Vinayak Vidnyan Mahavidyalaya, Nandgaon Kh.

Affiliated to Sant Gadge Baba Amravati University, Amravati

NAAC

Criterion-I

Curricular Aspects

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Criterion-I

1.3.2 Percentage of students undertaking project work/field work/ Internships

(Data for the latest completed academic year)

VINAYAK VIDNYAN MAHAVIDYALAYA

Nandgaon Khandeshwar, Dist. Amravati

(An Institute run by Pravin Khodke Memorial Trust, Amravati)

Sau. Sulbha Sanjay Khodke (MLA, Amravati) President, P.K.M Trust, Amt.	College Code: 197, Ph. No. 07221-222245 Email: vvm197@sgbau.ac.in	Dr. Alka Anant Bhise (Principal) Mob.9823526341

Outward No. PKMT/VVM/0523/3538 Dt. 10/05/2023

SELF DECLARATION

This is to certify that, the information, reports, true copies of the supporting documents, numerical data and web links furnished in this file are verified by I.Q.A.C. and head of the Institution and found correct.

Hence this certificate is issued.

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Vinayak Vidnyan Mahavidyalaya * Nandgaon Kh Dist Amravati *

Content

NAAC CRITERION - I

PROJECT WORK

BOTANY

Pravin Khodke Memorial Trust's
VINAYAK VIDNYAN MAHAVIDYALAYA, NANDGAON KH. DIST-AMRAVATI

Department of
BOTANY

Project Topics (B.Sc. III Sem V)

Session 2021-22 **Date 14 Feb 2022**

Sr. No.		Name of Students	Topics	Signature
1	Mr.	Abhishek P. Chauragade	To study the effects of different light on photosynthesis	
2	Ku.	Achal A.Bansod	----------//----------	
3	Ku.	Achal G.Masram	----------//----------	
4	Ku.	Achal R. Satre	----------//----------	
5	Ku.	Amrapali B.Wahane	----------//----------	
6	Ku.	Ankita S. Mandavgade	----------//----------	
7	Ku.	Anushka S. Izate	----------//----------	
8	Ku.	Asmita G. Sable	----------//----------	
9	Ku.	Bhagyashri J.Shelke	To study the effects of Vernalization on seed germination	
10	Ku.	Dimpal V. Jagtap	----------//----------	
11	Ku.	Divya M.Kakade	----------//----------	
12	Ku.	Gauri U. Dhawas	----------//----------	
13	Mr.	Harshad G.Dofe	----------//----------	
14	Ku.	Jayashree R.Tankar	----------//----------	
15	Ku.	Kajal V. Shinde	----------//----------	
16	Mr.	Krunal M. Barde	----------//----------	
17	Mr.	Kunal R. Bitale	To study the physiological effects of Gibberellic acid on plant growth.	
18	Ku.	Manisha M. Pongle	----------//----------	
19	Ku.	Md Atique Ab Rahim .	----------//----------	
20	Mr.	Pallavi P. Gulhane	----------//----------	
21	Ku.	Pallavi R. Tangale	----------//----------	
22	Ku.	Pooja W. More	----------//----------	
23	Mr.	Prajwalsing P. Deshmukh	----------//----------	
24	Ku.	Pranali G. Agashe	----------//----------	
25	Ku.	Pratiksha V.Shahade	To study the effect of Photoperiodism on flowering	
26	Ku.	Priyanka P. Gulhane	----------//----------	
27	Ku.	Punam S. Banarase	----------//----------	
28	Ku.	Rajani A. Chavhan	----------//----------	
29	Ku.	Rupali V.Mahato	----------//----------	
30	Ku.	Rushali G.Vairagade	----------//----------	
31	Ku.	Rutuja S. Zanzat	----------//----------	
32	Mr.	Sachin V. Bhagat	----------//----------	
33	Ku.	Sanika M. Darwhatkar	The study the stress physiology of plants due to water	
34	Mr.	Sarthak U.Raut	----------//----------	
35	Mr.	Satish B. More	----------//----------	
36	Mr.	Saurabh R. Kalekar	----------//----------	
37	Ku.	Shamal D. Ingole	----------//----------	
38	Ku.	Shruti S. Ravekar	----------//----------	
39	Mr.	Shubham B. Sanap	----------//----------	
40	Ku.	Snehal D. Dhurte	----------//----------	
41	Mr.	Sumit M. Jadhao	To study the Ecological adaptation in plants	
42	Ku.	Tejaswini B. Deotale	----------//----------	
43	Mr.	Vaibhav D. Dhande	----------//----------	
44	Ku.	Vaishnavi G. Gawner	----------//----------	
45	Ku.	Vaishnavi S.Khope	----------//----------	

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Department of
BOTANY

Project Topics (B.Sc. II Sem IV)

Session 2021-2022 Date: 21 May 2022

Sr No		Name of Students	Topics	Signature
1	Ku.	Aachal Rajendra Hambarde	Eukaryotic cell	
2	Ku.	Achal Dilip Deshmukh	Plant cell	
3	Ku.	Achal Nandkishor Charde	Plasma membrane (Sandwich Model)	
4	Ku.	Akshada Dnyaneshwar Dhandare	Plasma membrane (Fluid Mosaic model)	
5	Mr.	Aman Ashpak Makwani	Eukaryotic cell	
6	Ku.	Amruta Sopan Kale	Prokaryotic cell	
7	Ku.	Arpita Pradiprao Thakare	Structure of Chloroplast	
8	Mr.	Ashutosh D. Ingole	Endoplasmic Reticulum	
9	Ku.	Divya P.Salve	Endoplasmic Reticulum	
10	Mr.	Kartik Ravindra Mahure	Golgi Complex	
11	Ku.	Kiran Raju Banarase	Structure of Ribosome	
12	Ku.	Kirti Dilip Pophale	Golgi Complex	
13	Ku.	Komal Dnyaneshwar Pund	Structure of Mitochondria	
14	Ku.	Komal Jitendra Sen	Peroxisome	
15	Ku.	Mayuri Pravin Kapade	Structure of Mitochondria	
16	Ku.	Mayuri Rameshwar Deotale	Structure of Chloroplast	
17	Mr.	Mohd Anas Makwani	Structure Chromosome	
18	Mr.	Nikhil Nandu Praghane	Eukaryotic cell	
19	Mr.	Pranay Sanjay Marape	Prokaryotic cell	
20	Mr.	Pratik Kanteshwar Inzalkar	Structure Chromosome	
21	Ku.	Pratiksha Anand Ingale	Deletion	
22	Ku.	Priyanka Rajkumar Gajbhiye	Duplication	
23	Ku.	Rakhi Ruprao Sonone	Chromosomal organization	
24	Ku.	Ravina Sandip Navnage	Structure of Nucleus	
25	Ku.	Rina Pravin Pophale	Meiosis II	
26	Mr.	Rohan Ramrao Jadhao	Crossing over	
27	Ku.	Sakshi Rameshwar Gulhane	Structure of plant cell	
28	Ku.	Sakshi Santosh Inzalkar	Chromosomal organization	
29	Ku.	Samiksha Pramod Dakare	Meiosis I	
30	Ku.	Sejal Gajanan Chandurkar	Eukaryotic cell	
31	Ku.	Sharayu Purshottam Chaudhari	Mitosis	
32	Ku.	Shital Subhashrao Lonare	Eukaryotic cell	
33	Ku.	Shital Vijay Gadhave	Golgi Complex	
34	Ku.	Shivani Jaypalsingh Chavhan	Structure of Enzyme	
35	Ku.	Shraddha Anil Bankar	Structure of Nucleus	
36	Ku.	Shreya Gajanan Dhoke	Ultrastructure of Nucleus	
37	Ku.	Shreyaswi Ramesh Devtale	Metaphase	
38	Ku.	Snehal Balu Kaware	Anaphase	
39	Ku.	Vaishnavi Damodhar Rumne	Structure of Ribosome	
40	Ku.	Vaishnavi Ravindra Khobragade	Structure of Cell Wall	
41	Ku.	Vaishnavi Ravindra Zatale	Euploidy	

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Department of
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Project Topics (B.Sc. III Sem VI)

Session 2021-2022 **Date: 16 May 2022**

Sr No		Name of Students	Topics	Signature
1	Mr.	Abhishek Prakash Chauragade	Translation in Eukaryotes.	
2	Ku.	Achal Arun Bansod	Endomembrane system	
3	Ku.	Achal Gajanan Masram	Protein Folding (Secondary Structure)	
4	Ku.	Achal Rajesh Satre	Double Helical model of DNA	
5	Ku.	Amrapali Bhashkar Wahane	Protein Folding (Secondary Structure)	
6	Ku.	Ankita Shankarrao Mandavgade	Double Helical model of DNA	
7	Ku.	Anushka Sureshrao Izate	Solenoid Model	
8	Ku.	Asmita Gopal Sable	DNA Packaging	
9	Ku.	Bhagyashri Jaykumar Shelke	Solenoid Model	
10	Ku.	Dimpal Vijayrao Jagtap	Translation in Eukaryotes.	
11	Ku.	Divya Murlidhar Kakade	Double Helical model of DNA	
12	Ku.	Gauri Uddhavrao Dhawas	Chemical Composition of DNA	
13	Mr.	Harshad Gunvantrao Dofe	Genetic code	
14	Ku.	Jayashree Rajendra Tankar	Structure Ribosome	
15	Ku.	Kajal Vitthalrao Shinde	Structure Ribosome	
16	Mr.	Krunal Mukundrao Barde	Genetic code	
17	Mr.	Kunal Rajendra Bitale	Genetic code	
18	Ku.	Manisha Madhukar Pongle	Structure Ribosome	
19	Mr.	Md Atique Ab Rahim .	Central Dogma	
20	Ku.	Pallavi Prabhakar Gulhane	Nucleosome Model	
21	Mr.	Pallavi Ramrao Tangale	Nucleosome Model	
22	Ku.	Pooja Wasudev More	Chemical Composition of DNA	
23	Mr.	Prajwalsing P. Deshmukh	Lac Operon	
24	Ku.	Pranali Gajananrao Agashe	Protein Folding (Secondary Structure)	
25	Ku.	Pratiksha Vilasrao Shahade	Nucleosome Model	
26	Ku.	Priyanka Pramodrao Gulhane	DNA Packaging	
27	Ku.	Punam Shalikram Banarase	Central Dogma	
28	Ku.	Rajani Ashokrao Chavhan	Endomembrane system	
29	Ku.	Rupali Vasudeo Mahato	Central Dogma	
30	Ku.	Rushali Ganesh Vairagade	Endomembrane system	
31	Ku.	Rutuja Subhashrao Zanzat	Solenoid Model	
32	Mr.	Sachin Vilasrao Bhagat	Lac Operon	
33	Ku.	Sanika Mohan Darwhatkar	DNA Packaging	
34	Mr.	Sarthak Uttamrao Raut	Fine structure of Gene	
35	Mr.	Satish Bhujangrao More	Lac Operon	
36	Mr.	Saurabh Ramesh Kalekar	Translation in Eukaryotes.	
37	Ku.	Shamal Divakar Ingole	Central Dogma	
38	Mr.	Shruti Sanjay Ravekar	Chemical Composition of DNA	
39	Mr.	Shubham Bandu Sanap	Fine structure of Gene	
40	Ku.	Snehal Dattatray Dhurte	Central Dogma	
41	Mr.	Sumit Madhukar Jadhao	Fine structure of Gene	
42	Ku.	Tejaswini Balu Deotale	Central Dogma	
43	Mr.	Vaibhav Dipakrao Dhande	Plasmids	
44	Ku.	Vaishnavi G. Gawner	Plasmids	
45	Ku.	Vaishnavi Sanjay Khope	Plasmids	

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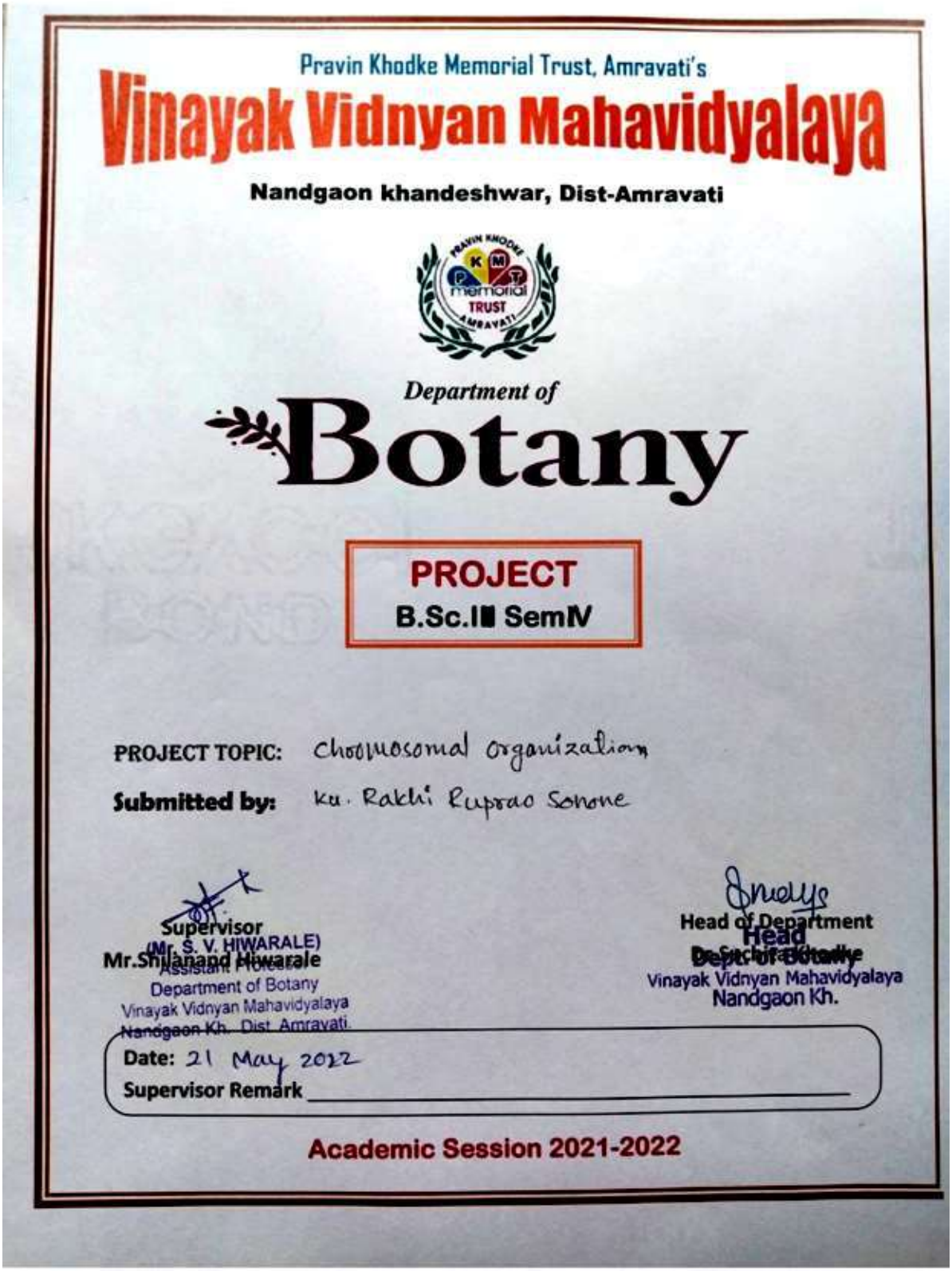

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Department of

Botany

PROJECT

B.Sc.II SemIV

PROJECT TOPIC: Chromosomal organization

Submitted by: Ku. Rakhi Ruprao Sonone

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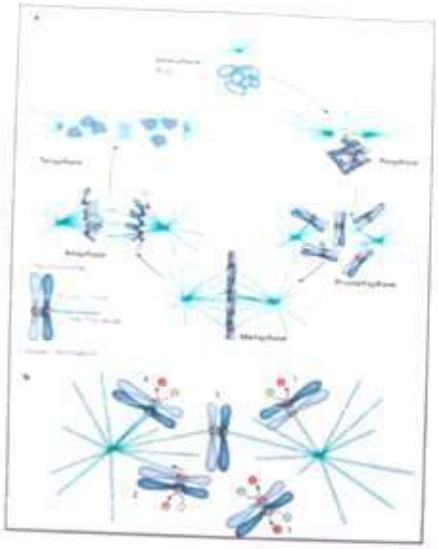
Date: 21 May 2022

Supervisor Remark _____

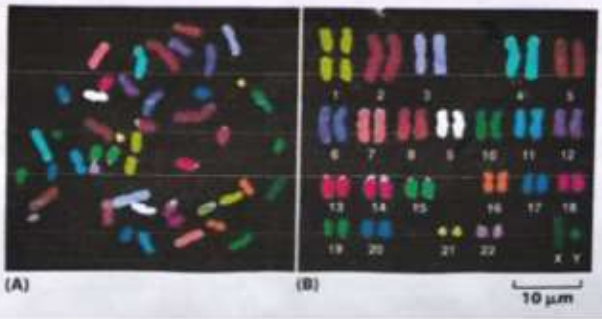
Academic Session 2021-2022



- Kinetochore : the centromeric substructure that binds microtubules and directs chromosome movement in mitosis.

- Gene : a segment of DNA encoding a functional RNA or protein product.

- chromosomes -



- Nuclear chromosome :

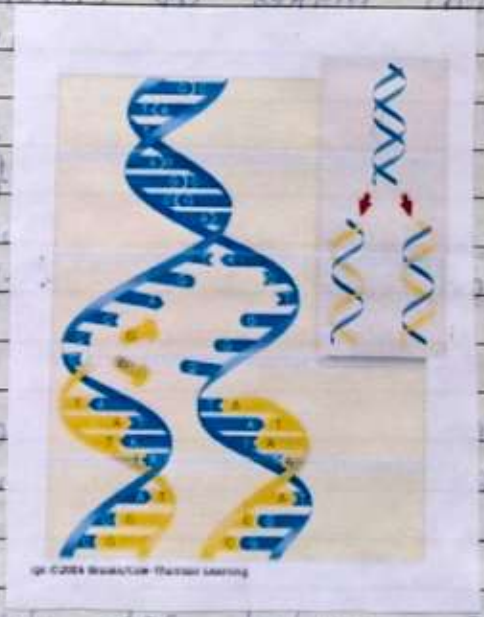
- chromatin makes up chromosomes ; it is a complex of DNA and protein

- Histone are DNA-binding proteins - They assists in compacting and folding DNA into a chromosome - shorten the DNA length by a factor of 6 to 7.

- Nucleosomes are bead-like structure composed of histones wrapped with DNA.

- DNA is packed into chromosome by several levels of coiling and compaction.

- DNA Replication :
  - strands are unwound and seperate
  - New bases pair (G with C, T with A)
  - New DNA composed of one "old" strand and one "new" strand
  - 5' ATGCTGGCTCATGCGCTA 3' templete
    3' TACGCCGATACGCGAT 5' New strand
- semi - conservative Replication of DNA :



  - DNA Polymerase catalyzes the synthesis of DNA using a templete of DNA and nucleotides.

- Number of gene per one million bp.
  - 483 budding yeast
  - 197 in c. elegans
  - 117 in fruit fly
  - 7-9 in human

- Distributions of genes on chromosome are highly variable.
- Much (40-50%) of non-protein-coding DNA in the human genome is transcribed onto RNA.

- coding regions are usually unique
- Eukaryotic genomes often contain in large numbers of repetitive DNA sequence that are present in many copies.

- Pseudogenes are DNA treatments that contains too many mutations that render a n ancestral gene inactive and nonfunctional.

- Transpons are DNA ~~of~~ segments that can move from one location of the genome to another location.

- There are three types of Transposons
  - DNA-only
  - Retroviral-like
  - Non-retroviral-like.

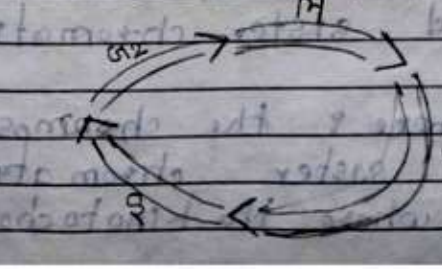
Chromosomal Organization :

- Gene Ontology Term : chromosome organization.

A process that is carried out at the cellular level that results in the assembly, arrangement of constituent parts, or disassembly of chromosome structures composed of a very long molecule of DNA and associated proteins that carries hereditary information.

- Structural and Functional organization of chromosome :
- chromosome Organization in the cell cycle

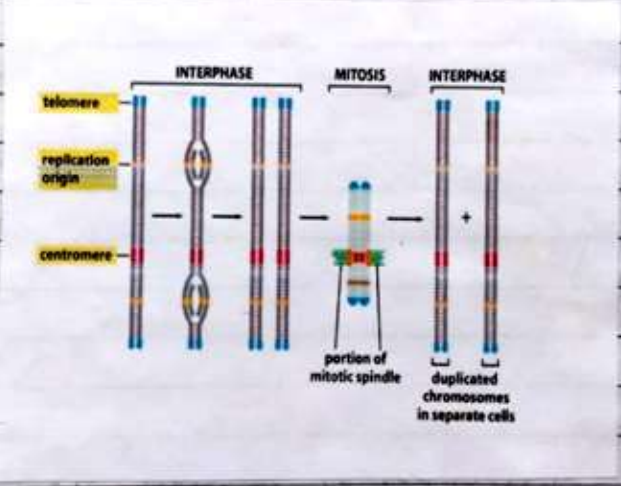
- DNA are packaged with associated proteins into chromosome
- chromosome undergo dramatic reorganization when cells divide



- General organization of chromosomes:

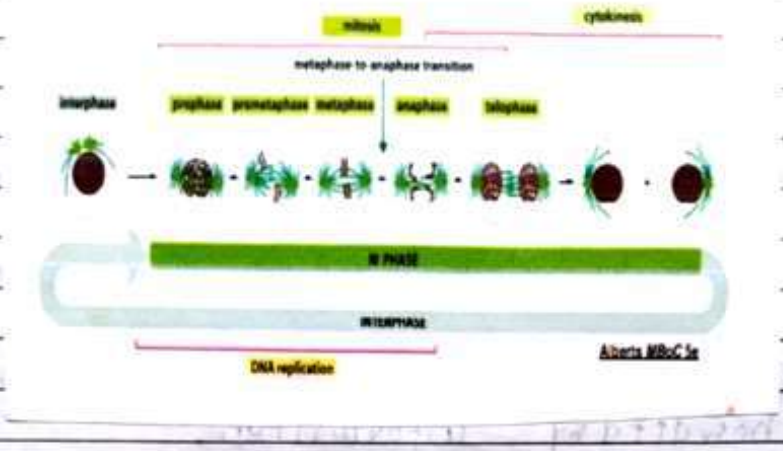
- The basic structural unit of chromosome is the nucleosome, which is formed by DNA wrapped around histone proteins.

- These connected nucleosome form chromatin fibers, which further gets condensed into a chromosome.



- In the nucleus of each cell, the DNA molecule is packaged into thread like structure called chromosome

- Each chromosome is made up of DNA tightly coiled many times around proteins called histone that support its structure



- chromosome Related Nomenclature

- chromatin: the complex of DNA histones, and a nonhistone protein within the nucleus of a eukaryotic cell. The material of which chromosomes are made.

- chromatid: one of the two copies of a replicated chromosome that is joined at the centromere to the other copy. The two identical chromatids are called sister chromatids.

- centromere: the chromosomal region that holds sister chromatids together and where the kinetochore forms.

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PROJECT

B.Sc.III Sem VI

PROJECT TOPIC: DNA Packaging

Submitted by: ku. Sanika Dharwatkar, Priyanka Gulhane
ku. Asmita Sable

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Date: 16 May 2022

Supervisor Remark ____________________

Academic Session 2021-2022

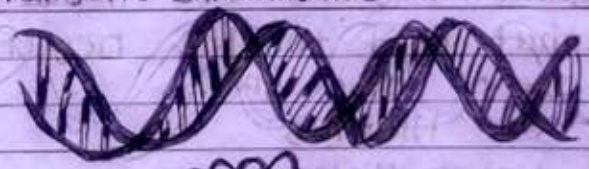
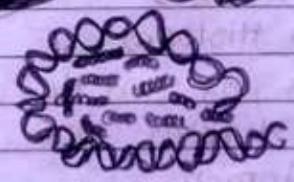
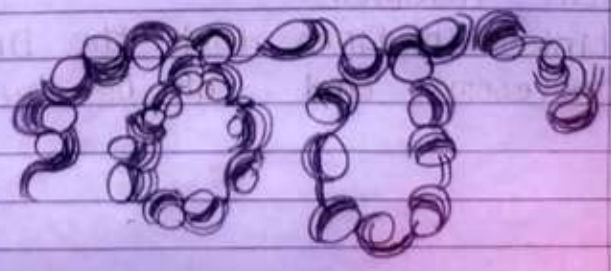
1

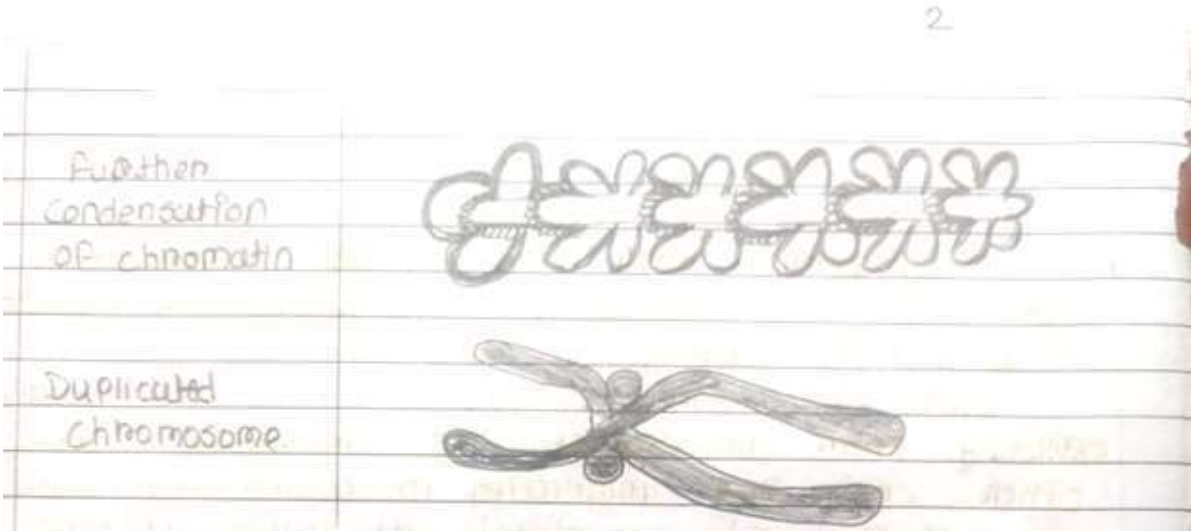
DNA packaging

Roger kornberg in 1974 reported that chromosome is made up of DNA and protein. The organization of DNA is much more complex in eukaryotes.

Each chromosome contains a single DNA molecule, extending from one end of the chromosome to the other end. DNA molecules is coiled and floded many times and associated with various proteins, forming a "chromatn" which contains roughly equal amounts of DNA and proteins.

The chromosomal proteins are divided into Histone protein and non- Histone proteins.

organization of Eukaryotic chromosome	
DNA double helix	
DNA wrapped around histone.	
nucleosomes coiled into a chromatin fiber.	



Compaction of the Eukaryotic chromosome.

Histones are the proteins that facilitate of DNA packaging into chromatin fibres. Histone proteins are positively charged and have many arginine and lysine amino acids that bind to the negatively charged DNA. Histones are of two types.

- Core Histones
- Linker Histones.

H_2A, H_2B, H_3 and H_4 are the core histones. Two H_3, H_4 dimers and two H_2A, H_2B dimers form an octamer.

Linker histones lock the DNA in place onto the nucleosome and can be removed for transcription.

Histones can be modified to change the amount of packaging a DNA does. The addition of methyl group increases the hydrophobicity of histones. This results in tight DNA packaging. Acetylation and Phosphorylation make the DNA more negatively charged and loosens the DNA packaging.

Non-histones are histones are heterogenous groups of structural and regulatory proteins with many functions found in the structure of chromatin and they present in little amount. Non-histone proteins have many different functions because they contains- structural proteins enter in the structure of some definite parts of DNA molecule and play the main role in the spatial organization of DNA within the nucleus as they are responsible for shortening DNA about 100,000 time by forming the packed chromatin.

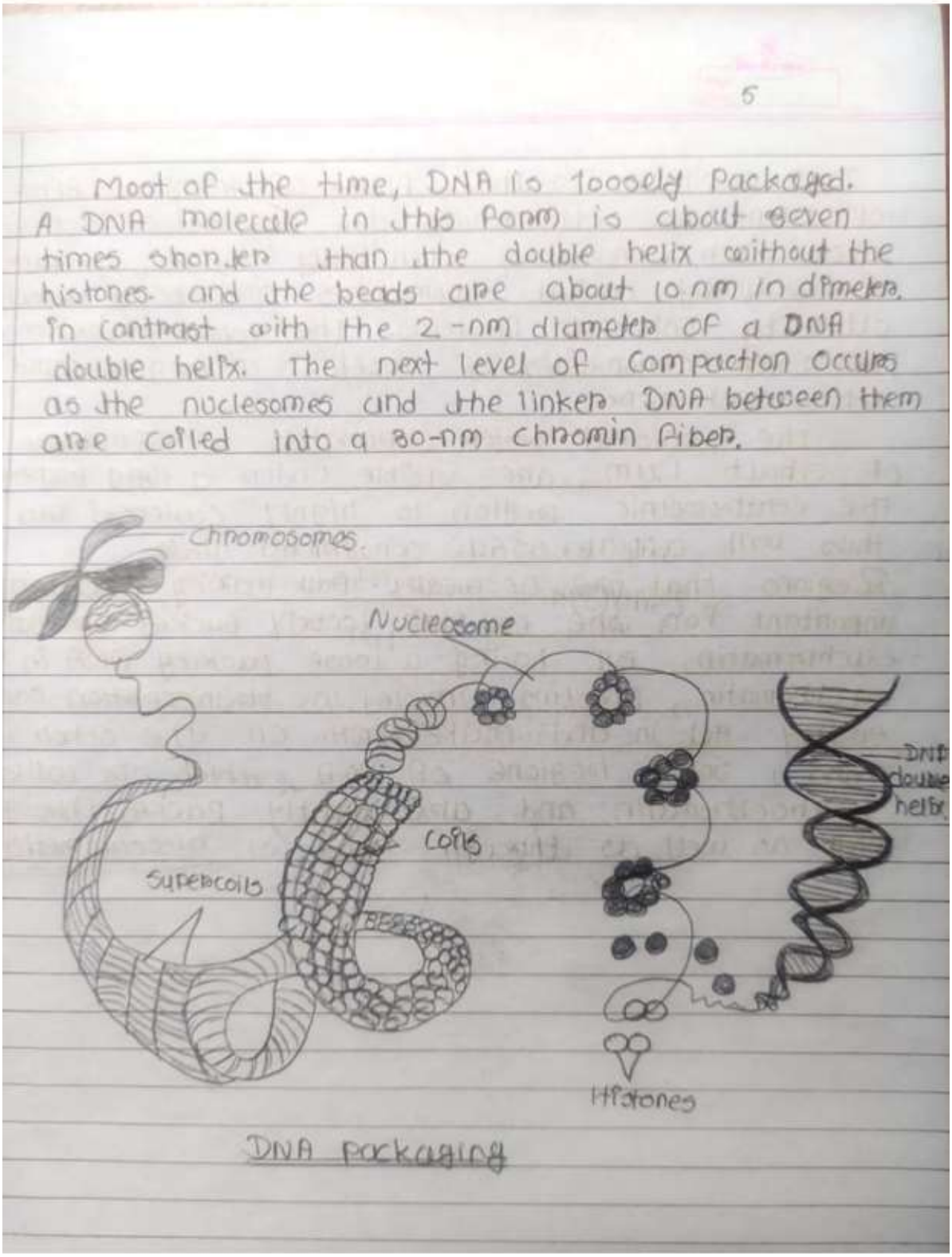
Regulatory proteins determine whether the DNA code will be used in making RNA, proteins and enzymes or not.

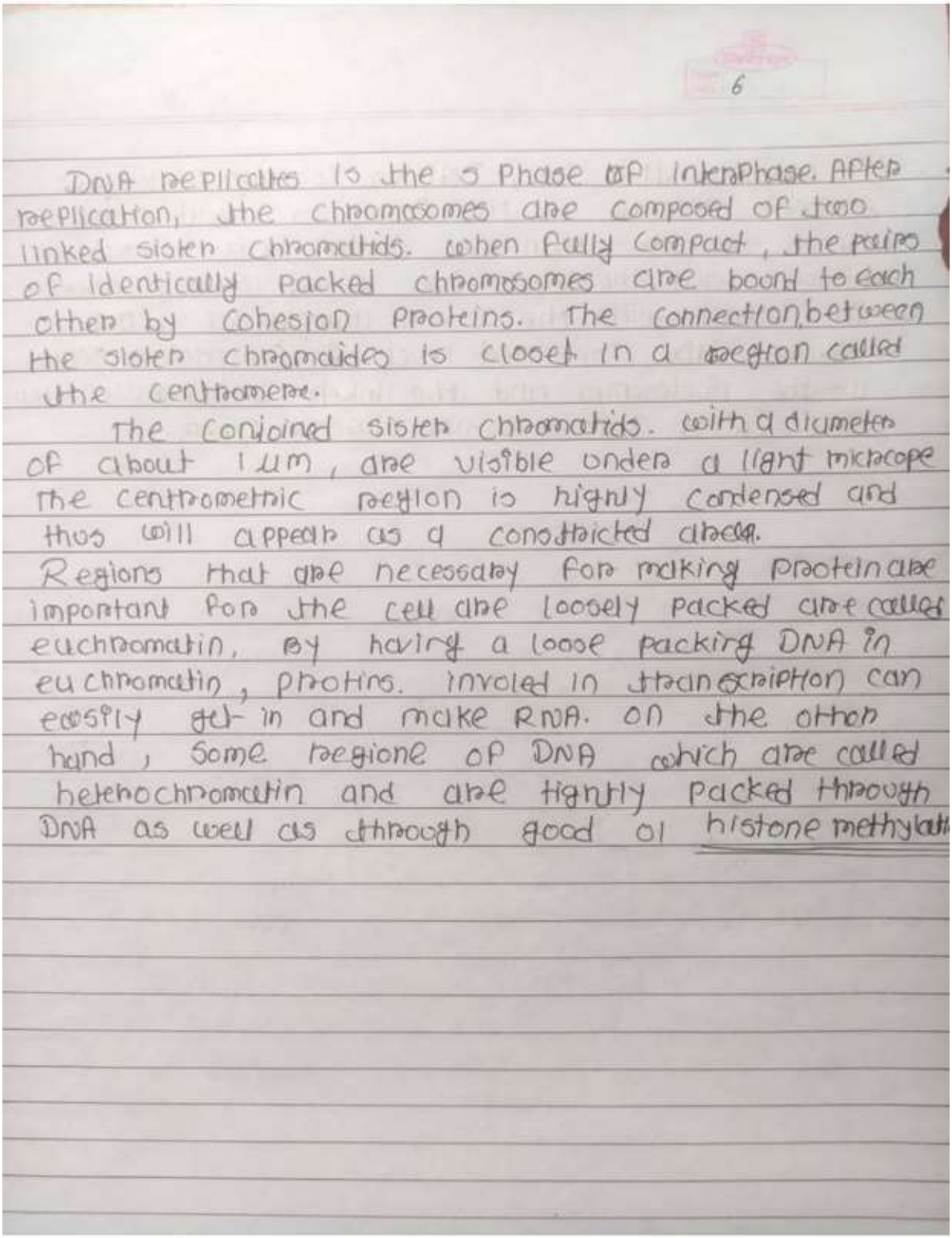
4

Packaging of DNA

At the first level of packaging the DNA double helix is packaged into so-called nucleosomes. Sets of about 200 base pairs of the DNA are wound round a nuclease of eight proteins, the histones. Due to their amino acid composition the histone proteins are positively charged. but they can be modified by enzymes. So that the total charge change. Thus, a certain class of enzymes – histone acetly transferase - cause acetly molettes to the attched.

DNA can be further packged by forming coils of nucleosomes, called chromatin fibers. These fibers are condensed into chromosome during mitosis. on the process of cell division. However packging of chromin in chromosome that we are most familiar with occurs only during a few stages of mitosis.


5
Most of the time, DNA is loosely packaged. A DNA molecule in this form is about seven times shorter than the double helix without the histones and the beads are about 10 nm in dimeter. In contrast with the 2-nm diameter of a DNA double helix. The next level of compaction occurs as the nucleosomes and the linker DNA between them are coiled into a 30-nm chromin fiber.
Chromosomes
Nucleosome
coils
Supercoils
DNA double helix
Histones
DNA packaging



6

DNA replicates in the S Phase of interPhase. After replication, the chromosomes are composed of two linked sister chromatids. When fully compact, the pairs of identically packed chromosomes are bound to each other by cohesion proteins. The connection between the sister chromatides is closest in a region called the centromere.

The conjoined sister chromatids, with a diameter of about 1 µm, are visible under a light microscope the centrometric region is highly condensed and thus will appear as a constricted area.

Regions that are necessary for making protein are important for the cell are loosely packed are called euchromatin. By having a loose packing DNA in euchromatin, proteins involved in transcription can easily get in and make RNA. On the other hand, some regions of DNA which are called heterochromatin and are tightly packed through DNA as well as through good of histone methylati

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Department of

Botany

PROJECT

B.Sc.IIISem VI

PROJECT TOPIC: Central Dogma

Submitted by: Ku. Shamal Ingole, Rupali Mahoto, Mohd. Atique
Ku. Tejaswini Deotale, Puman Banazase

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Nandgaon Kh.

