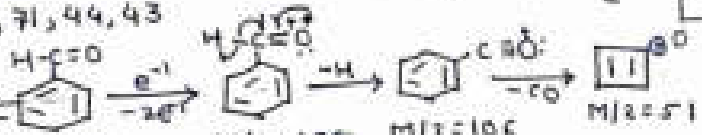
- Fragmentation pattern in Aldehyde (Aliphatic)

(I) $CH_3-CH_2-CH_2-\overset{O}{\overset{\|}{C}}-H$ Butanal $\xrightarrow[-2e^{-1}]{e^{-1}}$ $CH_3CH_2-CH_2-\overset{O}{\overset{\|}{C}}-H$ (M^+; M/z = 72) $\xrightarrow{-H}$ $CH_3-CH_2-CH_2-C\equiv O^+$ $\xrightarrow{-CO}$ $CH_3-CH_2-CH_2^{\oplus}$

M/z = 71 (100 %) M/z = 43



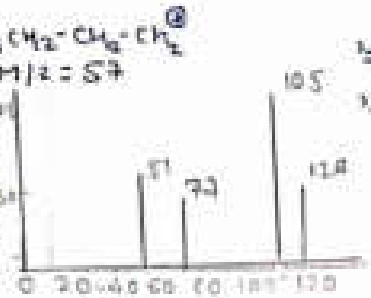
Genesis: M/z = 72, 71, 44, 43

(II) Aromatic Aldehyde: 

- Fragmentation pattern in Ketone:

(III) $CH_3-CH_2-CH_2-CH_2-\overset{O}{\overset{\|}{C}}-CH_3$ M/z = 100 $\xrightarrow{-CH_3}$ $CH_3-CH_2-CH_2-CH_2-C\equiv O^+$ M/z = 85 $\xrightarrow{-CO}$ $CH_3CH_2-CH_2-CH_2^{\oplus}$ M/z = 57

Aromatic ketone: Acetophenone 



Signature of the Student

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PG Department of Organic Chemistry

S E M I N A R

Name of the Student .Kulkarni...Sayali...Dilee.p.....

Class .M.Sc.II. Roll No.....160...

Date 25.09.2018.. Subject.....

Title of the Seminar--Synthesis..and..applications..of..Phasphorus Ylides.

SYNOPSIS

Ylides:- The compounds in which positively charged heteroatom is joined to that carbon which carry -ve charge.

Types:- Phosphorous Ylide, Sulphur Ylide, Nitrogen Ylied.

Preparation:-

$$Ph_3P + R\text{-}CH_2\text{-}X \xrightarrow{SN^2} Ph_3\overset{\oplus}{P}\text{-}CH_2\text{-}R\,X^{\ominus}$$

(Phosphonium salt)

$$Ph_3\overset{\oplus}{P}\text{-}CH_2\text{-}R\,X^{\ominus} \xrightarrow{base} Ph_3\overset{\oplus}{P}\text{-}\overset{\ominus}{C}H\text{-}R \longleftrightarrow Ph_3P{=}CH\text{-}R$$

phosphorous ylide.

Wittig Reaction:- Aldehyde or ketone reats with wittig reagent formation of alkene takes plate.

mechanism:-

Applications:- 1) formation of exocyclic methylene group.

Kulkarni
Signature of the Student

Dr. Patil
Dept. Incharge

(Dr. D. B. Patil)

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S E M I N A R

Name of the Student --Todkar Onkar Shivaji.....

Class .M.Sc.-II.... Roll No.-178.....

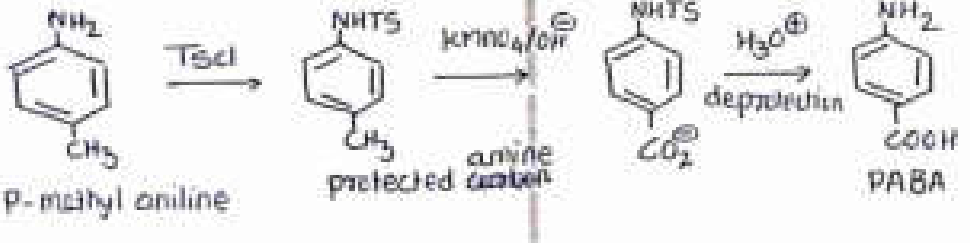
Date 06/10/2018..... Subject- Organic Chemistry.

