



T.R.R. GOVT. DEGREE COLLEGE

KANDUKUR - 523 105, Prakasam Dist.:08598-223546

NAAC ACCREDITED B+

2017-2018

ACADEMIC ACTIVITY - SEMINAR

CLASS IBSc GROUP : MPC, MPCs DATE : 16/12/17 HOUR : V
 SUBJECT : Waves & Oscillations PAPER : II TIME : 15min.

S.No.	Roll No.	Name of the Student	Topic Signature of the Student
1		Govind.	Forced oscillations
2		Ajay Keemar	Triangular wave analysis
3		Mubina .sk	Saw tooth wave analysis
4			

No of Students Present :

Signature of the Lecturer

S.No.	Roll No.	Name of the Student	Signature of the Student
1		Shaik. Mubeenav	Sh. Mubeenav
2		G. Sharon Roji	G. Sharon Roji
3		m. swapna	m. swapna
4		D. Anusha	D. Anusha
5		md. Salma Banu.	md. Salma Banu.
6		p. Keerthi	p. Keerthi
7		P. Siddhich	P.S.
8		A. Jyeshtha	A. Jyeshtha
9		J. Sasi Kumar	J. Sasi Kumar
10		K. Jyoti	K. Jyoti
11		N. Venkata Swami	N. Venkata Swami
12		Bk. Majani	Bk. Majani
13		A. Divya	A. Divya
14		A. Siva Nagaraju	A. Siva Nagaraju
15			
16			



T. N. D. Govt DEGREE COLLEGE, KDKR...
STUDENT SEMINAR

NAME : B. Ajay Babu

CLASS : 1st B.Sc (MPCs)

Roll no : 01

SUBJECT : physics

Topic : Analysis triangular wave using
Fourier theorem.

SUBMITTED TO

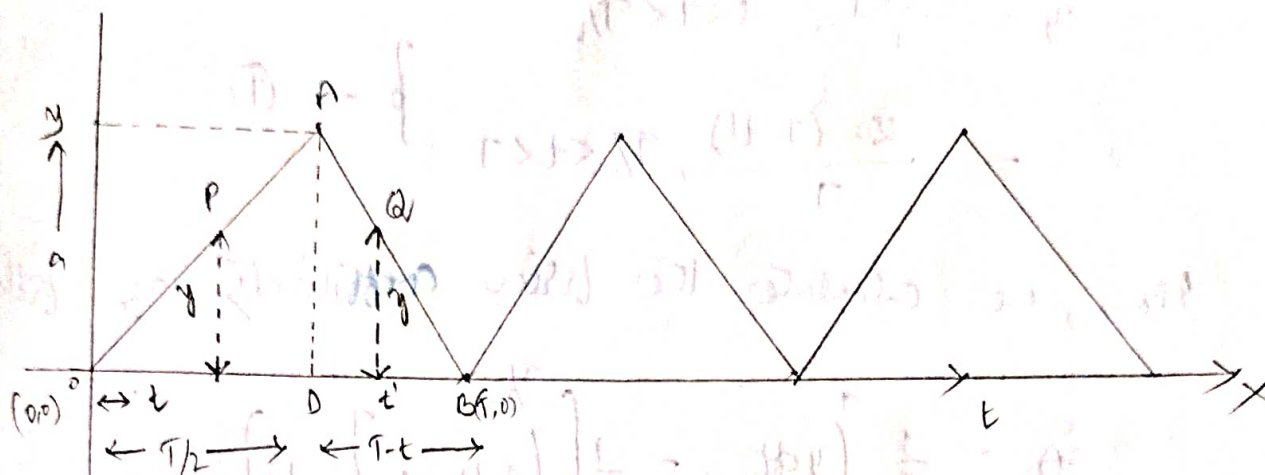
D. Vijaya Sri, Madam

SUBMITTED BY

B. Ajay Babu

Analysis of Triangular wave using Fourier theorem:

A typical triangular wave is as shown in fig.



Let us consider a triangular wave OAB. The time and displacement coordinates of the points O, A, B are $(0,0)$, $(T/2, a)$ & $(T, 0)$ respectively.

Now, we calculate the displacement and time equations for OA and AB i.e. amplitudes of the wave.

Consider a point P, whose coordinates are (t, y) as shown. Hence, $y/a = t/T/2 \Rightarrow y = \frac{2at}{T}$

from $0 < t < T/2$

Similarly, Triangle ADB & QD'B are similar hence,

$$\frac{y_2}{a} = \frac{T-t'}{T-T/2} \Rightarrow y = \frac{2a(T-t')}{T} \quad \text{from } T/2 < t < T.$$

∴ the displacement function at any time t may be written as

$$\left. \begin{aligned} y &= \frac{2at}{T}, \quad 0 < t < T/2 \\ &= \frac{2a(T-t)}{T}, \quad T/2 < t < T \end{aligned} \right\} \text{--- ①}$$

Now, we calculate the Fourier coefficients as follows.

$$\begin{aligned} A_0 &= \frac{1}{T} \int_0^T y \, dt = \frac{1}{T} \left[\int_0^{T/2} y \, dt + \int_{T/2}^T y \, dt \right] \\ &= \frac{1}{T} \int_0^{T/2} \frac{2at}{T} \, dt + \frac{1}{T} \int_{T/2}^T \frac{2a(T-t)}{T} \, dt \\ &= \frac{1}{T} \cdot \frac{2a}{T} \left[\frac{t^2}{2} \right]_0^{T/2} + \frac{1}{T} \cdot \frac{2a}{T} \left[Tt - \frac{t^2}{2} \right]_{T/2}^T \\ &= \frac{2a}{T^2} \left[\frac{T^2}{8} \right] + \frac{2a}{T^2} \left[T \times T - \frac{T^2}{2} - \frac{T^2}{2} + \frac{T^2}{8} \right] \\ &= \frac{2a}{T^2} \left[\frac{T^2}{8} + T^2 - T^2 + \frac{T^2}{8} \right] \\ &= \frac{2a}{T^2} \left[\frac{2T^2}{8} \right] \end{aligned}$$

$$\boxed{A_0 = a/2}$$

This shows that the axis of displacement curve is at a distance $a/2$ from the time axis.

Now,

$$A_1 = \frac{2}{T} \int_0^T y \cos \omega t \, dt$$

$$= \left[\frac{2}{T} \int_0^{T/2} \frac{2at}{T} \cos \omega t \, dt + \frac{2}{T} \int_{T/2}^T \frac{2a(T-t)}{T} \cos \omega t \, dt \right]$$

$$= \frac{2}{T} \left[\int_0^{T/2} \frac{2at}{T} \cos \omega t \, dt + \int_{T/2}^T 2a \left(1 - \frac{t}{T}\right) \cos \omega t \, dt \right]$$

$$= \frac{4a}{T^2} \cdot \left[t \frac{\sin \omega t}{\omega} + \frac{\cos \omega t}{\omega} \right]_0^{T/2} + \frac{4a}{T} \left[\frac{\sin \omega t}{\omega} - \frac{t \sin \omega t}{\omega} - \frac{\cos \omega t}{\omega} \right]_{T/2}^T$$

$$\frac{4a}{T^2} \left[t \frac{\sin \omega t}{\omega} \right]_0^{T/2} + \frac{4a}{T^2} \left[\frac{\cos \omega t}{\omega} \right]_0^{T/2} + \frac{4a}{T} \left[\frac{\sin \omega t}{\omega} \right]_{T/2}^T -$$

$$\frac{4a}{T} \left[t \frac{\sin \omega t}{\omega} \right]_{T/2}^T - \frac{4a}{T} \left[\frac{\cos \omega t}{\omega} \right]_{T/2}^T$$

all sine terms are zero

$$\therefore A_1 = \frac{4a}{\omega T^2} \left[\frac{\cos \omega T}{2} - \cos 0 \right] - \frac{4a}{\omega T} \left[\cos \omega T - \cos \frac{\omega T}{2} \right]$$

$$= \frac{4a}{4\pi^2 T^2} \left[\cos \frac{2\pi T}{2} - 1 - \cos 2\pi + \cos \frac{2\pi T}{2} \right]$$

$$= \frac{a}{\pi^2 T^2} (\cos \pi T - 1 - 1 + \cos \pi T)$$

$$= \frac{a}{\pi^2 T^2} (2 \cos \pi T - 2) = \frac{2a}{\pi^2 T^2} (\cos \pi T - 1)$$

$$\therefore \boxed{A_2 = \frac{2a}{\pi^2 T^2} (\cos \pi T - 1)}$$

$A_r = 0$, when r is even ($\because \cos \pi r = 1$ where r is even)

$A_r = -\frac{4a}{\pi^2 r^2}$ when r is odd

Similarly

$$B_r = \frac{2}{T} \left[\int_0^{T/2} \frac{2a}{T} t \sin r \omega t dt + \int_{T/2}^T 2a \left(1 - \frac{t'}{T}\right) \sin r \omega t dt \right]$$

$$= \frac{2}{T} \left(\frac{2a}{T} \right) \left[\int_0^{T/2} t \sin r \omega t dt + \int_{T/2}^T T \sin r \omega t \left(1 - \frac{t'}{T}\right) dt - \int_{T/2}^T t' \sin r \omega t dt \right]$$

Solving these integrals, we have -

$B_r = 0$ for all values of r

Now, we write the Fourier series for triangular wave

is

$$y = f(t) = a/2 - \frac{4a}{\pi^2} \left[\cos \omega t + \cos \frac{3\omega t}{3^2} + \frac{\cos 5\omega t}{5^2} + \dots \right]$$

go end

T.R.R. GOVT. DEGREE COLLEGE

KANDUKUR - 523 105. ☎ 08598 - 223546

NAAC Accredited B+

ACADEMIC ACTIVITY - SEMINAR

III B.Sc. GROUP: A.Z.C. DATE: 26.07.22 HOUR: 11
T: Chemistry PAPER: IV TIME: 15 min.

Roll No.	Name of the Student	Seminar Topic	Signature of the Student
03	K. Allen christina	Structure of Glucose	K. Allen christina

Students Present : 07

K.V. Padma
Signature of the Lecturer

Roll No.	Name of the Student	Signature of the Student
06	T. Kranthi Mai	T. Kranthi Mai
12	J. Akshaya	J. Akshaya
05	T. Kiran Yothi	T. Kiran Yothi
04	A. Rajakumar	A. Rajakumar
09	M. Raja Sekhar	M. Raja Sekhar
01	G. V. V. S. Balaji	G. V. V. S. Balaji
13	N. Prabhal	N. Prabhal

Feedback by the students:

(1) develop the presentation skills

(2) they can develop listening skills.



Miss.K.AllenChristina,II B.Sc.A.Z.C is giving the seminar on structure of glucose

T.R.R.GOVERNMENT DEGREE COLLEGE, KANDUKUR.



DEPARTMENT OF CHEMISTRY

STUDENT SEMINAR

NAME OF THE STUDENT: K. ALLEN CHRISTINA

CLASS : II B.Sc.

GROUP : A.Z.C

REGISTRATION NO ; Y203037022

TOPIC : STRUCTURE OF GLUCOSE

SUBMITTED TO : Smt. K. PADMAVATHI MADAM
Lecturer in chemistry

CARBOHYDRATES

A carbohydrate is a naturally occurring compound or a derivative of such a compound, with the general chemical formula $C_x(H_2O)_n$, made up of molecules of carbon (C), hydrogen (H) and oxygen (O).

Definition:

Carbohydrates are defined as polyhydroxy aldehydes or ketones having three or more carbon atoms.

Ex: Glucose $C_6H_{12}O_6$

Fructose $C_6H_{12}O_6$ etc.

Classification of carbohydrates

Carbohydrates are classified into two groups

Sugars: Carbohydrates which are sweet, crystallize and soluble in water are called sugars. They are subdivided into

Mono saccharides: which cannot be hydrolysed further to form simpler sugars

Ex: Glucose, Fructose

Oligo saccharides: which give 2 to 10 mono saccharides on hydrolysis.

Ex: Sucrose, Lactose

Non-Sugars : These are amorphous solids insoluble or soluble to form colloids in water.

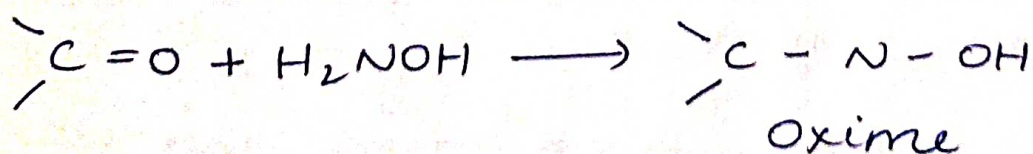
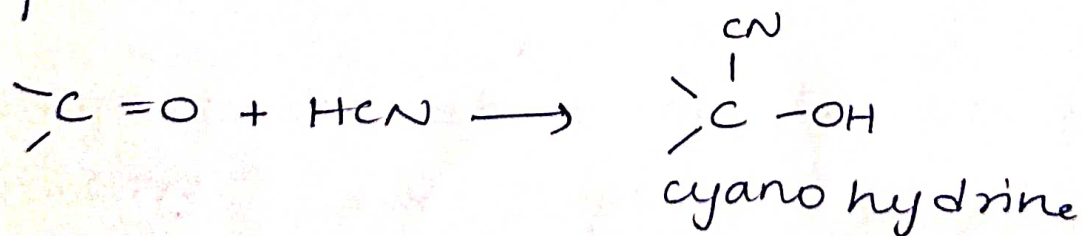
e.g. starch, cellulose

Structure of Glucose

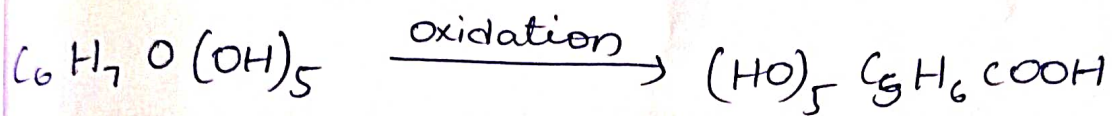
The molecular formula of glucose is $C_6H_{12}O_6$.

Presence of Hydroxyl groups : Glucose reacts with acetic anhydride to give penta acetyl derivative which indicates the presence of five OH groups.

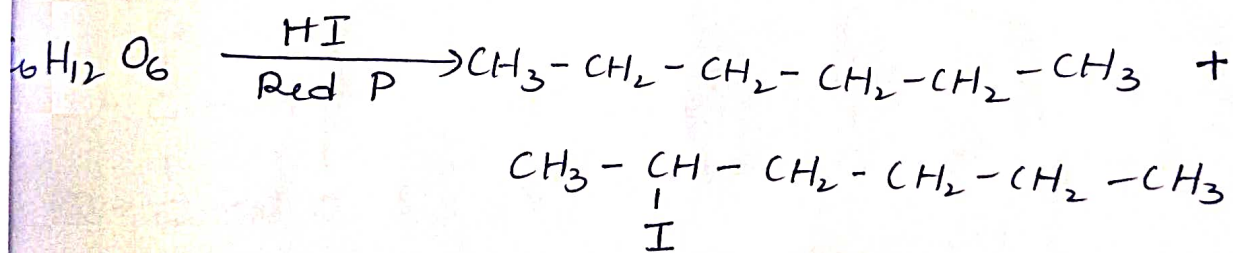
Presence of carbonyl group : Glucose reacts with HCN to give cyano hydrine. It reacts with hydroxyl amine, hydrazine to give oxime, hydrazone etc. which indicates the presence of carbonyl group.