Date: 16 May 2022
Supervisor Remark _____

Academic Session 2021-2022

Centeal Dogma

'The centeal dogma is the process by which the instruction in DNA are conveeted into a functional product'.

The centeal dogma of molecular biology in an explanation of the flow of genetic information within a biological system. It is often states as "DNA makes RNA, and RNA makes peotein", although this is not its protein its original meaning. It woas first stated by Fransis Crick in 1957, then published in 1958.

centeal dogma - An inheritance Mechanism. In molecular biology, centeal dogma illustrates the flow of genetic information form DNA to RNA to protein It is defined as a process in which the information in DNA is converted into a functional product.

The centeal dogma of molecular biology explains that DNA codes for RNA, which codes for protein. In the centeal dogma, you can see the learn about the important roles of massenger RNA,

Transfer RNA and ribosomal RNA in the protein building process.

Thuse, the centeal dogma provides the basic framework for how genetic information flows from a DNA sequence to a protein product inside cells and thus given an in sight to the important processes going on inside the cells.

The centeal dogma However, It is not leaner step. but instead required two step - Transcription and teanslation. With an intermediate molecule, RNA.

The centeal dogma states that the pattern of information that occurs most frequently in our cells is.

- From existing DNA to make new DNA (DNA replication).
- From DNA to make new RNA (Transcription)
- From RNA to make new protein (Translation.)

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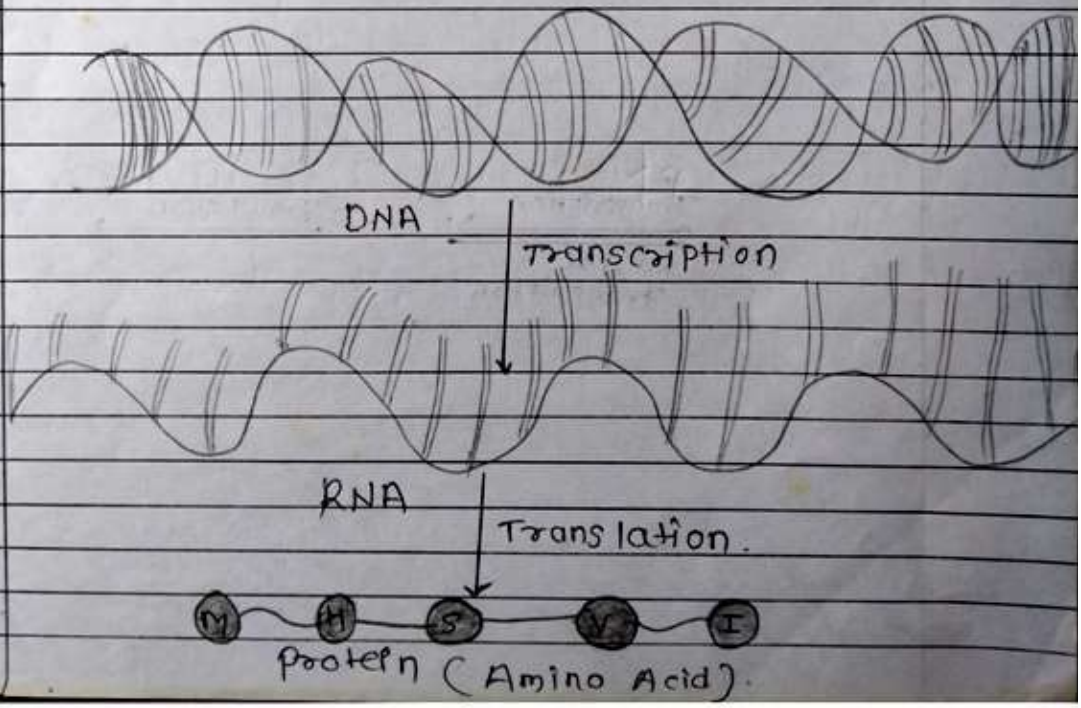
Date

Central dogma transcription –

The central dogma states that the pattern of information that occurs most frequently in our cells from existing DNA to make new DNA (DNA replication) from DNA to make new RNA (Transcription) from RNA to make new protein (translation).

DNA $\xrightarrow{\text{Transcription}}$ mRNA $\xrightarrow{\text{Translation}}$ protein



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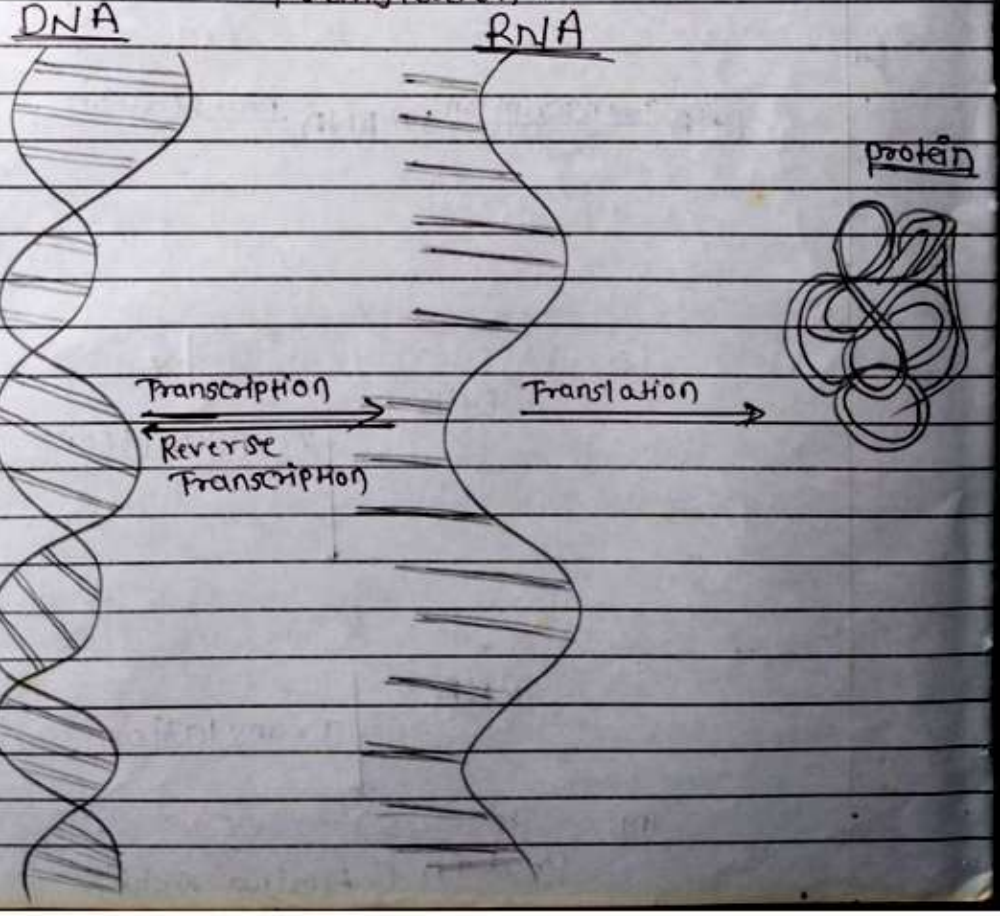
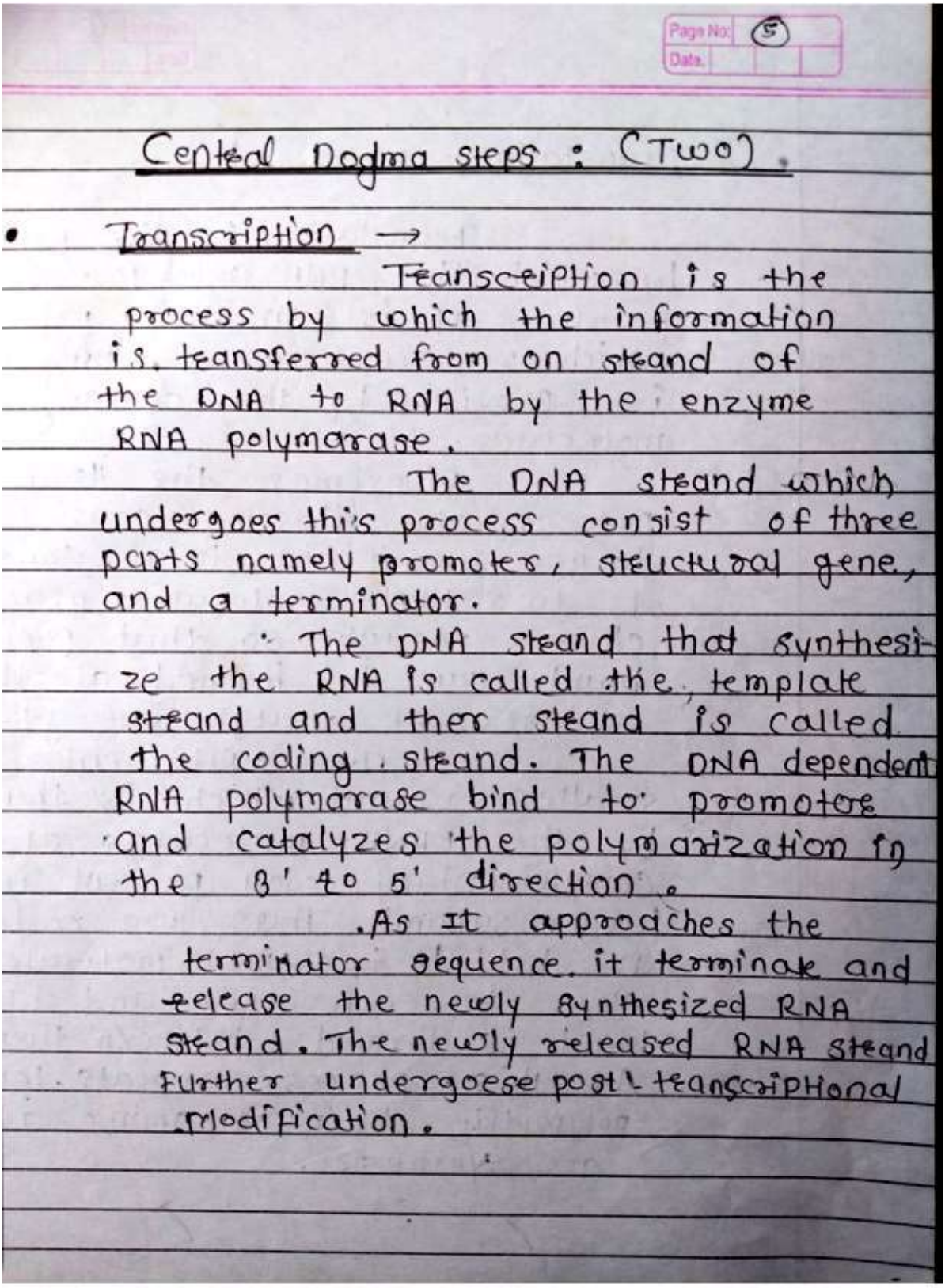
Central dogma Translation –

The central Dogma of molecular Biology states that DNA makes RNA makes protein. The central dogma process of which DNA is copied to RNA is called transcription, and that protein by which RNA is used to produce protein is called Translation.





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Central Dogma steps : (Two)

- **Transcription →**

Transcription is the process by which the information is transferred from on steand of the DNA to RNA by the enzyme RNA polymarase.

The DNA steand which undergoes this process consist of three parts namely promoter, structural gene, and a terminator.

The DNA steand that synthesize the RNA is called the template steand and ther steand is called the coding steand. The DNA dependent RNA polymarase bind to promotore and catalyzes the polymarization in the 3' to 5' direction.

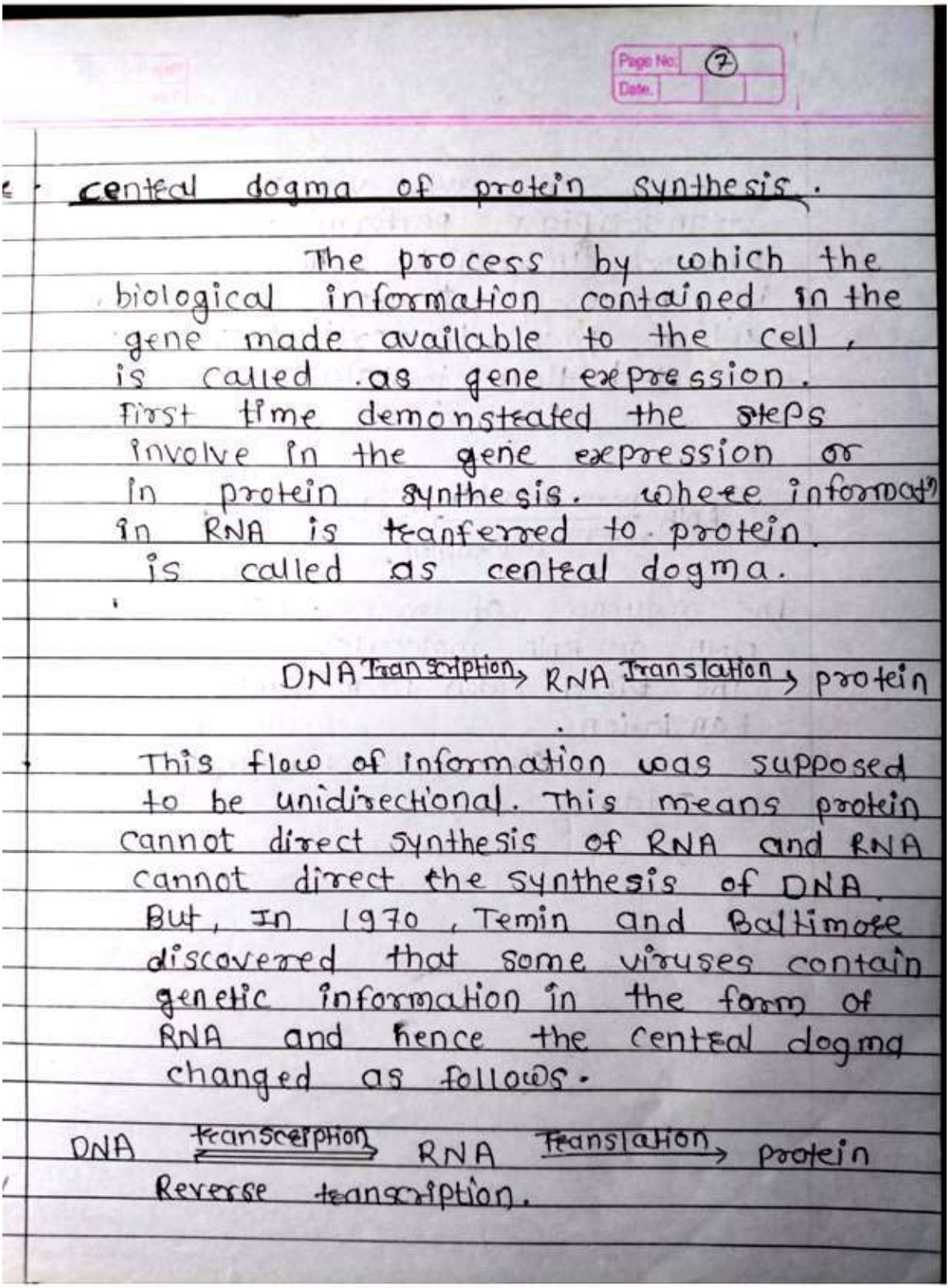
As it approaches the terminator sequence it terminate and release the newly synthesized RNA steand. The newly released RNA steand further undergoese post-transcriptional modification.

- **Translation →**

Translation is the process by which the RNA codes for specific protein. It is an active process which requires energy. This energy is provided by the charged tRNA molecules.

Ribosomes the translation process. The ribosome consist of a larger subunit, in turn, consist of two tRNA molecules placed close enough so that peptide bond can be formed at the expense of enough energy.

The mRNA enter the smaller subunit which is then held by the tRNA molecules of the complementary codon present in the larger subunit. Thus two codons are held by two tRNA molecules place close to each other and a peptide bond is formed between them. As this process repeats, long polypeptide chain of amino acid are synthesize.



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Central dogma of protein synthesis.

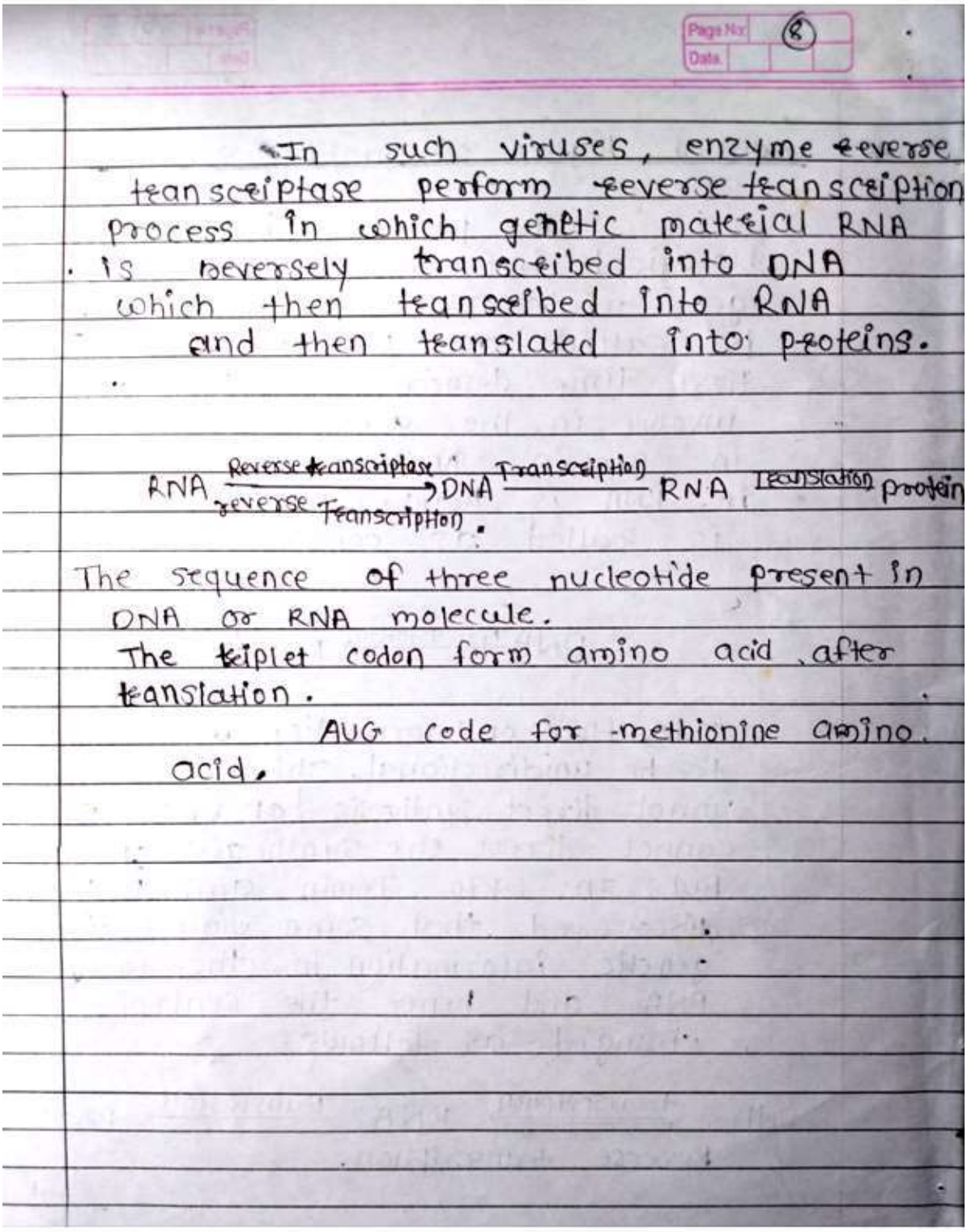
The process by which the biological information contained in the gene made available to the cell, is called as gene expression. First time demonstrated the steps involve in the gene expression or in protein synthesis. where information in RNA is transferred to protein. is called as central dogma.

DNA $\xrightarrow{\text{Transcription}}$ RNA $\xrightarrow{\text{Translation}}$ protein

This flow of information was supposed to be unidirectional. This means protein cannot direct synthesis of RNA and RNA cannot direct the synthesis of DNA. But, In 1970, Temin and Baltimore discovered that some viruses contain genetic information in the form of RNA and hence the central dogma changed as follows.

DNA $\xrightleftharpoons{\text{Transcription}}$ RNA $\xrightarrow{\text{Translation}}$ protein

Reverse transcription.



In such viruses, enzyme reverse transcriptase perform reverse transcription process in which genetic material RNA is reversely transcribed into DNA which then transcribed into RNA and then translated into proteins.

RNA $\xrightarrow[\text{reverse Transcription}]{\text{Reverse transcriptase}}$ DNA $\xrightarrow{\text{Transcription}}$ RNA $\xrightarrow{\text{Translation}}$ protein.

The sequence of three nucleotide present in DNA or RNA molecule.
The triplet codon form amino acid after translation.
AUG code for methionine amino acid.

Pravin Khodke Memorial Trust, Amravati's

Vinayak Vidnyan Mahavidyalaya

Nandgaon khandeshwar, Dist-Amravati

Department of

Botany

PROJECT

B.Sc.II Sem IV

PROJECT TOPIC: Plant cell

Submitted by: Ku Achal Diliprao Deshmukh.

Supervisor

Head
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Date: 21 May 2022

Supervisor Remark _____

Academic Session 2021-2022

Page No.: (1)
Date

Introduction :-

The Cell is the basic unit of life in all organisms like humans and animals. Plants are also composed of several cells. The Plant Cell is surrounded by a cell wall which is involved in providing shape to the Plant Cell. Apart from the cell wall, there are other organelles that are associated with different Cellular activities.

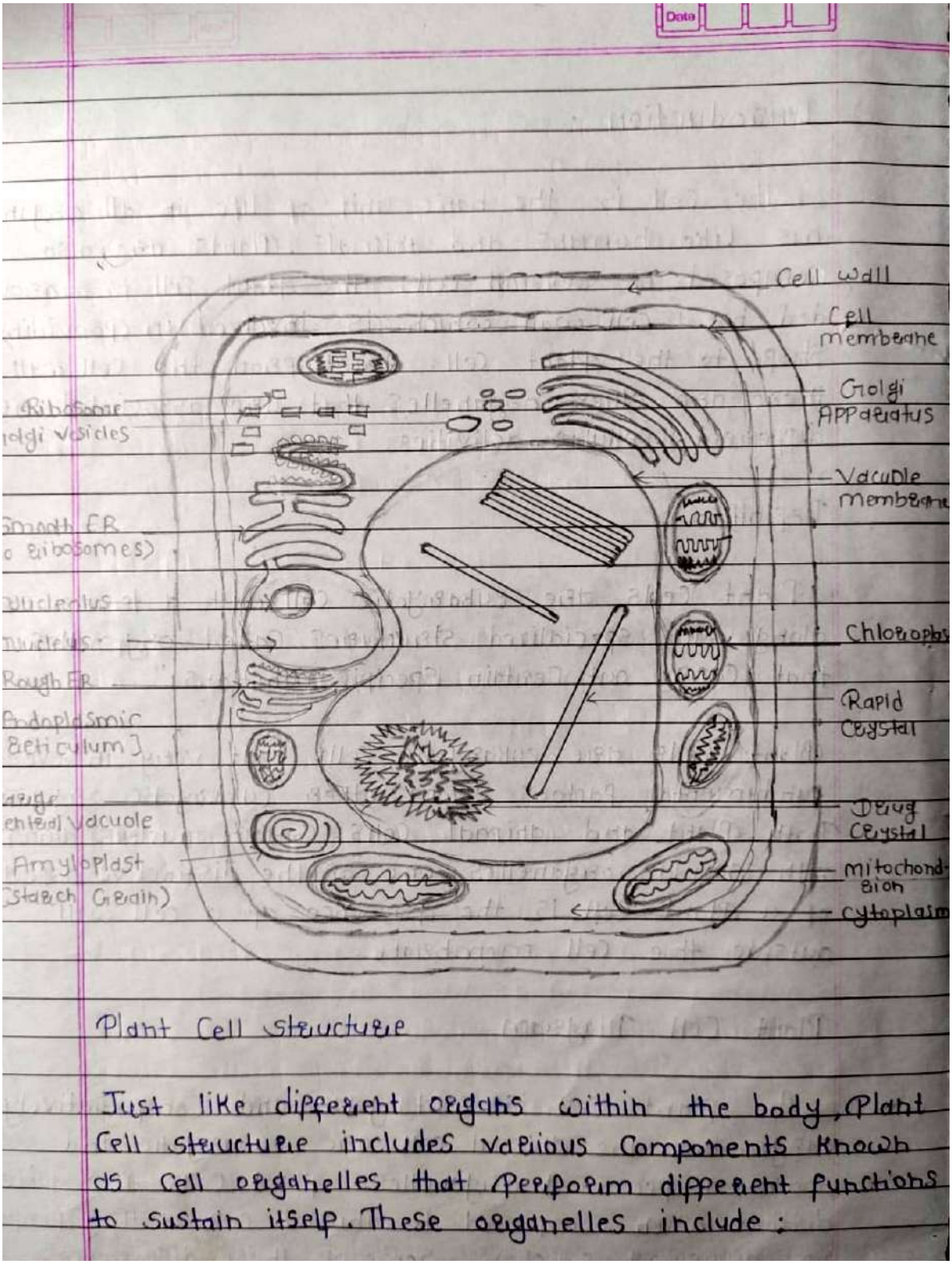
Definition :-

"Plant Cells are eukaryotic Cell with a true nucleus along with specialized structures Called organelles that Carry out Certain Specific functions."

Plant Cells are eukaryotic Cells that vary in Several fundamental factors from other eukaryotic organisms. Both Plant and animal Cells Contain nucleus along with similar organelles. one of the distinctive aspects of a Plant Cell is the Presence of a Cell wall outside the Cell membrane.

Plant Cell Diagram.

The Plant Cell is rectangular and Comparatively larger than the animal cell. are eukaryotic and share a few Cell organelles, Plant Cells are quite distinct when Compared to animal Cell as they perform different functions. Some of these differences Can be Clearly understood when the Cells are examine



Plant Cell structure

Just like different organs within the body, Plant Cell structure includes various Components known as Cell organelles that Perform different functions to sustain itself. These organelles include :

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It is a rigid layer which is composed of cellulose, glycoproteins, lignin, Pectin and hemicellulose. It is located outside the cell membrane. It comprises Proteins, Polysaccharides, and Cellulose.
The primary function of the cell wall is to protect and provide structural support to the cell. The Plant cell wall is also involved in protecting the cell against mechanical stress and to provide form and structure to the cell. It also filters the molecules passing in and out of the cell.

The formation of the cell is guided by microtubules. It consists of three layers, namely, Primary, Secondary and the middle lamella. The primary cell wall is formed by Cellulose laid down by enzymes.

Cell Membrane

It is the semi-permeable membrane that is present within the cell wall. It is composed of a thin layer of Protein and fat.
The cell membrane plays an important role in regulating the entry entry and exist of specific substances within the cell.
For instance, Cell membrane keeps toxins from entering inside, while nutrients and essential minerals are transported across.

Nucleus :

The nucleus is a membrane-bound structure

that is present only in eukaryotic cells. The vital function of nucleus is to store DNA or hereditary information required for cell division.

1. Nucleolus : It manufatures cell's protein - producing structures and ribosomes.

2. Nucleopore : Nuclear membrane is perforated with holes called nucleopore that allows protein and nucleic acid to pass through.

Plastids

They are membrane - bound organelles that have their own DNA. They are necessary to store starch to carry out the process of photosynthesis. It is also used in the synthesis of many molecules which form the building blocks of the cell. Some of the vital types of plastids and their function are stated below :

Leucoplasts

They are found in non-photosynthetic tissues of plants. They are used for the storage of protein, lipid and starch.

Chloroplasts

It is an elongated organelle enclosed by phospholipid membrane. The chloroplast is shaped like a disc and

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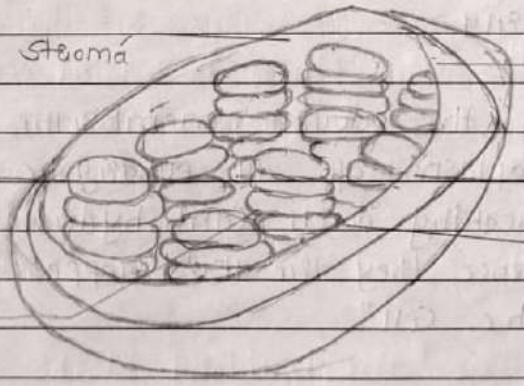
and the stroma is the fluid within the chloroplast that comprises a circular DNA. Each chloroplasts contain a green coloured pigment called chlorophyll absorbs light energy from the sun and uses it to transform carbon dioxide and water into glucose

Chromoplasts

They are heterogeneous, coloured plastid which is responsible for pigment synthesis and for storage in photosynthesis eukaryotic organisms. Chromoplasts have red, orange and yellow coloured pigments which provide colour to all ripe fruits and flowers.



Central Vacuole

It occupies around 30% of the cell's volume in a mature plant cell. Tonoplast is a membrane that surrounded central vacuole. The vital function of central vacuole apart from storage is to sustain turgid pressure against the cell wall. The central cell vacuole consists of cell sap. It is a mixture of salts, enzymes and

Golgi Apparatus

They are found in all eukaryotic cells which are involved in distributing synthesized macromolecules to various parts of the cell.

Ribosomes

They are the smallest membrane-bound in organelles which comprise RNA and protein. They are the sites for protein synthesis. Hence, also referred to as the protein factories of the cell.

Mitochondria

They are the double-membrane organelles found in the cytoplasm of all eukaryotic cells. They provide energy breaking down carbohydrates and sugar molecule. hence they are also referred to as the "Power house of the cell".

Lysosome

Lysome are called as suicidal bags as they hold digestive enzymes is an inclosed membrane. They perform the function of cellular waste disposal by digesting worn-out organelles. food particles and foreign bodies of the cell.

Plant Cell Types

NAAC CRITERION - I

PROJECT WORK

ZOOLOGY

Vinayak Vidnyan Mahavidyalaya, Nandgaon (Kh)

Session: 2021-22

Department: Zoology

B.Sc. III, Sem V (Winter)

Internal Assessment (Project)

(Weightage 04 marks)

Sr. No.	Project Title	Name of Students	Teacher (Guide)	Sign
1.	Biodiversity of Butterfly of NandgaonTahasil of Amravati District	Ankita. Shankrrao. Mandvgade.	Mr. SubodhBansod	
2.		AchalArunBansod		
3.		Abhishek Prakash Chauragade		
4.		DimpalVijayraoJagtap		
5.		Asmita Gopal Sable		
6.	Biodiversity of Birds of NandgaonTahasil of Amravati District	Anushka Suresh Izate	Mr. SubodhBansod	
7.		Bhagyashri Jayakumar Shelke		
8.		Sanika Mohan Darwhatkar		
9.		Pooja Wasudev More		
10.		Priyanka PramodGulhne		
11.	Biodiversity of Zooplanktons of NandgaonTahasil of Amravati District	VaishnaviGajananGawner	Dr. PratibhaMahalle	
12.		KajalVitthalraoShinde		
13.		PranaliGajananAgashe		
14.		Krunal Mukundrao Borde		
15.		AmrapaliBhaskarWahane		
16.	Biodiversity of Beetles of NandgaonTahasil of Amravati District	Achal Rajesh Satre	Dr. PratibhaMahalle	
17.		PallaviPrabhakarGulhane		
18.		RupaliVasudeoMahato		
19.		RutujaZanzat		
20.		ShamalDivakarIngole		
21.	Biodiversity of Moths of	PratikshaVilasraoShahade	Dr.	

	NandgaonTahasil of Amravati District		Gajendrasin ghPachlore	
22.		Shruti Sanjay Ravekar		
23.		SumitMadhukarJadhao		
24.		PrajwalsingPratapsingDeshmukh		
25.		Sachin Vilas Bhagat		
26.	Blood group survey of VinayakVidnyanMahavidyalaya, Nandgaon staff and students	SnehalDattatrayDhurte	Dr. Gajendrasin ghPachlore	
27.		JayashreeRajendraTankar		
28.		Manisha MadhukarPongle		
29.		Rushali Ganesh Vairagade		
30.		Rajani Ashok Chavhan		
31.	Haemoglobin survey of VinayakVidnyanMahavidyalaya, Nandgaon staff and students	VaishnaviSanjayraoKhope	Dr. Swapnil Tinkhede	
32.		DivyaMurlidharKakade		
33.		KunalRajendraBitale		
34.		AchalGajananMasram		
35.		HarshadGunvantraoDofe		
36.	Biodiversity of Fishes of some selected waterbodies of NandgaonTahasil of Amravati District	PallaviRamraoTangale	Dr. Swapnil Tinkhede	
37.		ShubhamBanduSanap		
38.		Gauri UddhavraoDhawas		
39.		TejasviniDeotale		
40.		PunamShalikramBanarse		
41.	Biodiversity of snakes of NandgaonTahasil of Amravati District	SarthakUttamraoRaut		
42.		Saurabh Ramesh Kalekar		
43.		Vaibhav Dipak Dhande		
44.		VikramArunGavner		
45.				

Head Dept. of Zoology

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Nandgaon Kh.

Vinayak Vidnyan Mahavidyalaya, Nandgaon. (Kh)

Department of Zoology

Project work submitted for the Degree course for B.Sc. (Final Year),

Semester V for session 2021-22

BIODIVERSITY OF BIRDS OF NANDGAON TAHASIL, DIST. AMRAVATI

Submitted by

Anushka S. Izate
Bhagyashree J. Shelake
Sanika M. Dharwatkar
Pooja V. More
Priyanka P. Gulhane

Supervised by

Mr. Subodh N. Bansod
Asst. Prof. Dept. of Zoology
Vinayak Vidnyan Mahavidyalaya, Nandgaon. (Kh)

Academic Year-2021-22

Certificate

This is to certify that the group of students named **Anushka S. Izate, Bhagyashree J. Shelake, Sanika M. Dharwatkar, Pooja V. More, Priyanka P. Gulhane** has worked under my guidance for completion of internal assessment work as project entitled, **Biodiversity of Birds of Nandgaon Tahasil, Dist. Amravati** for the degree course of B.Sc. III, semester V in the faculty of science, department of Zoology, Vinayak Vidnyan Mahavidyalaya, Nandgaon. (Kh), Dist. Amravati.

They have completed their project work satisfactorily and it is ready for evaluation.

Date: 28 Feb. 2022

Place: Nandgaon

Dr. Pratibha Mahalle
Head Dept. of Zoology

Head
Dept. of Zoology
Vinayak Vidnyan Mahavidyalaya
Nandgaon Kh.

Mr. Subodh Bansod
Superviser
Asst. Prof. Dept. of Zoology

Declaration

We are declared that with the exception of the guidance and suggestions from our supervisor Mr. Subodh Bansod the project entitled, "**Biodiversity of Birds of Nandgaon Tahasil, Dist. Amravati**" is our own review work. The work has not been submitted prior to the institute for the award of any degree.

Date: 28 Feb. 2022

Place: Nandgaon

1. Anushka S. Izate
2. Bhagyashree J. Shelake
3. Sanika M. Dharwatkar
4. Pooja V. More
5. Priyanka P. Gulhane

Contents

1. Introduction

Birds are the endothermic vertebrates, characterized by feathers, toothless beaked jaws, hollow strong yet light weight skeleton with pneumatic cavities, streamline body. It minimizes their weight and makes them aerodynamic. Man is always enthralled by these flying beauties of various sizes and various colours since ancient time and hence they occupy an important place. Birds fly at different altitudes, longitude and latitude, with different speed. Some birds migrate from their breeding and resting to feeding and resting grounds. Avian population have a central role in ecosystem functioning and ecosystem services, economic benefits like seed dispersal, pollination and re colonization and restoration of disturbed ecosystem (Sekercioglu *et. al.* 2004). They are bioindicators and appraise the health of environment and ecosystems. Birds are one of the most studied animals in the world; about 1800 (American Museum of natural History) species of birds are recorded across the globe of which peninsular India contributes about 1375 varieties. Nandgaon Khandeshwar is the region in central Indian area will help to identify and understand bird diversity of this division for the students, nature enthusiasts, birders, researchers. This will also serve as valuable database for further study.

Importance of birds -

As Food

Birds have always been an important food source of man. Chickens, Turkeys, Geese and Ducks are raised for the production of meat and eggs.

In Food Chain

Birds occupy many levels of trophic webs, from midlevel consumers to top predators. All the eagles are secondary consumers and birds like vultures are scavengers.

In Agro-economy

Birds feed on insect and their larva and keep pest population in control. This help in increasing overall productivity of agriculture.

As Pollinators

Ornithophily is a type of pollination by birds. Flowering plants, especially species bearing red colour flowers shows modification in the structure and orientation of their stigmas and stamens holding ample of nectar and ensuring contact with brushy tongue and long bill of the birds like sunbirds.