Title of the Seminar-----Protection of amine-----

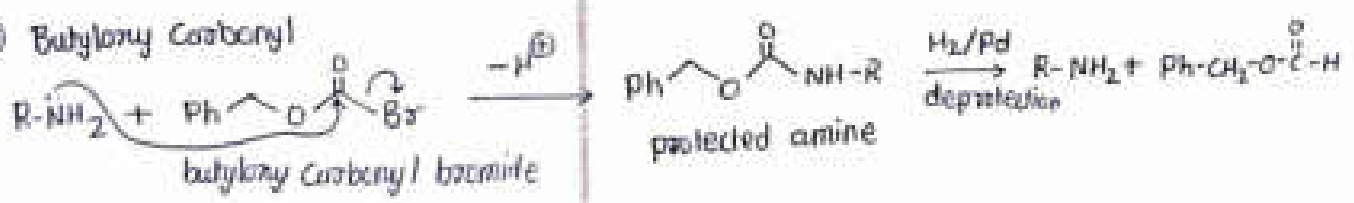
SYNOPSIS

" protecting group is introduced into molecule by chemical modification of a functional group to obtain chemoselectivity in a subsequent chemical reaction"

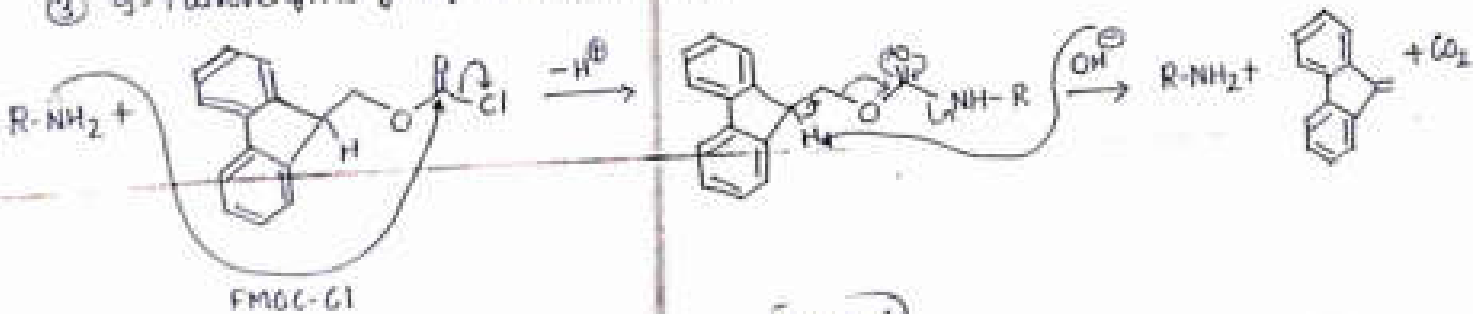
① Tosyl (Ts) group



② Butyloxy Carbonyl



③ 9-fluorenylmethyloxycarbonyl (FMOC)



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S E M I N A R

Name of the Student Jadhav Pritam S.

Class M.Sc. II Roll No. 152

Date 26/10/18 Subject Benzothiophene

Title of the Seminar

Benzothiophene

SYNOPSIS

Topic - Drug & Heterocycles sub unit 'b' Unit - III

Benzofused five membered heterocycles

a) Benzopyrrole

b) Benzo furane

c) Benzo thiophene → Seminar topic C_8H_6S

It is white solid, mp : 32°C

 also known as thionaphthene

Rep^n :

Benzothiophene

Jadhav

Signature of the Student

Prof. Incharge

(Dr. D. B. Patil)