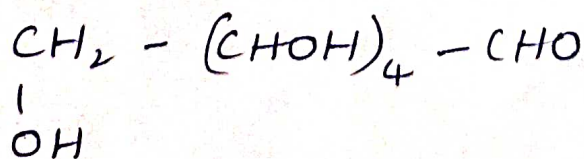
Presence of aldehyde group: Glucose on oxidation with bromine water gives gluconic acid. From the structure of gluconic acid it is clear that glucose contains six carbon atoms one of which is an aldehydic carbon atom present at the end of the chain.



Nature of carbon chain: Glucose reacts with HI in presence of red phosphorous to give a mixture of 1-iodohexane and n-hexane. This indicates the presence of straight chain in glucose.

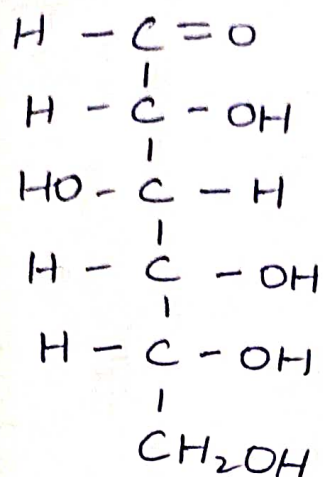


Basing on the above points the following structure was proposed for glucose.



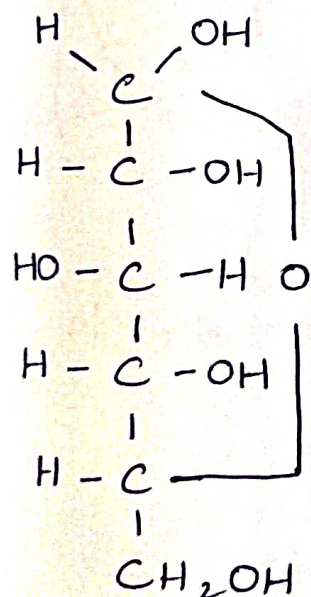
Glucose has four chiral carbon atoms. So it has 16 optical isomers.

Open chain structure of glucose

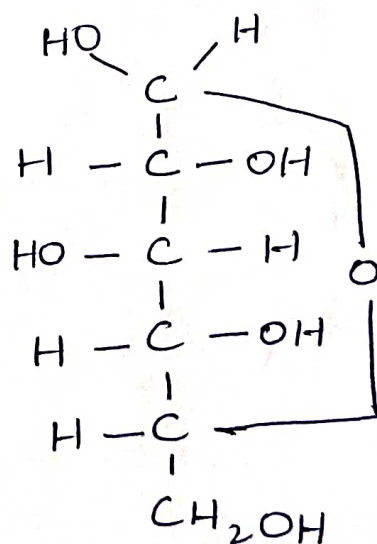


Fischer projection formula

α and β forms: Due to ring formation the aldehydic carbon become asymmetric hence the structure of α and β glucose can be written as follows.



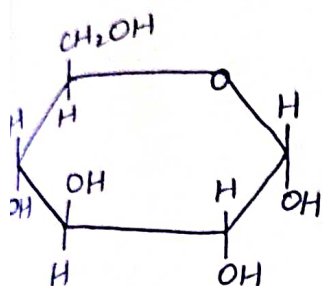
α - D glucose



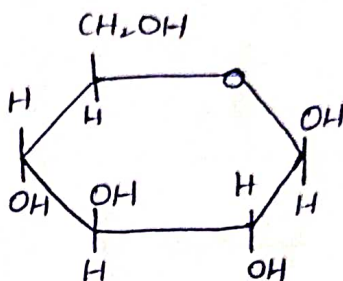
β - D glucose

Pyranose ring structure

The structures of α and β glucose can be represented as pyranose ring.

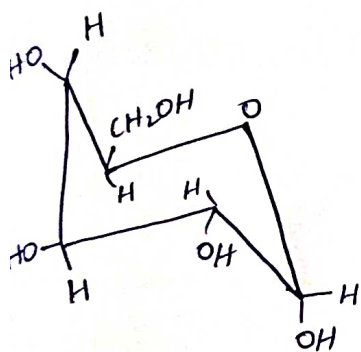


α -D-glucopyranose

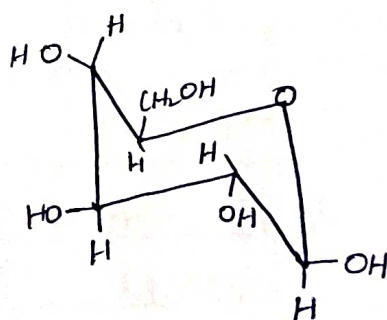


β -D-glucopyranose

Informations (Haworth Projections)



α -glucose



β -glucose

T.R.R. GOVT. DEGREE COLLEGE

KANDUKUR - 523 105. ☎ 08598 - 223546

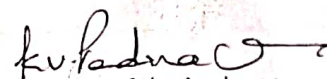
NAAC Accredited B⁺

ACADEMIC ACTIVITY - SEMINAR

J.I.B.Sc. GROUP : ...A.Z.C... DATE : 08-08-21 . HOUR : ...I...
CT : ...chemistry... PAPER : ...IV... TIME : 15 min.

Roll No.	Name of the Student	Seminar Topic	Signature of the Student
06	T. Kranthimai	Preparation method of pyridine	T. Kranthimai
09.	M. Raja Sekhar.	18 electron rule	M. Raja Sekhar.

Students Present : 06


Signature of the Lecturer

Roll No.	Name of the Student	Signature of the Student
05	T. Kiran Jyothi	T. Kiran Jyothi
12	J. Akshaya	J. Akshaya
04	A. Rajakumar	A. Raj Kumar
01	G. V. V. S. Balaji	G. V. V. S. Balaji
13	N. Prabha	N. Prabha
03	K. Allen christina	K. Allen christina



Miss.T.Kranthimala, B.Sc.A.Z.C is giving the seminar on "Preparation and Properties of Pyridine"

T.R.R.GOVERNMENT DEGREE COLLEGE, KANDUKUR.



DEPARTMENT OF CHEMISTRY

STUDENT SEMINAR

NAME OF THE STUDENT: T. Kranthi Mai

CLASS : II BSc

GROUP : A.2.C

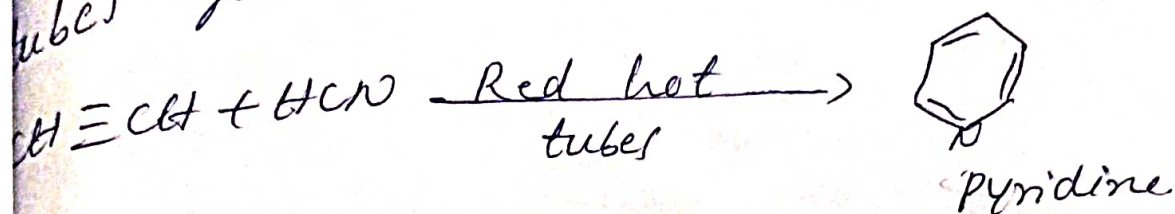
REGISTRATION NO ; Y203037025

TOPIC : Preparation methods of pyridine and properties.

SUBMITTED TO : Smt. Dr. K. Padmasavathi (madam)
Lecturer in chemistry.

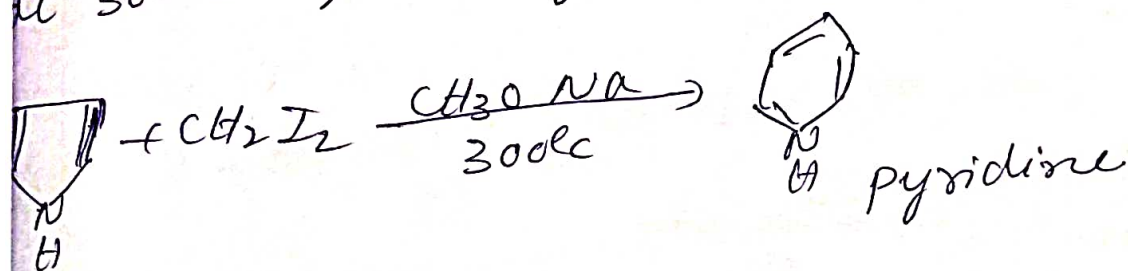
Pyridine

By passing two molecules of acetylene and hydrogen cyanide through Red hot tubes gives Pyridine



From Pyrrol:

Pyrrol reacts with methylene Iodide in the presence of sodium methoxide at 300°C gives pyridine.



Properties:

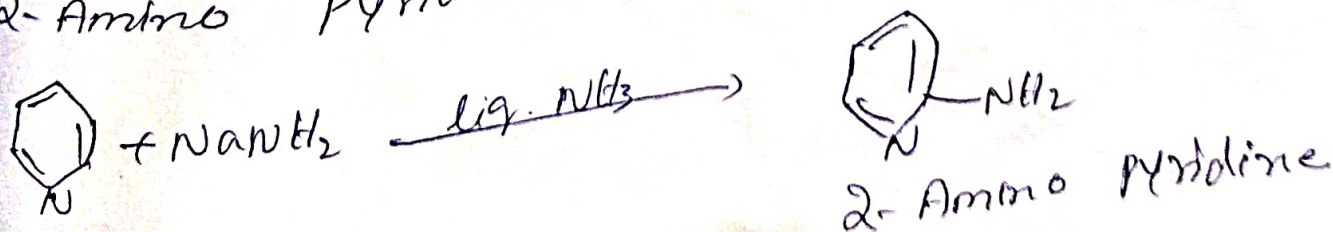
Nucleophilic

Substitution Reaction:

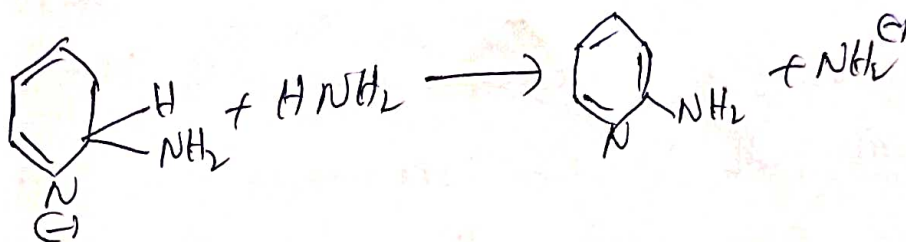
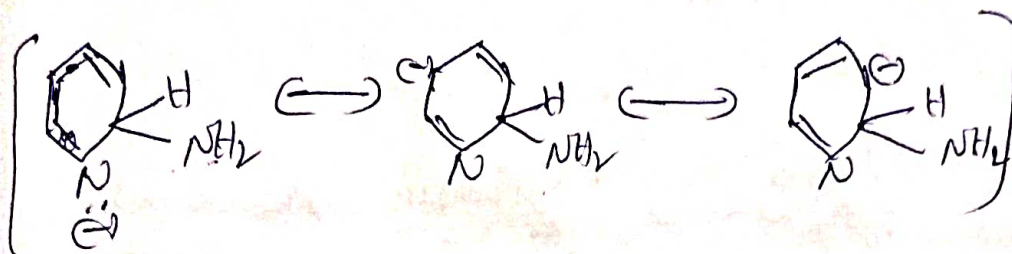
Chichibabin Reaction:

Pyridine reacts with Sodamide in the presence of liquid ammonia gives

2-Amino Pyridine.

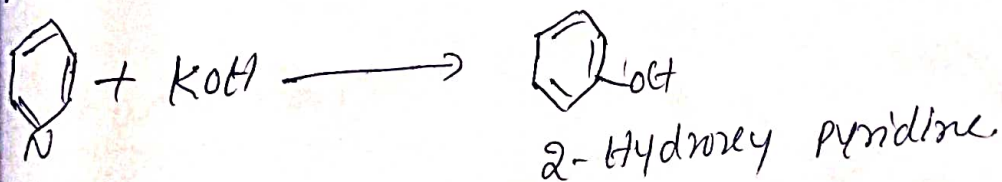


Mechanism:



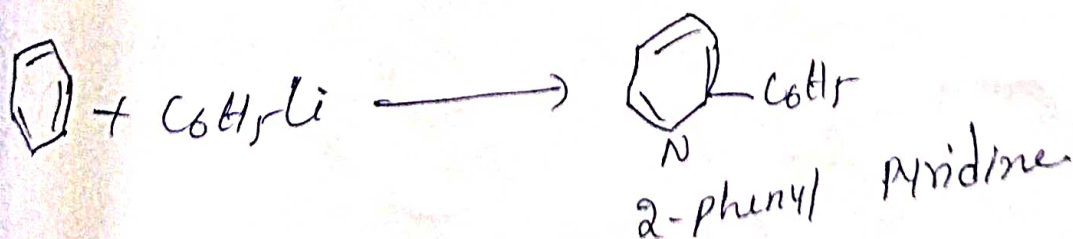
Reaction with KOH:

Pyridine reacts with potassium hydroxide gives 2-Hydroxy pyridine.

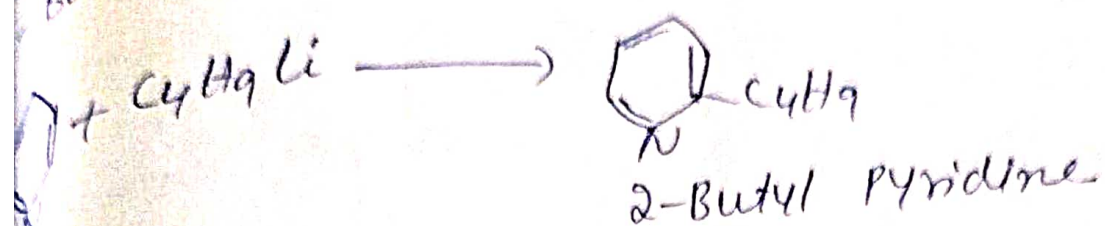


Reaction with phenyl lithium:

Pyridine reacts with phenyl lithium gives 2-phenyl pyridine.

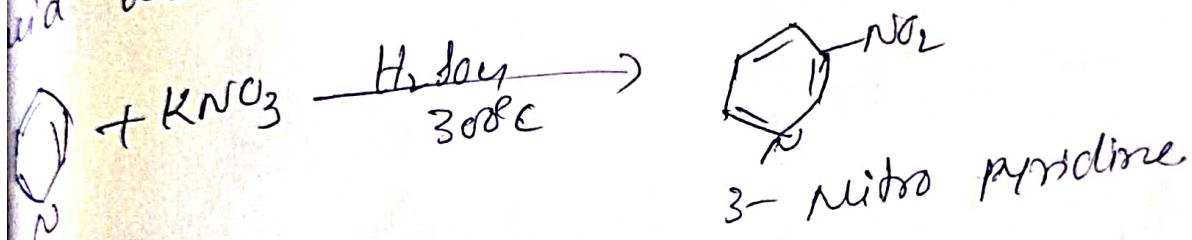


Reaction with n-Butyl Lithium:
Pyridine reacts with Butyl Lithium gives Butyl Pyridine.