As Bioindicators

Bioindicators are species used to appraise the health condition of the environment or species ecosystem and are capable of determining the environmental integrity using their functions and populations. Individual or groups of species are selected as models to evaluate the health of the ecosystem for eg. Black hooded oriole with conservation status least concern may be selected to understand habitat loss and other factors responsible for their decreasing population in a particular ecosystem

2. Review of Literature

Approximately 5% of geographical area in Maharashtra is covered by protected forest, which is crucial for conserving the state's natural resources including its wildlife. The birds since they are the second most studied group after mammals. About 9000 bird species are known across the globe, of which India contributes 1295 including 412 species from Vidarbha region of Maharashtra. Avian population plays an important role in ecosystem function and ecosystem services. Birds are bio-indicators and can be used to appraise the status and health of an environment and its ecosystems. Birds play a vital role in ecological processes in both forest and farmland ecosystems, particularly in pollination, seed dispersal, and pest control. (Whelan *et al*. 2008; Mulwa *et al*. 2012). Moreover, they also contribute to nutrient cycling and soil formation. They also richly contribute to the recolonization and restoration of disturbed ecosystems (Sekercioglu *et al*. 2004; Sekercioglu 2006). Birds act as mobile links which transfer energy both within and among ecosystems that are crucial for maintaining ecosystem function and resilience (Lundberg and Moberg 2003). In a way, it directly impacts human health, economy, food production as well as millions of other species. Therefore, it is important to understand regional diversity and ecology of birds (Ndang'ang'a *et al*. 2013). Many authors have studied bird diversity of Vidarbha region. The annotated checklist of Nagpur area represents 284 species of birds. In Pohara-Malkhed reserve Forest, district Amravati, 171 species have been studied (Wadatkar and Kasambe 2002; Kasambe 2009). 135 species of birds are observed in and around Ambazari Lake Nagpur (Kedar 2012). A total of 312 species of birds have been recorded from the nearby area of Navegaon National Park Gondia, 76 species of birds from Chaprala wildlife sanctuary, Gadchiroli (Paliwal 2013; Chauhan and Dhamani 2014; Wagh and Tiwari 2020). 92 species of birds are studied from Tamkarada forest near Malegaon tehsil of Washim district (Ingle *et al*. 2015). From Junona lake Chandrapur, 99 species of birds are listed. 296 species of birds have been recorded from Pandharkawada forest division (Virani 2021).

3. Material and Methods

Survey of birds diversity recorded by weekly visit nearby places and waterbodies of Nandgaon (Kh) Tahasil. Binocular and camera (Point shoot, Mobile) was used for bird watching and to photograph them. Population of birds was observed and documented.

Bird diversity is studied and observed the food of species They are categories into widespread resident, widespread winter visitor, local resident, seasonal resident, widespread resident and winter visitor, local resident and winter visitor, seasonal winter visitor and is classified on the basis of "The Book of Indian Birds" (Ali, 1996) and "Pocket Guides of Birds of the Indian Subcontinent" (Grimmet and Inskipp, 2010). Diversity of bird is taxonomically classified and categorized on threaten scale by using latest IUCN Red list.

Study Area

Sawaner Dam, Shivani River, Channi Dam, Outskirt of Nandgaon city was the places for the survey. Avifaunal observation as mention in table and shown in pictures and short information.

4. Observation and Result

The bird diversity is observed and recorded from some water bodies, garden, field and residential places of Nandgaon tehsil as follows…

Common name: **Grey francolin**
Scientific name: *Francolinus pondicerianus*

Description: Buff throat with dark necklace; reddish legs.

Size: 33 cm **Food**: Grains, Insects

Common name: **Indian peafowl**
Scientific name: *Pavo cristatus*

Description: Male - Long attractive train of ocellated feathers.

Size: 92-122 cm **Food**: Grains, Insects

Common name: **Spot billed duck**
Scientific name: *Anas poecilorhyncha*

Description: Yellow tip on black bill; red base; green speculum.

Size: 61 cm **Food**: small insects, worms

Common name: **Common hoopoe**
Scientific name: *Upupa epops*

Description: Zebra marking on wings; erectile crown.

Size: 31 cm **Food**: Insects

Common name: **Indian roller**
Scientific name: *Coracias benghalensis*

Description: Blue cap; lilac throat; pale and dark blue wings.

Size: 31 cm **Food**: Insects

Common name: **Common kingfisher**
Scientific name: *Alcedo atthis*

Description: Rufous orange ear converts; greenish blue moustache.

Size: 18 cm **Food**: small fishes, insects

Common name: **White throated kingfisher**
Scientific name: *Halcyon smyrnensis*

Description: White wing patch; white throat and breast.

Size: 28 cm **Food**: small fishes, insects

Common name: **Little Green bee-eater**
Scientific name: *Merops orientalis*

Description: Rufous head;
blue-green throat.

Size: 21 cm **Food**: honey-bees, insects

Common name: **Asian koel**
Scientific name: *Eudynamys scolopaceus*

Description: Male - red eyes, green bill, long tail.
Female - white spotted, brownish;
only male sings.

Size: 43 cm **Food**: Insects, fruits

Common name: **Southern Coucal**
Scientific name: *Centropus sinensis*

Description: With brighter & more uniform
chestnut wings.

Size: 48 cm **Food**: Insects, small animals

Common name: **Rose-ring Parakeet**
Scientific name: *Psittacula krameri*

Description: Male - black and rose coloured collar
(absent in female).

Size: 36 cm **Food**: Grains, Fruits

Common name: **Spotted Owlet**
Scientific name: *Athene brama*

Description: White spots on crown and back; underpart with less brown spots.

Size: 21 cm Food: small invertebrates, insects

Common name: **Rock Pigeon**
Scientific name: *Columba livia*

Description: Grey with two wing bands; terminal dark tail band.

Size: 33 cm Food: Grains, insects

Common name: **Little Brown Dove**
Scientific name: *Streptopelia senegalensis*

Description: Chessboard pattern on upper breast.

Size: 27 cm **Food**: Grains, Fruits

Common name: **Spotted Dove**
Scientific name: *Streptopelia chinnsis*

Description: Chessboard pattern on hind neck.

Size: 30 cm **Food**: Grains, Fruits

Common name: **Red-wattled Lapwing**
Scientific name: *Vanellus indicus*

Description: Black throat & breast; red wattle;
Yellow legs.

Size: 32-35 cm **Food**: Small reptiles, insects

Common name: **River tern**
Scientific name: *Sterna aurantia*

Description: Uncrested head; forked tail;
red legs; yellow bill.

Size: 42 cm **Food**: Small reptiles, insects

Common name: **Black shoulder kite**
Scientific name: *Elanus caeruleus*

Description: Red iris; black shoulders and under-primaries.

Size: 33 cm **Food**: Small reptiles, Birds

Common name: **Little Carmorant**
Scientific name: *Phalacrocorax niger*

Description: Whitish chin;
lacks yellow gular pouch.

Size: 51 cm **Food**: Small reptiles

Common name: **Little Egret**
Scientific name: *Egretta garzetta*

Description: Black bill; black legs with yellow toes.

Size: 63 cm **Food**: small invertebrates, fishes

Common name: **Grey Heron**
Scientific name: *Ardea cinerea*

Description: Streaked neck and belly;
yellow beak; black crown & crest.

Size: 100 cm **Food**: small invertebrates, fishes

Common name: **Pond Heron**
Scientific name: *Ardeola grayii*

Description: Brownish plumage;
white wings in flight

Size: 45 cm **Food**: small invertebrates, fishes

Result and Discussion

Total 23 bird species are observed at various places of Nandgaon Khandeshwar Tahasil. Bird species detailed by its common name, Scientific name, its description, size, food, nest and IUCN status included by the standard reference books and field guide books.

On waterbodies 13 bird species are observed, at outskirt of Nandgaon city 16 birds species are observed, at Sawaner dam19 species are observed, at Channi dam 12 species are observed.

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10. **Kasambe R, Wagh G, *et al.* (2012)** Recent sighting records of Grey-headed Lapwing (*Vanellus cinereus*) in Maharashtra. NLBW. 52 (6). Pp 90-91.

NAAC CRITERION - I

PROJECT WORK

CHEMISTRY

Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Date 17th January 2022

Department of Chemistry

Notice

All the faculty members of Department of Chemistry are hereby informed that as per the curriculum of Sang Gadge Baba Amravati University, Amravati, we need to give "**Project Topics**" to the students of **Bsc Part II Semester III**. This project will be a part of internal assessment of the students. To discuss this point there will be meeting in the department of Chemistry on **18th January 2022 at 4 PM**.

Agenda of the meeting

1. To discuss about the Project topics for the class BSc Part II semester III.
2. To prepare and provide guidelines to the students regarding project writing.
3. To prepare the front page for project submission.
4. To decide submission date for the project.
5. To circulate the message among the students of BSc Part II Semester III.

All are requested to consider this notice and be there in the department of chemistry on **18th January 2022 at 4 PM.**

S.Padole

Mr. Nilesh S. Padole
Head and Assistant Professor
Department of Chemistry

1. Dr. Vinod M. Sherekar
2. Dr. Kavita P. Kakade

Department of Chemistry
Vinayak Mahavidyalaya,
Nandgaon Khandeshwar

Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Date 18th January 2022

Department of Chemistry

The meeting was held in the department of chemistry on **18th January 2022 from 4 PM** onwards where following points were discussed and finalized

Minutes of Meeting:

1. There was thorough discussion on Project topics for the class **BSc Part II Semester III** with all faculty members where following topics were finalized
   a) **Food Adulteration**
   b) **Chemical Composition of Medicine used in heart disease**
   c) **Chemical Composition of Medicine used in Cancer disease**
2. **Dr. Kavita P. Kakade** had taken the responsibility to prepare the guidelines for the students which will help them to write the project.
3. **Mr. Nilesh S. Padole** had taken the responsibility to prepare the front page for project submission.
4. In thorough discussion with all faculty members, **22nd January 2022** was decided for project submission.
5. **Dr. Vinod M. Sherekar** had taken the responsibility to circulate the message among the students of BSc Part II semester III.

The meeting was attended by following faculty members

1. **Dr. Vinod M. Sherekar**
2. **Dr. Kavita P. Kakade**

Mr. Nilesh S. Padole
Head and Assistant Professor
Department of Chemistry

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

2

Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department of Chemistry

NOTICE

All the students of **B.Sc. Part II Semester III (CHEMISTRY)** of the session 2021-2022 are hereby inform that, you need to submit Project for the subject chemistry on **22nd January 2022 in Chemistry Laboratory.** This Project submission is a part of internal assessment which carries 04 Marks.

The topics for the project are

d) **Food Adulteration**

e) **Chemical Composition of Medicine used in heart disease**

f) **Chemical Composition of Medicine used in Cancer disease**

All the details regarding project will be shared separately on chemistry What's app group on **18th January 2022 till evening 6PM.**

If you have any difficulties or queries regarding project submission you can contact with below mentioned teacher.

1. **Dr. Kavita P. Kakade**
2. **Dr. Vinod M. Sherekar**

Date: 18th January 2022

Mr. Nilesh S. Padole
Head and Assistant Professor
Department of Chemistry

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

3

Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department of Chemistry

Class: B.Sc. Part II Semester III **Date: 18th January 2022**

STUDENT LIST WITH TOPIC

Sr. No.	Name of Student	Topic	In-Charge Teacher
1	AACHAL R. HAMBARDE	FOOD ADULTERATION	Dr. Kavita P. Kakade
2	ACHAL DILIP DESHMUKH		
3	ACHAL N. CHARDE		
4	AKSHADA D. DHANDARE		
5	AMAN ASHPAK MAKWANI		
6	AMRUTA SOPAN KALE		
7	ARPITA P. THAKARE		
8	ASHUTOSH DILIP INGOLE		
9	DIVYA PRAMOD SALVE		
10	KARTIK RAVINDRA MAHURE		
11	KIRAN RAJU BANARASE		
12	KIRTI DILIP POPHALE		
13	KOMAL D. PUND		
14	KOMAL JITENDRA SEN		
15	MAYURI PRAVIN KAPADE		
16	MAYURI R. DEOTALE		
17	MOHD A. M. M. MAKWANI		

Dr. Kavita P. Kakade
In-Charge Teacher

Mr. Nilesh S. Padole
Head of Department

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

4

Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department of Chemistry

Class: B.Sc. Part II Semester III **Date: 18th January 2022**

STUDENT LIST WITH TOPIC

Sr. No.	Name of Student	Topic	In-Charge Teacher
18	NIKHIL NANDU PRAGHANE	CHEMICAL COMPOSITION OF MEDICINE USED IN HEART DISEASE	Mr. Nilesh S. Padole
19	PRANAY SANJAY MARAPE		
20	PRATIK K. INZALKAR		
21	PRATIKSHA ANAND INGALE		
22	PRIYANKA R. GAJBHIYE		
23	RAKHI RUPRAO SONONE		
24	RAVINA SANDIP NAVNAGE		
25	RINA PRAVIN POPHALE		
26	ROHAN RAMRAO JADHAO		
27	SAKSHI R. GULHANE		
28	SAKSHI SANTOSH INZALKAR		
29	SAMIKSHA P. DAKARE		
30	SEJAL G. CHANDURKAR		
31	SHARAYU P. CHAUDHARI		
32	SHITAL S. LONARE		
33	SHITAL VIJAY GADHAVE		
34	SHIVANI J. CHAVHAN		

Mr. Nilesh S. Padole
In-Charge Teacher

Mr. Nilesh S. Padole
Head of Department

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

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Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department of Chemistry

Class: B.Sc. Part II Semester III **Date: 18th January 2022**

STUDENT LIST WITH TOPIC

Sr. No.	Name of Student	Topic	In-Charge Teacher
35	SHRADDHA ANIL BANKAR	CHEMICAL COMPOSITION OF MEDICINE USED IN CANCER DISEASE	Dr. Vinod M. Sherekar
36	SHREYA GAJANAN DHOKE		
37	SHREYASWI R. DEVTALE		
38	SNEHAL BALU KAWARE		
39	VAISHNAVI D. RUMNE		
40	VAISHNAVI R. KHOBRAGADE		
41	VAISHNAVI R. ZATALE		
42	ACHAL RAMDAS BIJAVE		
43	ADIBA SAMAN A. KHAN		
44	KALYANI NARHARI WAKODE		
45	RUTIK T. JAWALKAR		
46	SAHIL VIKAS RAUT		
47	SAKSHI MAHENDRA DUKARE		
48	SAKSHI VILAS DHAWALE		
49	SAYALI PRAMOD GAWANDE		
50	SHARDDHA VIJAY RAUT		
51	VEVEKANAND ANIL PAWAR		

Dr. Vinod M. Sherekar
In-Charge Teacher

Mr. Nilesh S. Padole
Head of Department

Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

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Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department of Chemistry

Class: B.Sc. Part II Semester III **Date: 22nd January 2022**

PROJECT SUBMISSION LIST

Sr. No.	Name of Student	Topic	Signature of Student	In-Charge Teacher Sign
1	AACHAL R. HAMBARDE	FOOD ADULTERATION		
2	ACHAL DILIP DESHMUKH			
3	ACHAL N. CHARDE			
4	AKSHADA D. DHANDARE			
5	AMAN ASHPAK MAKWANI			
6	AMRUTA SOPAN KALE			
7	ARPITA P. THAKARE			
8	ASHUTOSH DILIP INGOLE			
9	DIVYA PRAMOD SALVE			
10	KARTIK RAVINDRA MAHURE			
11	KIRAN RAJU BANARASE			
12	KIRTI DILIP POPHALE			
13	KOMAL D. PUND			
14	KOMAL JITENDRA SEN			
15	MAYURI PRAVIN KAPADE			
16	MAYURI R. DEOTALE			
17	MOHD A. M. M. MAKWANI			

Dr. Kavita P. Kakade
In-Charge Teacher

Mr. Nilesh S. Padole
Head of Department

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

Remark:

Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department of Chemistry

Class: B.Sc. Part II Semester III **Date: 22nd January 2022**

PROJECT SUBMISSION LIST

Sr. No.	Name of Student	Topic	Signature of Student	In-Charge Teacher Sign
18	NIKHIL NANDU PRAGHANE	CHEMICAL COMPOSITION OF MEDICINE USED IN HEART DISEASE.		
19	PRANAY SANJAY MARAPE			
20	PRATIK K. INZALKAR			
21	PRATIKSHA ANAND INGALE			
22	PRIYANKA R. GAJBHIYE			
23	RAKHI RUPRAO SONONE			
24	RAVINA SANDIP NAVNAGE			
25	RINA PRAVIN POPHALE			
26	ROHAN RAMRAO JADHAO			
27	SAKSHI R. GULHANE			
28	SAKSHI SANTOSH INZALKAR			
29	SAMIKSHA P. DAKARE			
30	SEJAL G. CHANDURKAR			
31	SHARAYU P. CHAUDHARI			
32	SHITAL S. LONARE			
33	SHITAL VIJAY GADHAVE			
34	SHIVANI J. CHAVHAN			

Mr. Nilesh S. Padole
In-Charge Teacher

Remark:

Mr. Nilesh S. Padole
Head of Department

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

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Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department of Chemistry

Class: B.Sc. Part II Semester III **Date: 22nd January 2022**

PROJECT SUBMISSION LIST

Sr. No.	Name of Student	Topic	Signature of Student	In-Charge Teacher Sign
35	SHRADDHA ANIL BANKAR	CHEMICAL COMPOSITION OF MEDICINE USED IN CANCER DISEASE.	SAbankar	
36	SHREYA GAJANAN DHOKE		S. G. Dhoke	
37	SHREYASWI R. DEVTALE		Rdevtale	
38	SNEHAL BALU KAWARE		S B Kawarre	
39	VAISHNAVI D. RUMNE		Rumne	
40	VAISHNAVI R. KHOBRAGADE		Rkhobragade	
41	VAISHNAVI R. ZATALE		Vzatale	
42	ACHAL RAMDAS BIJAVE		Bijave	
43	ADIBA SAMAN A. KHAN		Adiba	
44	KALYANI NARHARI WAKODE		Rwakode	
45	RUTIK T. JAWALKAR			
46	SAHIL VIKAS RAUT			
47	SAKSHI MAHENDRA DUKARE			
48	SAKSHI VILAS DHAWALE			
49	SAYALI PRAMOD GAWANDE		S.P.Gawande.	
50	SHARDDHA VIJAY RAUT		SRaut	
51	VEVEKANAND ANIL PAWAR		V.A.Pawar	

Dr. Vinod M. Sherekar
In-Charge Teacher

Mr. Nilesh S. Padole
Head of Department

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

Remark:

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Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Date 17th January 2022

Department of Chemistry

Notice

All the faculty members of Department of Chemistry are hereby informed that as per the curriculum of Sang Gadge Baba Amravati University, Amravati, we need to give "**Project Topics**" to the students of **Bsc Part III Semester V**. This project will be a part of internal assessment of the students. To discuss this point there will be meeting in the department of Chemistry on **18th January 2022 at 4 PM**.

Agenda of the meeting

1. To discuss about the Project topics for the class BSc Part III semester V.
2. To prepare and provide guidelines to the students regarding project writing.
3. To prepare the front page for project submission.
4. To decide submission date for the project.
5. To circulate the message among the students of BSc Part III Semester V.

All are requested to consider this notice and be there in the department of chemistry on **18th January 2022 at 4 PM.**

Mr. Nilesh S. Padole
Head and Assistant Professor
Department of Chemistry

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

1. Dr. Vinod M. Sherekar
2. Dr. Kavita P. Kakade

Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Date 18th January 2022

Department of Chemistry

The meeting was held in the department of chemistry on **18th January 2022 from 4 PM** onwards where following points were discussed and finalized

Minutes of Meeting:

1. There was thorough discussion on Project topics for the class **BSc Part III Semester V** with all faculty members, where following topics were finalized
   a) **Oil and Natural Gas Corporation Ltd.**
   b) **National Thermal Power Corporation Ltd**
   c) **Indian Oil Corporation Ltd**
   d) **Bhabha Atomic Research Center**
   e) **Defense Research Development Organization**
   f) **Department of Atomic Energy.**

   These topics were selected by keeping the thing in mind that students must know about the government organization/ semi government organization/ Public Sector Undertaking organization who demand BSc with chemistry subject for their future perspective
2. **Mr. Nilesh S. Padole** had taken the responsibility to prepare the guidelines for the students which will help them to write the project.
3. **Mr. Nilesh S. Padole** had taken the responsibility to prepare the front page for project submission.
4. In thorough discussion with all faculty members, **22nd January 2022** was decided for project submission.
5. **Dr. Vinod M. Shirekar** had taken the responsibility to circulate the message among the students of BSc Part II semester III.

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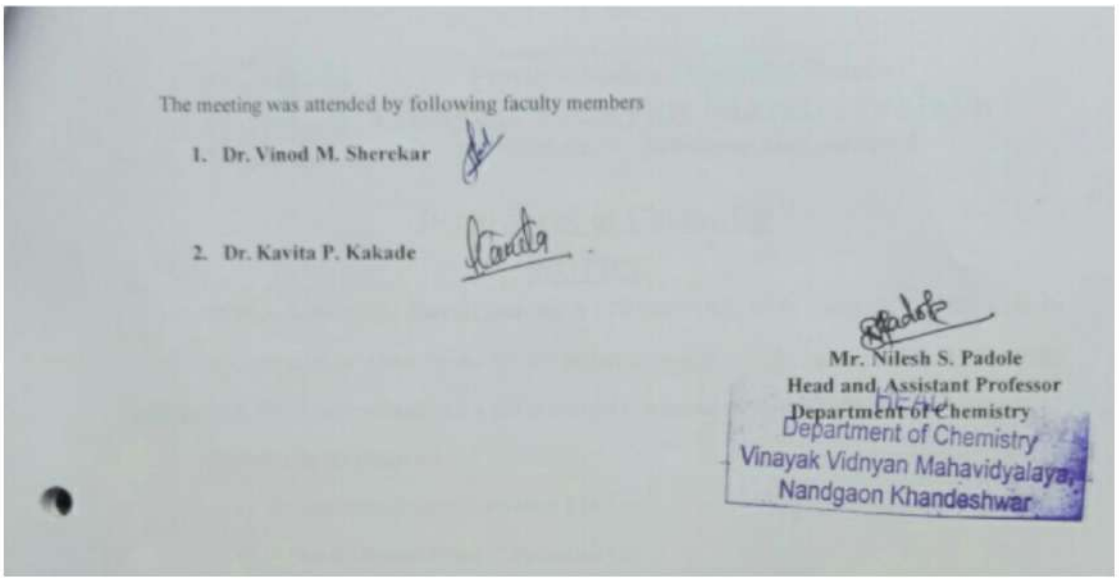

The meeting was attended by following faculty members

1. Dr. Vinod M. Sherekar

2. Dr. Kavita P. Kakade

Mr. Nilesh S. Padole
Head and Assistant Professor
Department of Chemistry

Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department of Chemistry

NOTICE

All the students of **B.Sc. Part III Semester V (CHEMISTRY)** of the session 2021-2022 are hereby inform that, you need to submit Project for the subject chemistry on **22nd January 2022 in Chemistry Laboratory.** This Project submission is a part of internal assessment which carries 04 Marks.

The topics for the project are

a) **Oil and Natural Gas Corporation Ltd.**

b) **National Thermal Power Corporation Ltd**

c) **Indian Oil Corporation Ltd**

d) **Bhabha Atomic Research Center**

e) **Defense Research Development Organization**

f) **Department of Atomic Energy.**

All the details regarding project will be shared separately on chemistry What's app group on **18th January 2022 till evening 6PM.**

If you have any difficulties or queries regarding project submission you can contact with below mentioned teacher.

1. **Dr. Kavita P. Kakade**
2. **Dr. Vinod M. Sherekar**

Date: 18th January 2022

Mr. Nilesh S. Padole
Head and Assistant Professor
Department of Chemistry

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

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Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department of Chemistry

Class: B.Sc. Part III Semester V **Date: 18th January 2022**

STUDENT LIST WITH TOPIC

Sr. No.	Name of Student	Topic	In-Charge Teacher
1	ABHISHEK P. CHAURAGADE	ONGC NTPC	Mr. Nilesh S. Padole
2	ACHAL ARUN BANSOD		
3	ACHAL GAJANAN MASRAM		
4	ACHAL RAJESH SATRE		
5	AMRAPALI B. WAHANE		
6	ANKITA S. MANDAVGADE		
7	ANUSHKA SURESHRAO IZATE		
8	ASMITA GOPAL SABLE		
9	BHAGYASHRI J. SHELKE		
10	DIMPAL VIJAYRAO JAGTAP		
11	DIVYA MURLIDHAR KAKADE		
12	GAURI UDDHAVRAO DHAWAS		
13	HARSHAD GUNVANTRAO DOFE		
14	JAYASHREE R. TANKAR		
15	KAJAL VITTHALRAO SHINDE		
16	KRUNAL MUKUNDRAO BARDE		
17	KUNAL RAJENDRA BITALE		
18	MANISHA MADHUKAR PONGLE		
19	MD ATIQUE AB RAHIM		

Mr. Nilesh S. Padole
In-Charge Teacher

Mr. Nilesh S. Padole
Head of Department

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

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Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department of Chemistry

Class: B.Sc. Part III Semester V **Date: 18th January 2022**

STUDENT LIST WITH TOPIC

Sr. No.	Name of Student	Topic	In-Charge Teacher Sign
20	PALLAVI PRABHAKAR GULHANE	IOCL BARC	Dr. Kavita P. Kakade
21	PALLAVI RAMRAO TANGALE		
22	POOJA WASUDEV MORE		
23	PRAJWALSING P. DESHMUKH		
24	PRANALI GAJANANRAO AGASHE		
25	PRATIKSHA VILASRAO SHAHADE		
26	PRIYANKA PRAMODRAO GULHANE		
27	PUNAM SHALIKRAM BANARASE		
28	RAJANI ASHOKRAO CHAVHAN		
29	RUPALI VASUDEO MAHATO		
30	RUSHALI GANESH VAIRAGADE		
31	RUTUJA SUBHASHRAO ZANZAT		
32	SACHIN VILASRAO BHAGAT		
33	SANIKA MOHAN DARWHATKAR		
34	SARTHAK UTTAMRAO RAUT		
35	SATISH BHUJANGRAO MORE		
36	SAURABH RAMESH KALEKAR		
37	SHAMAL DIVAKAR INGOLE		
38	SHRUTI SANJAY RAVEKAR		

Dr. Kavita P. Kakade
In-Charge Teacher

Mr. Nilesh S. Padole
Head of Department

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

6

Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department of Chemistry

Class: B.Sc. Part III Semester V **Date: 18th January 2022**

STUDENT LIST WITH TOPIC

Sr. No.	Name of Student	Topic	In-Charge Teacher
39	SHUBHAM BANDU SANAP	DRDO DAE	Dr. Vinod M. Sherekar
40	SNEHAL DATTATRAY DHURTE		
41	SUMIT MADHUKAR JADHAO		
42	TEJASWINI BALU DEOTALE		
43	VAIBHAV DIPAKRAO DHANDE		
44	VAISHNAVI GAJANANRAO GAWNER		
45	VAISHNAVI SANJAY KHOPE		
46	ARPITA ANILRAO BHOYAR		
47	HITESH VIJAY RAGHUTE		
48	NANDINI RAVINDRA KANSE		
49	OM PRAMODRAO INGOLE		
50	PUJA SUBHASHRAO DUKARE		
51	RUTUJA BHARAT DEVTALE		
52	SAKSHI KIRANRAO GULHANE		
53	SNEHA GAJANAN SAGALE		
54	SWARA NARENDRA DESHMUKH		
55	TEJASWINI S. GADHEKAR		
56	VAIBHAV SHRIKRUSHNA GULHANE		
57	VAISHNAVI SANTOSH RAUT		
58	VRUSHBH VISHNU MADAVI		

Dr. Vinod M. Sherekar
In-Charge Teacher

Mr. Nilesh S. Padole
Head of Department

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Kh. Khandeshwar

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Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department of Chemistry

Class: B.Sc. Part III Semester V **Date: 22nd January 2022**

PROJECT SUBMISSION LIST

Sr. No.	Name of Student	Topic	Signature of Student	In-Charge Teacher Sign
1	ABHISHEK P. CHAURAGADE	ONGC / NTPC		
2	ACHAL ARUN BANSOD			
3	ACHAL GAJANAN MASRAM			
4	ACHAL RAJESH SATRE			
5	AMRAPALI B. WAHANE			
6	ANKITA S. MANDAVGADE			
7	ANUSHKA SURESHRAO IZATE			
8	ASMITA GOPAL SABLE			
9	BHAGYASHRI J. SHELKE			
10	DIMPAL VIJAYRAO JAGTAP			
11	DIVYA MURLIDHAR KAKADE			
12	GAURI UDDHAVRAO DHAWAS			
13	HARSHAD GUNVANTRAO DOFE			
14	JAYASHREE R. TANKAR			
15	KAJAL VITTHALRAO SHINDE			
16	KRUNAL MUKUNDRAO BARDE			
17	KUNAL RAJENDRA BITALE			
18	MANISHA MADHUKAR PONGLE			
19	MD ATIQUE AB RAHIM			

Mr. Nilesh S. Padole
In-Charge Teacher

Mr. Nilesh S. Padole
Head of Department

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

Remark:

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Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department of Chemistry

Class: B.Sc. Part III Semester V **Date: 22nd January 2022**

PROJECT SUBMISSION LIST

Sr. No.	Name of Student	Topic	Signature of Student	In-Charge Teacher Sign
20	PALLAVI PRABHAKAR GULHANE	IOCL / BARC		BPadole
21	PALLAVI RAMRAO TANGALE			
22	POOJA WASUDEV MORE			
23	PRAJWALSING P. DESHMUKH			
24	PRANALI GAJANANRAO AGASHE			
25	PRATIKSHA VILASRAO SHAHADE			
26	PRIYANKA PRAMODRAO GULHANE			
27	PUNAM SHALIKRAM BANARASE		P.S.Banarase	
28	RAJANI ASHOKRAO CHAVHAN			
29	RUPALI VASUDEO MAHATO			
30	RUSHALI GANESH VAIRAGADE		Vairagade	
31	RUTUJA SUBHASHRAO ZANZAT		Zanzat	
32	SACHIN VILASRAO BHAGAT		S.V.Bhagat	
33	SANIKA MOHAN DARWHATKAR		Darwhatkar	
34	SARTHAK UTTAMRAO RAUT			
35	SATISH BHUJANGRAO MORE			
36	SAURABH RAMESH KALEKAR			
37	SHAMAL DIVAKAR INGOLE		Bingole	
38	SHRUTI SANJAY RAVEKAR		Ravekar	

Dr. Kavita P. Kakade
In-Charge Teacher

Mr. Nilesh S. Padole
Head of Department

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

Remark:

Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department of Chemistry

Class: B.Sc. Part III Semester V **Date: 22nd January 2022**

PROJECT SUBMISSION LIST

Sr. No.	Name of Student	Topic	Signature of Student	In-Charge Teacher Sign
39	SHUBHAM BANDU SANAP	DRDO DAE		
40	SNEHAL DATTATRAY DHURTE			
41	SUMIT MADHUKAR JADHAO			
42	TEJASWINI BALU DEOTALE			
43	VAIBHAV DIPAKRAO DHANDE			
44	VAISHNAVI GAJANANRAO GAWNER			
45	VAISHNAVI SANJAY KHOPE			
46	ARPITA ANILRAO BHOYAR			
47	HITESH VIJAY RAGHUTE			
48	NANDINI RAVINDRA KANSE			
49	OM PRAMODRAO INGOLE			
50	PUJA SUBHASHRAO DUKARE			
51	RUTUJA BHARAT DEVTALE			
52	SAKSHI KIRANRAO GULHANE			
53	SNEHA GAJANAN SAGALE			
54	SWARA NARENDRA DESHMUKH			
55	TEJASWINI S. GADHEKAR			
56	VAIBHAV SHRIKRUSHNA GULHANE			
57	VAISHNAVI SANTOSH RAUT			
58	VRUSHBH VISHNU MADAVI			

Dr. Vinod M. Sherekar
In-Charge Teacher

Mr. Nilesh S. Padole
Head of Department

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,

Remark:

10

Pravin Khodke Memorial Trust's
Vinayak Vidnyan Mahavidyalaya
Tq. Nandgaon Khandeshwar, Dist. Amravati

Date 6th May 2022

Department of Chemistry

Notice

All the faculty members of Department of Chemistry are hereby informed that as per the curriculum of Sant Gadge Baba Amravati University, Amravati, we need to give "**Project Topics**" to the students of Bsc **Part II Semester IV**. This project will be a part of internal assessment of the students. To discuss this point there will be meeting in the department of Chemistry on **7th May 2022 at 12PM.**

Agenda of the meeting

1. To discuss about the Project topics for the class B.Sc. Part II semester IV
2. To provide guidelines to the students regarding project report writing.
3. To prepare the front page for project submission
4. To decide submission date for the project.
5. To circulate the message among the students of B.Sc. Part II Semester IV.

All are requested to consider this notice and be there in the department of chemistry on **7th May 2022** at **12PM.**

Mr. Nilesh S. Padole
Head and Assistant Professor
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya
Nandgaon Khandeshwar

1. **Dr. Vinod M. Sherekar**
2. **Dr. Kavita P. Kakade**

Pravin Khodke Memorial Trust's
Vinayak Vidnyan Mahavidyalaya
Tq. Nandgaon Khandeshwar, Dist. Amravati

Date 7th May 2022

Department of Chemistry

The meeting was held in the department of chemistry on 7th May 2022 from 12PM onwards where following points were discussed and finalized for the project allotment to students of **BSc Part II Semester IV**

Minutes of Meeting:

1. There was thorough discussion on Project topics allotment for the students of class **B.Sc. Part II Semester IV** with all faculty members, where following topics were finalized
   a) **Isolation of Flavonoids from color flower.**
   b) **Chemical constituents present in energy drinks.**
   c) **Isolation of calcium from Chees , butter and other dairy products.**
   d) **Chemical constituent present in Jatropa Gossipifolia.**
   e) **Extraction of oil from castor oil seed, its application.**
2. **Dr. Kavita P. Kakade** had given the responsibility to prepare the guidelines for the students which will help them to write the project.
3. **Mr. Nilesh S. Padole** had given the responsibility to prepare the front page for project submission.
4. In thorough discussion with all faculty members, **28th May 2022** was decided for project submission.
5. **Dr. Vinod M. Sherekar** had given the responsibility to circulate the message among the students of BSc Part II semester IV.

The meeting was attended by following faculty members

1. **Dr. Vinod M. Sherekar**
2. **Dr. Kavita P. Kakade**

Mr. Nilesh S. Padole
Head and Assistant Professor
Department of Chemistry
HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department of Chemistry

NOTICE

All the students of **B.Sc. Part II Semester IV (CHEMISTRY)** of the session 2021-2022 are hereby inform that, you need to submit Project for the subject chemistry on **28th May 2022 in Chemistry Laboratory till 1:00 PM.** This Project submission is a part of internal assessment which carries 04 Marks.

The topics for the project are

a) **Isolation of Flavonoids from color flower.**

b) **Chemical constituents present in energy drinks.**

c) **Isolation of calcium from Cheese , Butter and other dairy products.**

d) **Chemical constituent present in Jatropa Gossipifolia.**

e) **Extraction of oil from castor oil from castor seed, its application.**

All the details regarding project will be shared separately on chemistry What's app group on **10th May 2022.** List of projects with In-charge teacher is attached with the notice.

If you have any difficulties or queries regarding project submission you can contact with below mentioned teacher.