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S E M I N A R

Name of the Student Chavan (Gurav) Shubham Dashrath

Class M.Sc-II Roll No. 1112

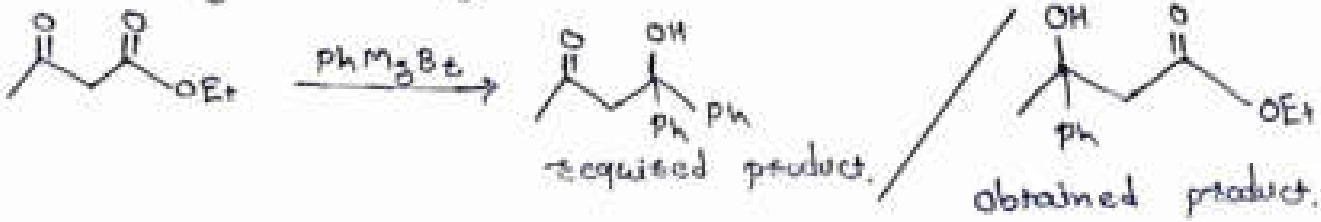
Date 06/10/2018. Subject Organic chemistry

Title of the Seminar Protection of Carbonyl

SYNOPSIS

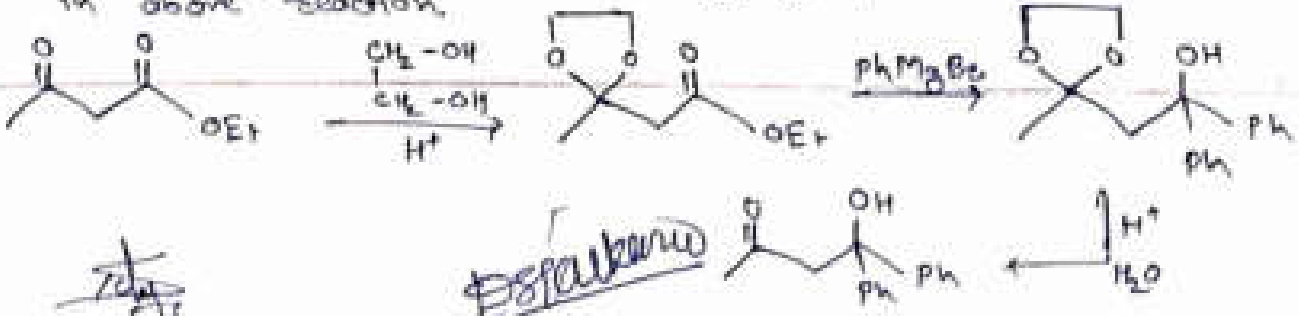
A protecting group is introduced into a a molecule to obtain chemoselectivity in Chemical reaction. Protecting group are used to in synthesis to temporarily mask the characteristic chemistry of functional group because it interfaces with another reaction.

Ex- Grignard reagent with EAA.



To avoid this protecting group's are used in many of reaction's.

Ex- Cyclic acetal used as protecting group to ketone in above reaction.



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(Dr. D. B. Patil)

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S E M I N A R

Name of the Student Jagawale Suraj Shivrao

Class M.Sc. II Roll No. 151

Date 6/10/2018 Subject Organic chemistry

Title of the Seminar

Application of Synthesis of Indole

SYNOPSIS

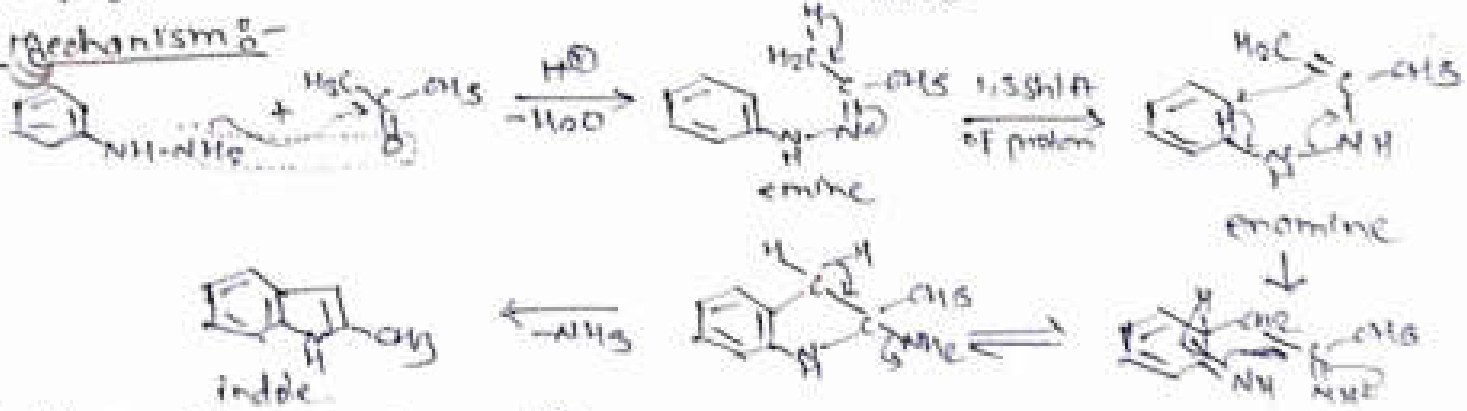
* **Indole :-**  1) It is colourless crystalline solid's.
2) Fusion between benzene ring & 5-membered heterocyclic ring.