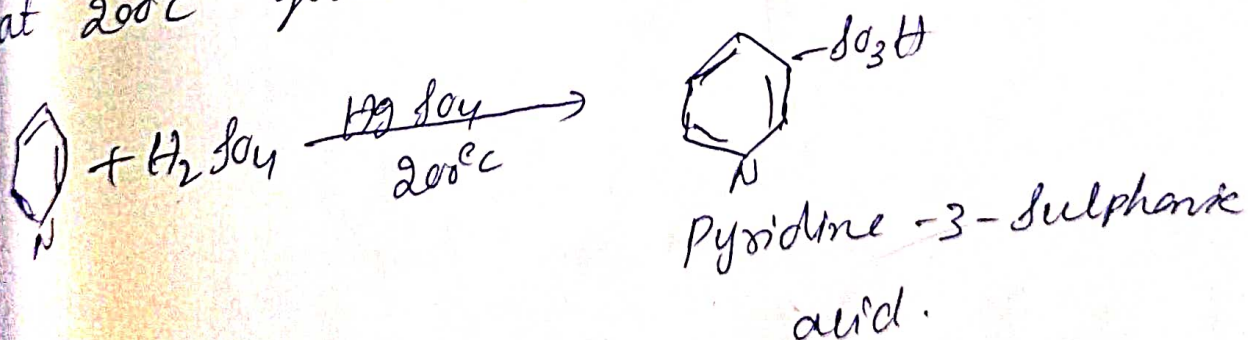
Electrophilic Substitution Reaction.

Nitration: Pyridine reacts potassium nitrate in the presence of Sulphuric acid at $300^\circ C$ gives 3-nitro pyridine



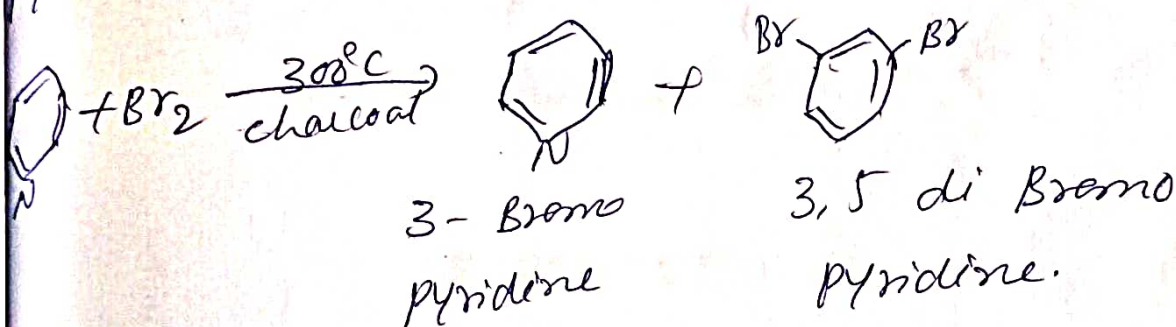
Sulphonation:

Pyridine reacts with Sulphuric acid in the presence of mercurous sulphate at $200^\circ C$ gives Pyridine-3-sulphate



Bromination:-

pyridine reacts with Bromine in the presence of charcoal at 300°C gives 3-Bromo pyridine and 3,5 di-Bromo pyridine.





Sri.M.Rajasekhar, II B.Sc.A.Z.C gave the seminar on 18 electron rule

T.R.R.GOVERNMENT DEGREE COLLEGE, KANDUKUR.



DEPARTMENT OF CHEMISTRY

STUDENT SEMINAR

NAME OF THE STUDENT: M. Raja Sekhar.

CLASS : II B.S.C

GROUP : [A.2. C]

REGISTRATION NO : Y203037023

TOPIC : 18 electron Rule.

SUBMITTED TO : Dr. K. V. PADMAVATHI Madam.

Lecturer in ~~Physics~~ chemistry

18 electron rule :-

The sum of valance electrons of central metal atom and number of electrons donated by ligands for the formation of complex is 18 (or) an integer of 18, That complex should be stable.

Formula For 18 Electron rule :-

$$= \left(\begin{array}{l} \text{No. of valance electrons} \\ \text{in central metal atom} \end{array} \right) + \left(\begin{array}{l} \text{No. of electrons} \\ \text{donated by ligands} \end{array} \right)$$

(or)

$$= \left(\begin{array}{l} \text{No. of valance electrons} \\ \text{of central metal atom} \end{array} \right) \times \left(\begin{array}{l} \text{No. of central} \\ \text{atoms (n)} \end{array} \right) + 2 \left(\begin{array}{l} \text{No. of M-L} \\ \text{bonds} \end{array} \right) +$$

$$\left(\begin{array}{l} \text{No. of electrons} \\ \text{contributed} \\ \text{by ligands} \end{array} \right) \pm (\text{Charge}) = 18 \times n.$$

Applications :-

$\text{Ni}(\text{CO})_4$:-

Electronic configuration of $_{26}\text{Fe} \rightarrow [\text{Ar}] 3d^8 4s^2$

No. of valence electrons in $\text{Ni} = 1 \times 10 = 10$

No. of electrons donated by 4 'CO' ligands $= 4 \times 02 = 08$

Total No. of electrons $= 18$ electrons.

$\therefore$ It is stable complex.

$\text{Fe}(\text{CO})_5$:-

Electronic configuration of $_{26}\text{Fe} \rightarrow [\text{Ar}] 3d^6 4s^2$

No. of valence electrons in $\text{Fe} = 1 \times 8 = 08$

No. of electrons contributed by
5 'CO' ligands $= 5 \times 2 = 10$

Total no. of electrons $= 18$ electrons.

$\therefore$ stable complex.

$\text{Fe}(\text{CO})_9$:-

electronic configuration of $_{26}\text{Fe} \rightarrow [\text{Ar}] 3d^6 4s^2$

valence electrons in $2 \times \text{Fe}^0$ atoms $= 2 \times 8 = 16$

electrons by $9 \times \text{CO}$ ligands $= 9 \times 2 = 18$

electrons donated by 9

one $\text{Fe} - \text{Fe}$ Bond $= 1 \times 2 = 02$

Total electrons $= 36$ electrons.

$$= \frac{36}{2} = 18 \text{ electrons.}$$

$\therefore$ stable complex.

$\text{Fe}_3(\text{CO})_{12}$:-

electronic configuration of $_{26}\text{Fe} \rightarrow [\text{Ar}] 3d^6 4s^2$

valence electrons in $3 \times \text{Fe}^0$ atoms $= 03 \times 8 = 24$

electrons donated by $12 \times \text{CO}$ ligands $= 12 \times 2 = 24$

$3 \times \text{Fe} - \text{Fe}$ bonds $= 03 \times 2 = 06$

Total electrons $= 54$ electrons.

$$= \frac{54}{3} = 18 \text{ electrons}$$

$\therefore$ stable complex.

$\text{Fe}(\text{CO})_9$:-

electronic configuration of $_{26}\text{Fe} \rightarrow [\text{Ar}] 3d^6 4s^2$

valence electrons in 3^1Fe^0 atoms $= 2 \times 8 = 16$

electrons by 9 'CO' ligands $= 9 \times 2 = 18$

electrons donated by 9

one "Fe - Fe" Bond $= 1 \times 2 = 02$

Total electrons $= 36$ electrons.

$$= \frac{36}{2} = 18 \text{ electrons.}$$

$\therefore$ stable complex.

$\text{Fe}_3(\text{CO})_{12}$:-

electronic configuration of $_{26}\text{Fe} \rightarrow [\text{Ar}] 3d^6 4s^2$

valence electrons in 3^1Fe^0 atoms $= 03 \times 8 = 24$

electrons donated by "12 'CO' ligands $= 12 \times 2 = 24$

$3^1\text{Fe} - \text{Fe}^0$ bonds $= 03 \times 2 = 06$

Total electrons $= 54$ electrons.

$$= \frac{54}{3} = 18 \text{ electrons}$$

$\therefore$ stable complex.

SEMINAR.

T.P.R. GOVT DEGREE COLLEGE KANDUKUR.

SUBJECT : ZOOLOGY.
SEMESTER : V
PAPER : VI
TOPIC : Viral diseases in poultry.
DATE : 28-12-2021
DAY : Tuesday
HOUR : 3rd

Submitted to
Smt. M. Jyothi
Lecturer in Zoology.

Submitted by
1. G. Sandhya Rani
B.Sc [BZC] No: 13.
2. J. Neelima
B.Sc [BZC] No: 14.
3. K. Sowjanya.
B.Sc [BZC] No: 18

VIRAL DISEASES :-

- 1) Marek's Disease (or) lympho-proliferative Disease.
- 2) Ranikhet Disease (or) New castle Disease.
- 3) Infectious bronchitis in poultry.
- 4) Infectious laryngo-Trachitis.
- 5) Fowl pox (or) Avian pox (or) Avian Diphtheria.
- 6). Avial influenza.
- 7). Gumboro Disease (or) Infectious Bursal disease.

1) Marek's Disease:-

- ⇒ This is a Contagious Viral disease Caused by "DNA Herpes Virus."
- ⇒ Named after its discoverer prob. Marek in "1907."
- ⇒ Most Common disease occurring in the chickens of all age groups.
- ⇒ The disease expressed their in acute or classical forms.
- ⇒ Acute Condition by the formation of lymphoid tumours in gonads, liver, spleen, kidneys, lungs, proventriculus, feather follicles and skeletal muscles.
- ⇒ classical Condition is expressed by the paralysis of wings and legs, loss of weight, diarrhoea, respiratory disorders and whitening of pupil.

- ⇒ No treatment is available except Vaccinating the one day aged chicks with HVT Vaccine which may give protection.
- Separation of the infected birds and keeping them in virus free environment with free flow air.

2) Ranikhet disease (or) New castle disease:-

- ⇒ It is a dreadful Contagious disease, first reported from Ranikhet Village.
- Causative agent is the Viral particle from the group of paramixovirus.
- ⇒ It expresses as viz.,
Lentogenic (lowest)
Mesogenic (Medium)
Velogenic (high) virulence forms.

Symptoms :- Depression, Prostration, dropping wings, Paralysis and Coughing.

Treatment :- Mild doses of RaB, R. Lasote Vaccines followed by booster doses. Reduces the risk of disease.

3) Infectious bronchitis in poultry:-

- This is a highly Contagious disease caused by "Corona Virus".

Symptoms :- Sneezing, Coughing, retarded growth, drop in egg production, diarrhoea, nephrosis identified by enlargement of kidneys due to urates.

Treatment:- No specific treatment, but mass vaccination with IB vaccine of young chicks is effective in preventing the infection.

4) Infectious Laryngo-Trachitis:-

- This is a contagious respiratory disease affecting the older birds.
- ⇒ Causative agent is the highly pathogenic herpes virus.
- Symptoms:- Respiratory problems, swelling of the face, drop in egg production, conjunctivitis, coughing, gasping and nasal exudation with blood streaks.

Treatment:- No definite treatment but vaccination controls the disease to some extent.

5) Fowl Pox (or) Avian Pox (or) Avian Diphtheria:-

- A mild disease caused by DNA virus affecting featherless parts of young chicken and layers.
- The disease is expressed in cutaneous, diphtheric and ocular forms.

Symptoms:- formation of typical yellowish or brown wart-like nodules on the comb, wattles, face, skin or mouth, difficulty in breathing.

Treatment:- There is no treatment for fowl pox.
D Control and prevention of chickens by vaccination. Fowl pox or pigeon pox vaccine. Administered all chickens at 12-16 weeks age.

6) Avian influenza :-

- This bird suffers from Severe depression.
- The Swelling of the structures of head is one of most frequent external findings associated with highly pathogenic avian influenza.

Symptoms :- Cough, fever, Sore throat, muscle aches, Headache, Shortness of breath.

Treatment :- Many influenza viruses have become resistant to antiviral drugs that includes amantadine and rimantadine.

7) Gumboro Disease :-

- It is an infectious disease caused by a resistant type of IBV virus affecting the younger birds of 4-8 weeks.
- Disease spreads through food and water. The bird becomes susceptible to infectious causing Coryza, enteritis etc.

Symptoms :- Watery diarrhoea, depression, dry skin and muscles and nephrosis in young ones.

Treatment :- 1) The spread of virus can be done by using disinfectants like formalin.

2) Prevention is possible through Vaccination.

T.R.R. GOVT DEGREE COLLEGE KANDUKUR



DEPARTMENT OF ZOOLOGY SEMINAR

SEMESTER - II

PAPER - ANIMAL DIVERSITY - BIOLOGY OF CHORDATES

TOPIC - Dentition in mammals.

DATE - 18/8/22

DAY - Thursday

HOUR - 3rd

Submitted To

Dr J. Anusfa
madam

Lecturer in zoology

Submitted By

K. Vasantha.

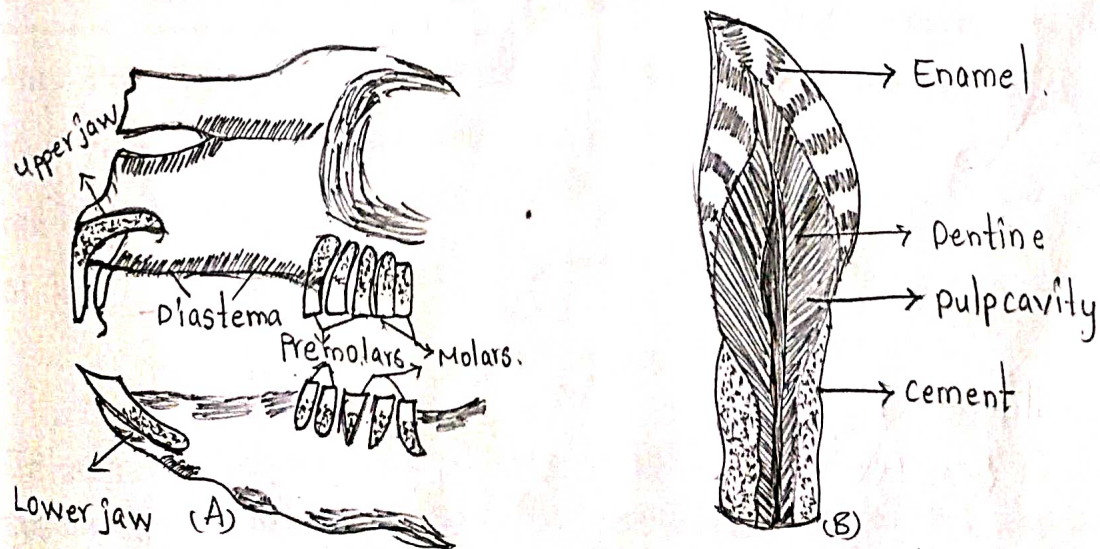
Y213037006

" Dentition in mammals "

The arrangement of teeth in the jaws is known as Dentition. The dentition in mammals is one of the important factors to trace the evolution of mammals.

The teeth of mammals are developed in the soft tissues, which cover the borders of premaxilla, maxilla and mandible. But teeth are entirely absent in the adults of some whales, monotremes and some American ant eaters.

The teeth of mammals are enclosed in sockets and hence this condition is known as thecodont condition. The part of the tooth which projects above the gum is called the crown and the part embedded in socket is the root. The part between the root and crown's known as the neck. The grinders have more than one root. The tooth contains a central pulp cavity, which has an opening at the base of the root. This cavity containing connective tissue, blood vessels and nerves.