1. **Dr. Kavita P. Kakade**
2. **Dr. Vinod M. Sherekar**

Mr. Nilesh S. Padole
Head and Assistant Professor
Department of Chemistry

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

Pravin Khodke Memorial Trust's
Vinayak Vidnyan Mahavidyalaya
Tq. Nandgaon Khandeshwar, Dist. Amravati

Department Of Chemistry

Class: B.Sc. Part II Sem IV

Date -7th May 2022

Project Topic List

Sr. No.	Name of Student	Topic	Signature of Student	In Charge Teacher Signature
1	AACHAL R. HAMBARDE	ISOLATION OF FLAVONOIDS FROM COLOUR FLOWER		
2	ACHAL DILIP DESHMUKH			
3	ACHAL N. CHARDE			
4	AKSHADA D. DHANDARE			
5	AMAN ASHPAK MAKWANI			
6	AMRUTA SOPAN KALE			
7	ARPITA P. THAKARE			
8	ASHUTOSH DILIP INGOLE			
9	DIVYA PRAMOD SALVE			

Dr. Kavita P. Kakade
In-Charge Teacher

Mr. Nilesh S. Padole
Head of Department
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

Remark

Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department Of Chemistry

Class: B.Sc. Part II Sem IV

Date -7th May 2022

Project Topic List

Sr. No	Name Of Student	Topic	Signature of Student	In Charge Teacher Signature
10	KARTIK RAVINDRA MAHURE	CHEMICAL CONSTITUENTS PRESENT IN ENERGY DRINKS		
11	KIRAN RAJU BANARASE			
12	KIRTI DILIP POPHALE		Pophale	
13	KOMAL D. PUND		K. D. Pund	
14	KOMAL JITENDRA SEN		Sen	
15	MAYURI PRAVIN KAPADE			
16	MAYURI R. DEOTALE			
17	MOHD A. M. M. MAKWANI			
18	NIKHIL NANDU PRAGHANE			

Dr. Kavita P. Kakade
In-Charge Teacher

Mr. Nilesh S. Padole
Head of Department

Remark

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Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department Of Chemistry

Class: B.Sc. Part II Sem IV

Date -7th May 2022

Project Topic List

Sr. No.	Name of Student	Topic	Signature of Student	In Charge Teacher Signature
19	PRANAY SANJAY MARAPE	ISOLATION OF CALCIUM FROM CHEES, BUTTER AND OTHER DAIRY PRODUCTS		
20	PRATIK K. INZALKAR			
21	PRATIKSHA ANAND INGALE			
22	PRIYANKA R. GAJBHIYE			
23	RAKHI RUPRAO SONONE			
24	RAVINA SANDIP NAVNAGE			
25	RINA PRAVIN POPHALE			
26	ROHAN RAMRAO JADHAO			
27	SAKSHI R. GULHANE			

Mr. Nilesh S. Padole
In-Charge Teacher

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

& Head of Department

Remark

Pravin Khodke Memorial Trust's
Vinayak Vidnyan Mahavidyalaya
Tq. Nandgaon Khandeshwar, Dist. Amravati

Department Of Chemistry

Class: B.Sc. Part II Sem IV

Date -7th May 2022

Project Topic List

Sr. No	Name of Student	Topic	Signature of Student	In Charge Teacher Signature
28	SAKSHI SANTOSH INZALKAR	CHEMICAL CONSTITUENT PRESENT IN JATROPA GOSSIPIFOLIA.	S.S. Inzalkar	
29	SAMIKSHA P. DAKARE			
30	SEJAL G. CHANDURKAR			
31	SHARAYU P. CHAUDHARI			
32	SHITAL S. LONARE			
33	SHITAL VIJAY GADHAVE			
34	SHIVANI J. CHAVHAN			
35	SHRADDHA ANIL BANKAR			
36	SHREYA GAJANAN DHOKE			

Mr. Nilesh S. Padole
In-Charge Teacher
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

Head of Department

Remark

Pravin Khodke Memorial Trust's
Vinayak Vidnyan Mahavidyalaya
Tq. Nandgaon Khandeshwar, Dist. Amravati

Department Of Chemistry

Class: B.Sc. Part II Sem IV

Date -7th May 2022

Project Topic List

Sr. No	Name Of Student	Topic	Signature of Student	In Charge Teacher Signature
37	SHREYASWI R. DEVTALE	Extraction of oil from castor oil from castor seed, its application		
38	SNEHAL BALU KAWARE			
39	VAISHNAVI D. RUMNE			
40	VAISHNAVI R. KHOBRAGADE			
41	VAISHNAVI R. ZATALE			
42	ACHAL RAMDAS BIJAVE			
43	ADIBA SAMAN A. KHAN			
44	KALYANI NARHARI WAKODE			
45	RUTIK T. JAWALKAR			

Dr. Vinod M. Sherekar
In-Charge Teacher

Mr. Nilesh S. Padole
Head of Department
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

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Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department Of Chemistry

Class: B.Sc. Part II Sem IV

Date -7th May 2022

Project Topic List

Sr. No	Name of Student	Topic	Signature of Student	In Charge Teacher Signature
46	Sahil Vikas Raut	Extraction of oil from castor oil from castor seed, its application		
47	Sakshi Mahendra Dukare			
48	Sakshi Vilas Dhawale			
49	Sayali Pramod Gawande			
50	Shraddha Vijay Raut			
51	Vivekanand Anil Pawar			

Dr. Vinod M. Sherekar
In-Charge Teacher

Mr. Nilesh S. Padole
Head of Department

Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

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Pravin Khodke Memorial Trust's
Vinayak Vidnyan Mahavidyalaya
Tq. Nandgaon Khandeshwar, Dist. Amravati

Department Of Chemistry

Class: B.Sc. Part II Sem IV

Date -28th May 2022

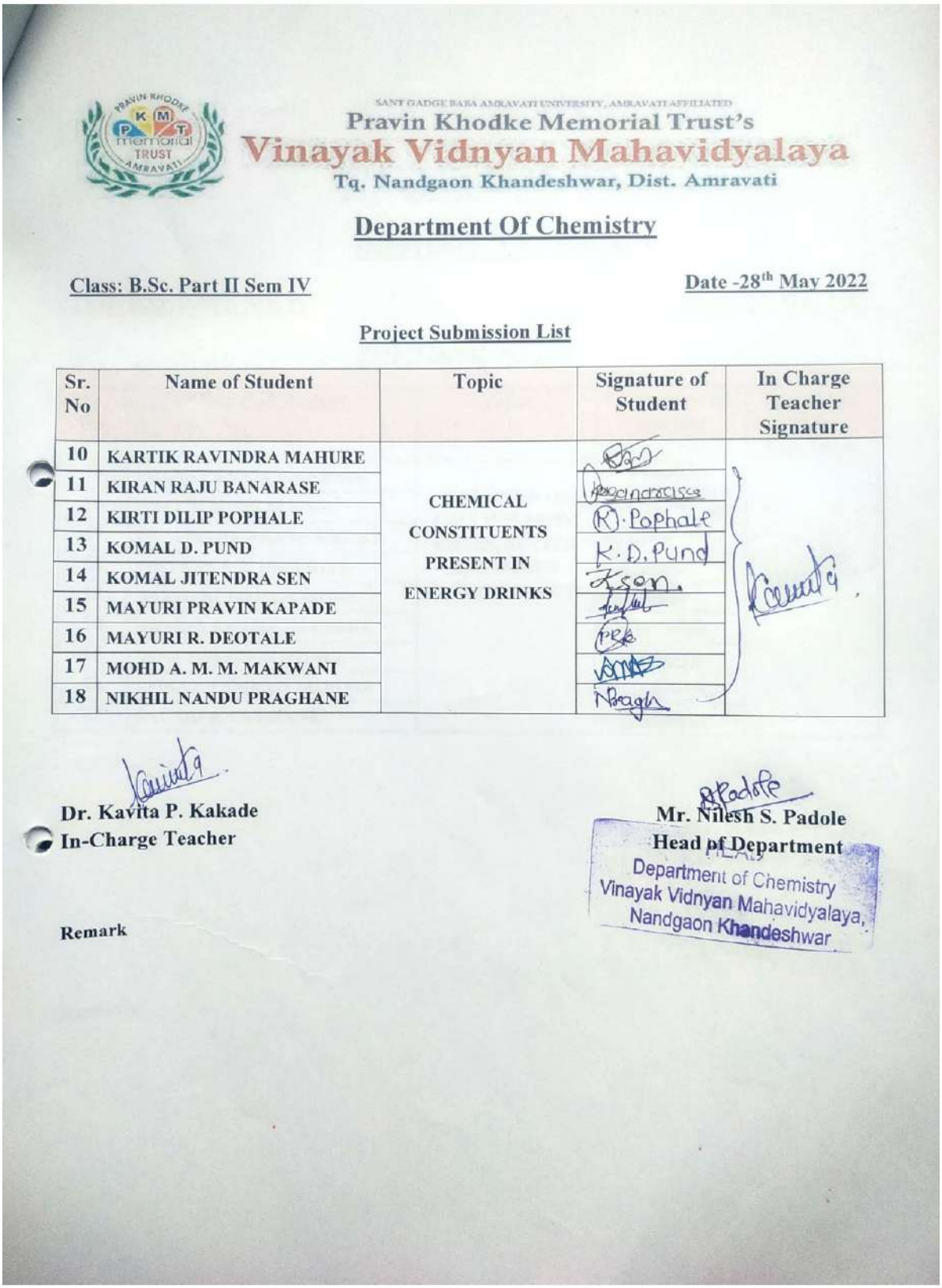
Project Submission List

Sr. No.	Name of Student	Topic	Signature of Student	In Charge Teacher Signature
1	AACHAL R. HAMBARDE	ISOLATION OF FLAVONOIDS FROM COLOUR FLOWER		
2	ACHAL DILIP DESHMUKH			
3	ACHAL N. CHARDE			
4	AKSHADA D. DHANDARE			
5	AMAN ASHPAK MAKWANI			
6	AMRUTA SOPAN KALE			
7	ARPITA P. THAKARE			
8	ASHUTOSH DILIP INGOLE			
9	DIVYA PRAMOD SALVE			

Dr. Kavita P. Kakade
In-Charge Teacher

Mr. Nilesh S. Padole
Head of Department
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

Remark



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Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department Of Chemistry

Class: B.Sc. Part II Sem IV

Date -28th May 2022

Project Submission List

Sr. No	Name of Student	Topic	Signature of Student	In Charge Teacher Signature
10	KARTIK RAVINDRA MAHURE	CHEMICAL CONSTITUENTS PRESENT IN ENERGY DRINKS		
11	KIRAN RAJU BANARASE			
12	KIRTI DILIP POPHALE			
13	KOMAL D. PUND			
14	KOMAL JITENDRA SEN			
15	MAYURI PRAVIN KAPADE			
16	MAYURI R. DEOTALE			
17	MOHD A. M. M. MAKWANI			
18	NIKHIL NANDU PRAGHANE			

Dr. Kavita P. Kakade
In-Charge Teacher

Mr. Nilesh S. Padole
Head of Department

Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

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Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department Of Chemistry

Class: B.Sc. Part II Sem IV

Date -28th May 2022

Project Submission List

Sr. No.	Name of Student	Topic	Signature of Student	In Charge Teacher Signature
19	PRANAY SANJAY MARAPE	ISOLATION OF CALCIUM FROM CHEES, BUTTER AND OTHER DAIRY PRODUCTS		
20	PRATIK K. INZALKAR			
21	PRATIKSHA ANAND INGALE			
22	PRIYANKA R. GAJBHIYE			
23	RAKHI RUPRAO SONONE			
24	RAVINA SANDIP NAVNAGE			
25	RINA PRAVIN POPHALE			
26	ROHAN RAMRAO JADHAO			
27	SAKSHI R. GULHANE			

Mr. Nilesh S. Padole
In-Charge Teacher
&
Head of Department

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

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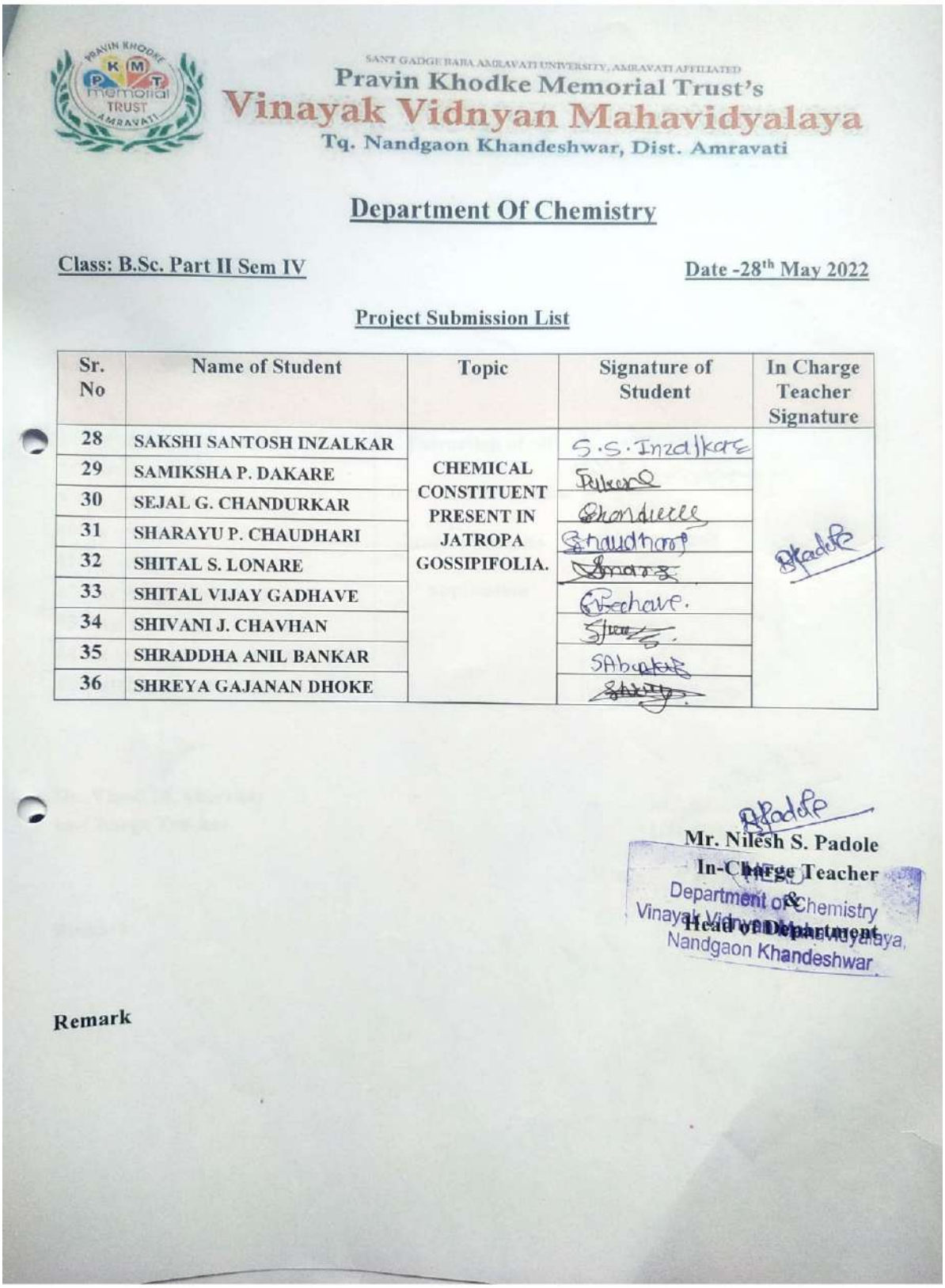

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Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department Of Chemistry

Class: B.Sc. Part II Sem IV **Date -28th May 2022**

Project Submission List

Sr. No	Name of Student	Topic	Signature of Student	In Charge Teacher Signature
28	SAKSHI SANTOSH INZALKAR	CHEMICAL CONSTITUENT PRESENT IN JATROPA GOSSIPIFOLIA.	S.S. Inzalkar	
29	SAMIKSHA P. DAKARE			
30	SEJAL G. CHANDURKAR			
31	SHARAYU P. CHAUDHARI			
32	SHITAL S. LONARE			
33	SHITAL VIJAY GADHAVE			
34	SHIVANI J. CHAVHAN			
35	SHRADDHA ANIL BANKAR			
36	SHREYA GAJANAN DHOKE			

Mr. Nilesh S. Padole
In-Charge Teacher
&
Head of Department

Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

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Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department Of Chemistry

Class: B.Sc. Part II Sem IV

Date -28th May 2022

Project Submission List

Sr. No	Name of Student	Topic	Signature of Student	In Charge Teacher Signature
37	SHREYASWI R. DEVTALE	Extraction of oil from castor oil from castor seed, its application		
38	SNEHAL BALU KAWARE			
39	VAISHNAVI D. RUMNE			
40	VAISHNAVI R. KHOBRAGADE			
41	VAISHNAVI R. ZATALE			
42	ACHAL RAMDAS BIJAVE			
43	ADIBA SAMAN A. KHAN			
44	KALYANI NARHARI WAKODE			
45	RUTIK T. JAWALKAR			

Dr. Vinod M. Sherekar
In-Charge Teacher

Mr. Nilesh S. Padole
Head of Department

Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

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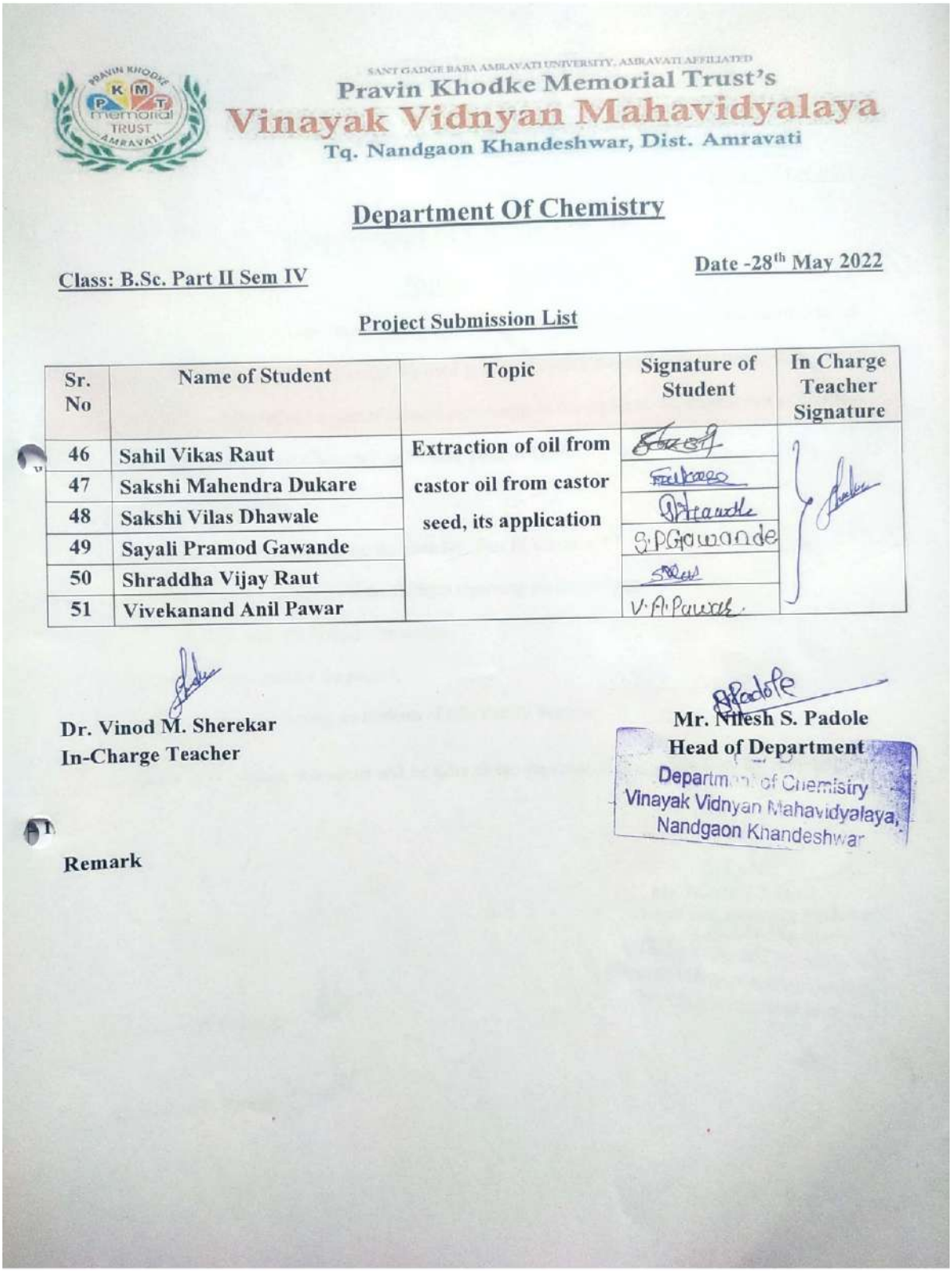

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Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department Of Chemistry

Class: B.Sc. Part II Sem IV

Date -28th May 2022

Project Submission List

Sr. No	Name of Student	Topic	Signature of Student	In Charge Teacher Signature
46	Sahil Vikas Raut	Extraction of oil from castor oil from castor seed, its application		
47	Sakshi Mahendra Dukare			
48	Sakshi Vilas Dhawale			
49	Sayali Pramod Gawande		S.P.Gawande	
50	Shraddha Vijay Raut			
51	Vivekanand Anil Pawar		V.A.Pawar	

Dr. Vinod M. Sherekar
In-Charge Teacher

Mr. Nilesh S. Padole
Head of Department
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

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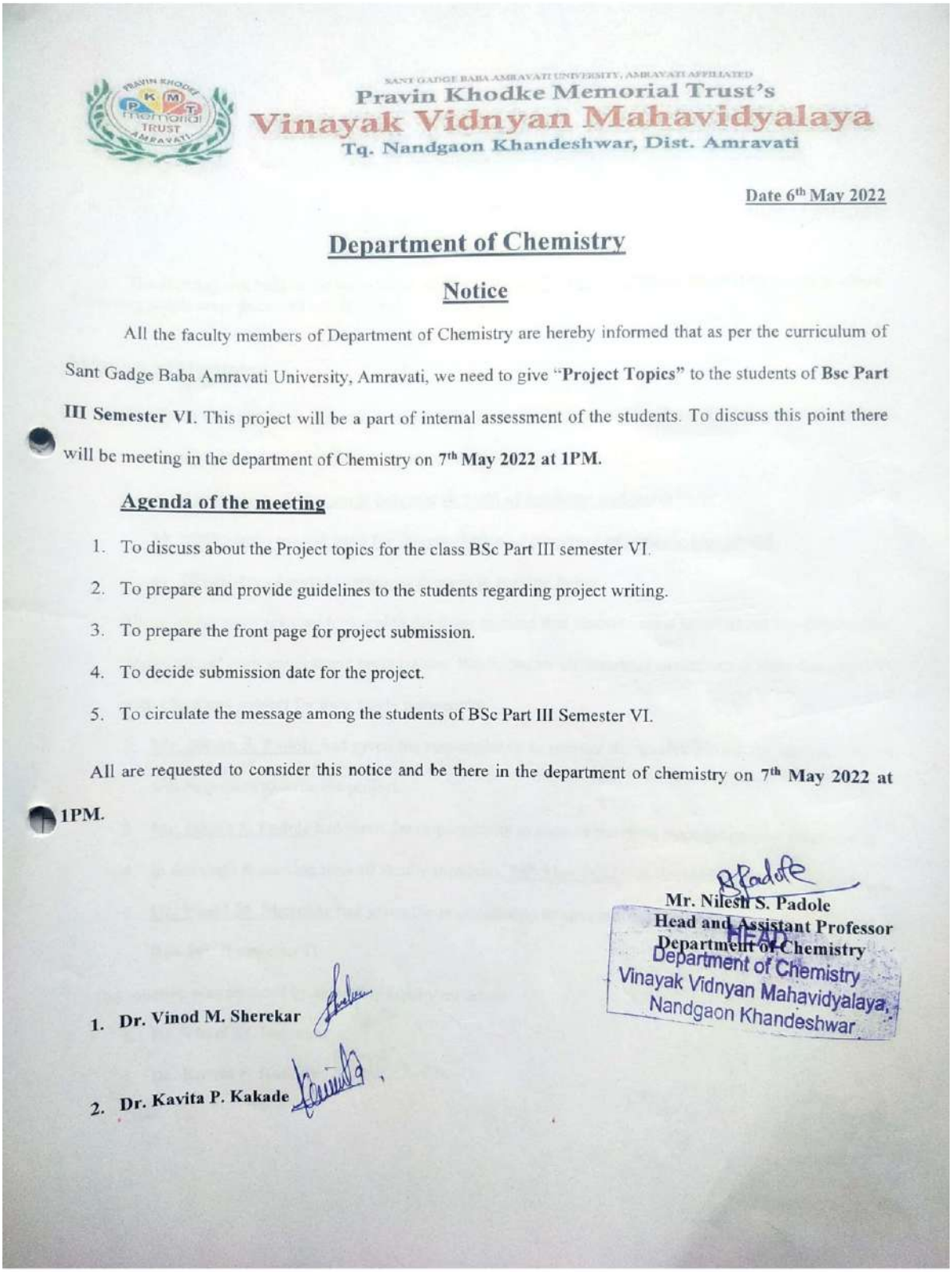

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Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Date 6th May 2022

Department of Chemistry

Notice

All the faculty members of Department of Chemistry are hereby informed that as per the curriculum of Sant Gadge Baba Amravati University, Amravati, we need to give "**Project Topics**" to the students of **Bsc Part III Semester VI**. This project will be a part of internal assessment of the students. To discuss this point there will be meeting in the department of Chemistry on **7th May 2022 at 1PM.**

Agenda of the meeting

1. To discuss about the Project topics for the class BSc Part III semester VI.
2. To prepare and provide guidelines to the students regarding project writing.
3. To prepare the front page for project submission.
4. To decide submission date for the project.
5. To circulate the message among the students of BSc Part III Semester VI.

All are requested to consider this notice and be there in the department of chemistry on **7th May 2022 at 1PM.**

Mr. Nilesh S. Padole
Head and Assistant Professor
Department of Chemistry

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

1. Dr. Vinod M. Sherekar
2. Dr. Kavita P. Kakade

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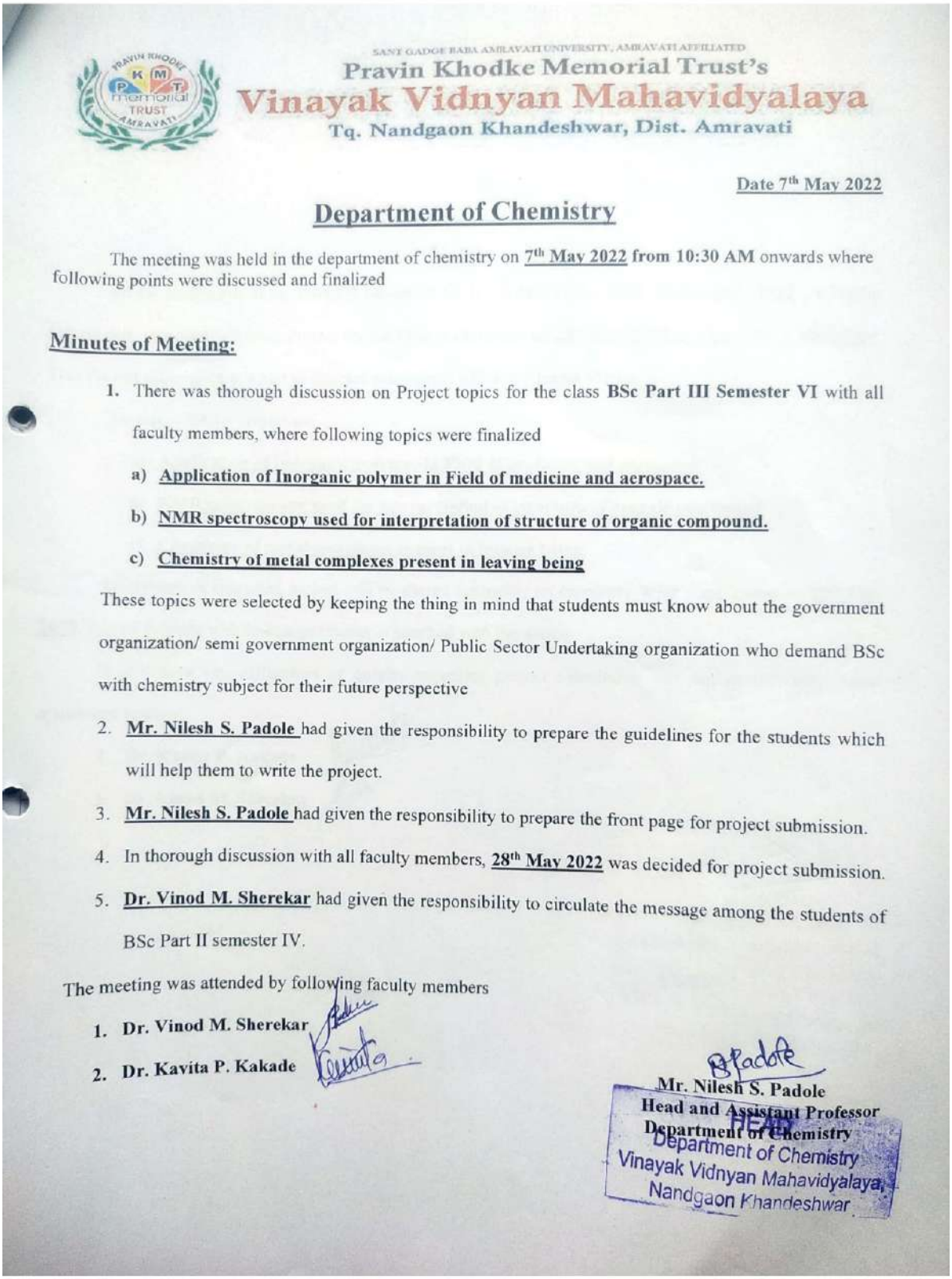

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Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Date 7th May 2022

Department of Chemistry

The meeting was held in the department of chemistry on 7th May 2022 from 10:30 AM onwards where following points were discussed and finalized

Minutes of Meeting:

1. There was thorough discussion on Project topics for the class **BSc Part III Semester VI** with all faculty members, where following topics were finalized
   a) **Application of Inorganic polymer in Field of medicine and aerospace.**
   b) **NMR spectroscopy used for interpretation of structure of organic compound.**
   c) **Chemistry of metal complexes present in leaving being**

   These topics were selected by keeping the thing in mind that students must know about the government organization/ semi government organization/ Public Sector Undertaking organization who demand BSc with chemistry subject for their future perspective
2. **Mr. Nilesh S. Padole** had given the responsibility to prepare the guidelines for the students which will help them to write the project.
3. **Mr. Nilesh S. Padole** had given the responsibility to prepare the front page for project submission.
4. In thorough discussion with all faculty members, **28th May 2022** was decided for project submission.
5. **Dr. Vinod M. Sherekar** had given the responsibility to circulate the message among the students of BSc Part II semester IV.

The meeting was attended by following faculty members

1. **Dr. Vinod M. Sherekar**
2. **Dr. Kavita P. Kakade**

Mr. Nilesh S. Padole
Head and Assistant Professor
Department of Chemistry
HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

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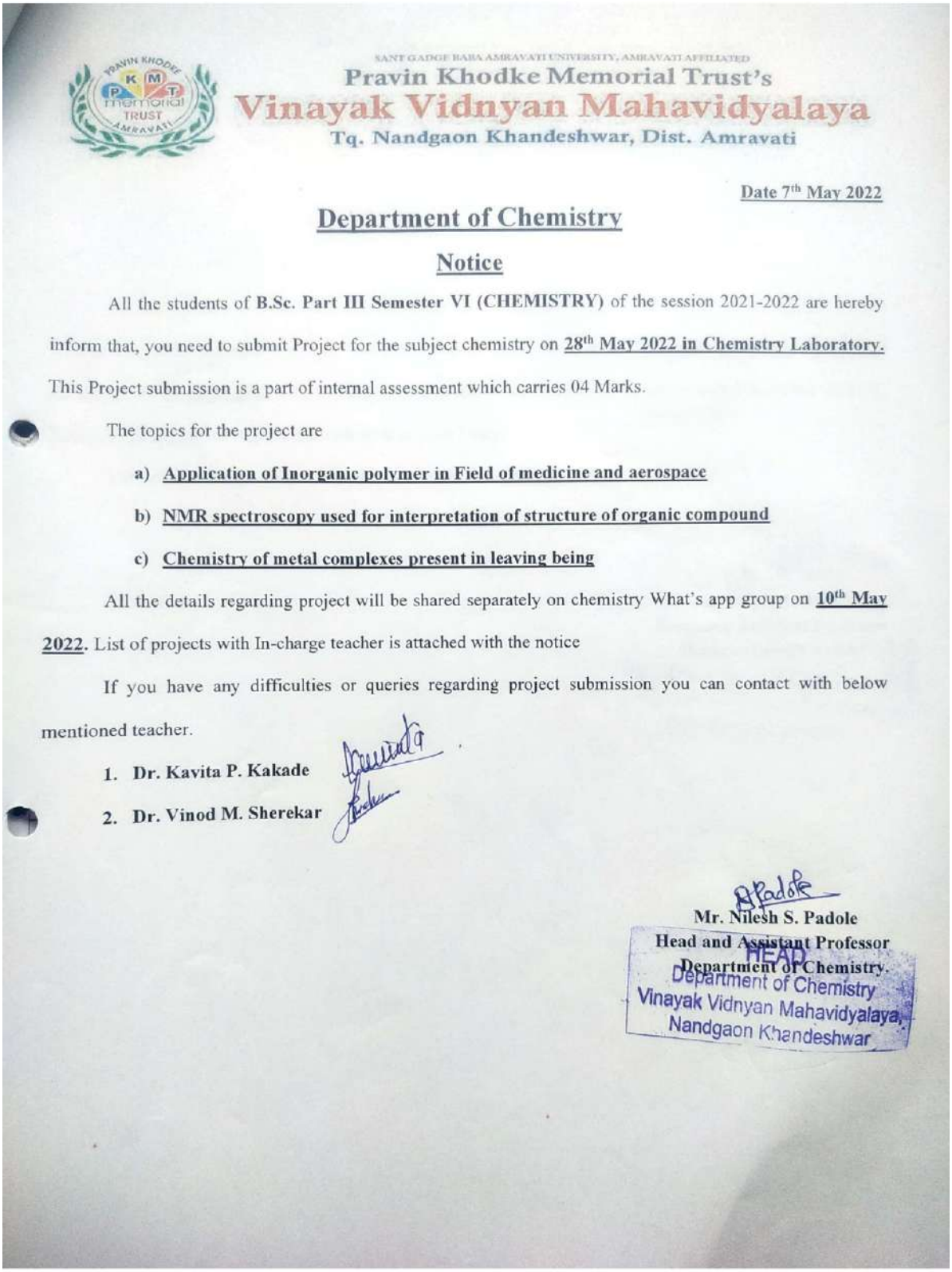

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Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Date 7th May 2022

Department of Chemistry

Notice

All the students of **B.Sc. Part III Semester VI (CHEMISTRY)** of the session 2021-2022 are hereby inform that, you need to submit Project for the subject chemistry on **28th May 2022 in Chemistry Laboratory.**

This Project submission is a part of internal assessment which carries 04 Marks.

The topics for the project are

a) **Application of Inorganic polymer in Field of medicine and aerospace**

b) **NMR spectroscopy used for interpretation of structure of organic compound**

c) **Chemistry of metal complexes present in leaving being**

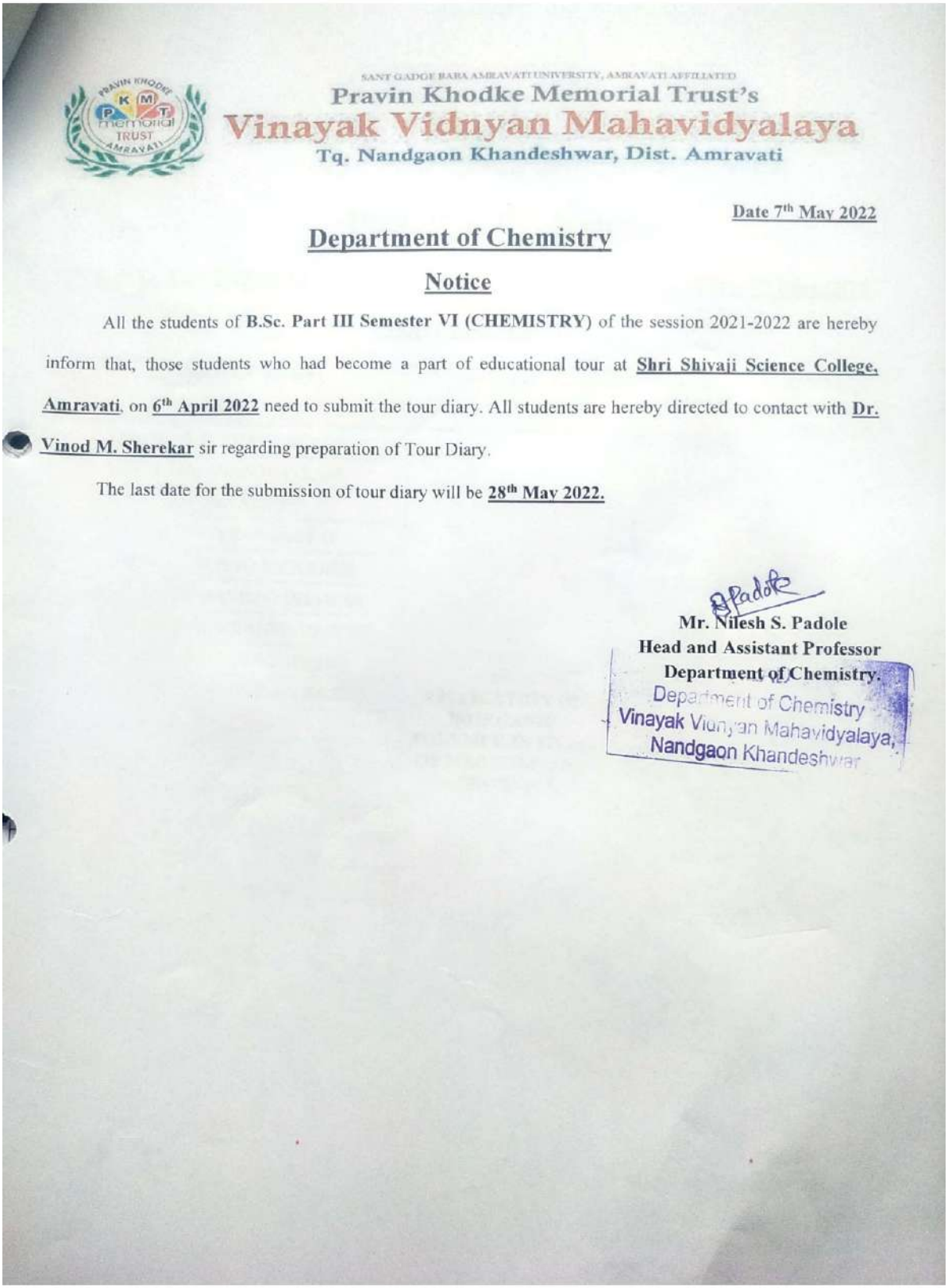
All the details regarding project will be shared separately on chemistry What's app group on **10th May 2022.** List of projects with In-charge teacher is attached with the notice

If you have any difficulties or queries regarding project submission you can contact with below mentioned teacher.

1. **Dr. Kavita P. Kakade**
2. **Dr. Vinod M. Sherekar**

Mr. Nilesh S. Padole
Head and Assistant Professor
Department of Chemistry.

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar



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Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Date 7th May 2022

Department of Chemistry

Notice

All the students of **B.Sc. Part III Semester VI (CHEMISTRY)** of the session 2021-2022 are hereby inform that, those students who had become a part of educational tour at **Shri Shivaji Science College, Amravati**, on **6th April 2022** need to submit the tour diary. All students are hereby directed to contact with **Dr. Vinod M. Sherekar** sir regarding preparation of Tour Diary.