* **Fischer Synthesis Indole :-** It is a chemical reaction that produces the aromatic heterocyclic indole from a phenylhydrazine and an substituted aldehyde or ketone under acidic condition.

* **Reaction :-**

phenylhydrazine Acetone Indole

* **Mechanism :-**



* **Applications :-**

1) 

2) Indole-3-carbinol for conditions such as cancer prevention.

Signature of the Student Prof. Jagawale (Dr. D. B. Patil)

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S E M I N A R

Name of the Student Jerase Komal Prakash

Class M.Sc.II Roll No. 179

Date 26/10/2018 Subject ~~Selenium Dioxide~~ organic chemistry

Title of the Seminar

Selenium Dioxide

SYNOPSIS

1) H.L. Riley introduced the selenium dioxide as a oxidising agent for organic compound

2) It is mostly used for dehydrogenation reaction.

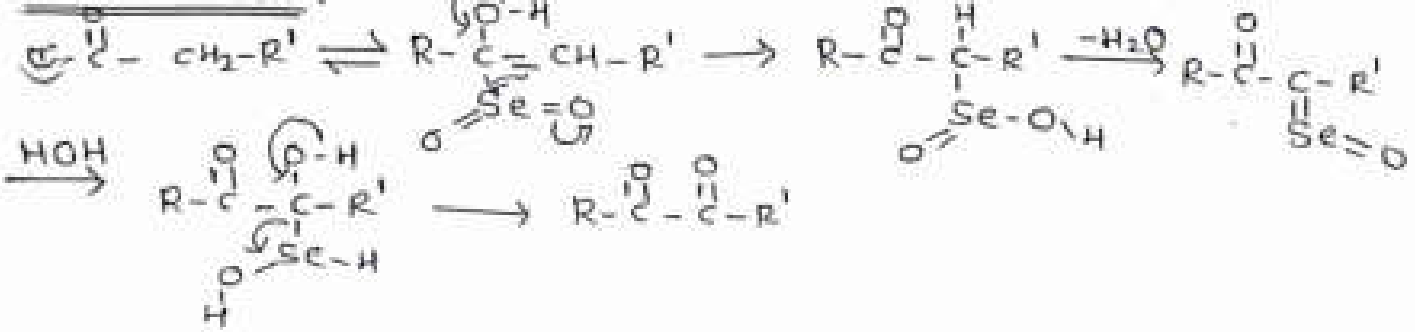
Applications :-

1) Oxidation of carbonyl compound :-

a) SeO_2 oxidises to α-carbon of carbonyl group & α-carbon has at least 2 hydrogens

eg. $CH_3-CH_2-\overset{O}{\overset{\|}{C}}-CH_3 \xrightarrow{SeO_2} CH_3-\overset{O}{\overset{\|}{C}}-\overset{O}{\overset{\|}{C}}-CH_3$

Mechanism :-



2) Dehydrogenation

1) $Ar-CH_2-CH_2-Ar \xrightarrow{SeO_2} Ar-CH=CH-Ar$

3) oxidation of Alkynes

$R-C\equiv C-R' \xrightarrow[SeO_2]{H_2SO_4} R-\overset{O}{\overset{\|}{C}}-\overset{O}{\overset{\|}{C}}-R'$

Jerase

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(Dr. D. B. Patil)

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शिक्षण महर्षी प.पू. डॉ. बापूजी साळुंखे.

Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur

PG Department of Organic Chemistry

S E M I N A R

Name of the Student Patil Sudhir Ashok

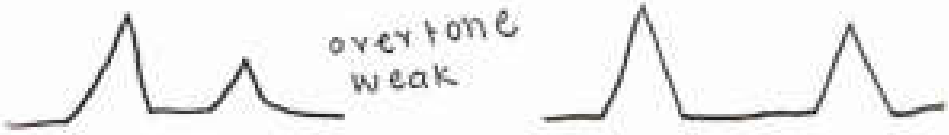
Class M.Sc II Roll No. 170

Date 30-09-2018 Subject Organic Chemistry

Title of the Seminar Fermi Resonance

SYNOPSIS

• Definition :- When fundamental vibration couples with an overtone or combination band, the coupled vibration is called Fermi Resonance.



• Two condition must be satisfied for the occurence of FR.

① The two vibration states of a molecule transform according to irreducible representation of the molecular point group.

② The energies of the transitions accidently have almost the same energy.

e.g. It is most observed in aldehyde, acid chloride.

Patil

Signature of the Student

Prof. Incharge

(Dr. D. B. Patil)

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PG Department of Organic Chemistry

S E M I N A R

Name of the Student Nille Omkar Sunil

Class M. Sc. II Roll No. 165

Date 01/10/2018 Subject Organic Chemistry

Title of the Seminar Ionic liquids:

SYNOPSIS

Ionic Liquids:- An ionic liquid is a salt in which ions are poorly coordinated which result in these solvents being in the liquid state, whose melting point is below 100°C. These may be in liquid state at room temperature known as RTIL

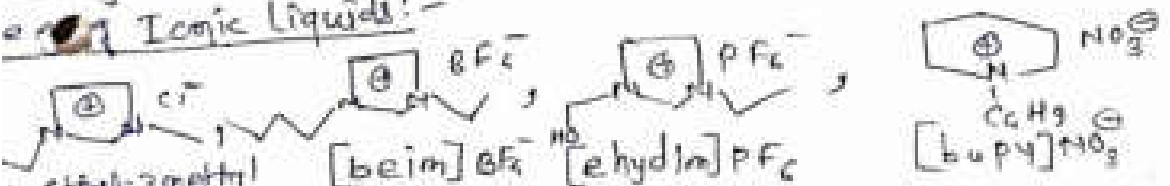
- Many ionic liquids have been developed for the specific synthetic problems, for this they are called 'designers solvents'.

- Ionic liquids made up of only ions i.e. cation & anions.

a) **Anions:-** Halides (X=Cl^-, Br^-, I^-), CN^-, NO_3^-, PF_6^-, BF_4^- which co-ordinates with unsymmetrical substituted nitrogen containing cation.

b) **Organic cations:-** 1,3-disubstituted imidazolium, pyrolidium, pyridinium cation.