A. Dentition in Rabbit

B. Rabbit tooth V.S.

The tooth consists of "dentine", which is covered by enamel on the crown and by cement on the root. In edentates and in the tusks of elephants enamel is entirely absent.

The two most marked characteristics of teeth of mammals are "heterodontism" and "diphyodontism".

Heterodontism :- Heterodontism consists of different kinds of teeth in different parts of the jaw. There are mainly four kinds of teeth in each jaw. They are incisors, with their chisel like edges, canines with their pointed edges and premolars and molars with their flat edges. The latter two sets of teeth are useful for grinding, and hence they are also known as grinders. In most cases the incisors are situated in front, next comes canines and they are followed by premolars and molars.

Diphyodontism :- The presence of two functional sets of teeth is known as diphyodontism. In that case the first set is called milk teeth and the later set is called permanent teeth. Occasionally, there is only one set of teeth, which lasts throughout life is called monophyodont dentition. Ex:- Whales and kangaroo.

Dental formula : The dental formula is a short way of expressing the number and kinds of teeth present in one half of each jaw. Numerator represents the number and kind of teeth in one half of the upper jaw, while the denominator indicates that of lower jaw. The typical mammalian dental formula is.

$$I - \frac{3}{3}, C - \frac{1}{1}, PM - \frac{4}{4}, M - \frac{3}{3}.$$

In order to simplify the dental formula the initial letters are customarily omitted, so that the simplified form of the above dental formula is $\frac{3}{3} \frac{1}{1} \frac{4}{4} \frac{3}{3}$. Since the number and kinds of teeth in the two.

values of each jaw, multiplied by 2 gives the total of numerator and that of the denominator and total number of teeth present in both jaws. Thus in the above case the total number of teeth are 44.

The number of each kind of teeth varies in different forms and in some cases a certain type of teeth, may be absent. In such cases the absence of a kind of tooth is indicated by zero in the corresponding place in the dental formula. For example in cow, the incisors and canines are lacking in the upper jaw and the same is indicated in its dental formula.

$$\text{Sheep, Goat \& Cow} - \frac{0033}{3133} \times 2 = 32$$

In rat the canines and premolars are lacking in both the jaws

$$\text{Dental formula of rat} - \frac{1003}{1003} \times 2 = 16$$

$$\text{Dental formula of rabbit} - \frac{2033}{1023} \times 2 = 28$$

$$\text{Man \& Monkey} = \frac{2123}{2123} \times 2 = 32$$

$$\text{Pig, zebra, horse} : \frac{3143}{3143} \times 2 = 44.$$

The dental formula can be used to express the deciduous as well as the permanent dentition. A recognizable gap present between two types of teeth is known as diastema. In Rodents and Lagomorphs, which lack canines a diastema is present between the last incisor and the first premolar. In rat and mouse a diastema is present between the incisor and the first molar, on each side of the jaw.

Cope and Osborn theory: The crown surface of the molar tooth of mammals shows a wide range of pattern which is of classificatory value. A primitive form of tooth with three cusps it is called triconodont; when the three cusps are in one plane, it is called tritubercular. Such a tooth is further complicated by the addition of a posterior cusp or talon, which may have one or two cusps. Finally cusps may be added between the three primary cusps. Finally the teeth may have more than six cusps in which case they are multicuspidate type.

Cope and Osborn have endeavoured to show that all cusped mammalian grinders are referred to the "tritubercular theory". According to Cope and Osborn theory of tritubercular starting with a simple reptilian cone which was assumed to have elongated in an antero-posterior direction and two subsidiary cones have arisen one on the front and one on the hind border thus producing a triconodont tooth. These two cusps were then supposed to have rotated in opposite direction in the upper and lower jaws to form triangular or tritubercular tooth. The apex of the triangle points inwards in the upper tooth and outwards in the lower. The cusps at the apex of the triangle being supposed to represent the original ~~repta~~ reptilian cone was named the protocone in the upper and protoconid in the lower tooth.

File Wrapper

Department of Botany

File No.

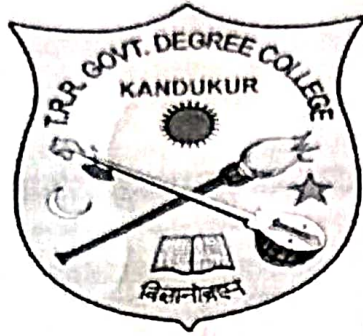
Office : SEMINAR'S

2019-2020

Address :

.....

SEMINAR PAPER



TOPIC: Nitrogen Metabolism

Presented by : Shaik Taslima

Class: 2nd BZC

Date: 14.11.19

Submitted to

Dr. Shaik Mastan Vali

Lecturer in Botany

The Nitrogen Cycle

Nitrogen is essential to life because it is a key component of proteins and nucleic acids. Nitrogen occurs in many forms and is continuously cycled among these forms by a variety of bacteria. Although nitrogen is abundant in the atmosphere as diatomic nitrogen gas (N_2), it is extremely stable, and conversion to other forms requires a great deal of energy. Historically, the biologically available forms NO_3^- and NH_3 have often been limited; however, current anthropogenic processes, such as fertilizer production, have greatly increased the availability of nitrogen to living organisms. The cycling of nitrogen among its many forms is a complex process that involves numerous types of bacteria and environmental conditions.

In general, the *nitrogen cycle* has five steps:

1. *Nitrogen fixation* (N_2 to NH_3 / NH_4^+ or NO_3^-)
2. *Nitrification* (NH_3 to NO_3^-)
3. *Assimilation* (Incorporation of NH_3 and NO_3^- into biological tissues)
4. *Ammonification* (organic nitrogen compounds to NH_3)
5. *Denitrification* (NO_3^- to N_2)

Nitrogen Fixation

Nitrogen fixation is the process by which gaseous nitrogen (N_2) is converted to ammonia (NH_3 or NH_4^+) via biological fixation or nitrate (NO_3^-) through high-energy physical processes. N_2 is extremely stable and a great deal of energy is required to break the bonds that join the two N atoms. N_2 can be converted directly into NO_3^- through processes that exert a tremendous amount of heat, pressure, and energy. Such processes include combustion, volcanic action, lightning discharges, and industrial means. However, a greater amount of biologically available nitrogen is naturally generated via the biological conversion of N_2 to NH_3 / NH_4^+ . A small group of bacteria and cyanobacteria are capable using the enzyme nitrogenase to break the bonds among the molecular nitrogen and combine it with hydrogen.

Nitrogenase only functions in the absence of oxygen. The exclusion of oxygen is accomplished by many means. Some bacteria live beneath layers of oxygen-excluding slime on the roots of certain plants. The most important soil dwelling bacteria, *Rhizobium*, live in oxygen-free zones in nodules on the roots of legumes and some other woody plants. Aquatic filamentous *cyanobacteria* utilize oxygen-excluding cells called *heterocysts*.

Nitrification

Nitrification is a two-step process in which NH_3 / NH_4^+ is converted to NO_3^- . First, the soil bacteria *Nitrosomonas* and *Nitrococcus* convert NH_3 to NO_2^- , and then another soil

bacterium, *Nitrobacter*, oxidizes NO_2^- to NO_3^- . These bacteria gain energy through these conversions, both of which require oxygen to occur.

Assimilation

Assimilation is the process by which plants and animals incorporate the NO_3^- and ammonia formed through nitrogen fixation and nitrification. Plants take up these forms of nitrogen through their roots, and incorporate them into plant proteins and nucleic acids. Animals are then able to utilize nitrogen from the plant tissues.

Ammonification

Assimilation produces large quantities of organic nitrogen, including proteins, amino acids, and nucleic acids. *Ammonification* is the conversion of organic nitrogen into ammonia. The ammonia produced by this process is excreted into the environment and is then available for either nitrification or assimilation.

Denitrification

Denitrification is the reduction of NO_3^- to gaseous N_2 by anaerobic bacteria. This process only occurs where there is little to no oxygen, such as deep in the soil near the water table. Hence, areas such as wetlands provide a valuable place for reducing excess nitrogen levels via denitrification processes.

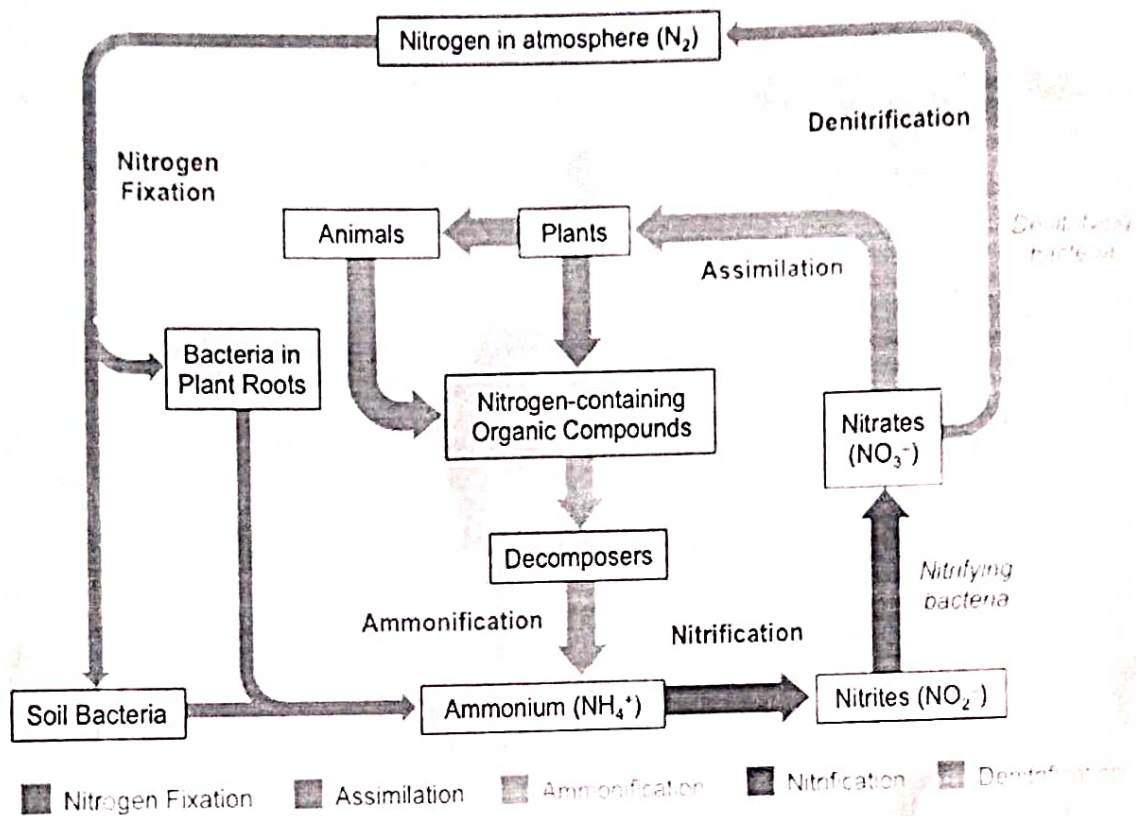
Common Forms of Nitrogen

The most common forms of inorganic nitrogen in the environment are diatomic nitrogen gas (N_2), nitrate (NO_3^-), nitrite (NO_2^-), ammonia (NH_3), and ammonium (NH_4^+). The species that predominate depend on the chemical, physical, and biological environment.

In aquatic environments, the presence of nitrogen as unionized ammonia (NH_3) or ammonium (NH_4^+) is dependent on the pH and temperature.

When the pH is below 8.75, NH_4^+ predominates. Increases in pH signify increases in the hydroxyl ion (OH^-) concentration of the water, meaning the above reaction will shift to the left in order to reach equilibrium. Above a pH of 9.75, NH_3 predominates (Hem, 1985). NH_3 is more toxic to aquatic life. If biological assimilation of NH_3 is not occurring at a sufficient rate, NH_3 may accumulate and cause detrimental effects to aquatic life.

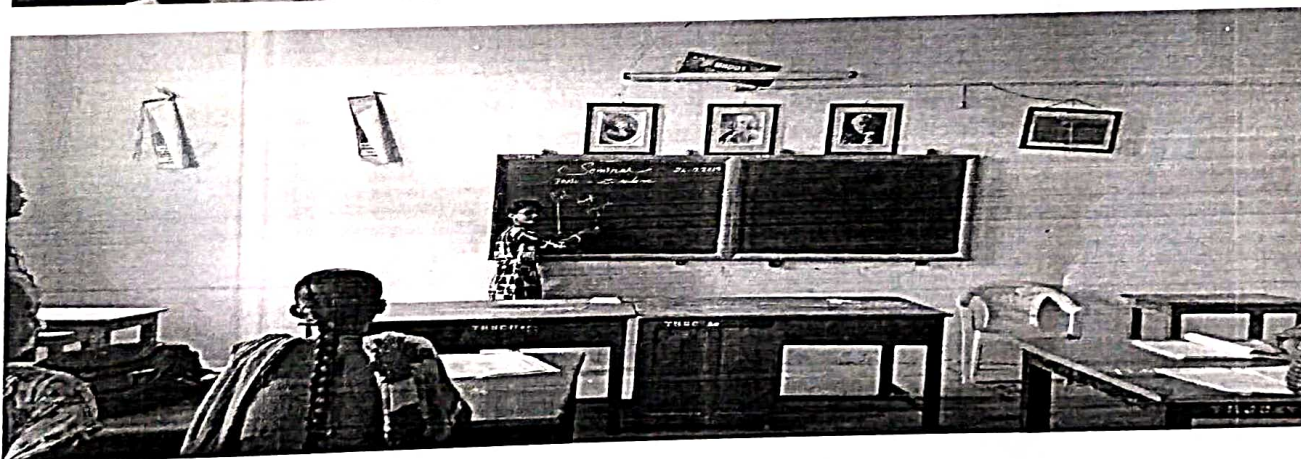
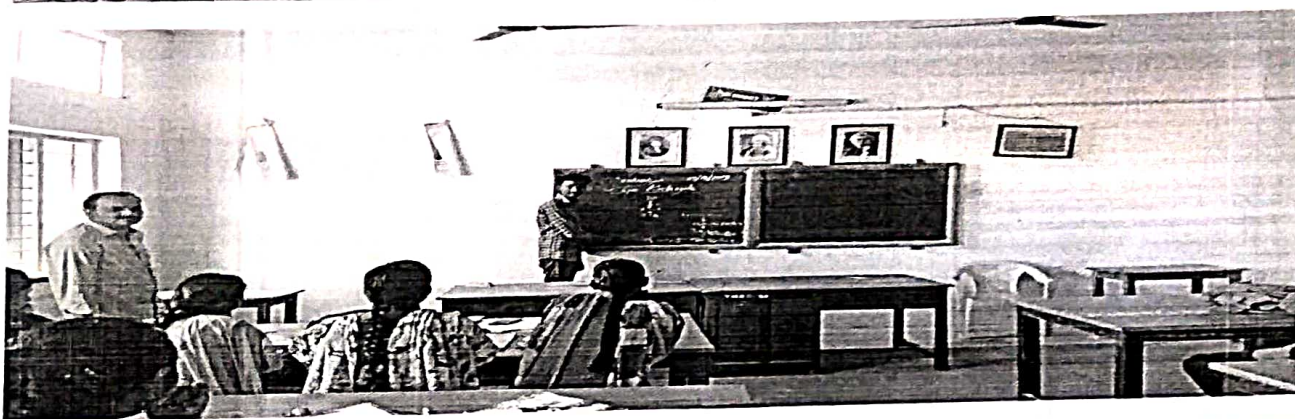
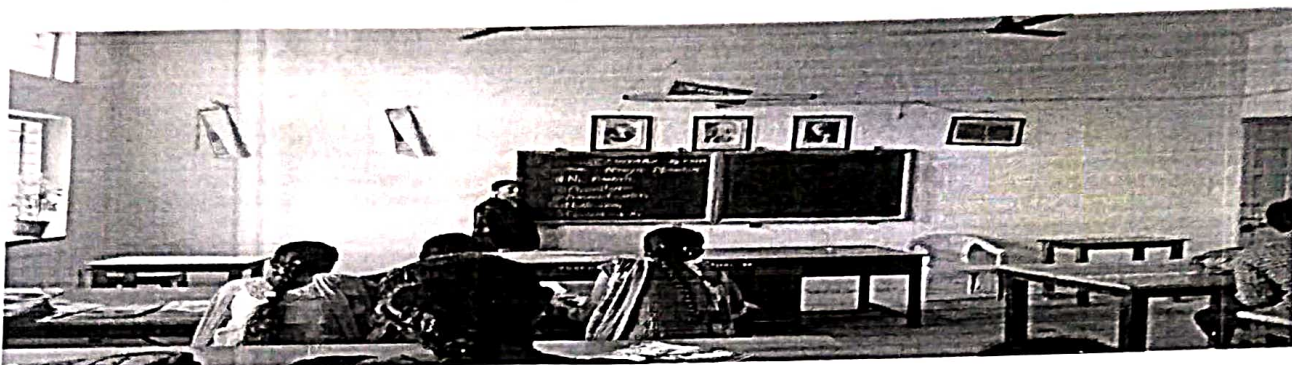
In soils, NH_4^+ ions are strongly sorbed by clay particles and organic matter, which have a net negative surface charge. In alkaline soils, NH_4^+ will be converted to NH_3 gas, and lost to the atmosphere. Under warm growing conditions, NH_4^+ in the soil will be transformed to NO_3^- via nitrification. NO_3^- is very soluble, and can easily be leached from soils under wet conditions.