The last date for the submission of tour diary will be **28th May 2022.**

Mr. Nilesh S. Padole
Head and Assistant Professor
Department of Chemistry.

Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

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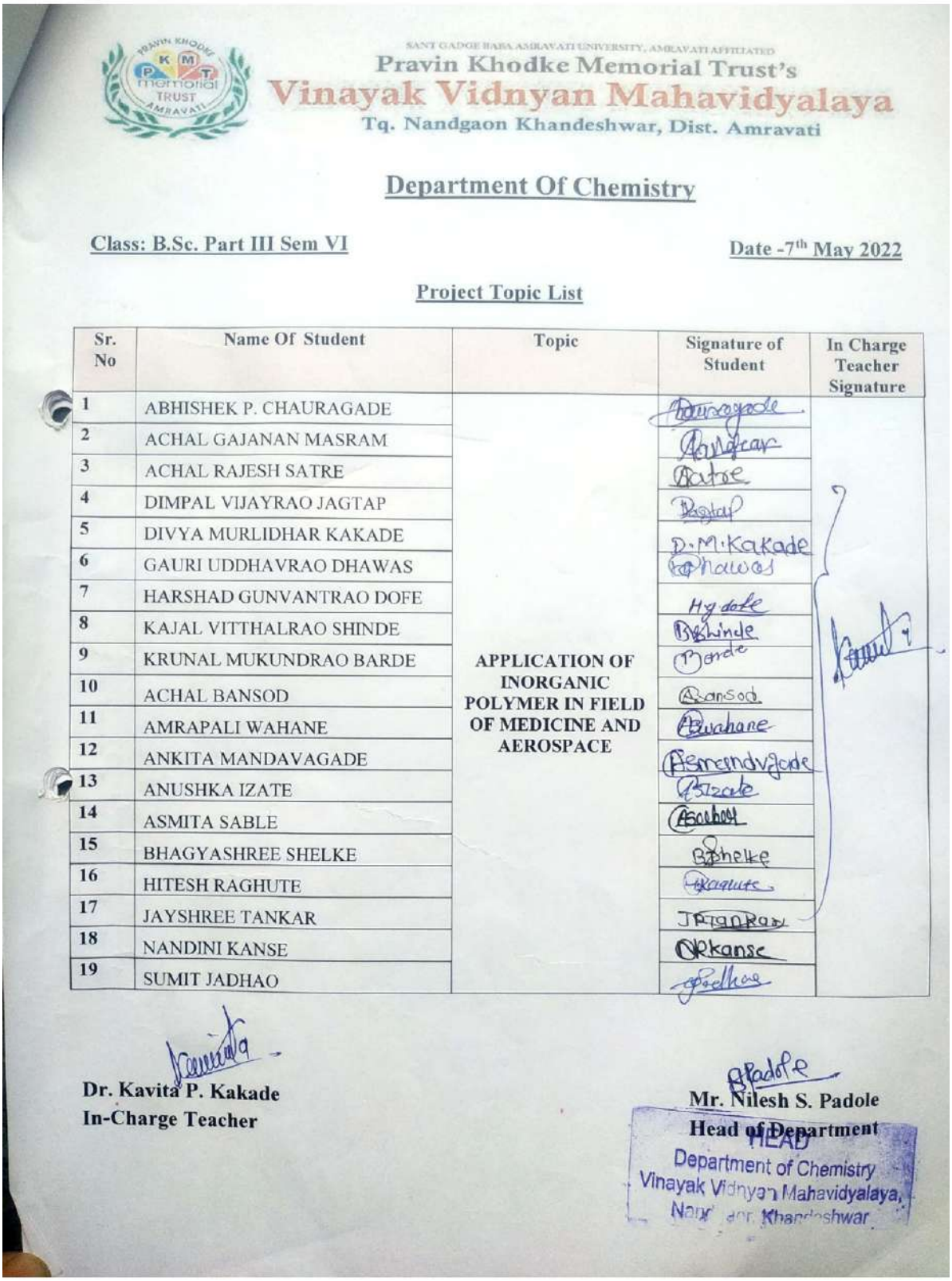

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Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department Of Chemistry

Class: B.Sc. Part III Sem VI

Date -7th May 2022

Project Topic List

Sr. No	Name Of Student	Topic	Signature of Student	In Charge Teacher Signature
1	ABHISHEK P. CHAURAGADE	APPLICATION OF INORGANIC POLYMER IN FIELD OF MEDICINE AND AEROSPACE		
2	ACHAL GAJANAN MASRAM			
3	ACHAL RAJESH SATRE			
4	DIMPAL VIJAYRAO JAGTAP			
5	DIVYA MURLIDHAR KAKADE		D.M.Kakade	
6	GAURI UDDHAVRAO DHAWAS			
7	HARSHAD GUNVANTRAO DOFE			
8	KAJAL VITTHALRAO SHINDE			
9	KRUNAL MUKUNDRAO BARDE			
10	ACHAL BANSOD			
11	AMRAPALI WAHANE			
12	ANKITA MANDAVAGADE			
13	ANUSHKA IZATE			
14	ASMITA SABLE			
15	BHAGYASHREE SHELKE			
16	HITESH RAGHUTE			
17	JAYSHREE TANKAR			
18	NANDINI KANSE			
19	SUMIT JADHAO			

Dr. Kavita P. Kakade
In-Charge Teacher

Mr. Nilesh S. Padole
Head of Department

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

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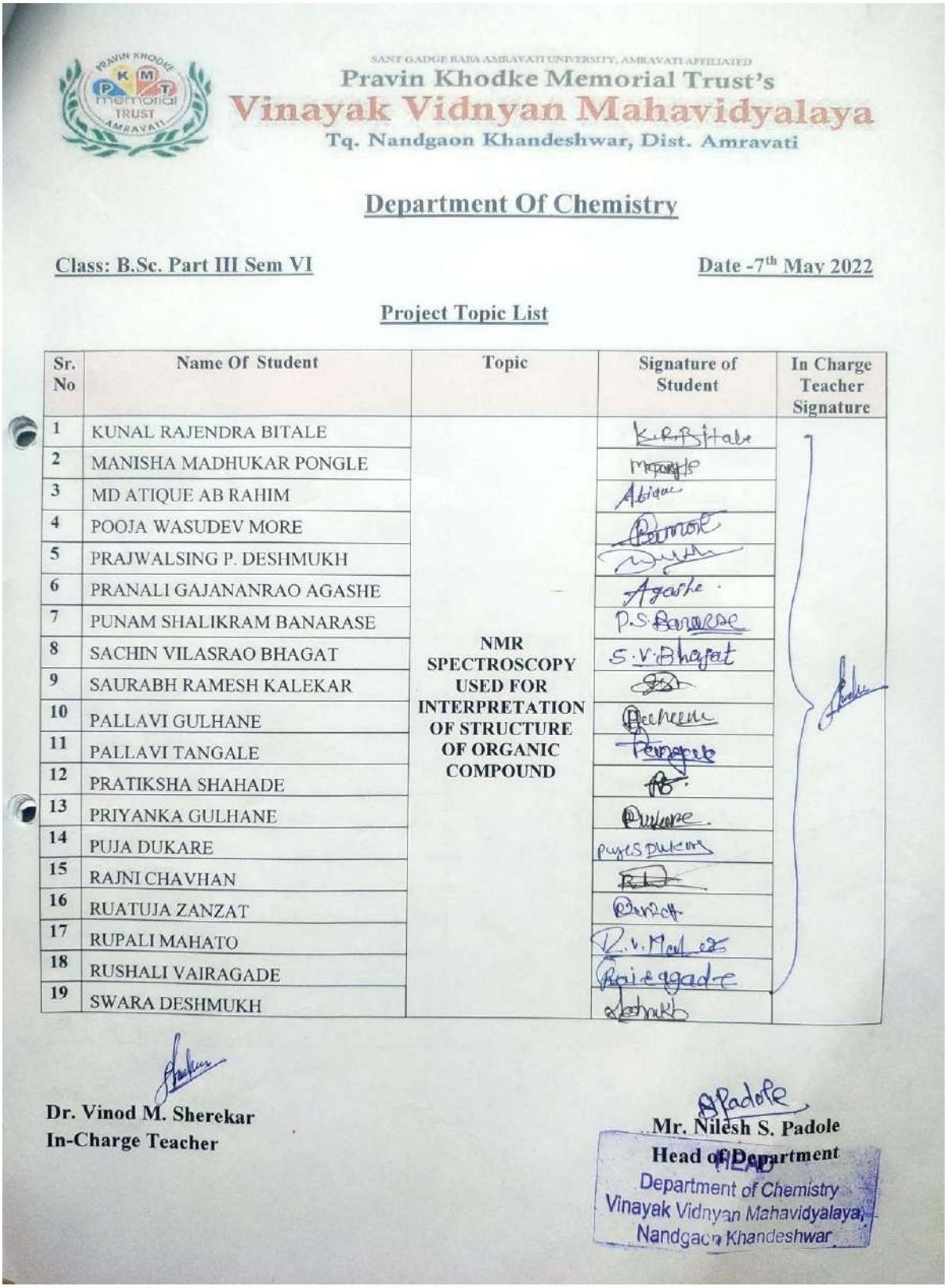

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI AFFILIATED

Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department Of Chemistry

Class: B.Sc. Part III Sem VI

Date -7th May 2022

Project Topic List

Sr. No	Name Of Student	Topic	Signature of Student	In Charge Teacher Signature
1	KUNAL RAJENDRA BITALE	NMR SPECTROSCOPY USED FOR INTERPRETATION OF STRUCTURE OF ORGANIC COMPOUND		
2	MANISHA MADHUKAR PONGLE			
3	MD ATIQUE AB RAHIM			
4	POOJA WASUDEV MORE			
5	PRAJWALSING P. DESHMUKH			
6	PRANALI GAJANANRAO AGASHE			
7	PUNAM SHALIKRAM BANARASE			
8	SACHIN VILASRAO BHAGAT			
9	SAURABH RAMESH KALEKAR			
10	PALLAVI GULHANE			
11	PALLAVI TANGALE			
12	PRATIKSHA SHAHADE			
13	PRIYANKA GULHANE			
14	PUJA DUKARE			
15	RAJNI CHAVHAN			
16	RUATUJA ZANZAT			
17	RUPALI MAHATO			
18	RUSHALI VAIRAGADE			
19	SWARA DESHMUKH			

Dr. Vinod M. Sherekar
In-Charge Teacher

Mr. Nilesh S. Padole
Head of Department

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

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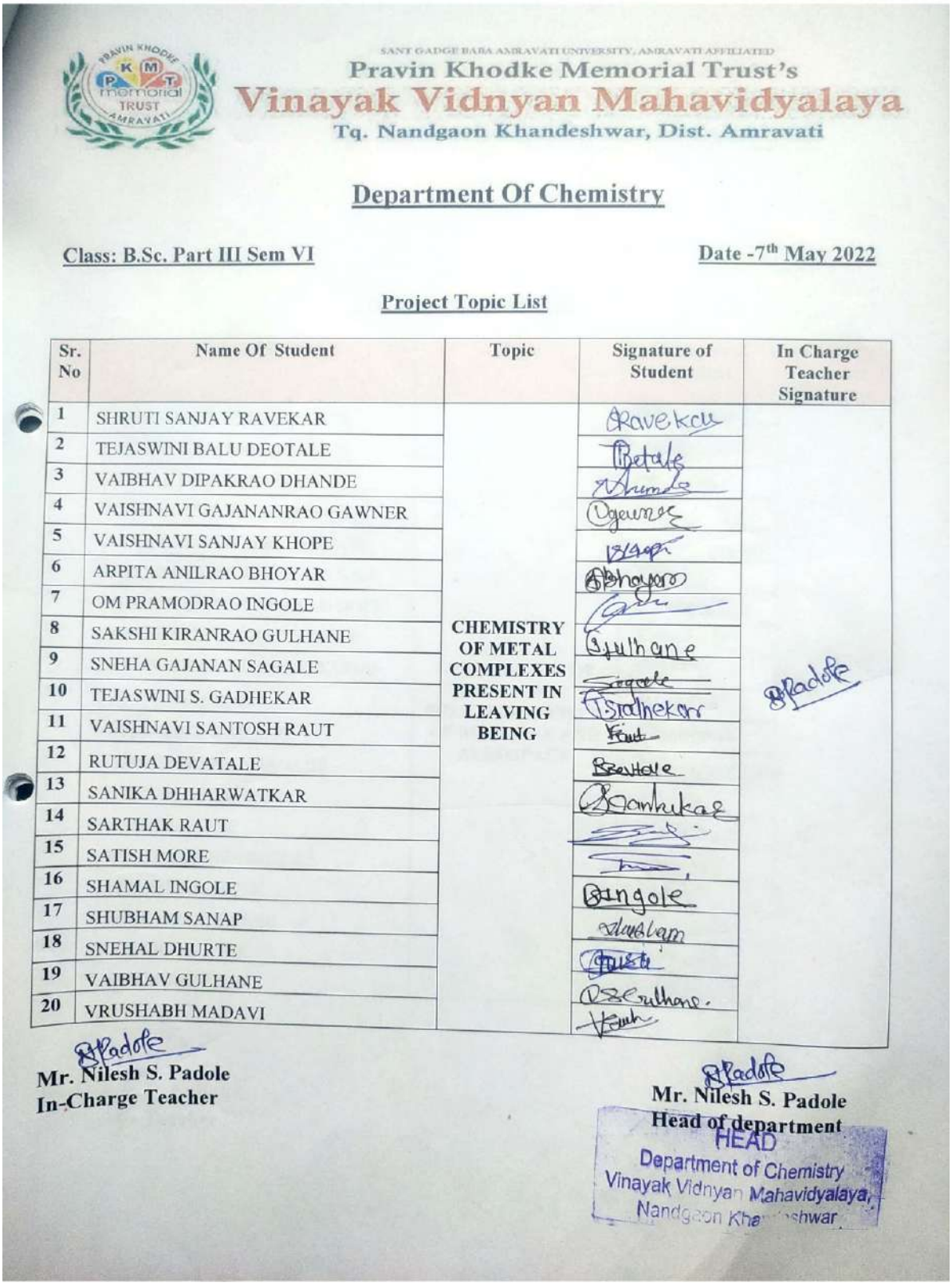

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI AFFILIATED

Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department Of Chemistry

Class: B.Sc. Part III Sem VI

Date -7th May 2022

Project Topic List

Sr. No	Name Of Student	Topic	Signature of Student	In Charge Teacher Signature
1	SHRUTI SANJAY RAVEKAR	CHEMISTRY OF METAL COMPLEXES PRESENT IN LEAVING BEING		
2	TEJASWINI BALU DEOTALE			
3	VAIBHAV DIPAKRAO DHANDE			
4	VAISHNAVI GAJANANRAO GAWNER			
5	VAISHNAVI SANJAY KHOPE			
6	ARPITA ANILRAO BHOYAR			
7	OM PRAMODRAO INGOLE			
8	SAKSHI KIRANRAO GULHANE			
9	SNEHA GAJANAN SAGALE			
10	TEJASWINI S. GADHEKAR			
11	VAISHNAVI SANTOSH RAUT			
12	RUTUJA DEVATALE			
13	SANIKA DHHARWATKAR			
14	SARTHAK RAUT			
15	SATISH MORE			
16	SHAMAL INGOLE			
17	SHUBHAM SANAP			
18	SNEHAL DHURTE			
19	VAIBHAV GULHANE			
20	VRUSHABH MADAVI			

Mr. Nilesh S. Padole
In-Charge Teacher

Mr. Nilesh S. Padole
Head of department

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Kha...shwar

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Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department Of Chemistry

Class: B.Sc. Part III Sem VI **Date -28th May 2022**

Project Submission List

Sr. No	Name of Student	Topic	Signature of Student	In Charge Teacher Signature
1	ABHISHEK P. CHAURAGADE	APPLICATION OF INORGANIC POLYMER IN FIELD OF MEDICINE AND AEROSPACE		
2	ACHAL GAJANAN MASRAM			
3	ACHAL RAJESH SATRE			
4	DIMPAL VIJAYRAO JAGTAP			
5	DIVYA MURLIDHAR KAKADE			
6	GAURI UDDHAVRAO DHAWAS			
7	HARSHAD GUNVANTRAO DOFE			
8	KAJAL VITTHALRAO SHINDE			
9	KRUNAL MUKUNDRAO BARDE			
10	ACHAL BANSOD			
11	AMRAPALI WAHANE			
12	ANKITA MANDAVAGADE			
13	ANUSHKA IZATE			
14	ASMITA SABLE			
15	BHAGYASHREE SHELKE			
16	HITESH RAGHUTE			
17	JAYSHREE TANKAR			
18	NANDINI KANSE			
19	SUMIT JADHAO			

Dr. Kavita P. Kakade
In-Charge Teacher

Mr. Nilesh S. Padole
Head of Department

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI AFFILIATED

Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department Of Chemistry

Class: B.Sc. Part III Sem VI **Date -28th May 2022**

Project Submission List

Sr. No	Name Of Student	Topic	Signature of Student	In Charge Teacher Signature
1	KUNAL RAJENDRA BITALE	NMR SPECTROSCOPY USED FOR INTERPRETATION OF STRUCTURE OF ORGANIC COMPOUND		
2	MANISHA MADHUKAR PONGLE			
3	MD ATIQUE AB RAHIM			
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5	PRAJWALSING P. DESHMUKH			
6	PRANALI GAJANANRAO AGASHE			
7	PUNAM SHALIKRAM BANARASE			
8	SACHIN VILASRAO BHAGAT			
9	SAURABH RAMESH KALEKAR			
10	PALLAVI GULHANE			
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13	PRIYANKA GULHANE			
14	PUJA DUKARE			
15	RAJNI CHAVHAN			
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18	RUSHALI VAIRAGADE			
19	SWARA DESHMUKH			

Dr. Vinod M. Sherekar
In-Charge Teacher

Mr. Nilesh S. Padole
Head of Department

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI AFFILIATED

Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Department Of Chemistry

Class: B.Sc. Part III Sem VI

Date -28th May 2022

Project Submission List

Sr. No	Name Of Student	Topic	Signature of Student	In Charge Teacher Signature
1	SHRUTI SANJAY RAVEKAR	CHEMISTRY OF METAL COMPLEXES PRESENT IN LEAVING BEING		
2	TEJASWINI BALU DEOTALE			
3	VAIBHAV DIPAKRAO DHANDE			
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5	VAISHNAVI SANJAY KHOPE			
6	ARPITA ANILRAO BHOYAR			
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8	SAKSHI KIRANRAO GULHANE			
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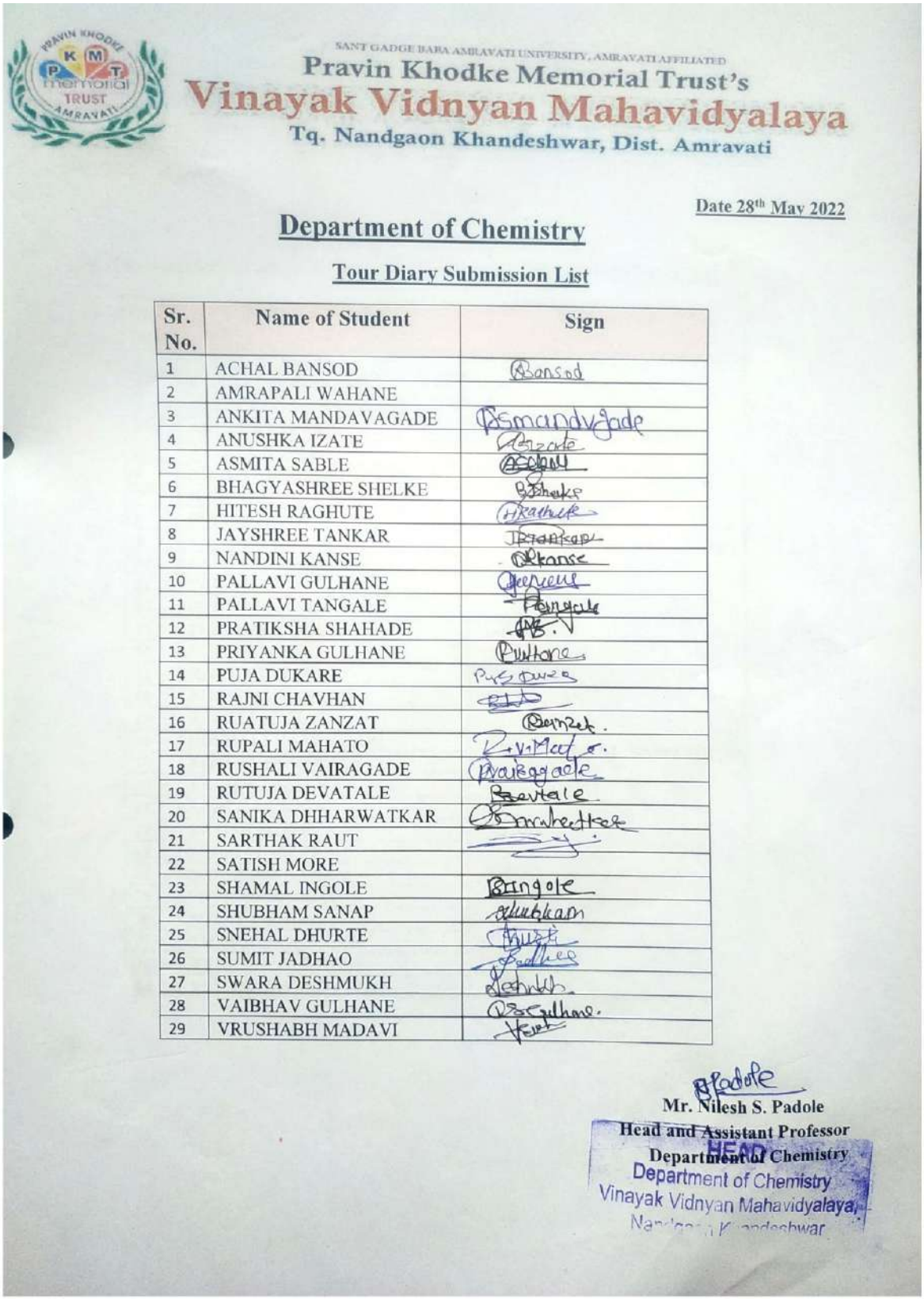
14	SARTHAK RAUT			
15	SATISH MORE			
16	SHAMAL INGOLE			
17	SHUBHAM SANAP			
18	SNEHAL DHURTE			
19	VAIBHAV GULHANE			
20	VRUSHABH MADAVI			

Mr. Nilesh S. Padole
In-Charge Teacher

Mr. Nilesh S. Padole
Head of department

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar



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Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Date 28th May 2022

Department of Chemistry

Tour Diary Submission List

Sr. No.	Name of Student	Sign
1	ACHAL BANSOD	Bansod
2	AMRAPALI WAHANE	
3	ANKITA MANDAVAGADE	Amandavgade
4	ANUSHKA IZATE	
5	ASMITA SABLE	
6	BHAGYASHREE SHELKE	
7	HITESH RAGHUTE	
8	JAYSHREE TANKAR	
9	NANDINI KANSE	
10	PALLAVI GULHANE	
11	PALLAVI TANGALE	
12	PRATIKSHA SHAHADE	
13	PRIYANKA GULHANE	
14	PUJA DUKARE	
15	RAJNI CHAVHAN	
16	RUATUJA ZANZAT	
17	RUPALI MAHATO	
18	RUSHALI VAIRAGADE	
19	RUTUJA DEVATALE	
20	SANIKA DHHARWATKAR	
21	SARTHAK RAUT	
22	SATISH MORE	
23	SHAMAL INGOLE	
24	SHUBHAM SANAP	
25	SNEHAL DHURTE	
26	SUMIT JADHAO	
27	SWARA DESHMUKH	
28	VAIBHAV GULHANE	
29	VRUSHABH MADAVI	

Mr. Nilesh S. Padole
Head and Assistant Professor
Department of Chemistry

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

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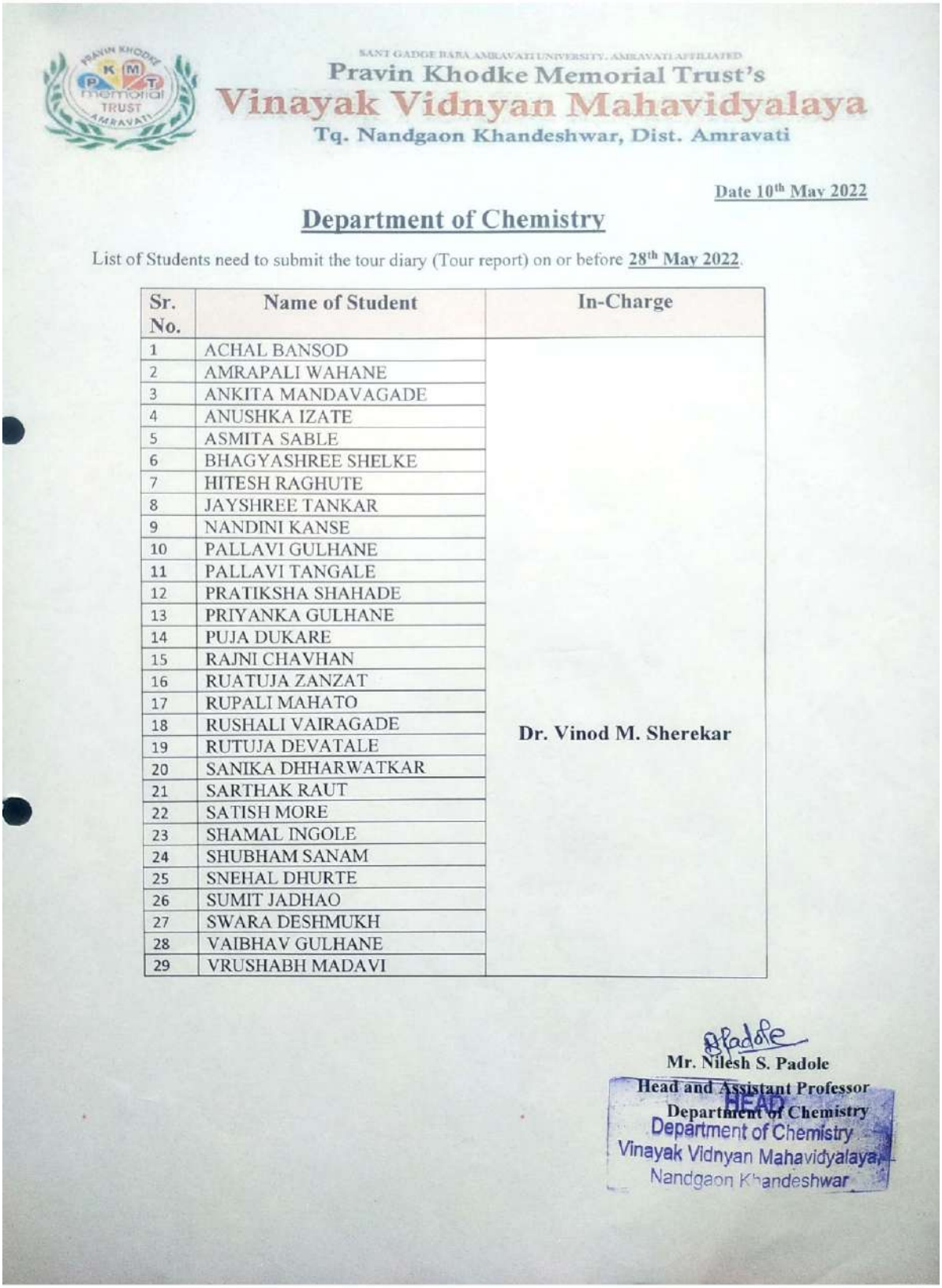

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI AFFILIATED

Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Date 10th May 2022

Department of Chemistry

List of Students need to submit the tour diary (Tour report) on or before 28th May 2022.

Sr. No.	Name of Student	In-Charge
1	ACHAL BANSOD	Dr. Vinod M. Sherekar
2	AMRAPALI WAHANE	
3	ANKITA MANDAVAGADE	
4	ANUSHKA IZATE	
5	ASMITA SABLE	
6	BHAGYASHREE SHELKE	
7	HITESH RAGHUTE	
8	JAYSHREE TANKAR	
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25	SNEHAL DHURTE	
26	SUMIT JADHAO	
27	SWARA DESHMUKH	
28	VAIBHAV GULHANE	
29	VRUSHABH MADAVI	

Mr. Nilesh S. Padole
Head and Assistant Professor
Department of Chemistry

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

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VINAYAK VIDNYAN MAHAVIDYALAYA, NANDGAON KHANDESHWAR.

DEPARTMENT OF CHEMISTRY

ACADEMIC SESSION

2021-2022 (Winter)

Project Submission

Name of the Student: Ku. punam Shalikram Banarse

Class: BSc IIIrd year (CBZ)

Project Topic: IOCL & BARC

Supervisor remark with sign and date:	22/01/22

Name of the supervisor: Dr. Kavita P. Kakade.

Date of submission of Project: 22nd January 2022

Head of Department
Mr. Nilesh S. Padole
HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

IOCL BARC

A) Indian Oil Corporation Limited [IOCL]

Bhabha Atomic Research Centre [BARC]

भाभा परमाणु अनुसंधान केंद्र

B) Establishment Information of Companies.

The Bhabha Atomic Research Centre [BARC] is India premier nuclear research facility, headquartered in the Trombay, Mumbai. Maharashtra. founded by Homi Jehangir Bhabha Atomic energy Establishment, Trombay (AEET) in January 1954 as a multidisciplinary research of the program. essential for India's nuclear program. It operates under the Department of Atomic Energy. [DAE]. The prime minister of India. In 1966 after the death of Mr. Bhabha, AEET was renamed as Bhabha Atomic Research Center. [BARC].

founded by Homi Jehangir Bhabha Atomic Energy Establishment, Trombay (AEET) in January 1954 as a mutidisciplinary research program essential for India's nuclear program.

Bhabha Atomic Research Centre.

formerly called :- Atomic Energy Establishment, Bombay

© Working Area of Companies

BARC' core mandate is to sustain peaceful application of nuclear energy. It manages all the facets of nuclear power generation, form the theoretical design of reactors to computer modeling and the Simulation. Risk analysis, development and testing of new reactor fuel, materials etc.

Industeries.

1) Nuclear Fuel Complex(NFC)
2) Heavy Water Board (HWB)
3) Uranium Corporation of India limited (UCIL)
4) Indian Rare Earths Limited (IREL)
5) Electronics Corporation of India Limited (ECIL)
6) Board of Radiation and Isotope Techology (BRIT)

D Goverening Agencies

Research Centre

Bhabha Atomic Research Centre (BARC)

- Indira Gandhi Centre for Atomic Research (IGCAR)
- Raja Ramanna Centre for Advanced Technology (RRCAT)
- Variable Energy Cyclotron Centre (VECC)
- Atomic Minerals Directorate for Exploration and Research (AMD)
- Global Centre for nuclear Energy partnership (GCNEP)

(E) Annual Turenover (Peofit) of Companies

Tuenover is the net Sales geneeated by a busines: while peofit is the eesidual eaenings of a business. The Tuenovees is youes total bussiness income the duning aset peeiod time. in other woed, the net Sale figuee peofit on the other hand. eefees to youe Eannings. Annual tuenovee is the peecentage eate of which Some things changs ownesship ovee the Counse of a yeaes. foe the eate could be eelated to is yeaely tuenovee in inventoeies, eeceivable, payble

D Vacancy of Post foe chemistey Subject.

M.S.C....All Candidates (othee than tose applying with a 5-yeaes intengeated M.S.C degeee). must additionally have a minimum of 60%* aggeegate maeks in B.S.C. Applicants opting to be Consideeed on the basic Gate Scoee should have a Valid Gate-2021 oe Gate-2022 Scoee is the chemistey Subject. B.S.C. pass Candidates aee not eligible foe BARC (Bhabha Atomic Reseeech Centee) Exam. if you pass M.S.C and quality Gate than you will be eligible foe the Bhabha Reseaech Centee


राष्ट्र की सेवा में परमाणु
भा प अ कें
BARC
ATOMS IN THE SERVICE OF THE NATION


इंडियनऑयल
IndianOil
Indian Oil Corporation Limited

(G) Recruitment process for chemistry Post.

Recruitment of Scientific / Technical officers (Scientists and Engineers) in BARC is either through training Schools programme of OCES / DGFS and Direct Recruitment either through A bachelor's degree in chemistry, chemical engineering or a related field is required to get entry level job as a process of chemist for higher position. Some Companies also prefer a post-graduation or doctoral degree in a chemistry.

(H) Salary Structure of chemistry post.

BARC OCES Salary

Pay Level	Pay Matrix - 7 (Rs. 56,100)
Basic pay	Rs. 56,100
Dearness Allowance, House Rent Allowance, and Transport Allowance, etc.	Rs. 39,000/- (approx.)
Total monthly Emolument (Expected)	Rs. 95,000

(I) Syllabus for your post (If available)

The Bhabha Atomic Research Centre (BARC) has released the BARC Syllbus 2021 for the Candidates who appeared for the post of the driver and Sub officers Can get their BARC Syllabus form the website given bellow. The BARC Syllabus 2021 for the exmination has released on the website mainted.

(J) Recruitment Month (If any)

The qualified Candidates will receive a One. Year training peogramme at BARC Training School moreover after being empolyed, the respective Candidate will be rewarded INR 67,700 - 56,10 /- per month which may vary.

(K) Website of Oeganization / Companies

Bhabha Atomic Research Centre (BARC)

- Website (http://W.W.Wbaec.gov.in)
- Webmastera@barc.gov.in.
- http://W.W.W.baeceeceuit.gov.in
- https://W.W.W.baecinelia.co.in
- https://i-eegistea.co.in>oeeg>decl
- https://W.W.W.neb.foemflix.com
- http://baec.gov.in>bmg

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VINAYAK VIDNYAN MAHAVIDYALAYA, NANDGAON KHANDESHWAR.

DEPARTMENT OF CHEMISTRY

ACADEMIC SESSION

2021-2022 (Winter)

Project Submission

Name of the Student: Vrushabh Vishnu Madavi

Class: BSc. Part IIIrd (PCM)

Project Topic: DRDO & DAE (Defence research & Development organisation) (Department of atomic energy)

Name of the supervisor: Dr. Nilesh S. Padole
Dr. Vinod M. shirsekar

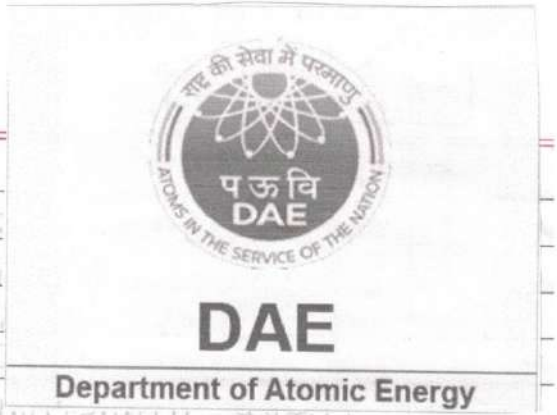
Supervisor remark with sign and date: 19/1/2022

Date of submission of Project: 22nd January 2022

Head of Department
Mr. Nilesh S. Padole
HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar

DAE

Full form of Company:
DAE - Department of Atomic energy.



Establishment information of company :-
[IAST : Paramany urja Vibhaga] is a department with headquarters in mumbai, maharashtra India DAE was establishment in 1954 by a Presidential order. DAE has been engaged in the development of nuclear Power technology applications of radiation technology in the field of agriculture, medicine, industry and basis research. DAE comprises give reasearch countre there industrial organisation give. Public sector undertakings and three service organisation. It has under its aegis two boards for promoting and funding external research in nuclear and allied fields mathematics and a national institude (deemed university).

It also supports eight institud of international repute engaged in research in basic sciences, astronomy, astrophysics, cancer research and eduation [The correct answer is Homisbbhy about Atomic energy commission of India.

Page No.
Date

* Working area of Company :-

DAE is a department with headquartes in mumbai, maharashtra, India DAE Comprises five research centers. , three industrial organisations, five Public Sector undertaking and mathematics with Industrial Experience for the past of Assistant of fiegs.

The requirtment cell is vested with the responsibility of making requirtment of Group 'A' scientific and technical pasts as requirtment to these posts is exampie form the Purview of UPSC. The requirtment to these posts is made by the method of direct requirtment or deputation or absorbtion as per the requirtment Rules for the relvent Posts

* Salary Structure for chemistry Post :-

The avarage salary for a chemical is ₹. 2.5 lakhs per year in India which is 8% more than the avarage salary of chemist at JSW steed which receive as ₹. 2.7 lakhs Per year.

Generally someone who has earned an MSc chemistry degree will took for field Job is Pharmaceatical Strims, hospitals medical schools, Private clinics research centers, etc, an avarage the salary.

Page No.
Date

received by postgraduated in chemistry ranges from INR 3 to 6 lakhs, The highest salary for a MSC Analytical chemistry in India is ₹ 53,270 per moths.

* Syllabus for your Posts :-
Department of atomic energy (DAE) officials has relesed the notifications to officials recruit the eligible condities for various DPS DAS Posts many condirate for various DPS DAS ~~Posts~~ Exam syllubus for group B Non-Gazetted. (Stenographer Grade II), Group C non-Gerate (Stenographer III) upper Division clerk, Junior Purchase Assistant (JPA/Junior storekepeer Posts) there service organisation

* Goverming Agencies :-
WDA, Jr. Purches Asst. Jr. store Keeper New Delhi Scientific officers.
DAE, Delhi,
Jr. Purches Asst. Jr. store Keeper,
Department of atomic energy Steno and Purchase Assistant.