Ionic Liquids:-



1-ethyl-3-methyl imidazolium chloride

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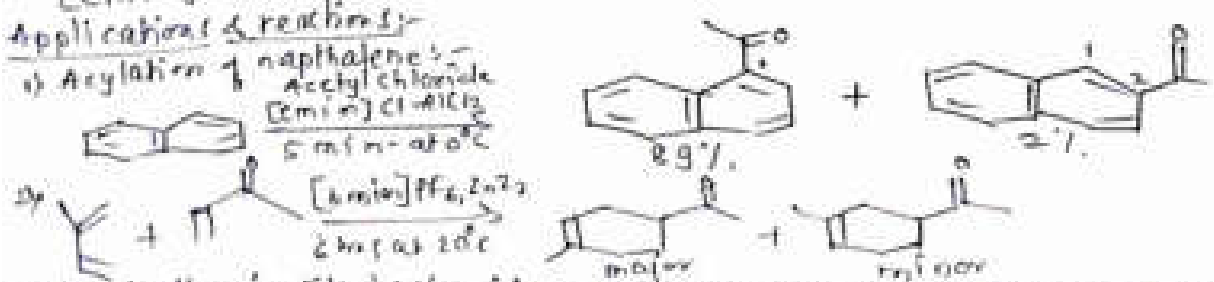
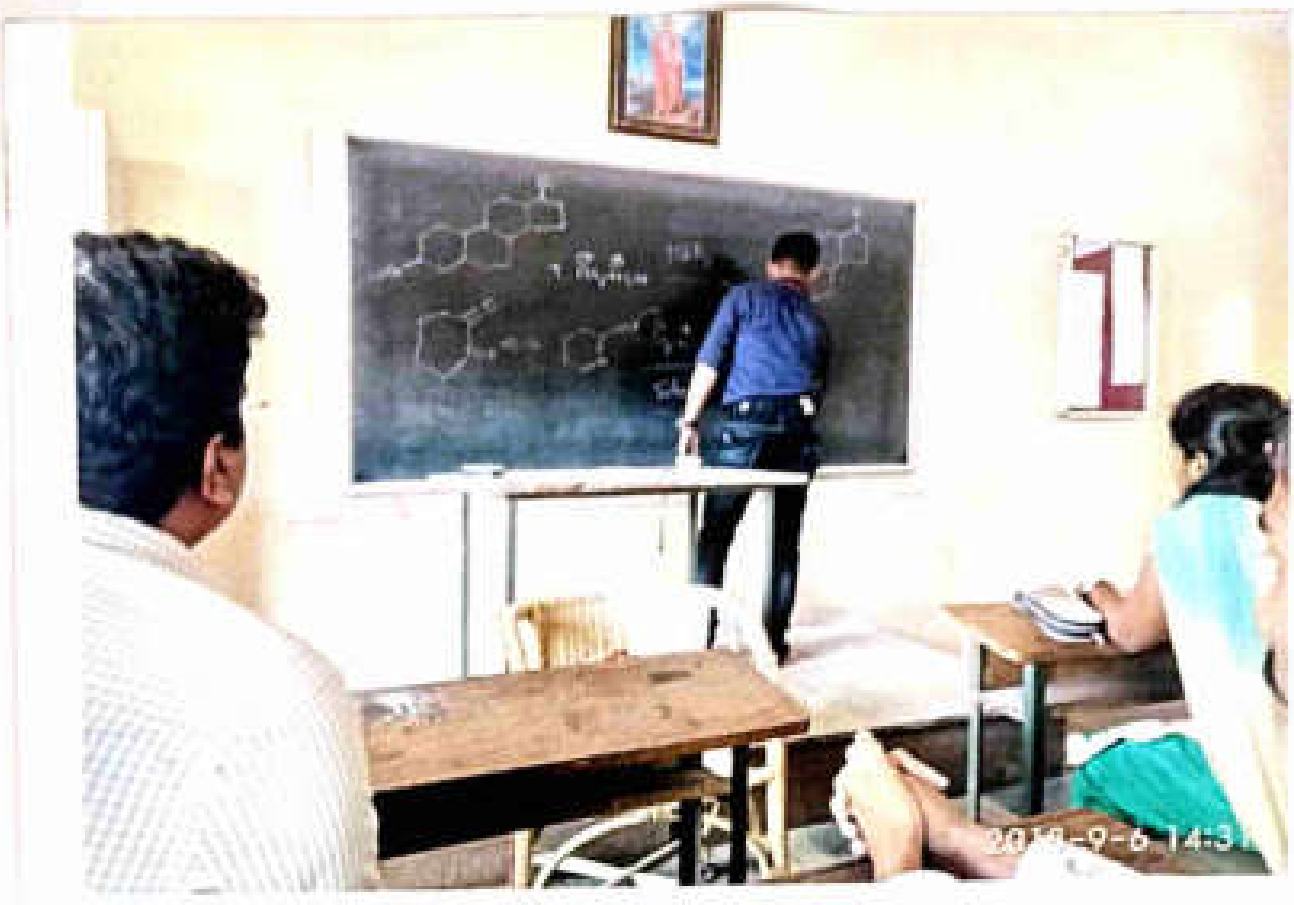
Applications & reactions:-

a) Acylation of naphthalene:-



b) Application in Electrochemistry- Used in preparing long durable batteries.

Signature of the Student Prof. Incharge (Dr. D. B. Patil)

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