Nitrogen Monitoring

Monitoring nitrogen levels is necessary for many reasons, including detecting baseline nutrient levels and trends, preventing eutrophication, maximizing soil productivity, and minimizing toxic effects of ammonia or nitrite poisoning.

SEMINARS (2019-2020) 2ND BZC



1. 1ST PHOTO – Shaik Taslima delivering seminar on Nitrogen Metabolism on 14.11.19
2. 2nd PHOTO- Tejesh Kumar delivering seminar on Krebs cycle on 09-12.19
3. 3rd PHOTO – Aishwarya delivering seminar on Z-scheme on 09-12-19

SEMINAR PAPER



TOPIC: Z Scheme

Presented by : T. Ishwarya

Class: 2nd BZC

Date: 09.12.19

Submitted to

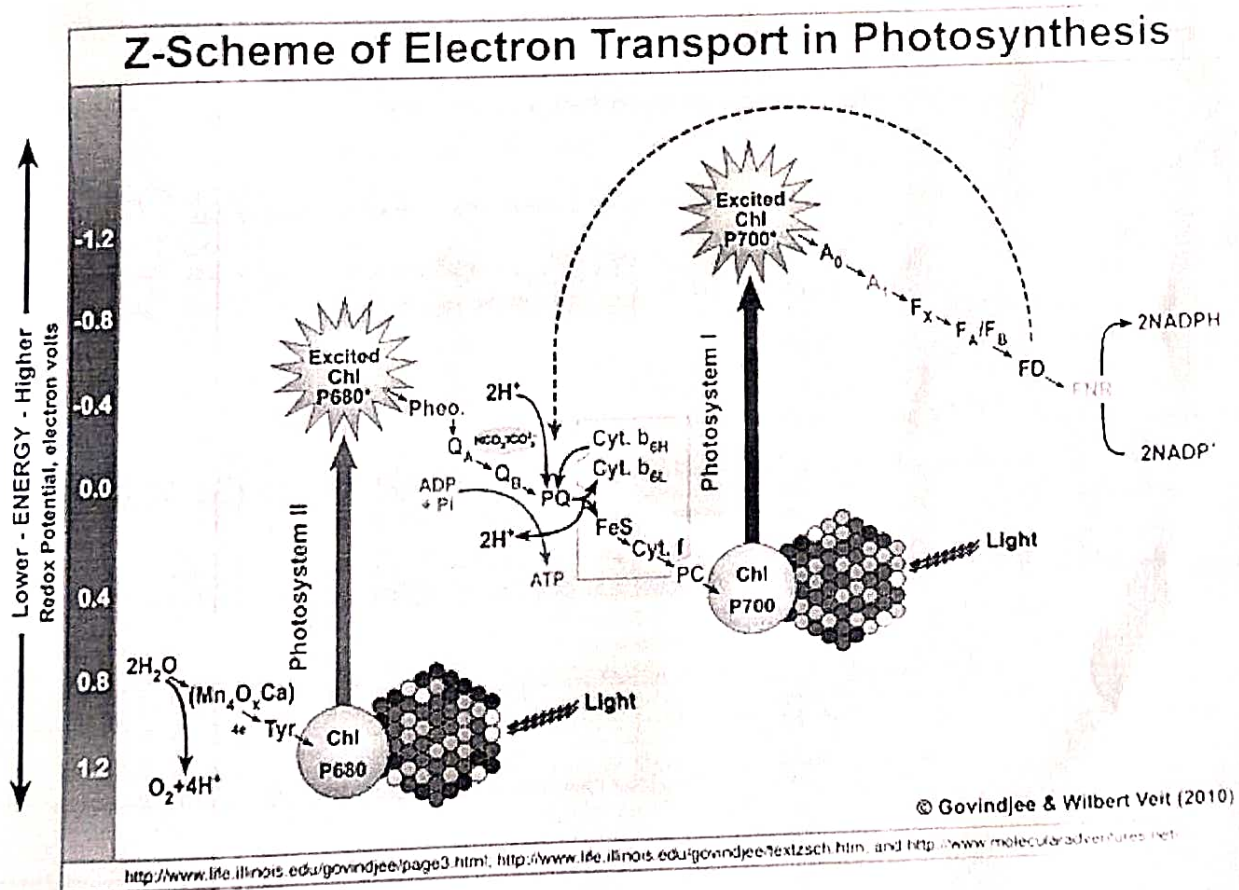
Dr. Shaik Mastan Vali

Lecturer in Botany

Z scheme of light reaction

The "Z-scheme" describes the oxidation/reduction changes during the light reactions of photosynthesis. The vertical axis in the figure represents the reduction potential of a particular species—the higher the position of a molecular species, the more negative its reduction potential, and the more easily it donates electrons

In the Z-scheme, electrons are removed from water (to the left) and then donated to the lower (non-excited) oxidized form of P680. Absorption of a photon excites P680 to P680*, which "jumps" to a more actively reducing species. P680* donates its electron to the quinone-cytochrome bf chain, with proton pumping. The electron from cytochrome bf is donated to PSI, converting P700 to P700*. This electron, along with others, is transferred to NADP, forming NADPH. Alternatively, this electron can go back to cytochrome bf in cyclic electron flow.



T.R.R. GOVT. DEGREE COLLEGE
KANDUKUR, Prakasam Dist.

2019 - 2020



DEPARTMENT OF MATHEMATICS

Student Seminar



T.R.R. GOVT. DEGREE COLLEGE

KANDUKUR - 523 105, Prakasam Dist.:08598-223546

NAAC ACCREDITED B+

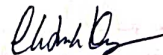
2019-2020

ACADEMIC ACTIVITY - SEMINAR

SS : I BSC GROUP : (MPC & MPCs) DATE : 02.01.2020 HOUR :
ECT : Mathematics PAPER : II-Solid Geometry TIME : 15min.

Roll No.	Name of the Student	Signature of the Student
02	A. Sai , I BSC-MPC	A. Sai
02	Y.V. Hemanth, IBSC-MPCS	Y.V. Hemanth.
05	M. Lavanya, IBSC-MPC	M. Lavanya
09	K. Padma, IBSC-MPCS	K. Padma

Students Present : 19


Signature of the Lecturer

Roll No.	Name of the Student	Signature of the Student
06	N. Narasimharao 1 st B.Sc(MPC)	N. Narasimharao
05	P. Mahendra Babu 1 st B.Sc(MPC)	P. Mahendra Babu
25	Ch. Narendrakumar 1 st B.Sc(MPC)	Ch. Narendrakumar.
16	M. Nagendra Babu 1 st B.Sc(MPC)	M. Nagendra Babu
08	V. Viswendra 1 st B.Sc(MPC)	V. Viswendra
06	T. Anthoni 1 st B.Sc(M.P.C.S)	T. Anthoni
04	SK. Rahman 1 st B.Sc(M.P.C.S)	SK. Rahman.
20	J. Issac 1 st B.Sc(M.P.C.S)	J. Issac
21	K. Hari Krishna (MPC)	K. Hari Krishna
03	Ch. Sivaramaiah (MPC)	Ch. Sivaramaiah
03	Y. Mamatha (MPC)	Y. Mamatha
07	M. Mrudula (MPC)	M. Mrudula
13	E. Kaveri (MPC)	E. Kaveri
17	P. Yamuna (MPC)	P. Yamuna.
21	M. Sravya (MPC)	M. Sravya
22	B. Deepthi (MPC)	B. Deepthi

S.No.	Roll No.	Name of the Student	Signature of
17	02	CH. Gayathri [MPC]	CH. Gayathri
18	01	MD. Afreen [MPC]	MD. Afreen
19	03	SK. Sandani (MPC)	SK. Sandani
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			

T. R. R

Govt- Degree College KDKR

Student- Seminar

Name :- A. Sai

Group :- 1st B.Sc MPC (6m).

Subject :- MATHEMATICS PAPER - II

Topic :- Angles between two lines.

Submitted to
Suresh Kumar

Submitted by
A. Sai

Find the angles between the lines $\frac{x-2}{1} = \frac{y-4}{0} = \frac{z-5}{-1}$,
 $\frac{x}{3} = \frac{y}{4} = \frac{z}{5}$.

Given lines are

$$\frac{x-2}{1} = \frac{y-4}{0} = \frac{z-5}{-1} \rightarrow (1).$$

$$\frac{x}{3} = \frac{y}{4} = \frac{z}{5} \rightarrow (2).$$

r's of the line (1) are $(d_1, m_1, n_1) = (1, 0, -1)$.

r's of the line (2) are $(d_2, m_2, n_2) = (3, 4, 5)$.

If θ is the angle between the lines, then

$$\cos \theta = \left| \frac{d_1 d_2 + m_1 m_2 + n_1 n_2}{\sqrt{d_1^2 + m_1^2 + n_1^2} \sqrt{d_2^2 + m_2^2 + n_2^2}} \right|.$$

$$= \left| \frac{1(3) + 0(4) + (-1)(5)}{\sqrt{1^2 + 0^2 + (-1)^2} \sqrt{3^2 + 4^2 + 5^2}} \right|$$

$$= \left| \frac{3 + 0 - 5}{\sqrt{1+0+1} \sqrt{9+16+25}} \right|.$$

$$= \left| \frac{-2}{\sqrt{2} \sqrt{50}} \right|$$

$$= \frac{2}{\sqrt{2} \sqrt{25 \times 2}} = \frac{1}{5}$$

$$\cos \theta = \frac{1}{5}.$$

∴ that the condition for line $x = ay + b$, $z = cy + d$ and $x = a'y + b'$, $z = c'y + d'$ to be perpendicular is $aa' + cc' = 0$

Given lines are

$$x = ay + b, \quad z = cy + d \longrightarrow (1)$$

$$x = a'y + b', \quad z = c'y + d' \longrightarrow (2)$$

$$(1) \Rightarrow x = ay + b, \quad z = cy + d$$

$$x - b = ay$$

$$\frac{x - b}{a} = y$$

$$z - d = cy$$

$$\frac{z - d}{c} = y$$

$$\frac{x - b}{a} = \frac{y - 0}{1} = \frac{z - d}{c}$$

The dir's of the line (1) are $a, 1, c$.

$$\Rightarrow x = a'y + b', \quad z = c'y + d'$$

$$x - b' = a'y$$

$$\frac{x - b'}{a'} = y$$

$$z - d' = c'y$$

$$\frac{z - d'}{c'} = y$$

$$\frac{x - b'}{a'} = \frac{y - 0}{1} = \frac{z - d'}{c'}$$

dir's of the line (2) are $a', 1, c'$.

two lines are perpendicular then $d_1d_2 + m_1m_2 + n_1n_2 = 0$

$$aa' + 1(1) + cc' = 0$$

$$aa' + cc' + 1 = 0$$

so that the value of k is $-\frac{10}{7}$ is the line $\frac{x-1}{-3} = \frac{y-2}{2k}$
 $\frac{z-3}{2} , \frac{x-1}{3k} = \frac{y-5}{1} = \frac{z-6}{-5}$ are perpendicular.

Given line are

$$\frac{x-1}{-3} = \frac{y-2}{2k} = \frac{z-3}{2} \rightarrow \textcircled{1}$$

$$\frac{x-1}{3k} = \frac{y-5}{1} = \frac{z-6}{-5} \rightarrow \textcircled{2}$$

Dir's of the line $\textcircled{1}$ are

$$(d_1, m_1, n_1) = (-3, 2k, 2)$$

$$(d_2, m_2, n_2) = (-3, 2k, 2)$$

If two line are perpendicular.

$$d_1 d_2 + m_1 m_2 + n_1 n_2 = 0$$

$$-3(-3) + 2k(2k) + 2(2) = 0$$

$$9 + 4k^2 + 4 = 0$$

$$4k^2 + 13 = 0$$

$$4k^2 = -13 \Rightarrow k = \pm \frac{\sqrt{13}}{2}$$

Show that the value of k is also if the line $\frac{x+1}{-3} =$

$$\frac{y+2}{2k} = \frac{z-3}{2}, \frac{x-1}{3k} = \frac{y+5}{1} = \frac{z+6}{-5}$$

perpendicular.

$$\frac{x+1}{-3} = \frac{y+2}{2k} = \frac{z-3}{2} \rightarrow \textcircled{1}$$

$$\frac{x-1}{3k} = \frac{y+5}{1} = \frac{z+6}{-5} \rightarrow \textcircled{2}$$

Dir's of the line $\textcircled{1}$ are

$$(d_1, m_1, n_1) = (-3, 2k, 2)$$

Dir's of the line $\textcircled{2}$ are

$$(d_2, m_2, n_2) = (3k, 1, -5)$$

If two lines are perpendicular.

then

$$d_1 d_2 + m_1 m_2 + n_1 n_2 = 0$$

$$-3(3k) + 2k(1) + 2(-7) = 0$$

$$-9k + 2k - 10 = 0$$

$$-7k - 10 = 0$$

$$\boxed{k = -2}$$

T.R.R. GOVT DEGREE COLLEGE

STUDENT SEMINAR

NAME

K. PADMA

CLASS

DEGREE

GROUP

BSc MPCs

SUBJECT

MATHEMATICS

TOPIC

COPLANAR LINES

SUBMITTED BY

K. Padma

SUBMITTED TO

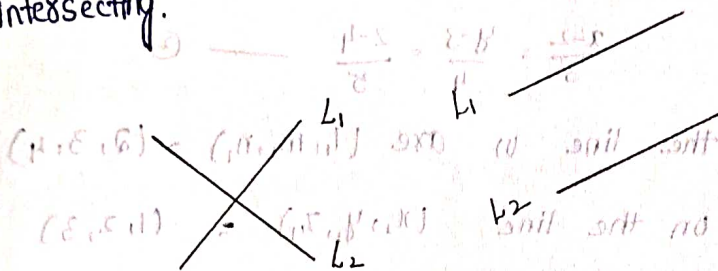
CH. Suresh Kumar

Sign

Coplanar lines

If two lines are in a plane then these lines are called coplanar lines.