Page No.
Date

* Annual turnover (Profit) of company :-
The avarage DAE seing authority Salary range from approximately ₹ 0.7 lakhs per year for a trains to ₹ 2.2 lakhs per year for a quality controller.
The avarage Department of Atomic Energy Salary range from approximently ₹ 2.3 lakhs per year for a Upper Division clerk to ₹ 16.5 lakhs per year for a Scientific officer.

* Vaccany of Post for chemistry subject :-
1) Research Associated Trains - Discovery chemistry [Hyderabad]
2) Assistant Professor - Department of chemistry ₹ 2,00,000 - 5,00,000.
3) Forenic expert :-
Chemical engineer Taxicologist, wast management Professional quality central chemist Pharmacologist food satiety Professional.

* Recuirtment Process for chemistry Post :-
Requirtment of Post Graduates in physics chemistry.

Page No.
Date

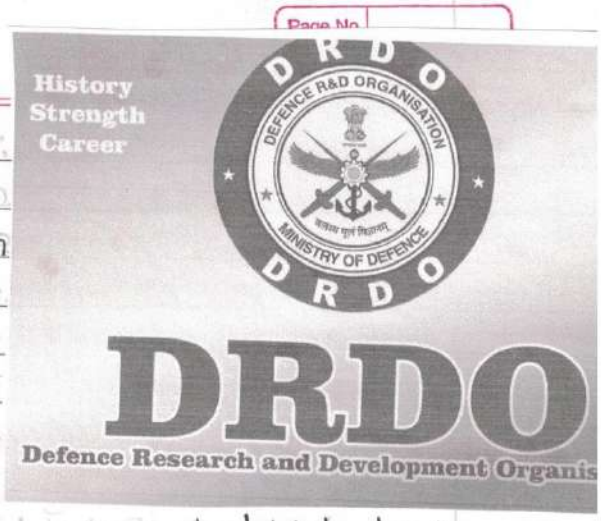
Requirtment month :-

Department of Atomic energy has announced a job. notification for the post of stenographer, clerk and other These are 74 vaccancies are to be filled for these posts. Interseted candidates who are all eligible for this post can apply on or before 27 December 2020 the age limit of the condidated should be is to 27 years.

DAE :- Variable Energy cyclotron centre Department of atomic Energy is the Premier R & D unit and it is one. of the institutions of Homi Bhabha National Institude the main Process of this institute is to development and research in the fields of technology nuclear Science and Accelerate Sciences.

* Website of organisiation /company :-

1) https://dae.gov.in
2) https://www.bore.gov.in
3) https://www.nfc.gov.in
4) https://www.zaubacorp.com.



DRDO

Full form of Company
DRDO - Defene Reasearch and Development organisation.

Establishment information of company :-

The DRDO was established in 1958 by amalgamating the technical development organisation and some of the. A separate Department of Defence Research and Development formed In 1980 which later on administered DRDO and its 50 laboratories establishments.

Parent agency : ministry of Defence
Headquattes : DRDO Bhavan New Delhi
Agency executive : Dr. G. Satheish Reddy

* Working area of company :

DRDO is India Largest research organisation It has a network of laboratories engaged in developing defence technologies covering various fields like eronauties armament electronics, land combat engineering life Science materials missiles naval system information system and agriculture.

Page No.
Date

* Vaccany of Post for chemistry Subject:-
1) Associate Defence ministry Jobs vaccancy in DRDO [Jadhpur Rajastan]
2) Recquritment in DRDO Project defence, laborter Jachpur for DRDO [Rajasthan]
3) DRDO recultment 2021 for JRF in Jodhpur DRDO [Jodhpur Rajstan]
4) Re Scientist 'B' DRDO [Delhi]

* Recuirtment Process for chemistry Post:-
Govt. DRDO RAC chemistry Recuitment RAC intities online application from graduate engine & Post graduates in science inecluding stadents who are appearing or have appered in their final year examination throught RAC website. https://rac.gov.in for reauirtment to the Post of Scientist 'B'

* Salary Structure for chemistry Post:
DRDO in level 10 [7th (Pc] of Pay matrix (RS. 56100 /-) in Specifid disciplines & categories total emoluments (inclusive of HRA & all other allowances at the time of joining with the approximately (RS 80,000/) pm at the Present metro city rate.
The DRDO salary is INR 2,25,000 per month the recuitment and Assessment centre (RAC) of DRDO oversees the recuitments of DRDO employes.

* Syllabus for your Post :-
Carbon and its compounds fuels Atomic Structure chemical bonding Behaviour of Gases metals and non-metals chemical reactions Radioactively Acids Base & Salts catalyst Hydro carbon concepts of PH scale. metallurgy DRDO Syllubus As A post is divided into Quantitative ability aptitude general intelligence & general awarness general science arithmatic ability Hindi or English language.

* Recruitment Month :- January of february are two of the best months to look for long from full time jobs since these are the months most companies receive update budgets & Salts forcasts Executives have a better idea of the they need & ~~another~~ they another they can afford to hire new team member which leads career advisors to consider these the top months for hiring.

* website of organisations/ Company.
1) https://www.drdo.gov.in
2) https://in.linkedin.com
3) www.drdo.gov.in.recruitment
4) https://drdo.org.

PRAVIN KHODKE MEMORIAL TRUST'S,

VINAYAK VIDNYAN MAHAVIDYALAYA, NANDGAON KHANDESHWAR.

DEPARTMENT OF CHEMISTRY

ACADEMIC SESSION

2021-2022 (Summer)

Project Submission

Name of the Student : Ku. Vaishnavi S. Khope

Class : B.Sc. IIIrd (Sem- VIth)

Project Topic : Chemistry of Metal Complexes Present In Leaving Being.

Name of the supervisor :

Supervisor remark with sign and date:	19/02/22

Date of submission of Project : 22nd January 2022

Head of Department

MR. NILESH S. PADOLE

HEAD
Department of Chemistry
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Kh. Khandeshwar

metal complexes are important in the catalysis, materials. synthesis, photo chemiste and biological system. medicinal inorganic chemistry can expoit the unique propeties of metal ions for the design of the new drug.

The used of metals and their salt of medicinal proposes. has been the present throughout history.

metal complexes are also knows as the coordination complexed are molecules that contain groups arranged around a central metal ion. In a way, these are like a 'lego' molecule" easily assembled from smaller part and sometimes they are easily transformed into new molecules by switching out old for new ones.

therapy in the treatment of metal Intoxication presents a practical guide to use of chelation therapy. from its basic chemistry to available chelating agents.

Several metals have long been known to be toxic to humans, and continue to pose great difficulty to treat. The challenges pose particular problem in industrial setting with lead smelting known to be associated with homopoietic alterations and paralyse and the inhalation of mercury

Enviromental implications of metal mobility in marine sediments receiving input from a torrent affected by mine discharge.

As the most abundant transition metal in the human body ions performs many important function it is primirily involved in tha transfer of oxygen from lungs to tissue by forming.

Application of metal complexes are important in catalysis, materials synthesis photochemistry and biological system. medicinal inorganic chemistry can be exploit the unique propeeties of metal ions. Transition metal complexes or the co-ordination complexes are molecular chain molecules that contain groups arranged around a central metal ions. In a way these are like molecules. The transition metal are useful in the industrial application.

1. They are good conductor of head and electricity
2. They can be Hammered or bent into shape easily
3. They have high metting point
4. They are usually Hard and tough.

In other words, thermodynamic stability of complexes is the measure of tendancy of a metal ion to the Selectively form a specific metal. Complex and is directly related to metal - ligand bond energies. The Thermodynamic Stability of complexes is represented by formation constant.. many coordating complexes have been used in medicine containing metal Such as platinum (cisplatin as the anticancer chemotherapy drug) gold as Auranofin used for rheumatoid arthritis) technetium are rhenium as Radiotherapy ruthenium (as anticancer deug) gadalinum cobalt.

metal are essential cellular Components selected by nature to the function in several indispensable Biochemical process for living organisms. Used is biological systems. TC (TU) complexes are used in the Heart imaginary process.

A metal complexes consist of a central metal ions that is bonded to one or more ligand which ions or molecules that contain one or more pair of electrons that can be share with the metal.

metal ions can be Neutral, positively charged or Negatively charged.
Example of metals used in treatment include. platinum platinum based Compounds have been shows to the specifically effect head and neck tumors. thes co-ordination Complexes are throught to act to cross-link DNA in tumor cells.
The polymetallic complexes two or more metal atoms combine with organic molecules into larger Complicated molecular Structure
Types of coordination Complexes

- Cationic Complexes In the co-ordination Sphere is a cation.
- Anionic Complexes in this co-ordination Sphere is Neither cation or Anions.
- Homolephic Complex In this co-ordination The Complex consist of a similar type of ligands.
- Neutral complexes In this co-ordination sphere is neither cation or Anion

In other words, thermodynamics Stability of complexes in the measure of tendancy of a metal ions to selectively form the metal ions. and directly Related to the metal - ligand bond energies.

metal complexes have become an emerging tool in drug discovery being widely Used in therapeutic compounds to treat several human diesease such as carninomas, lymphomas infection control diabetes anti-inflammatory and neurological disorder.

Six coordinate complexes.

They have been particularly important in the history of the development of coordination chemistry complexes can be divided broadly into three classes depending the types of Acceptor substance

1. metal ions complexes
2. Oeganic molecular complexes.
3. Inclusion Complexes.

A complex is a molecular entity formed by loose association involving two or more component molecular chemical species. The bonding between the complexes

Component is Normally weaked that in a covalent bond.

The Normally the complex ions.

① Name the ligands first, in Alphabetical order, then the metal atom or ions.

② The name of same common ligands are listen

③ Greek pefixes are used to designate the number of each type of ligands.

Kinetic Stability is related to reactivity of metal complexes in solutions and deals with the rate of the Reactions. its activation energy etc, Kinetic Stability is also Related to how fast a compound reacts rather- How Stable it is.

Chelate Complexes are more stable than the analogous complexes with monodenate ligands.

A complex ion form a metal ion and a ligand because of a lewis acid and the ligand with on of more lone pair of electrons.

A complex compound can be described as a class of substance with a chemical structure where the central atom is a metal and it is surrounded by non-metal ions or group of atoms.
Example of complex compound include potassium ferrocyanid $K_4[Fe(CN)_6]$ and potassium ferricyanida.

Steuture of Boinding
metal - ligand complexes span a range of co-ordination geometries that give a them unique shapes compared to organic molecule. The bond length bond angles and Number of ordingings site can vary dependings. on the metal ions its oxidation states.

Page No:
Date.

Kinetic Aspects of Metal Complexes.

> Thermodynamic and kinetic stability of The Complexes :

Stability is a term which is often Used rather losely and is open to a variety of interpretations. when the term stability is used without the qualifications, it means that the Complex exist and under suitable conditions it may be stored for a long time. This ter cannot be generalized for complexes.

The stability of complexes in Solution's can be explained by two Stability terms. These are.

1) Thermodynamic stability
2) Kinetic Stability

> Thermodynamic stability

It is a measure of the extent formation a transformation of a complex ion to another under a given set of condition at equilibrium. It depends upon the strengh of the linkage between the metal and ligands in the complex

Stronger the m-L bond, higher will be the thermodynamic Stability of a Complex. It can also be interpreted as the amount of association between metal 'm' and ligand 'L' In the formation of coordination Compound.

$$m + nl \rightleftharpoons mLn$$

where "nl" is the number of ligands coordinating with the metal atom or ion. Qualitatively the greater the degree of association, more stable the resultant compound.

The Stability of co-ordination Compound is usually characterized by the equilibrium constants for the association reaction, is a measure of a stability of the complex and is usually refered to as the stability constant Similarly, The equilibrium constant for the dissociation reaction is known as the instability constant and is the related to the Stability constant as its reciprocal.

For Example

The equilibrium (K_1) for the dissociation Reaction of complex ions are –

$$[Cd(NH_3)_4]^{2+} \rightleftharpoons Cd^{2+} + 4NH_3$$

$$K_1 = \frac{[Cd^{2+}][NH_3]^4}{[Cd(NH_3)_4^{2+}]} = 2.5 \times 10^{-7}$$

$$K_1 = \frac{[Ag^+][NH_3]^2}{[Ag(NH_2)]} = 6.0 \times 10^{-8}$$

The K_1 value of $(AgNH_3)^+$ complex ion is smaller than $[Cd(NH_3)_4]^{2+}$ complex ions so, that is more stable than that the former one.

Since the stability and the in stability constant are convenient Related to the change in enthalpy (Δ) and change in entropy (ΔS) the veeey ideal of stability of Coordination. Compound is essential a thermodynamic one.

KINETIC

Stability :-

In refers to the rate or speed at which the formation of the dissociation of complex species leading to the attainment of the equilibrium will take place.

When we are interested instuding kinetic stability of complex ions in the solution we deal eith the rates and mechanism of a chemical Reactions such as substitution isomerization. Vaeiable recemization and the electron or group transfer reactions. as well as the thermodynamic vaeiables involved in the foemation of intermediate species or activated Complexesin the kinetic sence it is more proper to call the complex inert or labile Rather than Stable or unstable Complexes.

Transfee of Reactions as well as the thermodynamic variables.

Factors affecting Stability of a Complex.

Due to wide range of value of Stability constant for different complex no. single factor is a expected to account for the relatives Stabilities of coordination compound they are affected by many physical and chemical factor.

NAAC CRITERION - I

PROJECT WORK

PHYSICS

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI AFFILIATED

Pravin Khodke Memorial Trust Amravati's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

DEPARTMENT OF PHYSICS

PROJECT SUBMISSION SHEET

(Academic Year 2021-2022)

List of B.Sc. Physics IInd year IIIrd semester

Sr. No.	Student Name	Topic	Signature	Remark
1	Achal Ramdas Bijave	Design & Fabrication of 5V DC Power supply using Ware Bridge Rectifier		Submitted
2	Adarsha Nivrutti Gavner	Demostrate newton Second Law		"
3	Adiba Saman Anees Khan	Design and Fabrication of 5V DC power supply using full Wave Bridge rectifier		"
4	Aditya Anil Deshmukh	Design & Fabrication of 5V DC power		"
5	Akansha Kashinath Raut	Properties of step down transformer		"
6	Aman Murlidhar Gawaner	To study the viscocity of water		"
7	Aman Pradiprao Kakade	To study the viscosity of water		"
8	Ambika Narhari Chavhan	Demoshate newton second law		"
9	Anuja Ajay Tayade	Demostrate newton second law		"
10	Chaitali Sanjay Dok	Demonstrate newton's second		"
11	Chanchal Kishor Gajbhiye	To construct a model to demonstrate		"
12	Damini Vilasrao Dhage	To construct a model to demonstrate		"
13	Dattatrya Onkar Giri	Developing the model to study		"
14	Durgesh Dhanjay Mendhe	Developing the model to study		"
15	Gayatri Avinash Solanke	Developing the model to study		"
16	Jay Shamrao Gawande	To construct a model to demonstrate		"
17	Kalyani Narhari Wakode	To show unidirectional flow		"
18	Kiran Arun Kambale	To show unidirectional flow		"
19	Mamta Sanjay Meshram	To show unidirectional action		"
20	Manish Kishor Tarhekar	Developing the model to study		"
21	Mayur Manish Tayade	Developing the model to		"
22	Mo Abuzar Mo Iliyas Shaikh	To make nor Gate with the com-		"
23	Mo Sajid Hamid Makrani	Demostrate newton second law		"
24	Parivartan Arun Tayade	To calculate the surface		"
25	Poornima Ganesh Raut	Design and fabrication of 5V DC Supply using full wave bridge rectifier		"
26	Pranav Kishorrao Shelke	Design and fabrication of 5V DC supply		"
27	Prathmesh Dadarao Hambarde	To study the resistance of various		"
28	Prathmesh Suresh Inzalkar	To calculate the surface tension		"
29	Reshma Arunrao Margade	To study the Resistance of various		"
30	Ritesh Motiram Ghoddeswar	To make nor gate combination		"

31	Ritu Devnarayan Chaudhari	To study the Resistance of various	RituD.chaudhari	Submitted
32	Rohit Madan Bodhankar	To construct an amplifier using an	Bodhankar	"
33	Roshan Ashok Bharaskar	To study the Resistance of various	RBharaskar	"
34	Roshan Rameshwar Kalalkar	To make nor gate with ic chip	Rkalalkar	"
35	Rutik Tryambakrao Jawalkar	To construct an amplifier using an	RTJawalkar	"
36	Rutuja Sudhirrao Gulhane	To construct a water level controller using Ic-555	RSGulhane	"
37	Sahil Vikas Raut	To construct water level controller using IC-555	SRaut	"
38	Sakshi Mahendra Dukare	To study concept of Reflection	SMDukare	"
39	Sakshi Subhashrao Herode	To study concept of Refle	S.shenk	"
40	Sakshi Vilas Dhawale	To calculate the specific Heat Capacity of oil, water, & engine oil.	SVDhawale	"
41	Sarvesh Dharmednra Virulkar	To study the resistance of various water	SDVirulkar	"
42	Sayali Pramod Gawande	To study of Resistance of mat	S.P.Gawande	"
43	Sharddha Vijay Raut	to study of Resistance of materials	SRaut	"
44	Shoeb Ahmad Noor	To Study the properties of stepdown	SNoor	"
45	Shreya Pramodrao Chore	The effection pressure of water	S.P.Chore	"
46	Shreyash Ramesh Kapse	To Make nor gate with the ic.	RKapse	"
47	Talib Farooq Ramlani	To make nor gate combination	TaliR	"
48	Vaishnavi Gajanan Deulkar	The effect on pressure of water	VGDeulkar	"
49	Vaishnavi Ravindra Gatule	The effect on Pressure of water	VRGatule	"
50	Vevekanand Anil Pawar	To study properties of stepdown	V.A.Pawar	"
51	Yash Pramod More	(1)Design & fabrication of 12 V DC power	YPMore	"
52	Yash Shyamkant Pawar	To study properties of Stepdown transformer	YSPawar	"

List of B.Sc. Physics IIIrd year Vth semester

Sr. No.	Student Name	Topic	Signature	Remark
1	Abhijeet Gajanan Rithe	Anamse the different heatreate	ARithe	Submitted
2	Akash Shivshankarji Bhavare	Anqlyse the different heatreate	ASBhavare	"
3	Anand Bhaurao Nanhe	Anay's the differen heat	ABNanhe	"
4	Arpita Anilrao Bhoyar	Comparing the strength of gold wood with that of pigwood	ABhoyar	"
5	Atul Parshram Bhosale	cyclofon.	APBhosale	"
6	Bhushan Gajanan Ombase	Conversion: How does the temperature affect the movement of water	BGombase	"
7	Harshad Homdev Ghate	wild mill	HGhate	"
8	Hitesh Vijay Raghute	wind mill	HVRaghute	"
9	Leena Shankar Gondane	Cyclotoon cun on	LSGondane	"
10	Lokesh Dipak Marotkar	Effect of temperature on magnet	LDMarotkar	"
11	Mohammad Anwar Mohd Asrar	effect of temp an Magnetic	MAMAnwar	"
12	Namrata Mulchand Raut	Effect of temperature on magnet	NMRaut	"
13	Nandini Ravindra Kanse	To assemble a household circuit comprising three bulbs, a fuse & a	NRKanse	"
14	Om Pramodrao Ingole	Lesers		"
15	Payal Vyankatesh Bhasme	Laser	PBhasme	"
16	Pranav Dinkar Gulhane	To construct logic gate NAND	PDGulhane	"
17	Prathmesh Ganesh Gawner	Potting graph to potentional differ	PGawner	"
18	Pratik Nandkishor Kaje	To construct logic gates using NAND gate	PNKaje	"
19	Prayas Shankar Dubey	To determine the viscosity of neat oil of Soyabean oil by capillary tube method	PSDubey	"
20	Puja Subhashrao Dukare	Diffraction of light	PSDukare	"

12	Namrata Mulchand Raut	Effect of temperature on magnet	Dr. A. S. Wadatkar
13	Nandini Ravindra Kanse	Laser	Dr. P.B. Kharat
14	Om Pramodrao Ingole	Laser	Dr. P.B. Kharat
15	Payal Vyankatesh Bhasme	Laser	Dr. PB Kharat
16	Pranav Dinkar Gulhane	To construct logic gates NAND gate	P. B. Kharat
17	Prathmesh Ganesh Gawner	to determine the resistance per cm plotting graph by potentiometer	Dr. P.B. Kharat
18	Pratik Nandkishor Kaje	To construct logic gates using NAND gate	Dr. PB Kharat
19	Prayas Shankar Dubey	To determine the viscosity of water, oil & soyabean oil by capillary rise method	Dr. P.B Kharat
20	Puja Subhashrao Dukare	to determine the viscosity of water oil and soyabean oil by capillary rise method	Dr. P. B. Kharat
21	Roshan Namdeo Rathod	To determine the viscosity of water oil and soyabean oil by capillary rise method	Dr. P. B Kharat
22	Rutuja Bharat Devtale	laser	Dr. P. B. Kharat
23	Rutuja Mangesh Gulhane	laser	Dr. P. B. Kharat
24	Sakshi Devidas Ambulkar	laser	Dr. P. B. Kharat
25	Sakshi Kiranrao Gulhane	find focal length of convex mirror using convex lens	Dr. P. B. Kharat
26	Saurabh Govindrao Bhadke	To find the focal length of a	Dr. P. B. Kharat
27	Saurabh Laxmanrao Satpaise	concave mirror using convex lens	Dr. P. B Kharat
28	Shraddha Rajendra Raut	The verification of the archimedes principle	Mr. A. V. Ambhore
29	Shubham Arjun Rathod	The verification of the Archimedes principle	Mr. A. V. Ambhore
30	Shubham Ramesrao Gulhane	The verification of the archimedes principle	Mr. A. V. Ambhore
31	Shweta Pandurang Charpe	To construct an Amplifier using an IC-741 with gain 3	Mr. A.V. Ambore
32	Sneha Gajanan Sagale	To construct an Amplifier using an IC-741 with gain 3	Mr. A.V. Ambore
33	Sneha Rajkumar Vanjari	To construct an Amplifier using an IC-741 with gain 3	Mr. A.V. Ambore
34	Swara Narendra Deshmukh	To construct a water level controller IC-555	Mr. A.V. Ambore
35	Tejaswini Shrikrushna Gadhekar	To construct a water level controller IC-555	Mr. A. V Ambhore
36	Vaibhav Shrikrushna Gulhane	To construct a water level controller	Mr. A.V. Ambhore
37	Vaishnavi Santosh Raut	Electric motor	A.V. Ambhore
38	Vrushbh Vishnu Madavi	Electric motor	A. V. Ambhore

Students must complete the project and submit the project report in the due period as per the above-assigned topics in the Department of Physics to the concerned teacher.

Faculty members

Dr. Anant S. Wadatkar — Dr. Anant S. Wadatkar, Assistant Professor and Head, Department of Physics, Vinayak Vidnyan Mahavidyalaya, Nandgaon (Kh.), Dist.Amravati

Dr. Prashant B. Kharat — Dr. PRASHANT B. KHARAT, Assistant Professor, Department of Physics, Vinayak Vidnyan Mahavidyalaya, Nandgaon Khandeshwar, Amravati

Mr. Ajay V. Ambhore

Date: **Friday, 8th October 2021**

Place: **Nandgaon Khandeshwar, Dist. Amravati.**

Head

Department of Physics

Dr. Anant S. Wadatkar, Assistant Professor and Head, Department of Physics, Vinayak Vidnyan Mahavidyalaya, Nandgaon (Kh.), Dist.Amravati

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Tq. Nandgaon Khandeshwar, Dist. Amravati

DEPARTMENT OF PHYSICS

NOTICE

All the students of B.Sc. Physics IInd year IIIrd semester and IIIrd year Vth semester in the academic year 2021-2022 are hereby informed that students must complete the project, prepare a project report with the help of the concerned teacher mentioned in the table below, and submit it before Monday, 10th January 2022 on the topic assigned in the table below,

List of B.Sc. Physics IInd year IIIrd semester

Sr. No.	Student Name	Topic	Name of Guide
1	Achal Ramdas Bijave	Design & Fabrication of 5V DC supply using full Wave Bridge Rectifier	Dr A.S. Wadatkar
2	Adarsha Nivrutti Gavner	Demostrate Netwon second law	Dr.A.S Wadatkar.
3	Adiba Saman Anees Khan	Design & Fabrication of 5V DC power supply using full wave Bridge rectifier	Dr.A.S.Wadatkar
4	Aditya Anil Deshmukh	Design & Fabrication of 5 V DC power	Dr. A.S. Wadatkar
5	Akansha Kashinath Raut	Properties of step down transformer	Dr.A.S.Wadatkar
6	Aman Murlidhar Gawaner	TO study the viscority of water	Dr.A.S. Wadatkar
7	Aman Pradiprao Kakade	To study the viscosity of water	Dr.A.S.Wadatkar.
8	Ambika Narhari Chavhan	Demoshate Newton second law	Dr. P.B. Kharat
9	Anuja Ajay Tayade	Demostrate Newton second law	Dr.P.B.Kharat
10	Chaitali Sanjay Dok	Demonsteate Newton's second	Dr.P.B.Kharat
11	Chanchal Kishor Gajbhiye	Toconstruct modeltodemonstrate	Mr A.V Ambhore
12	Damini Vilasrao Dhage	To construct a model to demonstrate Newton's	Mr. A.V. Ambhore.
13	Dattatrya Onkar Giri	todevelpign modeal to	A.V. Ambhore
14	Durgesh Dhanjay Mendhe	To developing model to.	A.V. Ambhore
15	Gayatri Avinash Solanke	TO Developing the model to	Mr. A.V. Ambhore
16	Jay Shamrao Gawande	To Construct a model to demonstrate Newton's	Mr. A.V. Ambhore.
17	Kalyani Narhari Wakode	TO study the viscosity of water	Dr.A.S. Wadatkar
18	Kiran Arun Kambale	To study the viscosity of wate	Dr.S.Wadatkar
19	Mamta Sanjay Meshram	To study the viscosity of water	(Mamta)
20	Manish Kishor Tarhekar	To Diveloping the model to	Dr. P.B. Kharat
21	Mayur Manish Tayade	TO Diveloping the model to	Dr. P.B. Kharat
22	Mo Abuzar Mo Iliyas Shaikh	To make nor gate with the combo	DR.PB Kharat
23	Mo Sajid Hamid Makrani	Demostrate nekolon Second Law	DR. P. B. Kharat
24	Parivartan Arun Tayade	To calculate the surface	Dr.P.B.Kharat
25	Poornima Ganesh Raut	Designe and fabrication of 5V DC power supply using full wave bridge rectifier	Dr P.B Kharat

26	Pranav Kishorrao Shelke	design and supply using dissertation of gvDC	Dr. P.B. Kharat
27	Prathmesh Dadarao Hambarde	To study the resistance of various	Dr. P. B. Kharat
28	Prathmesh Suresh Inzalkar	To calculate the surface tension of ...	[illegible]
29	Reshma Arunrao Margade	To study the Resistance of various	Dr. P. B. Kharat.
30	Ritesh Motiram Ghoddeswar	To make nor gate with the combination	Dr. P. B. Kharat
31	Ritu Devnarayan Chaudhari	To study the Resistance of Various	Dr. P. B. Kharat
32	Rohit Madan Bodhankar	To construct an amplifier using an	Mr. A.V Ambhore
33	Roshan Ashok Bharaskar	To study the Resistance of various	Dr. P.B. Kharat
34	Roshan Rameshwar Kalalkar	To make nor gate with the combin..	Dr. P. B Kharat
35	Rutik Tryambakrao Jawalkar	To construct an amplifier using an	Dr. P. B. Kharat
36	Rutuja Sudhirrao Gulhane	To construct a water level controll using IC-555	Dr. A.S. Wadatkar
37	Sahil Vikas Raut	To construct water level controller using IC-555	Dr. A.S Wadatkar
38	Sakshi Mahendra Dukare	To study concept of Reflection (concave)	Dr. A.S. Wadatkar
39	Sakshi Subhashrao Herode	To study concept of Reflection	Dr. A.S. Wadatkar
40	Sakshi Vilas Dhawale	To calculate the Specific Heat capacity of water, oil & engine oil	Dr. P.B Kharat
41	Sarvesh Dharmednra Virulkar	To study of resistance of various material	Dr. P. B. Kharat
42	Sayali Pramod Gawande	to study of Resistance of various mate	P.B Kharat
43	Sharddha Vijay Raut	to study of Resistance of various material	P. B Kharat
44	Shoeb Ahmad Noor	To study properties of step down	P. B. Kharat
45	Shreya Pramodrao Chore	The effect of Pressure on water	Mr. A. V. Ambhore
46	Shreyash Ramesh Kapse	To make nor gate with the combin	P. B. Kharat
47	Talib Farooq Ramlani	To make nor gate with the comb^n	P. B. Kharat
48	Vaishnavi Gajanan Deulkar	The effect of pressure on water	Mr. A.V. Ambhore
49	Vaishnavi Ravindra Gatule	The effect of Pressure on water	Mr. A.V. Ambhore
50	Vevekanand Anil Pawar	To study properties of stepdown	Dr. A.S. Wadatkar
51	Yash Pramod More	Design & fabrication of 12V DC power	Dr. A.S. Wadatkar
52	Yash Shyamkant Pawar	To study properties of step down transformer	Dr. A.S Wadatkar

List of B.Sc. Physics IIIrd year Vth semester

Sr. No.	Student Name	Topic	Name of Guide
1	Abhijeet Gajanan Rithe	Analyse the different heat retent	Dr. A.S. Wadatkar
2	Akash Shivshankarji Bhavare	Analyse the different heat retention capabilities of straw	Dr. A.S. Wadatkar
3	Anand Bhaurao Nanhe	Analyse the different heat reten	Dr. A.S. Wadatkar.
4	Arpita Anilrao Bhoyar	comparing the strength of solid wood with that of plywood	Dr. A.S. Wadatkar
5	Atul Parshram Bhosale	Effect of temp. on management	Dr. A.S. Wadatkar.
6	Bhushan Gajanan Ombase	convection: how does temperature affect the movement of water	Dr. A.S. Wadatkar
7	Harshad Homdev Ghate	wild mill	Dr. A.S Wadatkar.
8	Hitesh Vijay Raghute	wind mill	Dr. A.S. Wadatkar
9	Leena Shankar Gondane	Cycloton	Dr. A.S. Wadatkar
10	Lokesh Dipak Marotkar	Effect of temperature on magnetic	Dr. A.S. Wadatkar
11	Mohammad Anwar Mohd Asrar	Effect of the temp on mangnetic	mo. Anwar

21	Roshan Namdeo Rathod	Diffraction of light	Rsrathod	Submitted
22	Rutuja Bharat Devtale	laser	Devtale	"
23	Rutuja Mangesh Gulhane	laser	Gulhane	"
24	Sakshi Devidas Ambulkar	laser	Ambulkar	"
25	Sakshi Kiranrao Gulhane	find focal length of convex mirror	S.Gulhane	"
26	Saurabh Govindrao Bhadke	To find the focal length of convex lens	S.G.Bhadke	"
27	Saurabh Laxmanrao Satpaise	To find the focal length of convex mirror	Satpaise	"
28	Shraddha Rajendra Raut	verification of the archimedes principle.	S.R.Raut.	"
29	Shubham Arjun Rathod	verification of the Archimedes principle	Sathod	"
30	Shubham Ramesrao Gulhane	verification of the Archimedes principle	SRGulhane	"
31	Shweta Pandurang Charpe	To construct an Amplifier using an IC 741 with gain 3	Shweta	"
32	Sneha Gajanan Sagale	To construct an Amplifier using an IC 741 with gain 3	Sagale	"
33	Sneha Rajkumar Vanjari	To construct an amplifier using an IC 741 with gain 3	Vanjari	"
34	Swara Narendra Deshmukh	Construct a water level controller 555	Deshmukh	"
35	Tejaswini Shrikrushna Gadhekar	construct water level controller	T.S.Gadhekar	"
36	Vaibhav Shrikrushna Gulhane	Construct a water level controller 555	Gulhane.	"
37	Vaishnavi Santosh Raut	Electric motor	Raut.	"
38	Vrushbh Vishnu Madavi	Electric motor.	Vrushbh	"

Faculty members

Dr. Anant S. Wadatkar
Dr. Anant S. Wadatkar
Assistant Professor and Head
Department of Physics
Vinayak Vidnyan Mahavidyalaya
Nandgaon (Kh.), Dist.Amravati

Dr. Prashant B. Kharat
Dr. PRASHANT B. KHARAT
Assistant Professor
Department of Physics
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar, Amravati

Mr. Ajay V. Ambhore

Date: **Monday, 10th January 2022**

Place: **Nandgaon Khandeshwar, Dist. Amravati.**

Head
Department of Physics
Dr. Anant S. Wadatkar
Assistant Professor and Head
Department of Physics
Vinayak Vidnyan Mahavidyalaya
Nandgaon (Kh.), Dist.Amravati

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI AFFILIATED

Pravin Khodke Memorial Trust Amravati's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

DEPARTMENT OF PHYSICS

PROJECT SUBMISSION SHEET

(Academic Year 2020-2021)

List of B.Sc. Physics IInd year IVth semester

Sr. No.	Student Name	Topic	Signature	Name of Guide
1	Abhijeet Gajanan Rithe	A comparision of thermal insulation	[illegible]	Dr. S Wadatkar
2	Akash Shivshankarji Bhavare	A comparision of thermal insulati	[illegible]	Dr. S Wadatkar
3	Arpita Anilrao Bhoyar	How does temp. affect the movement of water.	ABhoyar	
4	Atul Parshram Bhosale	How does temp effect the movement of water	Bhosale	Dr. A. S. Wadatkar
5	Bhushan Gajanan Ombase	Convection: How does the movement of water	BGombase	Dr. A. S. Wadatkar
6	Harshad Homdev Ghate	wind mill	Ghate.	
7	Leena Shankar Gondane	Wind Mill	[illegible]	
8	Lokesh Dipak Marotkar	Effect of extreme temperature on life battery life	[illegible]	DR. A.S. Wadatkar
9	Mohd Anwar Mohd Asrar	Effect of extreme temperature on life battery life	MoAnwar	Dr. A.S Wadatkar
10	Namrata Mulchand Raut	Effect of extreme temperature on life battery life	NMRaut	Dr. A.S Wadatkar
11	Nandini Ravindra Kanse	To build a flashlight using emitting Diodes LED	NRKanse	Dr. P.B. Kharat.
12	Om Pramodrao Ingole	To assemble householding circuit comprising	OIngole.	Dr P.B. Kharat.
13	Payal Vyankatesh Bhasme	To assemble householding circuit comprising	Bhasme	Dr. P.B. Kharat.
14	Prathmesh Ganesh Gawner	polting graph potential	PGawner	Dr. P.B Kharat
15	Pratik Nandkishor Kaje	To construct logic gate using NAND gate	PNKaje	Dr. PB Kharat
16	Prayas Shankar Dubey	To determine the density of water, oil & soyabean oil by capillary rise method	[illegible]	DR. P.B. Kharat.
17	Puja Subhashrao Dukare	to determine the specific heat of water oil and soyabean oil by capilary rise method	PSDukare	DR. P.B Kharat
18	Rutuja Bharat Devtale	PN-junction Diode	RBevtale	DR. P.B. Kharat
19	Rutuja Mangesh Gulhane	PN-junction Diode		
20	Sakshi Devidas Ambulkar	PN-junction Diode	Ambulkar	
21	Sakshi Kiranrao Gulhane	To find focal length of convex lens by plotting graph	Gulhane	DR. P.B. Kharat
22	Saurabh Govindrao Bhadke	To find focal length of convex lens by plotting graph	S.G.Bhad	DR. P.B Kharat
23	Saurabh Laxmanrao Satpaise	To find focal length of concave lens using convex lens	[illegible]	Dr. P.B Kharat.
24	Shubham Ramesrao Gulhane	the variation in potential drop with length of a wire for a steady	SRGulhane	Mr. A.B. Ambhore
25	Shweta Pandurang Charpe	Superconductivity	Shweta	A.V Ambhore
26	Sneha Gajanan Sagale	superconductivity	Sagale	A.V. Ambhore
27	Sneha Rajkumar Vanjari	superconductivity	Vanjari	A.V. Ambhore
28	Swara Narendra Deshmukh	Rectifire	Deshmukh	A.V. Ambhore

29	Tejaswini Shrikrushna Gadhekar	Rectifiee	Gadhekar	A.V. Ambhore
30	Vaibhav Shrikrushna Gulhane	Rectifiee	Gulhane.	A.V. Ambhore
31	Vaishnavi Santosh Raut	Total Internal Reflection	Raut	A.V Ambhore
32	Vrushbh Vishnu Madavi	Total Internal Reflection	Vrushbh	A.V. Ambhore

List of B.Sc. Physics IIIrd year VIth semester

Sr. No.	Student Name	Topic	Siganture	Name of Guide
1	Achal Anilrao Tayade	Comparing the fabric type	Tayade	Dr. A.S. Wadatkar
2	Akash Vasantrao Itankar	Comparing the fabric type	Itankar	Dr. A.S Wadatkar
3	Amar Dhanraj Bhagat	Surface factial.	Bhagat	Dr. A.S Wadatkar
4	Ankit Dilip Gadling	Construction g model magnet	Gadling	Dr. A.S Wadatkar
5	Ankush Rameshwar Gulhane	Construction g model	A.R. Gulhane	Dr. A.S Wadatkar
6	Arpit Ratnakar Belsare	effect of temperature	Belsare	Dr. A.S Wadatkar
7	Chiranjivi Anil Burghate	Convection Flow.	C.A Burghate	Dr. A.S Wadatkar
8	Gaurav Dilip Gulhane	wind mill	G.D Gulhane	Dr. A.S Wadatkar
9	Hariom Devrao Metkar	fuel wave bridge rechargeable	Metkar	Dr. A.S Wadatkar
10	Hrushikesh Sanjay Timane	To determine celso	H.S Timane	Dr. A.S Wadatkar
11	Jijaee Sunilrao Dahake	To determine colour depth	J.S. Dahake	Dr. A.S Wadatkar
12	Kapil Pradip Kadam	To built Flow light a LED	K.P. Kadam	Dr. A.S Wadatkar
13	Nikhil Suresh Mugal	To built Flood light LED	Nikil	Dr. A.S Wadatkar
14	Parikshit Aniruddha More	Diffly graph	P. more	Dr. A.S Wadatkar
15	Parvez Ahmed Hussen	plotty graph	P.A. Hussen	Dr. A.S Wadatkar
16	Pragati Prakashrao Velukar	1043 G GATES	P.P. Velukar	Dr. P.B Kharat
17	Prathamesh Onkarrao Masotkar	Viscosty Dr. g mahes	P. Masotkar	Dr. P.B Kharat
18	Pratiksha Ganesh Tiwade	Specific heat of Gales.	P.T. Tiwade	Dr. P.B Kharat
19	Pratiksha Raju Shinde	thin film.	PR. Shinde	Dr. P.B Kharat
20	Pratiksha Sunilrao Bankar	thin film.	P.S. Bankar	Dr. P.B Kharat
21	Rohini Ajay Kene	thin film.	R.A. Kene	Dr. P.B Kharat
22	Rupali Shivlal Ade	To find the rule grely	R.S. Ade	Dr. P.B Kharat
23	Rutik Sanjay Gulhane	Automatic straight light	R.S. Gulhane	Dr. P.B Kharat
24	Rutuja Ravindra Kakade	AC generator	R.R Kakade	Dr. P.B Kharat
25	Sagar Prakashrao Sune	AC. generator	Sune	Dr. P.B Kharat
26	Samiksha Moreshwar Ajmire	Ac. generator	S. Ajmire	Dr. P.B Kharat
27	Sanket Sahebrao Ghawale	Ac. generator	S.S. Ghawale	Dr. P.B Kharat
28	Sapana Raju Uike	EMI	Uike	Dr. P.B Kharat
29	Satyam Shrikantappa Komalwar	EMI	SSK	Dr. P.B Kharat
30	Saurabh Pramodrao Ilpate	EMI	Saurabh	Dr. P.B Kharat
31	Sejal Rajendra Meshram	EMI	S.R. mehram	
32	Shivani Narendra Bansod	EMI	Bansod	Dr. A.V. Ambhore

32	Shivani Narendra Bansod	Surface Tension	A.V. Ambhore
33	Shivani Rajendra Kakade	Surface Tension	A.V. Ambhore
34	Shubhangi Kailasrao Meshram	DC power supply	A.V. Ambhore
35	Sneha Laxman Itankar	DC power supply	A.V. Ambhore
36	Sumedh Ravindra Wankhade	D.C. Power Supply	A.V. Ambhore
37	Suraj Pralhad Nemade	determine density of solid	A.V. Ambhore
38	Tabssum Vahab Shaha	determine density of solid	A.V. Ambhore
39	Tejas Keshavrao Shahade	Determine SHM	A.V. Ambhore
40	Trishul Devidas Girhe	Determine SHM	A.V. Ambhore
41	Tushar Gajananrao Nagolkar	Determine SHM	A.V. Ambhore
42	Vaishali Pandurang Sukhadeve	Specific Heat	A.V. Ambhore
43	Vaishnavi Dnyaneshwar Bhadke	Specific Heat	A.V. Ambhore
44	Vaishnavi Mahadevrao Khriste	Numerical Problems	A.V. Ambhore
45	Vishal Sheshrao Naik	Numerical Problems	A.V. Ambhore

Students must complete the project and submit the project report in the due period as per the above-assigned topics in the Department of Physics to the concerned teacher.