① — Coplanar lines are either parallel or intersecting.



Theorem:

The necessary and sufficient condition for the lines

$$\frac{x-x_1}{l_1} = \frac{y-y_1}{m_1} = \frac{z-z_1}{n_1} \quad \text{--- (1) and}$$

$$\frac{x-x_2}{l_2} = \frac{y-y_2}{m_2} = \frac{z-z_2}{n_2} \quad \text{--- (2)}$$

$$\begin{vmatrix} x_1-x_2 & y_1-y_2 & z_1-z_2 \\ l_1 & m_1 & n_1 \\ l_2 & m_2 & n_2 \end{vmatrix} = 0$$

The equation of the plane parallel to the line (1) and containing the line (2) is

$$\begin{vmatrix} x-x_1 & y-y_1 & z-z_1 \\ l_1 & m_1 & n_1 \\ l_2 & m_2 & n_2 \end{vmatrix} = 0$$

11. Show that the lines $\frac{x-1}{2} = \frac{y-2}{3} = \frac{z-3}{4}$ and $\frac{x-2}{3} = \frac{y-3}{4}$ are coplanar and also find their point of intersection and equation of the plane containing these lines.

Given lines are

$$\frac{x-1}{2} = \frac{y-2}{3} = \frac{z-3}{4} \quad \text{--- (1)}$$

$$\frac{x-2}{3} = \frac{y-3}{4} = \frac{z-4}{5} \quad \text{--- (2)}$$

Dir's of the line (1) are $(l_1, m_1, n_1) = (2, 3, 4)$

The point on the line $(x_1, y_1, z_1) = (1, 2, 3)$

Dir's of the line (2) are $(l_2, m_2, n_2) = (3, 4, 5)$

The point on the line $(x_2, y_2, z_2) = (2, 3, 4)$

$$\begin{vmatrix} x_1 - x_2 & y_1 - y_2 & z_1 - z_2 \\ l_1 & m_1 & n_1 \\ l_2 & m_2 & n_2 \end{vmatrix} = 0$$

$$\begin{vmatrix} 1-2 & 2-3 & 3-4 \\ 2 & 3 & 4 \\ 3 & 4 & 5 \end{vmatrix} = \begin{vmatrix} -1 & -1 & -1 \\ 2 & 3 & 4 \\ 3 & 4 & 5 \end{vmatrix}$$

$$-1(3-5) = -1(15-16) + 1(10-12) - 1(8-9)$$

$$= -1(-2) + 1(-2) - 1(-1)$$

$$= 1 - 2 + 1$$

$$= 0$$

Given lines are coplanar.

$$\frac{p_1}{p_2} = \frac{2}{3} ; \frac{m_1}{m_2} = \frac{3}{4} ; \frac{n_1}{n_2} = \frac{4}{5}$$

Since $\frac{p_1}{p_2} \neq \frac{m_1}{m_2} \neq \frac{n_1}{n_2}$ the given lines are not parallel

Hence, the given lines are intersecting

$$\Rightarrow \frac{x-1}{2} = \frac{y-2}{3} = \frac{z-3}{4} = \lambda \text{ (say)}$$

$$\frac{x-1}{2} = \lambda \Rightarrow x-1 = 2\lambda = x = 2\lambda + 1$$

$$\frac{y-2}{3} = \lambda \Rightarrow y-2 = 3\lambda \Rightarrow y = 3\lambda + 2$$

$$\frac{z-3}{4} = \lambda \Rightarrow z-3 = 4\lambda \Rightarrow z = 4\lambda + 3$$

Any point on the line is $P(x, y, z) = (2\lambda + 1, 3\lambda + 2, 4\lambda + 3)$

$$\Rightarrow \frac{x-2}{3} = \frac{y-3}{4} = \frac{z-4}{5} = t \text{ (say)}$$

$$x-2 = 3t \Rightarrow x = 3t + 2$$

$$y-3 = 4t \Rightarrow y = 4t + 3$$

$$z-4 = 5t \Rightarrow z = 5t + 4$$

Any point on the line is $Q(x, y, z) = (3t + 2, 4t + 3, 5t + 4)$

If $P = Q$

$$(2\lambda + 1, 3\lambda + 2, 4\lambda + 3) = (3t + 2, 4t + 3, 5t + 4)$$

$$2\lambda + 1 = 3t + 2 \Rightarrow 2\lambda - 3t - 1 = 0 \quad (3)$$

$$3\lambda + 2 = 4t + 3 \Rightarrow 3\lambda - 4t - 1 = 0 \quad (4)$$

$$4\lambda + 3 = 5t + 4 \Rightarrow 4\lambda - 5t - 1 = 0 \quad (5)$$

Solving (3) & (4)

$$\frac{2\lambda - 3t - 1}{-3 - 2} = \frac{3\lambda - 4t - 1}{-4 - 3} = \frac{1}{-7}$$

$$\frac{2\lambda}{-1} = \frac{3\lambda}{-1} = \frac{1}{-1}$$

$$x = -1; \quad y = -1$$

substitute x & y values in (5).

$$\begin{aligned} 4x - 5y - 1 &= 4(-1) - 5(-1) - 1 \\ &= -4 + 5 - 1 \\ &= 0 \end{aligned}$$

The point of intersection $(P) = (2x+1, 3y+2, 4z)$
 $= (2(-1)+1, 3(-1)+2, 4)$
 $= (-1, -1, -1)$

The equation of the plane containing these lines

$$\begin{vmatrix} x-x_1 & y-y_1 & z-z_1 \\ l_1 & m_1 & n_1 \\ l_2 & m_2 & n_2 \end{vmatrix} = 0$$

$$\begin{vmatrix} x-1 & y-2 & z-3 \\ 2 & 3 & 4 \\ 3 & 4 & 5 \end{vmatrix} = 0$$

$$(1+10-4+12-11)-4(2-1)-5(2-3)=0$$

$$-x+1+2y-4-z+3=0$$

$$-x+2y-z=0 \Rightarrow x-2y+z=0$$

(2) show that the lines $\frac{x-1}{2} = \frac{y+1}{-3} = \frac{z+10}{8}$ & $\frac{x-4}{1} = \frac{y+3}{-4} = \frac{z+1}{7}$ are coplanar and also find their point of intersection equation of the plane containing these lines.

Given lines are $\frac{x-1}{2} = \frac{y+1}{-3} = \frac{z+10}{8}$

$$\frac{x-4}{1} = \frac{y+3}{-4} = \frac{z+1}{7}$$

D's of the line l_1 are $(l, m, n) \Rightarrow (2, -3, 8)$

The point on the line $(x, y, z) \Rightarrow (1, -1, -10)$

Dir's of the line (1) are $(P_1, m_1, n_1) = (1, -4, 7)$

The point on the line $(x_1, y_1, z_1) = (4, -3, -1)$

$$\begin{vmatrix} 1-4 & -1+3 & -10+1 \\ 2 & -3 & 8 \\ 1 & -4 & 7 \end{vmatrix}$$

$$\begin{vmatrix} -3 & 2 & -9 \\ 2 & -3 & 8 \\ 1 & -4 & 7 \end{vmatrix}$$

$$-3(11) - 2(6) - 9(-5) = -33 - 12 + 45 = 0$$

(1) = 0 and 2 are sufficient

Given lines are coplanar

$$\frac{P_1}{P_2} = \frac{2}{1} ; \frac{m_1}{m_2} = \frac{-3}{-4} ; \frac{n_1}{n_2} = \frac{8}{7}$$

Since $\frac{P_1}{P_2} \neq \frac{m_1}{m_2} \neq \frac{n_1}{n_2}$ the given lines are not parallel

Hence, the given lines are intersecting

$$\Rightarrow \frac{x-1}{2} = \frac{y+1}{-3} = \frac{z+10}{8} = \lambda \text{ (say)}$$

$$x-1 = 2\lambda \Rightarrow x = 2\lambda + 1$$

$$y+1 = -3\lambda \Rightarrow y = -3\lambda - 1$$

$$z+10 = 8\lambda \Rightarrow z = 8\lambda - 10$$

Any point on the line (1) P $(2\lambda + 1, -3\lambda - 1, 8\lambda - 10)$

$$\Rightarrow \frac{x-4}{1} = \frac{y+3}{-4} = \frac{z+1}{7} = \mu \text{ (say)}$$

$$x-4 = \mu \Rightarrow x = \mu + 4$$

$$y+3 = -4\mu \Rightarrow y = -4\mu - 3$$

$$z+1 = 7\mu \Rightarrow z = 7\mu - 1$$

Any point on the line (2) Q $(\mu + 4, -4\mu - 3, 7\mu - 1)$

If P = Q

$$(2x+1, -3x-1, 8x-10) = (s+4, -4s-3, 7s-1)$$

$$2x+1 = s+4 \Rightarrow 2s-x-3=0 \quad (3)$$

$$-3x-1 = -4s-3 \Rightarrow -3x+4s+2=0 \quad (4)$$

$$8x-10 = 7s-1 \Rightarrow 8x-7s-9=0 \quad (5)$$

Solving (3) & (4)

$$\frac{x}{-2+12} = \frac{s}{9-4} = \frac{1}{8-3}$$

$$\frac{x}{10} = \frac{s}{5} = \frac{1}{5}$$

$$x=2; s=1$$

Substitute x & s values in (5)

$$8x-7s-9 = 8(2)-7(1)-9 \\ = 16-7-9=0$$

The point of intersection $P = (2x+1, -3x-1, 8x-10)$
 $= (2(2)+1, -3(2)-1, 8(2)-10)$
 $= (5, -7, 6)$

The equation of the plane containing these lines is

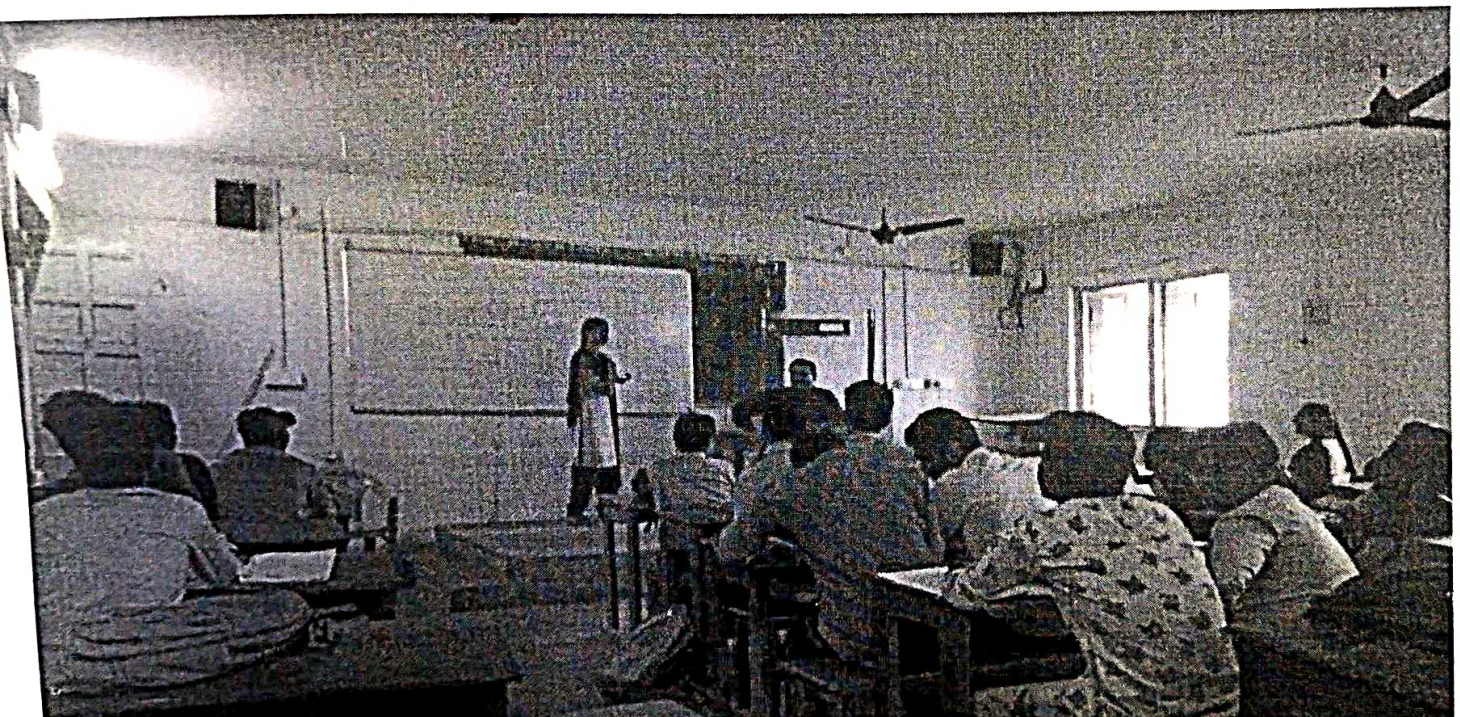
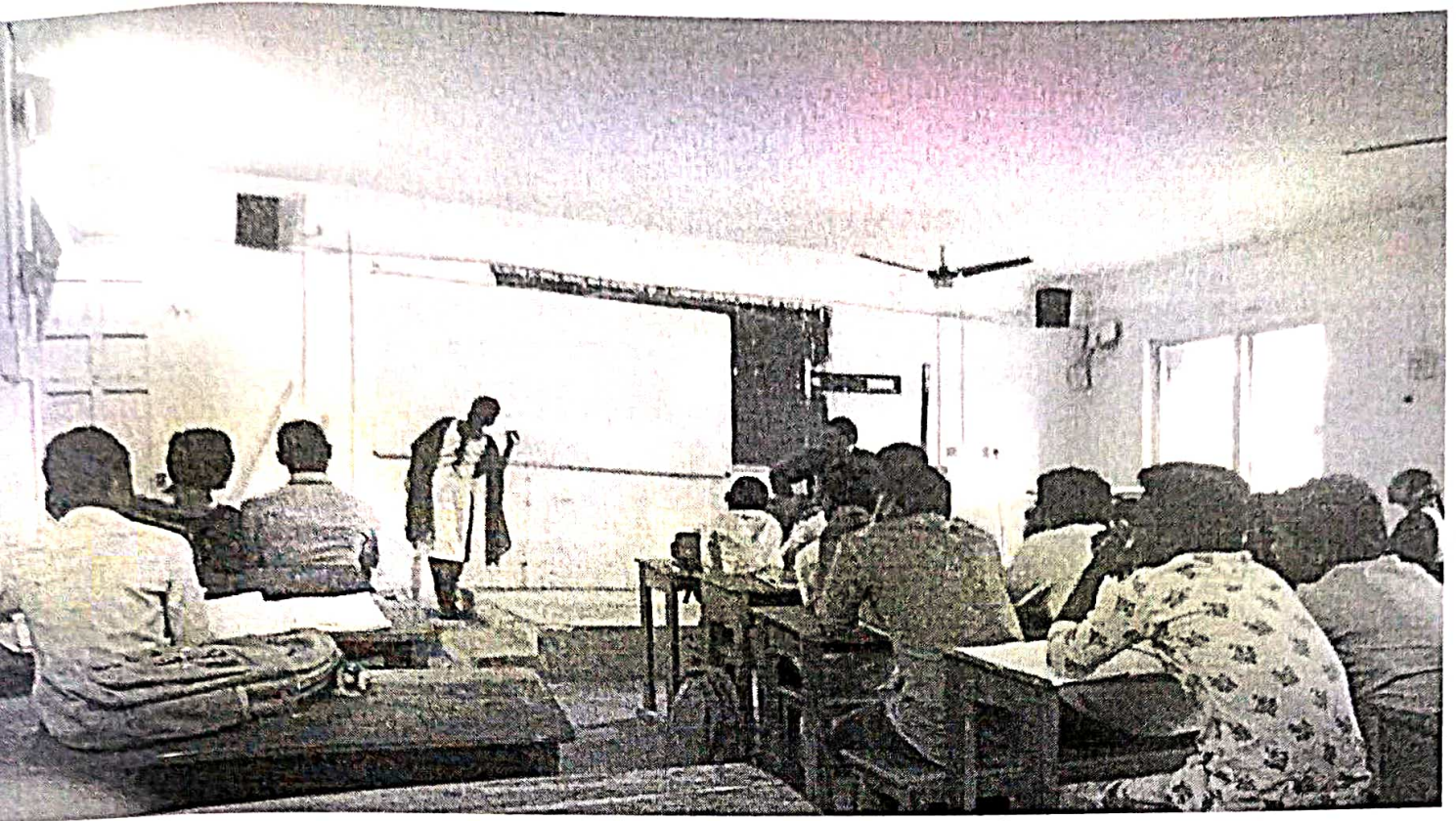
$$\begin{vmatrix} x-1 & y+1 & z+10 \\ 2 & -3 & 8 \\ 1 & -4 & 7 \end{vmatrix} = 0$$