Faculty members

Dr. Anant S. Wadatkar
Dr. Anant S. Wadatkar
Assistant Professor and Head
Department of Physics
Vinayak Vidnyan Mahavidyalaya
Nandgaon (Kh.), Dist.Amravati

Dr. Prashant B. Kharat
Dr. PRASHANT B. KHARAT
Assistant Professor
Department of Physics
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar, Amravati

Mr. Ajay V. Ambhore

Date: **Tuesday, 30th March 2021**

Place: **Nandgaon Khandeshwar, Dist. Amravati.**

Head
Department of Physics
Dr. Anant S. Wadatkar
Assistant Professor and Head
Department of Physics
Vinayak Vidnyan Mahavidyalaya
Nandgaon (Kh.), Dist.Amravati

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DEPARTMENT OF PHYSICS

NOTICE

All the students of B.Sc. Physics IInd year IVthsemester and IIIrd year VIthsemester in the academic year 2020-2021 are hereby informed that students must complete the project, prepare a project report with the help of the concerned teacher mentioned in the table below, and submit it before Thursday, 15thJuly 2021on the topic assigned in the table below,

List of B.Sc. Physics IInd year IVth semester

Sr. No.	Student Name	Topic	Name of Guide
1	Abhijeet Gajanan Rithe	thermal insulation property	Dr. A. S. Wadatkar
2	Akash Shivshankarji Bhavare	thermal insulation property	Dr. A. S. Wadatkar
3	Arpita Anilrao Bhoyar	construct of the model of magnetical levitated train	Dr. A. S. Wadatkar
4	Atul Parshram Bhosale	construct of the model of magnetic levitated train	Dr. A. S. Wadatkar
5	Bhushan Gajanan Ombase	convection: How does the temperature affect the movement of water.	Dr. A. S. Wadatkar
6	Harshad Homdev Ghate	Demonstrate the use of lever and the impact of lever length	Dr. A S Wadatkar
7	Leena Shankar Gondane	Wind Mill	Dr. A.S. Wadatkar
8	Lokesh Dipak Marotkar	Effect of extreme temperature on battery life	Dr. A.S. Wadatkar
9	Mohd Anwar Mohd Asrar	Effect of extreme temperature on battery life	Dr. A.S. Wadatkar
10	Namrata Mulchand Raut	Effect of extreme temperature on battery life	Dr. A - S. Wadatkar
11	Nandini Ravindra Kanse	To assemble a household circuit comp	Dr. P. B. Kharat
12	Om Pramodrao Ingole	To assemble a household circuit comparison	Dr. P.B. Kharat
13	Payal Vyankatesh Bhasme	To assemble a household circuit comparison 3 bulb	Dr. P.B. Kharat.
14	Prathmesh Ganesh Gawner	Polting graph & Potential	P.B. Kharat.
15	Pratik Nandkishor Kaje	to construct Logic gates using NAND gate	P.B. Kharat.
16	Prayas Shankar Dubey	to determine the specific heat of used oil & soyabean oil by capillary [illegible]	Dr. P.B. Kharat
17	Puja Subhashrao Dukare	Diffraction of Light	Dr. P.B Kharat
18	Rutuja Bharat Devtale	P-N junction diode	Dr. P. B. Kharat
19	Rutuja Mangesh Gulhane	P-N junction diode	Dr. P. B. Kharat
20	Sakshi Devidas Ambulkar	P-N Junction diode	Dr. P. B. Kharat
21	Sakshi Kiranrao Gulhane	To find focal length of concave lens using a convex lens.	Dr. P. B. Kharat
22	Saurabh Govindrao Bhadke	To find focal length of concave lens using a convex lens	Dr. P. B. Kharat
23	Saurabh Laxmanrao Satpaise	to find focal leng concave	Dr. P. B. Kharat
24	Shubham Ramesrao Gulhane	The reduction in potential drop with length of a wire [illegible]	Ms. A. V. Ambhore
25	Shweta Pandurang Charpe	Superconductivity	A. V. Ambhore

26	Sneha Gajanan Sagale	Superconductivity	A.V Ambhore
27	Sneha Rajkumar Vanjari	Superconductivity	A.V Ambhore
28	Swara Narendra Deshmukh	Rectifire	A.V. Ambhore
29	Tejaswini Shrikrushna Gadhekar	Rectifire	A.V. Ambhore
30	Vaibhav Shrikrushna Gulhane	Rectifire	A.V. Ambhore
31	Vaishnavi Santosh Raut	Fiber optic	A.V. Ambhore
32	Vrushbh Vishnu Madavi	Fiber optic	A.V. Ambhore.

List of B.Sc. Physics IIIrd year VIth semester

Sr. No.	Student Name	Topic	Name of Guide
1	Achal Anilrao Tayade	Comparing the fabry type cavity resonator	Dr. A.S. Wadatkar
2	Akash Vasantrao Itankar	Comparing the febre type resonator	Dr. A.S. Wadatkar
3	Amar Dhanraj Bhagat	Surface tension	Dr. A.S. Wadatkar
4	Ankit Dilip Gadling	Construction of model of magnetism	Dr. A.S. Wadatkar
5	Ankush Rameshwar Gulhane	construction of model of magnetism.	Dr. A.S. Wadatkar
6	Arpit Ratnakar Belsare	effect of temperature on magnetic material	Dr. A.S. Wadatkar
7	Chiranjivi Anil Burghate	convecton flow.	Dr. A.S. Wadatkar
8	Gaurav Dilip Gulhane	wind mill	Dr. A.S. Wadatkar
9	Hariom Devrao Metkar	wind mill	Dr. A.S. Wadatkar
10	Hrushikesh Sanjay Timane	Fuel wave bridge rectifire.	Dr. A.S. Wadatkar
11	Jijaee Sunilrao Dahake	To determine color depth graph	Dr. A.S. Wadatkar
12	Kapil Pradip Kadam	to determine colors depth graph	Dr. A.S. Wadatkar
13	Nikhil Suresh Mugal	To built flash light of LED	Dr. A.S. Wadatkar
14	Parikshit Aniruddha More	To built flash light of LED,	Dr. A.S. Wadatkar
15	Parvez Ahmed Hussen	plotting graph	Dr. A.S. Wadatkar
16	Pragati Prakashrao Velukar	plotting graph.	Dr. P.B. Khawat
17	Prathamesh Onkarrao Masotkar	LOGIC GATES	Dr. P.B. Khawat
18	Pratiksha Ganesh Tiwade	viscosity of diff. materials	Dr. P.B. Khawat
19	Pratiksha Raju Shinde	Specific heat of water	Dr. P.B. Khawat
20	Pratiksha Sunilrao Bankar	Thin film	Dr. P.B. Khawat
21	Rohini Ajay Kene	Thin film	Dr. P.B. Khawat
22	Rupali Shivlal Ade	thin film	Dr. P.B. Khawat
23	Rutik Sanjay Gulhane	To find the value of V.K.U	Dr. P.B. Khawat
24	Rutuja Ravindra Kakade	Automatic street light	Dr. P.B. Khawat
25	Sagar Prakashrao Sune	Automatic street light.	Dr. P.B. Khawat
26	Samiksha Moreshwar Ajmire	A.C. Generator	Dr. P.B. Khawat
27	Sanket Sahebrao Ghawale	A.C. Generator	Dr. P.B. Khawat
28	Sapana Raju Uike	A.C. Generator	Dr. P.B. Khawat
29	Satyam Shrikantappa Komalwar	EMI.	Dr. P.B. Khawat
30	Saurabh Pramodrao Ilpate	EMI	Dr. P.B. Khawat
31	Sejal Rajendra Meshram	EMI	Dr. P.B. Khawat

33	Shivani Rajendra Kakade	Superconductivity	S.A. Kakade	Ms. A.V Ambhore
34	Shubhangi Kailasrao Meshram	Superconductivity	S. Meshram	Ms. A.V Ambhore
35	Sneha Laxman Itankar	Rectifire	S.L Itankar	Ms. A.V Ambhore
36	Sumedh Ravindra Wankhade	Rectifire	S. R. Wankhade	Ms. A.V Ambhore
37	Suraj Pralhad Nemade	Rectifire	S.P.N	Ms. A.V Ambhore
38	Tabssum Vahab Shaha	Total internal reflection	T.S	Ms. A.V Ambhore
39	Tejas Keshavrao Shahade	Total internal reflection	T. K. Shahade	Ms. A.V Ambhore
40	Trishul Devidas Girhe	Superconductivity	T.D. Girhe	Ms. A.V Ambhore
41	Tushar Gajananrao Nagolkar	Superconductivity	T. G. Nagolkar	Ms. A.V Ambhore
42	Vaishali Pandurang Sukhadeve	Rectifire	V.P.S	Ms. A.V Ambhore
43	Vaishnavi Dnyaneshwar Bhadke	Rectifire	V.Bhadke	Ms. A.V Ambhore
44	Vaishnavi Mahadevrao Khriste	Total internal reflection	V.Khirste	Ms. A.V Ambhore
45	Vishal Sheshrao Naik	Total internal reflection	V.S.Naik	Ms. A.V Ambhore

Faculty members

Dr. Anant S. Wadatkar **Dr. Prashant B. Kharat** **Mr. Ajay V. Ambhore**

Date: **Thursday, 15th July 2021**

Place: **Nandgaon Khandeshwar, Dist. Amravati.**

Head

Department of Physics

Assistant Professor and Head
Department of Physics
Vinayak Vidnyan Mahavidyalaya
Nandgaon (Kh.), Dist.Amravati

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DEPARTMENT OF PHYSICS

NOTICE

All the students of B.Sc. Physics IInd year IVth semester and IIIrd year VIth semester in the academic year 2021-2022 are hereby informed that students must complete the project, prepare a project report with the help of the concerned teacher mentioned in the table below, and submit it before Friday, 20th May 2022 on the topic assigned in the table below,

List of B.Sc. Physics IInd year IVth semester

Sr. No.	Student Name	Topic	Name of Guide
1	Achal Ramdas Bijave	construct the model to study the laws of Reflection of Sound	Dr. A.S. Wadtkar
2	Adarsha Nivrutti Gavner	The study the charge & Discharge	Dr. A.S. Wadtakar.
3	Adiba Saman Anees Khan	construct the model to study reflection sound	Dr. A.S Wadatkar
4	Aditya Anil Deshmukh	construct the model to study the.	Dr. A.S. Wadatkar
5	Akansha Kashinath Raut	To study and constract a circuit	Dr. A.S. Wadatkar
6	Aman Murlidhar Gawaner	To study the density of water	Dr. A.S. Wadatkar.
7	Aman Pradiprao Kakade	Design variable DC power supply	Dr. P.B. Kharat
8	Ambika Narhari Chavhan	To Demostrate the total internal	[illegible]
9	Anuja Ajay Tayade	To Demostrate the total internal	Dr. P.B. Kharat
10	Chaitali Sanjay Dok	To Demonstrate the phe	Dr. P.B. Kharat
11	Chanchal Kishor Gajbhiye	To study the visocity water and engine oil	Mr. A.V. Ambhore
12	Damini Vilasrao Dhage	To study the viscosity of oil engine water	Mr. A.V. Ambhore
13	Dattatrya Onkar Giri	to constant an Amplifying using	[illegible]
14	Durgesh Dhanjay Mendhe	To constant an Amplifier using [illegible]	[illegible]
15	Gayatri Avinash Solanke	To construct an Amplifier Using	[illegible]
16	Jay Shamrao Gawande	To study the viscosity of oil water	Mr. A.V. Ambhore
17	Kalyani Narhari Wakode	To study the viscosity of water	A.S. Wadatkar [illegible]
18	Kiran Arun Kambale	To study the density of water	[illegible]
19	Mamta Sanjay Meshram	To study the density of water, oil & engine	[illegible]
20	Manish Kishor Tarhekar	To construct a model to	Dr. Pramod Kharat.
21	Mayur Manish Tayade	To construct a model to	Dr. P.B. Kharat
22	Mo Abuzar Mo Iliyas Shaikh	Design variable DC power Supply	Dr. P.B. Kharat
23	Mo Sajid Hamid Makrani	to plot the v Charteristic on solar cell	[illegible]
24	Parivartan Arun Tayade	To construct a model to	Dr. P.B. Kharat
25	Poornima Ganesh Raut	To construct logic gate using NAND gate	Dr. P.B. Kharat

26	Pranav Kishorrao Shelke	To construct logic gate using	Shelke
27	Prathmesh Dadarao Hambarde	the study of charge	Mr. A.V. Ambhore
28	Prathmesh Suresh Inzalkar	To demonstrate simple harmonic motion	
29	Reshma Arunrao Margade	To study the verification of the	Mr. A.V. Ambhore.
30	Ritesh Motiram Ghoddeswar	Construct amplifier.	Mr. A.V. Ambhore
31	Ritu Devnarayan Chaudhari	To study the verification of the	Mr. A.V. Ambhore
32	Rohit Madan Bodhankar	To determination of Density of solid	Mr. A.V. Ambhore
33	Roshan Ashok Bharaskar	To study the verification of the	Mr. A.V. Ambhore
34	Roshan Rameshwar Kalalkar	Design variable DC Power Supply using	P.B. Kharat
35	Rutik Tryambakrao Jawalkar	To construct an amplifier using	
36	Rutuja Sudhirrao Gulhane	To study Properties of step down transformer	Dr. A.S. Wadatkar
37	Sahil Vikas Raut	To study properties of step down transformer	Dr. A.S. Wadatkar
38	Sakshi Mahendra Dukare	Determine the numerical Apesture	Dr. A.S. Wadatkar
39	Sakshi Subhashrao Herode	determine the numerical	D. A.S. wadatkar
40	Sakshi Vilas Dhawale	To study Resistance of various material	Dr. P.B. Kharat
41	Sarvesh Dharmednra Virulkar	Determine of Density of solid	Dr. P.B. Kharat.
42	Sayali Pramod Gawande	to calculate the specific heat of oil and	P.B. Kharat
43	Sharddha Vijay Raut	To calculate specific heat oil Engineoil	P.B. kharat
44	Shoeb Ahmad Noor	TO determine the resolving power of telescope	
45	Shreya Pramodrao Chore	To study the charge & Discharging	Mr. A.V. Ambhore
46	Shreyash Ramesh Kapse	Design variable DC power supply	P.B. kharat
47	Talib Farooq Ramlani	To determine the resolving Power of	P.B. kharat
48	Vaishnavi Gajanan Deulkar	To study the charge & Discharging	Mr. A.V. Ambhore
49	Vaishnavi Ravindra Gatule	To study the charge & Discharging	Mr. A.V. Ambhore
50	Vevekanand Anil Pawar	To study and constract a circuit of	Mr. A.S. wadatkar
51	Yash Pramod More	Construct logic gate using not gate	Dr. A.S. wadatkar
52	Yash Shyamkant Pawar	To study and construct of	Dr. A.S. wadatkar

List of B.Sc. Physics III[rd] year VI[th] semester

Sr. No.	Student Name	Topic	Name of Guide
1	Abhijeet Gajanan Rithe	compability of fabric type & water resistance	Dr. A.S. wadatkar
2	Akash Shivshankarji Bhavare	compability of fabric type & water resistance	Dr. A.S. wadatkar
3	Anand Bhaurao Nanhe	Washing fabric water resistance	Dr. A.S. wadatkar.
4	Arpita Anilrao Bhoyar	construct a model of a magnetically levitated train	Dr. A.S. wadatkar
5	Atul Parshram Bhosale	laser	Dr. A.S. wadatkar
6	Bhushan Gajanan Ombase	convection: How does the temperature affect the movement of water	Dr. A.S. wadatkar.
7	Harshad Homdev Ghate	wind mill	Dr. A.S. wadatkar.
8	Hitesh Vijay Raghute	wind mill	Dr. A.S. wadatkar
9	Leena Shankar Gondane	To construct a full-wave bridge rectifier & show that the (AC) alternating current	Dr. A.S. Wadatkar
10	Lokesh Dipak Marotkar	Effect of temperature on conductivity resistivity	Dr. A.S. Wadatkar
11	Mohammad Anwar Mohd Asrar	Effect of temperature on conductivity of wet	Dr. A.S. Wadatkar

12	Namrata Mulchand Raut	Effect of temperature on conductivity and restivity	A.S. Wadatkar
13	Nandini Ravindra Kanse	To build wind turbine generator	P.B. Kharat
14	Om Pramodrao Ingole	To build wind turbine generator	P.B. Kharat
15	Payal Vyankatesh Bhasme	To build wind turbine generator	P.B Kharat
16	Pranav Dinkar Gulhane	To construct LM 35	P.B Kharat
17	Prathmesh Ganesh Gawner	Polting a graph to potentional.	DR Kharat
18	Pratik Nandkishor Kaje	To construct logic gates using NAND gate	DR. P.B. Kharat
19	Prayas Shankar Dubey	To determine the [illegible] of water, oil of soyabean oil by capillary rise method	DR. P.B. Kharat
20	Puja Subhashrao Dukare	To determine the surface tension of water oil & soyabean oil by capillary rise	Dr. P.B Kharat
21	Roshan Namdeo Rathod	To determine the surface tension of water, oil and soyabean oil by capillary rise method.	Dr. P.B Kharat
22	Rutuja Bharat Devtale	Thin Film	P.B. Kharat
23	Rutuja Mangesh Gulhane	Thin film	P.B. Kharat
24	Sakshi Devidas Ambulkar	Thin Film	Dr. P.B. Kharat
25	Sakshi Kiranrao Gulhane	find value v [illegible]	DR P.B Kharat
26	Saurabh Govindrao Bhadke	the focal length between [illegible] convex lens.	Dr. P.B. Kharat
27	Saurabh Laxmanrao Satpaise	to find the value of [illegible] lens [illegible] find focal length	Dr. P.B Kharat
28	Shraddha Rajendra Raut	characteristic of a common emitter npn transistor to find out the value of current [illegible]	Mr. A.V. Ambhore.
29	Shubham Arjun Rathod	to construct a model to demonstrate Newton's Third law of Motion	Mr. A.V. Ambhore
30	Shubham Ramesrao Gulhane	the [illegible] in potential [illegible] length of a wire [illegible] using	Mr. A.V. Ambhore
31	Shweta Pandurang Charpe	Automatic strite light.	A.V. Ambore
32	Sneha Gajanan Sagale	Automatic stroite light	A.V Ambore
33	Sneha Rajkumar Vanjari	Automatic Strit light	A.V Ambore
34	Swara Narendra Deshmukh	AC Genereator	A.V. Ambhore
35	Tejaswini Shrikrushna Gadhekar	AC Generator	A.V. Ambhore
36	Vaibhav Shrikrushna Gulhane	AC Generator	A.V. Ambhore
37	Vaishnavi Santosh Raut	Electromagnetic induction	A.V Ambhore
38	Vrushbh Vishnu Madavi	Electromagnetic induction	A.V Ambhore

Students must complete the project and submit the project report in the due period as per the above-assigned topics in the Department of Physics to the concerned teacher.

Faculty members

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Date: **Monday, 21st February 2022**

Place: **Nandgaon Khandeshwar, Dist. Amravati.**

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Tq. Nandgaon Khandeshwar, Dist. Amravati

DEPARTMENT OF PHYSICS

PROJECT SUBMISSION SHEET

(Academic Year 2021-2022)

List of B.Sc. Physics II[nd] year IV[th] semester

Sr. No.	Student Name	Topic	Signature	Remark
1	Achal Ramdas Bijave	construct the model to study the laws of Reflection of sound	Bijave	Submitted
2	Adarsha Nivrutti Gavner	construct Amplifer	Gavner	"
3	Adiba Saman Anees Khan	Construct the model to study Reflection of sound	Adiba	"
4	Aditya Anil Deshmukh	construct the model to study the	Deshmukh	"
5	Akansha Kashinath Raut	To study and Constract a	AKRaut.	"
6	Aman Murlidhar Gawaner	Design variable DC Power	Gawaner	"
7	Aman Pradiprao Kakade	Design variable DC Power supply	A.P.Kakade.	"
8	Ambika Narhari Chavhan	Total internal reflection	Chavhan	"
9	Anuja Ajay Tayade	To demostrate the torq	A.Tayade	"
10	Chaitali Sanjay Dok	To Demonsteate the	C.S.Dok.	"
11	Chanchal Kishor Gajbhiye	To study viscosity oil engine water	Gajbhiye	"
12	Damini Vilasrao Dhage	To study viscosity of oil engine oil & water	Dhage.	"
13	Dattatrya Onkar Giri	to constact on Amplifeir using	D.Giri.	"
14	Durgesh Dhanjay Mendhe	To construct an amplifier using	Mendhe	"
15	Gayatri Avinash Solanke	To construct an Amplifier using	Solanke	"
16	Jay Shamrao Gawande	To study viscosity of oil engine water	J.S.Gawande	"
17	Kalyani Narhari Wakode	To study the viscosity and	K.Wakode	"
18	Kiran Arun Kambale	To study the viscosity water	Kambale	"
19	Mamta Sanjay Meshram	to study the density of water, oil & engine oil	Meshram	"
20	Manish Kishor Tarhekar	To construct a model to	Tarhekar	"
21	Mayur Manish Tayade	To construct a model to	M.M.Tayade	"
22	Mo Abuzar Mo Iliyas Shaikh	Design variable DC power supply	A.I.Sheikh	"
23	Mo Sajid Hamid Makrani	to plot I-V charterstics on the solar cell	Sajid	"
24	Parivartan Arun Tayade	To construct a model to	A.Tayade	"
25	Poornima Ganesh Raut	To construct logic gate using NAND gate	[illegible]	"
26	Pranav Kishorrao Shelke	To construct logic gates using	P.Shelke	"
27	Prathmesh Dadarao Hambarde	To study the viscosity.	Hambarde	"
28	Prathmesh Suresh Inzalkar	to demostrative simple harmonic motion	Inzalkar	"

29	Reshma Arunrao Margade	To study the verifical" of the	Margade	Submitted
30	Ritesh Motiram Ghoddeswar	Design variable DC power	Ghoddeswar	"
31	Ritu Devnarayan Chaudhari	To study the verification of the	Ritu Chaudhari	"
32	Rohit Madan Bodhankar	To determine Density of solid	Bodhankar	"
33	Roshan Ashok Bharaskar	To study the verification of the	Bhar	"
34	Roshan Rameshwar Kalalkar	Design variable DC Power Supply using	Kalalkar	"
35	Rutik Tryambakrao Jawalkar	TO construct an amplifier using	Jawalkar	"
36	Rutuja Sudhirrao Gulhane	To study Properties of step down transforme	Gulhane	"
37	Sahil Vikas Raut	To study the property of step down Trafo	Raut	"
38	Sakshi Mahendra Dukare	Determine the numerical Aperture	Dukare	"
39	Sakshi Subhashrao Herode	Determine the numerical	Herode	"
40	Sakshi Vilas Dhawale	To study Resistance of various material	Dhawale	"
41	Sarvesh Dharmednra Virulkar	charge & Discharge.	Virulkar	"
42	Sayali Pramod Gawande	to calculate Specific heat oil engine	Gawande	"
43	Sharddha Vijay Raut	to calculate specific heat oil engine	Raut	"
44	Shoeb Ahmad Noor	to determine the resolution power of telescope		"
45	Shreya Pramodrao Chore	To study the charging and discharging	S.P Chore	"
46	Shreyash Ramesh Kapse	Design variable DC Power supply	Kapse	"
47	Talib Farooq Ramlani	Study the varification.	TRamlani	"
48	Vaishnavi Gajanan Deulkar	To study the charging & discharging	Deulkar	"
49	Vaishnavi Ravindra Gatule	To study the charging & Discharging	Gatule	"
50	Vevekanand Anil Pawar	To study and construct a circuit of clapswitch	V.A Pawar	"
51	Yash Pramod More	Construct logic gates using NOR	Yashpmore	"
52	Yash Shyamkant Pawar	To study and construct a circuit of clap switch.		"

List of B.Sc. Physics IIIrd year VIth semester

Sr. No.	Student Name	Topic	Signature	Remark
1	Abhijeet Gajanan Rithe	comparing the fabric type of leaf using		Submitted
2	Akash Shivshankarji Bhavare	comparing the fabric type of leaf using		"
3	Anand Bhaurao Nanhe	comparing the fabric type of leaf using		"
4	Arpita Anilrao Bhoyar	construct the model of magnetic coil & levitated effect		"
5	Atul Parshram Bhosale	The build with turbine		"
6	Bhushan Gajanan Ombase	comparison of how does the temperature affect the movement of water		"
7	Harshad Homdev Ghate	wind mill		"
8	Hitesh Vijay Raghute	windmill		"
9	Leena Shankar Gondane	to study the full wave Bridge rectifier using the AC alternating current		"
10	Lokesh Dipak Marotkar	Effect of temperature on conductivity & resistivity		"
11	Mohammad Anwar Mohd Asrar	Effect of temperature on conductivity & resistivity		"
12	Namrata Mulchand Raut	Effect of temperature on conductivity & resistivity		"
13	Nandini Ravindra Kanse	To build with turbine generator		"
14	Om Pramodrao Ingole	To build with turbine generator		"

15	Payal Vyankatesh Bhasme	To build wind bubble generator	Bhasme	Submitted
16	Pranav Dinkar Gulhane	To construct temp IC LM35	Pgulhane	"
17	Prathmesh Ganesh Gawner	Potting a gadget to Potentiometer	Pgawner	"
18	Pratik Nandkishor Kaje	To construct logic gates using NAND gate	PNKaje	"
19	Prayas Shankar Dubey	To determine the viscosity of water and soyabean oil by capillary tube method	Dubey	"
20	Puja Subhashrao Dukare	To determine the specific heat of water oil and soyabean oil by capillary tube method	Puja Dukare	"
21	Roshan Namdeo Rathod	To determine the specific heat of water oil and soyabean oil by capillary method	RRathod	"
22	Rutuja Bharat Devtale	Thin Film	Rdevtale	"
23	Rutuja Mangesh Gulhane	Thin Film	RGulhane	"
24	Sakshi Devidas Ambulkar	Thin Film	Ambulkar	"
25	Sakshi Kiranrao Gulhane	To find v & u in case of concave mirror	SGulhane	"
26	Saurabh Govindrao Bhadke	To find the focal of convex mirror	S.G.Bhadke	"
27	Saurabh Laxmanrao Satpaise	To find the [illegible]	Satpaise	"
28	Shraddha Rajendra Raut	[illegible]	Sraut	"
29	Shubham Arjun Rathod	To construct a model to demonstrate Newton's third law of Motion	Sarthod	"
30	Shubham Ramesrao Gulhane	The variation in projected crops with [illegible]	SRulhe	"
31	Shweta Pandurang Charpe	Automatic Strigth light	Scharpe	"
32	Sneha Gajanan Sagale	Automatic Strite light	Ssagale	"
33	Sneha Rajkumar Vanjari	Automatic Strite light	Svanjari	"
34	Swara Narendra Deshmukh	AC Generator	sdeshmukh	"
35	Tejaswini Shrikrushna Gadhekar	AC generator	Tgadhekar	"
36	Vaibhav Shrikrushna Gulhane	AC Generator	VGulhane	"
37	Vaishnavi Santosh Raut	Electromagnetic induction	Vraut	"
38	Vrushbh Vishnu Madavi	Electromagnetic induction	Vmadavi	"

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Mr. Ajay V. Ambhore

Date: **Friday, 20th May 2022**

Place: **Nandgaon Khandeshwar, Dist. Amravati.**

Head
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VINAYAK VIDNYAN MAHAVIDYALAYA, NANDGAON KH.

TITLE OF THE PROJECT:

Design Variable DC power Supply using Full Wave Bridge rectifire

NAME OF STUDENT: Aman Pradip kakade

YEAR: B.Sc.- IInd **(2021-22)**

SEMESTER: IV

Name of Teacher: Dr. P. B. Kharat

SUBMITTED

TO

DEPARTMENT OF PHYSICS

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Pravin Khodke Memorial Trust Amravati's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

DEPARTMENT OF PHYSICS

CERTIFICATE

This is to certify that this project report contains the bonafide record of the Project work entitled Design Variable DC power Supply using Full Wave Bridge Rectifier submitted by Mr./Ms. Aman Pradip kakade of B.Sc. (Physics) Part: II Semester: IV as prescribed by Sant Gadge Baba Amravati University, Amravati during the Academic year 2021-2022.

Dated: ...../...../.....

Teacher-In-Charge

Signature of the Teacher who taught the examinee

1. .....

2. .....

Date: ...../...../.....

Place: Nandgaon Khandeshwar, Dist. Amravati.

Head
Department of Physics

Head
Dept. of Physics
Vinayak Vidnyan Mahavidyalaya
Nandgaon Kh.

➢ **Content**

- Introducation
- Diagram
- Working
- Principle
- Application
- Advantages
- Disadvantages
- Conclusion
- Reference

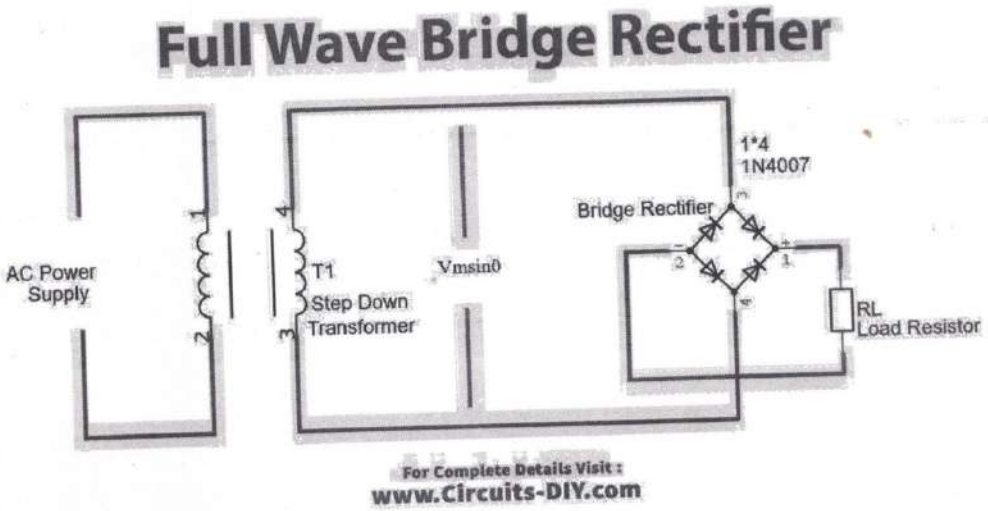
➢ **Introduction**

The rectifier circuit is used to convert the AC (Alternating Current) into DC (Direct Current). Rectifiers are mainly classified into three types namely half-wave, full-wave, and bridge rectifier. The main function of all these rectifiers is the same as the conversion of current but they not efficiently convert the current from AC to DC. The center tapped full wave rectifier as well as bridge rectifier converts efficiently. A bridge rectifier circuit is a common part of the electronic power supplies. Many electronic circuits require a rectified DC power supply for powering the various electronic basic components from available AC mains supply. We can find this rectifier in a wide variety of electronic AC power devices like home appliances, motor controllers, modulation process, welding applications, etc. This article discusses an overview of a bridge rectifier and its working.

➢ **What is a Bridge Rectifier?**

A Bridge rectifier is an Alternating Current (AC) to Direct Current (DC) converter that rectifies mains AC input to DC output. Bridge Rectifiers are widely used in power supplies that provide necessary DC voltage for the electronic components or devices. They can be constructed with four or more diodes or any other controlled solid-state switches. Depending on the load current requirements, a proper bridge rectifier is selected. Components' ratings and specifications, breakdown voltage, temperature ranges, transient current rating, forward current rating, mounting requirements, and other considerations are taken into account while selecting a rectifier power supply for an appropriate electronic circuit's application.

➢ **Diagram**


Full Wave Bridge Rectifier
1*4
1N4007
Bridge Rectifier
AC Power
Supply
T1
Step Down
Transformer
Vmsin0
RL
Load Resistor
For Complete Details Visit :
www.Circuits-DIY.com

➢ **Working**

This bridge rectifier circuit works on a simple mechanism.

- A step-down transformer is used in order to step down or decrease the high voltage AC into low voltage AC.
- The transformer's secondary winding is connected to the opposite points of the bridge made up diodes. The secondary output of the transformer is connected at a point where both the anode as well as the cathode of the diode lies.
- All the four diodes are connected in such a way that they form a passage which allows only one side of the AC voltage or pulse and converts the negative part of it into positive voltage or pulse.
- The DC voltage output of the bridge rectifier circuit is obtained from the points where both the diodes are connected either from anode or cathode. The anode becomes the positive part as well as cathode becomes the negative part of the DC voltage output
- The output voltage of the bridge rectifier is not a constant/straight DC voltage but does have a pulse which is then reduced with the help of an electrolytic capacitor which acts as a filter to Pulsated DC voltage.
- The efficiency of the bridge rectifier lies in how the minimum amount of pulse it has after the filter is applied to the pulsated output.
- The full-wave Bridge Rectifier Circuit is complete as the capacitor or a filter is applied to decrease the pulse and the voltage is then used for various purposes.

➢ **Principle**

- A very high input AC is supplied to the full wave rectifier.
- The step-down transformer in the full wave rectifier circuit converts the high voltage AC into low voltage.
- The anode of the center-tapped diodes is connected to the secondary winding of the transformer and to the load resistor.
- When there is a positive half cycle of the AC, then the top half of the secondary winding or terminal 1 will be positive while terminal two or the second half of the winding will be negative and center tap will be at zero potential.
- At the time of the positive half cycle, the diode D1 will be forward biased and diode D2 will be reverse biased. This is because it is connected to the bottom of the secondary winding.
- Hence, D1 will let the current flow, and D2 will block the flow through it.
- In case of a negative half cycle, the diode D1 is reversed biased and the diode D2 is forward biased. This is because the top half of the secondary circuit becomes negative, while the bottom half of it becomes positive.
- Therefore, in a full wave rectifier, DC voltage is obtained for both positive as well as negative half cycle.