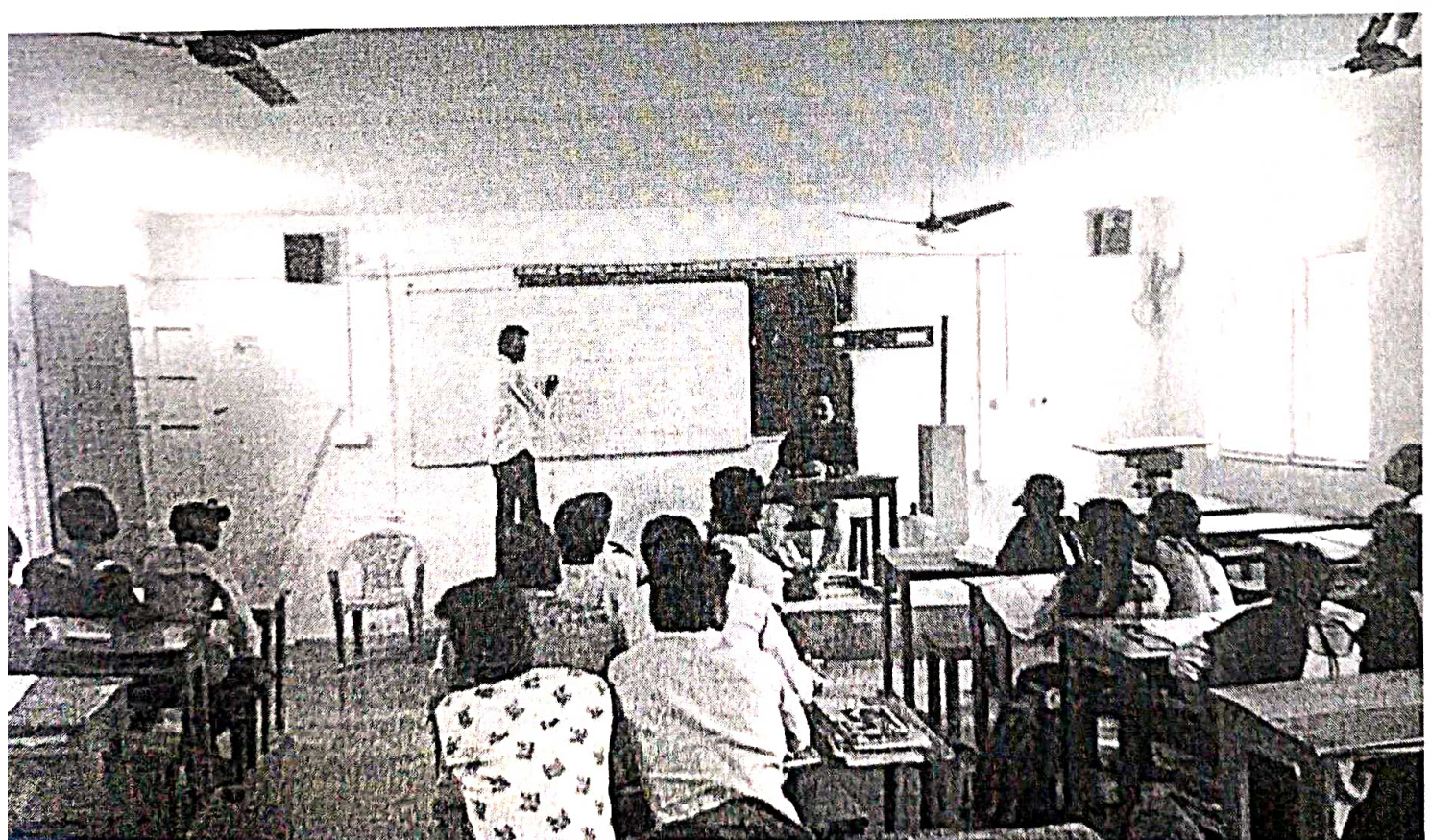
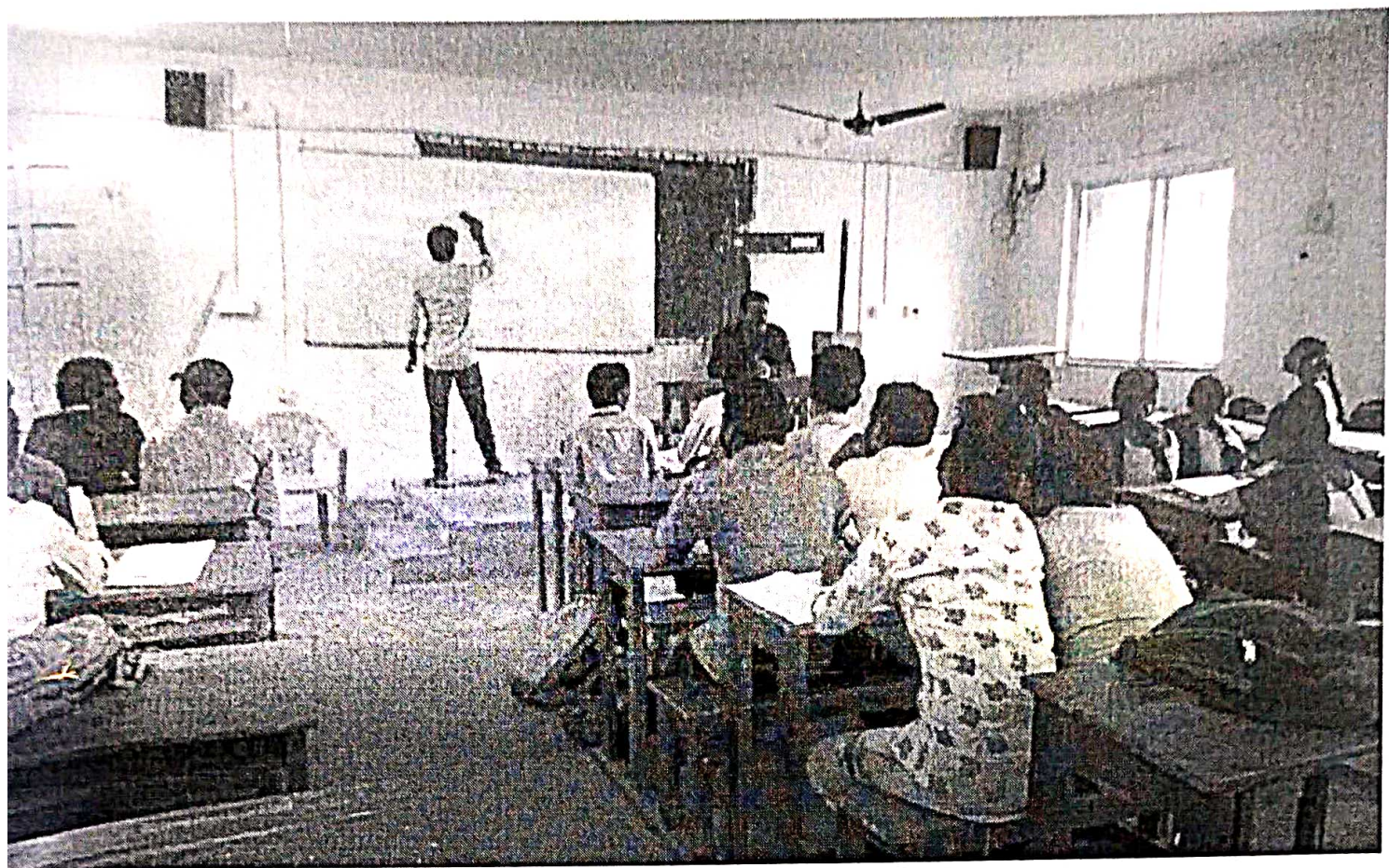
$$x-1(11) - y-1(6) + z+10(-5) = 0$$

$$11x-11-6y-6-5z-50=0$$

$$11x-6y-5z-67=0$$

$$11x-6y-5z-67=0$$







TRR Government Degree College, Kandukur, SPSR Nellore District

Department of Telugu.

NAAC Accredited B

2021-2022

CLASS ROOM SEMINAR

11-4-2022.

II B.A. III Sem

S.No.	Name of the student, class, section, R.No	Seminar topic	Signature
01	I Sinduja. H.T. NO: Y201037003.	'శవానం' పాఠం సమీక్ష.	I Sinduja
02	K. Pavani Kalyan. H.T. NO: Y201037023	'అన్న తెలుగు కవిత్వం'.	K. Pavani Kalyan
03	D. SIVA Kumari H.T. NO:	'తెలుగు కవిత్వం'	D. SIVA Kumari
04	K. Samson H.T. NO: Y201037004.	'కవిత్వం'	K. Samson
05	R. Pradeep. Y201037063.	'మంచి పాఠం'	R. Pradeep
06	A. Ganesh. Y201037051	'సమీక్ష'	A. Ganesh
07	K. Bhargavi Y201037026.	'కావ్యం కథ'	K. Bhargavi
08	S. Naga Raju	'భాష మంచి'	S. Naga Raju

K. Sathya
Lecture concerned

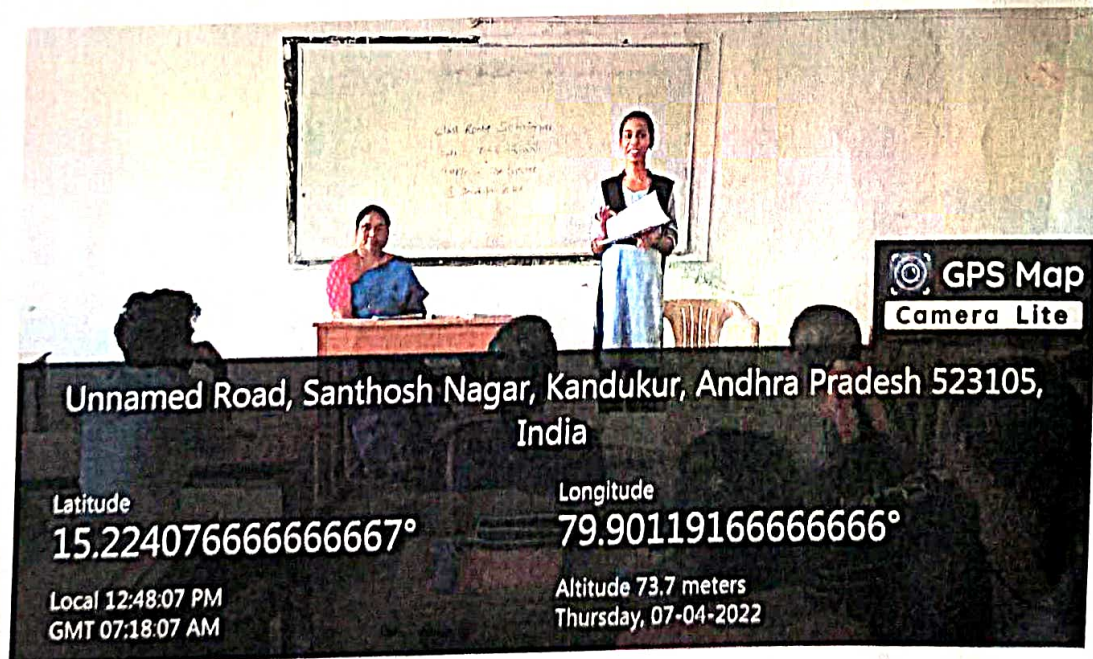
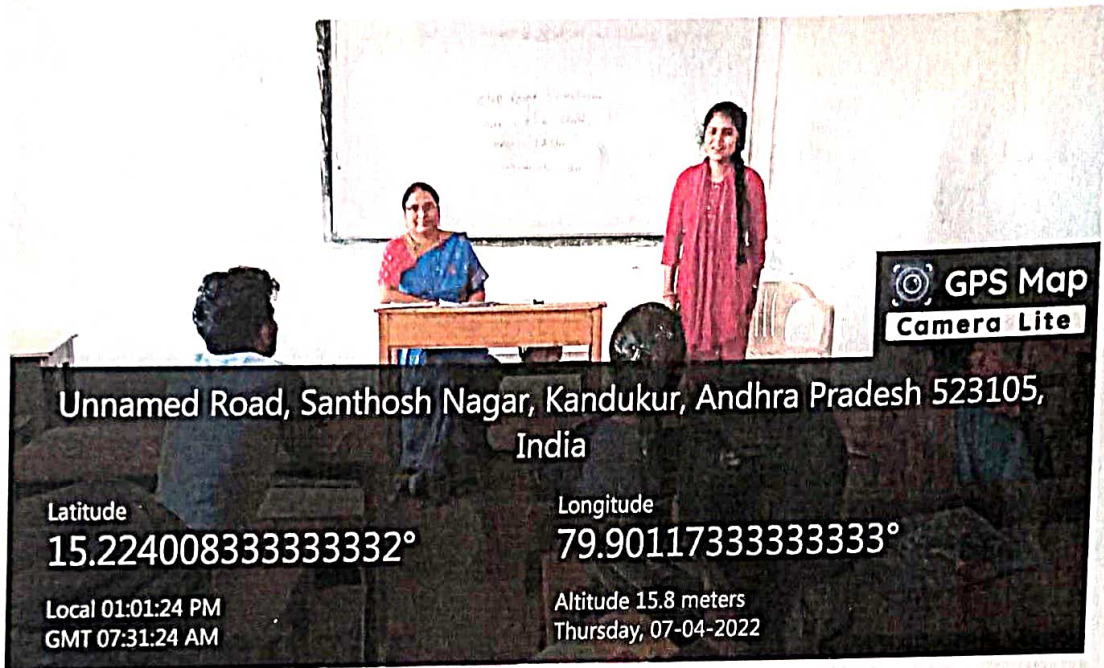
K. Sathya
Head of the Department

[Signature]
PRINCIPAL

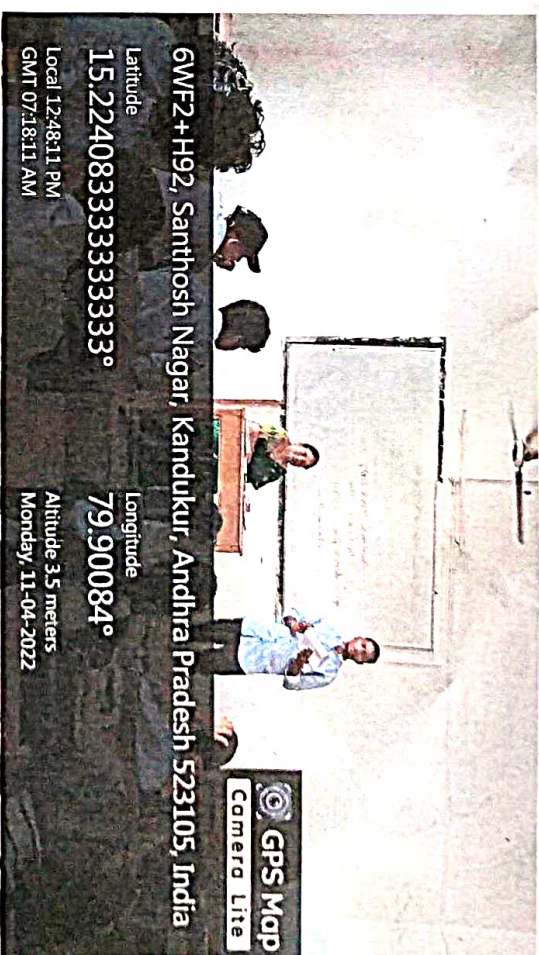
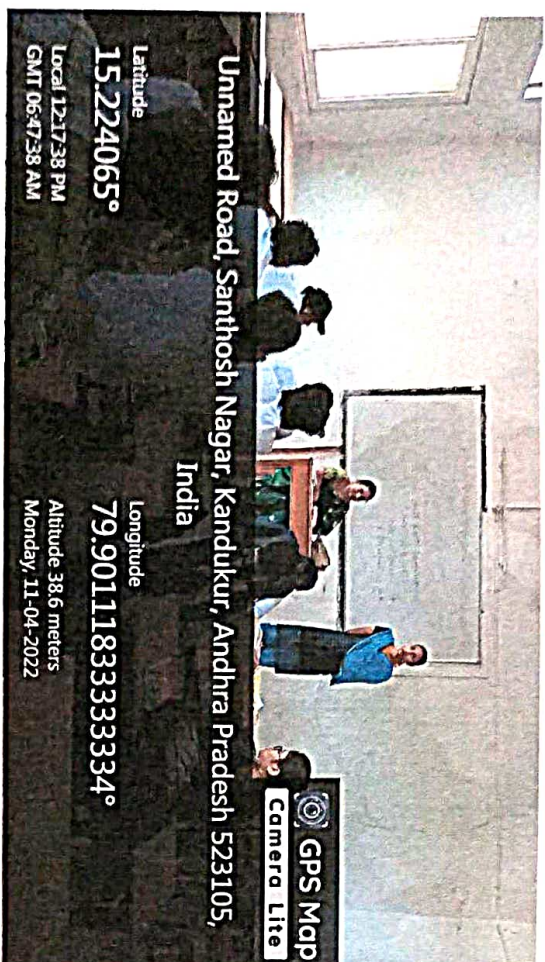
Seminar

Class : - II B.A.

Date : - 7-4-2022.



Seminar
11-4-2022 -



SEMINAR

T.T.R. Govt DEGREE COLLEGE, KANDUKUR.

TELUGU DEPARTMENT

విద్యార్థి పేరు :- కాకాని. నాంసుక్

గ్రాడ్ :- B.A. II సంవత్సరం , SEM :- III
(సృజనాత్మక రచన)

పరిశీలక సంఖ్య :- Y201037004

కథ పేరు :- "కష్టాలు" - కథా రచన

ఫోన్ నెం. :- 7997064645.

సభ్యు సమన్వయకర్త

Dr. K. సుజాత గారు,
M.A. Ph.D.

తెలుగు-అధ్యాపకురాలు.

కష్టపాత్ర

అనగనగ ఒక జ్ఞానపూరుడు ఉండి. ఇక అందమైన పక్షిలున్నారు. ప్రకృతి అందాలతో మంత్రం కట్టడంతోగా ఉంది. ఆ క్షణంలో ఒక సూర్యుడు ఉండి. అదే క్షణంలో ముగ్గురు స్నేహితులు ఉన్నారు. వారు ఆ సూర్యుని చదువుతున్నారు. వారి పెద్ద గుర్రం, శనిమరియం చంద్రం. ఆ సూర్యుని ఒక టీచర్ చాలు చక్కగా పాఠాలు చెప్తారు. అంతా ఈ ముగ్గురికీ కాన్ఫీ కారితలు ఉన్నాయి. వాటిని ఆ టీచర్ కి చెప్తారు. అది అని ఆ టీచర్ చాలు ప్రశంసించారు. అంతా వాటిని యేమో తొబ్బుకొంటారు అంటే అది చెప్పాలి అని ఆ టీచర్ ని అడుగుతారు. ఆ టీచర్ మీ కారితలు నెరవేరితే అంటే కనీసం ఒక మొగ్గం చెప్తాను. అన్నారు. ఆ ముగ్గురు విద్యార్థులు ఆ చెప్పండి టీచర్ అని అంతా ప్రసంగంగా అడుగుతారు. ఆ టీచర్ కూడా అన్నారు. మీరు నామే కాదు ద్రుదేశం చెప్తాను అక్కడ మీరు రావాలి. అంటారు. వేంటనే విద్యార్థులు ఆ సరే టీచర్ వస్తామే అని చెప్తారు. మీరు ఆ ద్రుదేశాని ఎచ్చే పట్టుకుంటే మీరే పాటు ఒక చెక్కని తొసుకొని రావాలి అది కేదా 10 అం పొడవు ఒక అడుగు గల చెక్కని తొసుకొని రావాలి అంటారు. ముగ్గురు ఆ తొసుకొని వస్తామే టీచర్ అని సంతోషంగా చెప్తారు.

ఆ ముగ్గురు ఆ చెక్కని సిద్ధం చేసుకొని ముగ్గురు సాక్షులు అయిపోతారు. వారిలో ఒకరితో మొట్టమొదట ఆ చెక్కని మోసుకుంటూ వస్తారు. వారి కళ్ళ నెరవేరుతుంది అనుకుంటుంటే క్షణించుకుంటుంటే ప్రసంగంగా నడుచుకుంటూ ఆ ద్రుదేశం వచ్చి సరిగ్గా వస్తారు. అంతా రవి అనెవిద్యార్థి అంతకు ఇంత బరువు గల చెక్క మోస్తూ అని ప్రశంసించుకుంటుంటుంటే ఆ చెక్కని కొంచెం ఎరుస్తాడు. అది బరువు తగ్గుతుంది వేగంగా నడుచుకుంటుంటే విట్టాడు. అది చూసి గుర్రం మరియం చంద్రం అరే ఎంతో వేడుకగా ఇంత వేగంగా వెలుతున్నాడు అనుకుంటారు. ఆ క్షణం పొతారు. అంతా చంద్రం అనె విద్యార్థి కేదా రవిలా ప్రశంసించి వాడు కేదా కొంచెం చెక్కని ఎరుస్తాడు వాడు కేదా వేగంగా నడుచుకుంటుంటే విట్టాడు. గుర్రం దానిని చూసి ఎంతో వేడుకగా ఇంత వేగంగా వెలుతున్నాడు అని నేను ఆ చెక్కని ఎరుచానా! వట్టా! అనుకుంటాడు. అప్పుడు టీచర్ చెక్కని తొసుకొని తమ్మున్నారు. అందుకే ఎవరూ అనుకుంటుంటే అది అంత బరువుగా ఉన్న మోసుకుంటుంటే నడుస్తాడు.

రవి తనో నిత్యార్థి తరె తాంబెం నిరిస్తే గుంక వేగంగా నిలతున్నాను
 గుంక వేగంగా నిలతున్నాను తన తాంబెం గుంకాంబెం ది చక్కని నిరున్నాడు. గుంక వేగంగా
 నడుచుతుంటు తన తాంబెం నేను చాలా తెలివైన వాడిని పోతు చూచా
 న్నాను. వినకాని చూచారు పోతు దిక్ పిచ్చిర్లు తనుతుంటు నిత్యుడు. చంద్రు
 తనో నిత్యార్థి తరె తాంబెం చిక్కని తాంబెం రమ్యునారు ఎందుకా
 ఎందుకా నిత్య తప్పు చేశాను తనో గుంక ది చిక్కని నిలచుచుంటు
 నడుచుతుంటు నిత్యుడు. గుంక తనో నిత్యార్థి ది చిక్కని నిలచుచుంటు
 తనో నిలచుకుంటు వస్తాడు.

రవి ది ద్రువణానికి దిగ్గరలు ఉంటుడు. తనో ది ద్రువణానికి నిత్య
 తాంబెం దిక్ కాలువ ఉంటుంది తనో చాలా దిగ్గరలు ఉంటుంది. రవి ది
 కాలువ దిగ్గరకి వస్తాడు. తనో చూసి రవికి ఎదురు తిరుగుతాడు. గుంక ఎదురు
 కాలువ వచ్చింది తనో చూస్తాడు ది కాలువ తాంబెం తనో 9 నుండి 10
 మీ. గుంక చిక్కగాని కెర్రగాని కాలువ. తనో రవి తనో చిక్కని కాలువ
 ది దిక్ గట్టుకు వస్తాడు తనో సరిపోదు కాలువలో పడి తాంబెం పోతుంది.
 తనో రవి నిరిచి చాలా తప్పు చేశా తనుతుంటు ఎలా తనో ది చిక్కని
 నిత్యుడు తనో కాలువలో దిక్ ఈత తాంబెంతుంటు నిత్యుడు తనుతుంటు. దిక్
 తాంబెం. తనకి ఈతరాదు. గుంక ది కాలువలో పడి తాంబెం పోతాడు.

చంద్రు కాలువ దిగ్గరకు వస్తాడు. తనో చూసి చంద్రు దిగ్గరలో
 ఎదురు గుంక కాలువ తనో చూస్తాడు. తనోకు ఎదురు తనో చిక్కని తాం-
 తాం రమ్యునారు తనో తనుతుంటు తనో తిచ్చుకున్న చిక్కని తనుతుంటు
 గట్టుకు వస్తాడు తనో గట్టు చిక్కని తనుతుంటుంది తనో సరిగా సరిపోదు
 తనో తనో చేస్తాడు తనో నడుచుతుంటు వస్తాడు తనో తనో చిక్కని
 ది చిక్కని కాలువలో పడిపోతుంది తనో చంద్రు కాలువ గట్టుకు
 దిగ్గరలో తనో తాంబెం తనుతుంటు. చంద్రు కాలువకి తాంబెం
 తనో తనుతుంటు. చంద్రు తనో తనో ది తాంబెం తనుతుంటు.

గుగా ఓ కాటవ దగ్గరకు వస్తాడు ఓ కాటవను చూసి ఏమిటా
 ప్రసాదమంటాడు. టీచర్ ఈయకొనేయి ఇక్కడ తోసుకొని రమ్మన్నాడు అని
 ప్రసాదమంటాడు. తీత బరువుగా ఉన్న దానిని ఎదు చెయ్యకుండా తోసుకొని
 వచ్చాడు. గుర బరువుగా ఉన్న కప్పుడు తోసుకొని వచ్చాడు మెక్కా టీచర్
 మాట అని యింకా ఏం చేశా ఉన్నాడు. నా కప్పుం భరించేది ప్రసాదమంటా
 ప్రసాదంగా ఓ చేతన కాటవ గట్టుకు వెళ్లి నడిచుకుంటూ గట్టు
 చుట్టరికి వస్తాడు. తీతలా తీత చుట్టూ ఉంటాడు. చంద్రా దిక్కి
 లాగి తోసుకొని వస్తాడు. చుట్టూ తనను చుట్టుకొని భావపడుతాడు.
 ఇద్దరు కలిసి టీచర్ చిట్టన ప్రవేశాని దగ్గరకు వెళ్తారు. టీచర్ కుడి
 న్నాడు. మారు టీచర్ని చూసి ఎంతో ప్రహేళికతో టీచర్ దగ్గరకు
 వెళ్తారు. టీచర్ వాళ్ళని చూసి కనీసం ప్రాదు. రవి ఎక్కడ తని ఉంటు
 తారు. మారు ఎదు మోకంటే ముందు వెళ్తా వచ్చాడు రవి చెప్తారు.

టీచర్ వాళ్ళ కారితం తీసి ఉంటారు. చంద్ర టీచర్ నాకు
 ఒక ప్రభుత్వ ఉద్యోగం కావాలి అంటాడు. సరే అని తనకు ప్రభుత్వంకు
 గల మార్గం చెప్తాడు. తనకి కుటుంబాన్ని బాగా చూసుకొంటా అని అంటా
 డు చంద్రకి ప్రభుత్వ ఉద్యోగం వస్తోంది. చంద్ర ప్రసాదంగా తన
 కుటుంబాన్ని బాగా చూసుకుంటాడు. గుగా తన కళ్ళను వివరిస్తాడు. గుగా
 టీచర్ నేను ఒక దేవాలయంలోని ఒక దేవ కుటుంబం నుండి వచ్చాను
 నా కేళ నాకుంటే అదృష్టం ను చదివేయాలి. అందుకు నాకు చాలా
 ఈ ఉద్యోగావాలి అని ఒక పేర్లు వ్యాపారవేత్తకి కావాలి అంటాడు. టీచర్
 ఓ మోటా అని కనీసం తన సరే అంటాడు. దానికి కావల్సిన మోటా
 చెప్తాడు. గుగా కథ నేరవారుతూది.

"మన జీవితం మన చేతిలో ఉంది"
 "మన జీవితం మన భావనలలో ఉంది"
 "మన కష్టం మనకు ఎదు రుతులో ఉంటుంది"
 "కష్టం"