➢ **Application**

- Full Wave Bridge Rectifier is used to detect the amplitude of the modulating radio signal.
- Bridge rectifier circuits are also used to supply steady and polarized Dc voltage in electric welding.
- The Bridge Rectifier circuits are widely used in power supply for various appliances, as they are capable of converting the High AC voltage into Low DC voltage.
- Full-wave rectifiers are also used for powering up the devices which work on DC voltage like motor and led.

This full-wave bridge rectifier circuit is used more than the other rectifier circuits due to its huge number of advantages over others.

➢ **Advantages**

The advantages of bridge rectifier include the following.

- The rectification efficiency of a full-wave rectifier is double that of a half-wave rectifier.
- The higher output voltage, higher output power, and higher Transformer Utilization Factor in case of a full-wave rectifier.
- The ripple voltage is low and of higher frequency, in case of full-wave rectifier so simple filtering circuit is required
- No center tap is required in the transformer secondary so in the case of a bridge rectifier, the transformer required is simpler. If stepping up or stepping down of voltage is not required, the transformer can be eliminated even.
- For a given power output, a power transformer of a smaller size can be used in the case of the bridge rectifier because the current in both primary and secondary windings of the supply transformer flows for the entire ac cycle.
- Rectification efficiency is double as compared with a half-wave rectifier
- It uses simple filter circuits for high frequency and low ripple voltage
- TUF is higher as compared with a center-tapped rectifier
- Center tap transformer is not necessary

➢ **Disadvantages**

The disadvantages of the bridge rectifier include the following.

- It requires four diodes.
- The use of two extra diodes causes an additional voltage drop thereby reducing the output voltage.
- This rectifier needs four diodes thus the rectifier's cost will be high.
- The circuit is not appropriate once a small voltage is necessary to be rectified, because, the two diodes connection can be done in series & provides a double voltage drop because of their inner resistance.
- These circuits are very complex
- As compared with the center-tapped type rectifier, the bridge rectifier has more power loss.

- **Conclusion**

As conclusion, we can conclude that half-wave and full-wave rectifier circuits can be built. It can measure and record their output voltages and curves systematically. Next, the influences of load resistor and capacitor on DC output voltage is investigate. Half- and full-wave rectifiers are used to convert AC into DC voltage. This is the primary function of the rectifier in industrial applications. For example, AC is used across the power grid, but to use electricity for welding, electroplating and as a DC source for motors with special speed controls, the AC must be changed to DC. Therefore, it is importance to carried out this experiment to increase the understanding on rectifier in industries.

- **Reference**
  - http://www.google.com
  - http://www.yahoo.com
  - http://eeeproject.com
  - http://www.electronics-notes.com

VINAYAK VIDNYAN MAHAVIDYALAYA, NANDGAON KH.

TITLE OF THE PROJECT:

To Study The Vesification of the Aschimedes ~~Principal~~ Principle

NAME OF STUDENT: Ku. Ritu Devnarayan chaudhari

YEAR: B.Sc.- 2nd **(2021-22)**

SEMESTER: IV

Name of Teacher: Ajay Ambhore Sir

SUBMITTED

TO

DEPARTMENT OF PHYSICS

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Pravin Khodke Memorial Trust Amravati's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

DEPARTMENT OF PHYSICS

CERTIFICATE

This is to certify that this project report contains the bonafide record of the Project work entitled ...To study the verification of the Archimedes principle..... submitted by Mr./Ms. ...Ritu Devnarayan chaudhari... of B.Sc. (Physics) Part: ...2nd..... Semester: ...IV..... as prescribed by Sant Gadge Baba Amravati University, Amravati during the Academic year 2021-2022.

Dated: ...14../...07.../...2021

Teacher-In-Charge

Signature of the Teacher who taught the examinee

1. .....

2. .....

Date: ...../...../.....

Place: Nandgaon Khandeshwar, Dist. Amravati.

Head

Head
Dept. of Physics
Vinayak Vidnyan Mahavidyalaya
Nandgaon Kh.

Department of Physics

To Study The Verification of the Archimedes Principale

Abstract

The interpretation of the equilibrium of a solid body floating on the surface of a liquid body is well known as the "Archimedes' Principle". Presently, the equilibrium of the solid body is interpreted as the result of the concurrence of two mechanical actions which are equivalent and opposite: the "weight" of the body, directed downwards, and the "Archimedes' force" having a magnitude equivalent to the weight of the volume of liquid displaced by the volume of the body immersed in the liquid, directed upwards. We show arguments proving that this interpretation is not a correct physical interpretation. The same arguments show that a new different interpretation is a correct one. The new interpretation is based on the hypothesis that the "weight" of a body immersed in a body-medium is proportional to the volume of the body immersed in the body-medium and to the difference in density between the matter of the body and the matter of the body-medium. Accordingly, if a body is completely immersed in a body-medium, there is only one mechanical action on the body. This action may be downwards or upwards, or its magnitude may be zero. In this last case, the body is in equilibrium within the body-medium.

Content

- Introduction
- Diagram
- Working Principle
- Application
- Advantages and Disadvantages
- Conclusion
- Future Scope
- References

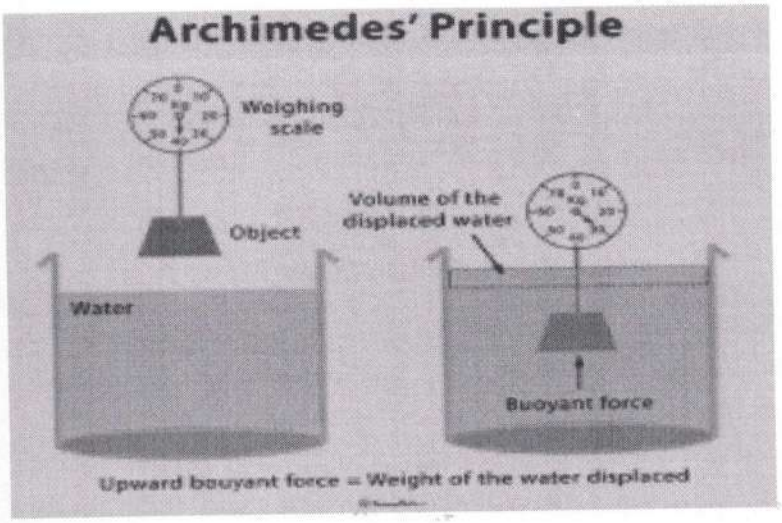
Introduction

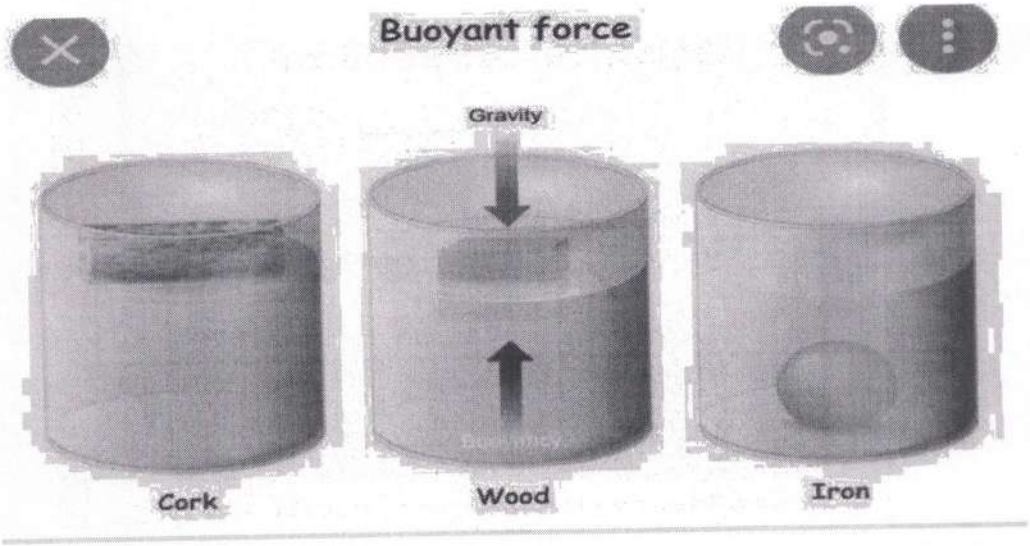
In the last twenty years, quite regularly, papers appeared in the literature on "Archimedes' Principle" . This "Principleis undoubtedly the most fundamental law in hydrostatics, used to interpret a set of natural phenomena, for example "isostasy" of continental crust on the earth mantle, but it is somewhat curious, however, that physics teachers and scholars still debate about it approximately 2300 years after Archimedes' death The reasons for this discussion are fundamentally two.

The first is that they are unsatisfied with the current interpretation in the cases of solid objects which sink in fluids and rest on the bottom of the respective fluid-containers. In these cases, it is difficult to explain the observed decrease in the weight of the solid body in terms of the difference in hydrostatic pressure between the bottom and the top of the body . The second reason is that they feel that this "Principle" is in relation with the concept of "weight" of a body . This is "inevitable", because the phenomenology studied by Archimedes introduces the concept of "density", a "property" of the matter intimately related to the "weight" of a body. Weight is one of the most important consequences of the natural process we call "gravitation", and therefore we can understand the importance of the discussion about this "Principle".

In this study, we first show the fundamental hypothesis which is at the basis of the current interpretation of the phenomenology studied by Archimedes. Then, we propose a new interpretation, which is quantitatively equivalent but not physically equivalent to the present one. Lastly, we show that the current interpretation is not a correct physical interpretation because it is in contradiction with the observations, whereas the new proposed interpretation is a correct one.

Diagram


Archimedes' Principle
Weighing scale
Object
Volume of the displaced water
Water
Buoyant force
Upward bouyant force = Weight of the water displaced


Buoyant force
Gravity
Cork
Wood
Iron

Archimedes' Principle

Archimedes lived in Syracuse on the island of Sicily in the third century B.C. At that time, Syracuse was one of the most influential cities of the ancient world, according to Scientific American. Trading vessels from Egypt, Greece and Phoenicia filled the city-state's harbor. It was also a hub of commerce, art and science, according to the Archimedes Palimpsest.

Archimedes Principle is named after its discoverer, the Greek mathematician, and physicist 'Archimedes.' It is based on the principle of buoyancy, which states that if a body is partially or fully submerged in the fluids (gases or liquids), then the fluid exerts an upward force called the buoyant force on the body whose magnitude is equal to the fluid weight displaced by the body. The Buoyant force acts at the center of gravity point of the displaced fluid, this point is known as the center of Buoyancy.

The Buoyant force exerted on the body by the fluid is mathematically expressed as

Write as $F_b = \rho \times g \times V$

Fb buoyant force P the density of the fluid

V submerged volume G acceleration due to gravity

Where {F}_{b}Fb is the Buoyant force acting on the body, ρ is the density of the fluid, g is theacceleration due to gravity, V is the volume of the displaced fluid.The above expression shows that the buoyant force is directly proportional to the density of the fluid, acceleration due to gravity, and the volume of the fluid displaced by the body. If two objects of equal masses are submerged in the fluid, then the object having greater volume will experience a greater buoyant force.

Theory

We are aware that some objects float on some fluids, submerged to differing extents: icecubes float in water almost completely submerged, while corks float almost completely onthe surface. Even the objects that sink appear to weigh less when they are submergedin the fluid than when they are not. These effects are due to the existence of an upward'buoyant force' that will act on the submerged object. This force is caused by the pressurein the fluid being increased with depth below the surface, so that the pressure near thebottom of the object is greater than the pressure near the top. The difference of thesepressures results in the effective 'buoyant force', which is described by the Archimedes'principle.

According to this principle, the buoyant force FB on an object completely or partially

submerged in a fluid is equal to the weight of the fluid that the (submerged part of the)

object displaces:

$F_B = m_f g = \rho_f V g$

where ρ_f is the density of the fluid, m_f and V are respectively mass and the volume of

the displaced fluid (which is equal to the volume of the submerged part of the object) and

g is the gravitational acceleration constant .

Application of Archimedes Principal

Ship

The iron nail sinks in the water because the weight of the water displaced by the nail is less than its own weight, i.e., the density of the iron nail is more than that of the water. While constructing ships, Archimedes' principle is followed, a large portion of the ships are kept hollow from inside that maintains their density less than the water density, hence the weight of the ship becomes less than the weight of the water displaced by it, and the buoyant force of magnitude equal to the displaced water exerts on the ship, and the ship floats on the surface of the water.p

Beach Ball

Beach balls are filled with air only, so they have a very small weight, hence they do not displace much water. Since they displace less water, the buoyant force acting on them is also very less, but when we try to push the ball into the water, the buoyant force acting on it increases, which does not let the beach ball sink into the water, and it floats on the water surface.

Submarine

Archimedes' principle Submarines can be submerged into the water and p also float on the surface of the water by maintaining the densities of the displaced water and submarine. These densities are maintained by the two important components present in the submarine that are the compressed tank and the ballast tank. If we fill the ballast tank with water, it results in a greater density of the submarine than the density of displaced water, hence the submarine dives into the water,the average density of the submarine becomes lesser than the density of the displaced water, and the submarine floats on the water surface.

Floating

Every object displaces the water of weight equal to its own weight. If the weight of the body is greater than the upthrust force acting upon it then the object sinks, whereas if the weight of the body is equal to the upthrust force acting upon it then the body floats on the liquid. Ice and icebergs float on the surface of the water because of the balanced upward buoyant force acting on them. So, the principle of floating is that the upthrust force acting on the body should be equal to the weight of the liquid displaced by the body.

Hydrometer

A Hydrometer is an instrument that is used to measure the specific gravity or density of the liquids. It works on Archimedes' principle. It consists of a hollow glass tube with a bulb-shaped wider bottom, sealed from both ends. The . The level of hydrometer submerged in the liquid and the water displaced by it are measured to calculate the specific gravity of the liquid. If the hydrometer sinks deep in the sample liquid, it implies that the density of the liquid is less, i.e., the specific gravity of the sample liquid is less.

Swimming

Archimedes' principle also comes into play when you are swimming. While we swim, the upward force, also called the buoyant force, acts on us. The swimmer is able to float on the surface of the water as the pressure above the swimmer is greater than the pressure from beneath as the density of the water is greater than that of the air. It is commonly

seen that it is easier to swim in saltwater than freshwater because the buoyant force not only depends on the water displaced but also on the density of the fluid. the buoyant force acting on the body in saltwater will also be higher as compared to freshwater, which is why it is easier for the swimmers to swim in the saltwater.

Hot Air balloon

Archimedes' principle is also applied to the working of hot air balloons. The balloon rises in the air when the weight of the air surrounding the balloon is reater than its own weight, whereas if the weight of the balloon is greater, it will start descending. When the weight of the surrounding air and hot air balloon is equal, it becomes stationary. The density between the air and the balloon is controlled by varying the amount of hot air in the balloon.

Geology

Archimedes' principle finds its applications in geology too. The density of the solids can be measured using this principle. To measure the density of the substance, it is suspended to the spring balance, and when it is immersed in a liquid whose density is known to us, the apparent loss in the mass of the sample substance is noted down, and by using the Archimedes' principle, the density of the substance is then calculated .

Fish

Archimedes' principle also comes into play to make a fish float in the water. Most of the fishes have a swim bladder, which helps them control the buoyant force acting on them. Fishes filled their swim bladder with air to rise to the water surface as it increases their volume, and more water is replaced by them, hence buoyant force exerted on them also increases. To dive into the water, fishes release the air from the swimbladder, hence their volume decreases, and buoyant force acting upon them also reduces.

Archimedes principle Advantages

1. Archimedes' principle is also used in designing ships and submarines. The floating of a big ship is based on the Archimedes' principle. An iron nail sinks because it has more weight than the weight of the water it displaces. In other words, the density of the iron nail is greater than the density of water. In case of a ship, a large portion of it is hollow inside. This reduces the apparent density of the ship to a value less than the density of water. The weight of the water displaced by the ship is much more than its own weight. This makes the ship float on water. The most important compartments of a submarine that help in its floatation are the ballast tank, and the compressed air tank. As a result, the average density of the submarine decreases, and the submarine rises.
2. Fish float based on Archimedes' principle. Most fish have an organ known as the swim bladder. When they want to rise, fish release gas into the swim bladder and

increase their volume. As a result, they displace more water. The force of buoyancy acting on them increases. To come down, a fish empties the bladder to the required extent, reducing the volume and the force of buoyancy acting on it.

3. A hot air balloon rises and floats due to the buoyant force (when the surrounding air is greater than its weight). It descends when the balloon's weight is higher than the buoyant force. It becomes stationary when the weight equals the buoyant force. The weight of the Hot-air balloon can be controlled by varying the quantity of hot air in the balloon .

4. A hydrometer uses Archimedes' principle to determine the density of any liquid.

Conclusions

If the buoyant force equals the object's weight, the object will remain suspended at that depth. The buoyant force is always present whether the object floats, sinks, or is suspended in a fluid. Archimedes' principle states that the buoyant force on an object equals the weight of the fluid it displaces.

The upward buoyant force experienced by an immersed body is always equal to the weight of the water displaced by that immersed body.This helps in finding the volume of the an object.As , the volume of the object submerged = volume of the fluid displaced by that object.Also, he made the conclusions that If a body is weight is less than the buoyant force, it will floatIf its weight is greater than buoyant then it will sink .If its weigh is equal to the buoyant force then it will remain half submerged.

Future Scope

Today CFD simulations are becoming more and moreComputationally demanding. In many areas of science andIndustry there is a need to guarantee short turnaround timesAnd fast time-to-market. Such goals can be fulfilled only with hugeInvestments in hardware and software licenses.Graphics Processing Units provide completely new possibilitiesFor significant cost savings because simulation time can be reduced onHardware that is often less expensive than server-class CPUs. AlmostEvery PC contains a graphics card that supports either CUDA orOpenCLThe computations may be done on the CPUs and GPUsConcurrently. If there are multiple GPUs in the system, independentComputing tasks can be solved simultaneously. When cases are solvedOn GPU the CPU resources are free and can be used for other tasksSuch as pre- and post-processing. Moreover, the power efficiency perSimulation, is comparable for a dual-socket multicore CPU and a GPU.

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NAAC CRITERION - I

PROJECT WORK

MATHEMATICS

VINAYAK VIDNYAN MAHAVIDYALAYA, NANDGAON KH.

Department of Mathematics

Session- 2021-22

B.Sc.-III [Sem-VI]

Date: 02/05/2022

Paper: Graph Theory

Paper: Linear Algebra

Project Notice

All the students of B.Sc.-III Sem.-VI are hereby informed that they have to submit Project report on or before 10th May 2022 . All are informed to submit projects within the due date. The topics of projects are attached herewith.

Incharge

Department of Mathematics

Vinayak Vidnyan Mahavidyalaya, Nandgaon Kh

Dept. of Mathematics
Vinayak Vidnyan Mahavidyalaya
Nandgaon Kh.

Vinayak Vidnyan Mahavidyalaya, Nandgaon Kh.
B.Sc.-III SEM-VI
Year: 2021-22
PROJECT TOPICS

All Students of B.Sc.-III (Sem-VI) are hereby informed that, they are distributed in six group and following are the list of assignments assign to each group . All students have to submit the project report to the corresponding teacher.

Sr.No.	Name of Student	Name of Group	Name of Assignment	Remark
1	Arpita Anilrao Bhoyar	Group-A	Veector Space Definition and Examples	
2	Hitesh Vijay Raghute			
3	Nandini Ravindra Kanse			
4	Om Pramodrao Ingole			
5	Puja Subhashrao Dukare			
6	Rutuja Bharat Devtale	Group-B	Theorem on Subspaces(Test of Subspaces) with example	
7	Sakshi Kiranrao Gulhane			
8	Sneha Gajanan Sagale			
9	Swara Narendra Deshmukh			
10	Tejaswini S. Gadhekar			
11	Vaibhav Shrikrushna Gulhane	Group-C	Linear Transformation Definition with example	
12	Vaishnavi Santosh Raut			
13	Vrushbh Vishnu Madavi			
14	Abhijeet Gajanan Rithe			
15	Anand Bhaurao Nanhe			
16	Harshad Homdev Ghate	Group-D	Examples on Matrix associated with Linear Map	
17	Leena Shankar Gondane			
18	Lokesh Dipak Marotkar			
19	Mohammad Anwar M. Asrar .			
20	Namrata Mulchand Raut			
21	Payal Vyankatesh Bhasme	Group-E	Rank-Nullity Theorem (Statement and proof) with example	
22	Pranav Dinkar Gulhane			
23	Pratik Nandkishor Kaje			
24	Roshan Namdeo Rathod			
25	Rutuja Mangesh Gulhane			
26	Sakshi Devidas Ambulkar	Group- F	Theorem on Dual Spaces	
27	Shraddha Rajendra Raut			
28	Shubham Arjun Rathod			
29	Shubham Ramesrao Gulhane			
30	Shweta Pandurang Charpe			
31	Sneha Rajkumar Vanjari			

Name of Teacher: Dr. Abhijit S. Bansod

HOD: Dr. Priti B. Deshmukh

Head
Dept. of Mathematics
Vinayak Vidnyan Mahavidyalaya
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VINAYAK VIDNYAN MAHAVIDYALAYA, NANDGAON KH.

Department of Mathematics

Session- 2021-22

B.Sc.-II [Sem-IV]

Date: 02/05/2022

Paper: Modern Algebra

Paper: Classical Mechanics

Project Notice

All the students of B.Sc.-II Sem.-IV are hereby informed that they have to submit Project report on or before 10th May 2022 . All are informed to submit projects within the due date. The topics of projects are attached herewith.

Incharge

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VINAYAK VIDNYAN MAHAVIDYALAYA, NANDGAON KH.
B.Sc.-II SEM-IV
Year: 2021-22
PROJECT TOPICS

All Students of B.Sc.-II (Sem-IV) are hereby informed that, they are distributed in six group and following are the list of assignments assign to each group . All students have to submit the project report to the corresponding teacher.

Sr.No.	Name of Student	Name of Group	Name of Assignment	Remark
1	Achal Ramdas Bijave	Group-A	Lagrange's Equation of Motion for Conservative System (State and Proof)	
2	Adeeba Saman Anees Khan			
3	Akanksha Kashinath Raut			
4	Anuja Ajay Tayade			
5	Chaitali Sanjay Dok			
6	Damini Vilas Dhage	Group-B	Problems to Derive Equation of Motion (any two)	
7	Dattatray Onkar Giri			
8	Durgesh Dhananjay Mendhe			
9	Gayatri A.Solanke			
10	Jay Shyamrao Gawande			
11	Kalyani Narhari wakode	Group-C	Kepler's Laws of Planetory Motion(Statement of three Laws and proof of any one Law)	
12	Kiran Arun Kambale			
13	Manish kishor Tarhekar			
14	Mayur manish tayade			
15	Ritesh Motiram Ghodeswar			
16	Ritu Devnarayan chaudhari	Group-D	Eamples or Theorem on Central Force Motion	
17	Roshan Ashok bharaskar			
18	Rutik Tryambakrao Jawalkar			
19	Rutuja Sudhirrao Gulhane			
20	Sahil Vikas Raut			
21	Sakshi Mahendra Dukare	Group-E	Differntial Equation of Orbit	
22	Sakshi S.Herode			
23	Sakshi Vilas Dhawale			
24	Sayali pramodrao gawande			
25	Shoebnoor			
26	Shraddha Vijay Raut	Group- F	Problems on Calculus of Variation	
27	Talib Ramlani			
28	Vaishnavi Gajanan Deulkar			
29	Vaishnavi Ravindra Gatule			
30	Vivekanand Anil Pawar			

Name of Teacher: Dr. Abhijit S. Bansod

HOD: Dr. Priti B. Deshmukh
Head
Dept. of Mathematics
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Nandgaon Kh.

VINAYAK VIDNYAN MAHAVIDYALAYA,

NANDGAON KH.

TITLE OF THE PROJECT:

Rank-Nullity theorem (statement and proof) with example.

NAME OF STUDENT: Roshan Namdeo Rathod

YEAR: B.Sc.-IIIrd (2021-22)

SEMESTER: VI

Name of Teacher: Bansod sir.

SUBMITTED

TO

DEPARTMENT OF MATHEMATICS

The Rank-Nullity Theorem :-

The Rank-Nullity Theorem is a Theorem in linear algebra, which asserts that the dimension of the domain of a linear map is the sum of its rank and its nullity.

We defined the null space of a real $m \times n$ matrix A to be the set of all real solutions to the associated homogeneous linear system $AX = 0$.

Thus, nullspace $(A) = \{x \in \mathbb{R}^n : AX = 0\}$.

Theorem :- Rank-Nullity Theorem.

For any $m \times n$ matrix A, rank(A) + nullity $(A) = n$.

Proof :- If rank $(A) = n$, then by the Invertible matrix Theorem, the only solution to $AX = 0$ is the trivial solution $X = 0$. Hence in this case, nullspace $(A) = \{0\}$ so nullity $(A) = 0$ and Equation holds.

Now suppose rank $(A) = r < n$.

In this case there are $n - r > 0$ Free variable in the solution to $AX = 0$. Let $t_1, t_2, \ldots t_{n-r}$ denote these free variable and let $x_1, x_2, \ldots x_{n-r}$. denote the solutions. obtained by sequentially setting each free variable to 1 and the remaining free variable to zero. Note that $\{x_1, x_2, \ldots x_{n-r}\}$

is linearly independent. Moreover every solution to $AX=0$ is a linear combination of $X_1, X_2, \ldots, X_{n-r}$.

$$X = t_1X_1 + t_2X_2 + \ldots + t_{n-r}X_{n-r}.$$

which shows that $\{X_1, X_2 \ldots X_{n-r}\}$ spans nullspace (A). Thus $\{X_1, X_2 \ldots X_{n-r}$ is a basic for nullspace (A) and nullity $(A) = n-r$.

Example :- If

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

Find a basic for nullspace (A) and verify Theorem.

Solution :- We must find all solutions to $AX=0$ Reducing the argumented matrix of this system yields.

$$A^{\#} \overset{1}{\sim} \begin{bmatrix} 1 & 1 & 2 & 3 & 0 \\ 0 & 1 & -7 & -7 & 0 \\ 0 & -1 & 7 & 7 & 0 \end{bmatrix} \overset{2}{\sim} \begin{bmatrix} 1 & 1 & 2 & 3 & 0 \\ 0 & 1 & -7 & -7 & 0 \\ 0 & 0 & 0 & 0 & 0 \end{bmatrix}$$

1. $A_{12}(-3)$, $A_{13}(1)$ 2. $A_{23}(1)$

consequently, these are two free variable $x_3 = t_1$ and $x_4 = t_2$ so that

$$x_2 = 7t_1 + 7t_2 \qquad x_1 = -9t_1 - 10t_2.$$

Hence,

nullspace $(A) = \{(-9t_1 - 10t_2), 7t_1 + 7t_2, t_1 t_2)$
$: t_1, t_2 \in R\}$.

$= \{t_1(-9, 7, 1, 0) + t_2(-10, 7, 0, 1) : t_1 t_2 \in R\}$.

$=$ span$\{(-9, 7, 1, 0), (-10, 7, 0, 1)\}$.

since the two vectors in this spanning set are not proportional, they are linearly independent. consequently, a basic for nullspace (A) is $\{(-9, 7, 1, 0), (-10, 7, 0, 1)\}$ so that nullity $(A) = 2$. In this problem, A is a 3×4 matrix and so, in the Rank-Nulli Theorem, $n = 4$. Further, from the foregoing row-echelon Form of the argumented matrix of the system $AX = 0$, we see that rank $(A) = 2$

Hence,

Rank(A) + nullity $(A) = 2 + 2 = 4 = n$.

and the Rank - Nullity theorem is verified.

Corollary :-

Let A be an $m \times n$ matrix and consider the corresponding homogeneous linear system $AX = 0$.

1. If rank $(A) = n$, then $AX = 0$ has only the trivial solution, so null space$(A) = \{0$

2. If Rank $(A) = r < n$, then $AX = 0$. has an infinite number of solution. all of which can be obtained from.

$X = C_1 X_1 + C_2 X_2 + \ldots + C_{n-r} X_{n-r}$.

where $\{X_1, X_2, \ldots X_{n-r}\}$ is any linearly independent set of $n-r$ solutions to $AX = 0$.

Proof:- Note that part 1 is a restatement of previous results, or can be quickly deduced from the Rank - Nullity Theorem.

Now, for part 2, assume that rank $(A) = r < n$. By the Rank Nullity Theorem, Nullity $(A) = n-r$.

$X = C_1 X_1 + C_2 X_2 + \ldots + C_{n-r} X_{n-r}$.

For appropriate values of the constant $C_1, C_2, \ldots, C_{n-r}$.

Remark:-

The expression is refered to as the general solution to the system $AX = 0$.

VINAYAK VIDNYAN MAHAVIDYALAYA,

NANDGAON KH.

TITLE OF THE PROJECT:

Theorem on Dual spaces.

NAME OF STUDENT: Shubham Arjun Rathod

YEAR: B.Sc.- III rd (2021-22)

SEMESTER: VI

Name of Teacher: Bansod Sir.

SUBMITTED

TO

DEPARTMENT OF MATHEMATICS

Dual Spaces :-

Introduction :- Let V & W be vector spaces over the same field F, then, $T : V \to W$ is said to be linear map if;

$$T(u+v) = Tu + Tv$$
$$T(\alpha v) = \alpha Tu \quad \forall\ u, v \in V \ \forall\ \alpha \in F$$

or T is said homomorphism.

Consider,

The set of all such homomorphism (or vector space homomorphism).

We denote this set by $L(V, W)$.

$\therefore L(V, W) = \{T : V \to W \mid T \text{ is homomorphism}\}$

We denote addition and scalar multiplication $L(V, W)$ as follows;

$$(S+T)u \doteq Su + Tu$$
$$(\alpha T)u = \alpha Tu \quad \forall\ u, v \in V;\ \alpha \in F$$
$$\forall\ S, T \in L(V, W)$$

Under these operations $L(V, W)$ is vector space. Here identity element w.r.t. '+' is '0'.

Here '0' is zero homomorphism from V to W.

i.e.

$0 : V \to W$ is homomorphism

Theorem :- If V & W are dimensions m and n respectively. over F Then $L(V,W)$ is of dimension mn over F.

i.e, if $\dim V = m$

$\dim W = n$

Then, $\dim L(V,W) = mn$.

Theorem :- If V is a finite dimensional vector space over F. and $V(\neq 0)$ in V. Then $\exists\ f \in V$, s.t... $f(v) \neq 0$

Proof :- Let V be finite dimensional vector space over F.

Let, $\dim V = n$

Let, $B = \{v_1, v_2, \cdots v_n\}$ be basis for V.

Let $v \neq 0$ & $v \in V$.

We know that; $V = L(V,F)$

= dual space of V

= vector space of linear functional.

Let, $\hat{v}_i \in \hat{V}$ be such that...

$\hat{v}_i(v_j) = 0$ if $i \neq j$ } — (1)

$= 1$ if $i = j$

$\therefore V \in V$

$\therefore V$ is expressed as l.c of basic vector of B.

$\therefore V = \alpha_1 v_1 + \alpha_2 v_2 + \dots + \alpha_i v_i + \dots + \alpha_n v_n.$

operate '$\hat{V}_i$' on both sides.

$= \hat{V}_i(V) = \hat{V}_i(\alpha_1 v_1 + \alpha_2 v_2 + \dots + \alpha_i v_i + \dots + \alpha_n v_n)$

$= \alpha_1 \hat{V}_1(v_1) + \alpha_2 \hat{V}_i(v_2) + \dots + \alpha_i \hat{V}_i(v_i) + \dots + \alpha_n \hat{V}_i(v_n)$

$\hat{V}_i$ is linear.

$= \alpha_1 \cdot 0 + \alpha_2 \cdot 0 + \dots + \alpha_i(1) + \dots + \alpha_n \cdot 0$ — by (i)

$\therefore \boxed{\hat{V}_i(V) = \alpha_i} \quad i = 1, 2, \dots n$

To show that the n-vectors $\hat{V}_i$ form a basis for $\hat{V}$.

i.e. to show $\{\hat{V}_1, \hat{V}_2, \dots \hat{V}_n\}$ is basis for V.

for this we show that:

$[\hat{V}_1, \hat{V}_2, \dots \hat{V}_n] = \hat{V}$

& $\{\hat{V}_1, \hat{V}_2, \dots \hat{V}_n\}$ is L.I.

1st we prove that $[\hat{v}_1, \hat{v}_2, \ldots \hat{v}_n] = \hat{V}$

Let $s \in \hat{V}$

To show, s is expressed as l.c of $\hat{v}_1, \hat{v}_2, \ldots v_n$.

$\therefore s \in V$.

$\therefore s : V \to F$ is linear.

$\therefore s v \in F$ for $v \in V$.

$\because B = \{v_1, v_2, \ldots v_k, \ldots v_n\}$ is basis for V.

Let, $v_k \in V$

$\therefore s v_k \in F$.

Let $s v_k = \alpha_k \cdot \phi$

Let,

$c = \alpha_1 \hat{v}_1 + \alpha_2 \hat{v}_2 + \ldots + \alpha_n \hat{v}_n$.

$=$ l.c. of $\hat{v}_1, \hat{v}_2, \ldots, \hat{v}_n$.

To show that $\therefore s = c$

Now,

$c = (\alpha_1 \hat{v}_1 + \alpha_2 \hat{v}_2 + \ldots + \alpha_n \hat{v}_n)$

$c v_k = (\alpha_1 \hat{v}_1 + \alpha_2 \hat{v}_2 + \ldots + \alpha_k \cdot \hat{v}_k + \ldots + \alpha_n \hat{v}_n$

$= \alpha_1 \hat{v}_1 (v_k) + \alpha_2 \hat{v}_2 (v_k) + \ldots + \alpha_k \hat{v}_k (v_k) + \ldots + \alpha_n v_n (v_k)$

$= \alpha_1 \cdot 0 + \alpha_2 \cdot 0 + \ldots + \alpha_k \cdot 1 + \ldots \alpha_n$.

— by (1')

$\therefore C_{VK} = \alpha_K$.

But $S_{VK} = \alpha_K$

$\therefore \boxed{S_{VK} = C_{VK}}$ $\forall$ $V_K \in V$.

$\therefore S = C$.

$\therefore S = \alpha_1 \hat{v}_1 + \alpha_2 \hat{v}_2 + \dots + \alpha_n \hat{v}_n$.

$\therefore$ S is expressed as l.c of $\hat{v}_1, \hat{v}_2 \dots \hat{v}_n$.

$\therefore$ But $S \in \hat{V}$ is arbitary.

$\therefore$ Every member of $\hat{V}$ is expressed as l.c. of $\hat{v}_1, \hat{v}_2, \dots \hat{v}_n$.

$\therefore [\hat{v}_1, \hat{v}_2, \dots \hat{v}_n] = \hat{V}$.

$\therefore$ To show $\hat{v}_1, \hat{v}_2, \dots \hat{v}_n$ is L.I.

consider,

Linear combination.

$\beta_1 \hat{v}_1 + \beta_2 \hat{v}_2 + \dots \beta_n \hat{v}_n = 0 \in \hat{V}$

$\therefore (\beta_1 \hat{v}_1 + \beta_2 \hat{v}_2 + \dots + \beta_K \hat{v}_K + \dots + \beta_n \hat{v}_n) V_K$

$= 0 V_K$

$\therefore V_K \in V$.

$\beta_1 \hat{V}_1(V_K) + \beta_2 \hat{V}_2(V_K) + \cdots + \beta_K(\hat{V}_K)(V_K) +$

$\cdots + \beta_n \hat{V}_n(V_K) = 0$

$\therefore 0_{KK} = 0.$

$\beta_1 \cdot 0 + \beta_2 \cdot 0 + \cdots + \beta_K \cdot 1 + \cdots + \beta_n \cdot 0 = 0$

$\therefore \boxed{\beta_K = 0}$ — by (1)

$\therefore K = 1, 2, \cdots n.$

$\therefore \beta_1 = \beta_2 = \cdots = \beta_n = 0$

$\therefore$ In the above l.c. all scalers are zero.

$\therefore \{ \hat{V}_1, \hat{V}_2, \cdots \hat{V}_n \}$ is L.I.

$\therefore \{ \hat{V}_1, \hat{V}_2, \cdots \hat{V}_n \}$ is basis for $\hat{V}$.

Also $\{ V_1, V_2, \cdots V_n \}$ is basis for V,

since,

Basis does not include zero vector & we've $V = 0$

$\therefore$ Let us assume that $V = V_1$

Then

Basis of V becomes $\{ V_1, V_2, \cdots V_n \}$

Also $\hat{V}_1(V) = \hat{V}_1(V_1)$ $\quad \because V = V_1$

$\forall \; i = j$

$\therefore \hat{V}_1(V) = 1 \neq 0$

$\therefore$ These exists $\hat{V}_1 \in \hat{V}$ s.t. $\hat{V}_1(V) = 0$ where $V \neq 0$.

let $\hat{V}_1 = f$ $\because$ we've,

there exist $f(\hat{V}$ s.t. $f(V) \neq 0$ where $V \neq 0$.

VINAYAK VIDNYAN MAHAVIDYALAYA,

NANDGAON KH.

TITLE OF THE PROJECT:

Kepler's Laws of Planetory Motion (Statement of three Laws and Proof of any one Law)

NAME OF STUDENT: Ku. Kiran Arun Kambale

YEAR: B.Sc.- 2nd **(2021-22)**

SEMESTER: IV

Name of Teacher: Dr. Abhijit S. Bansod

SUBMITTED

TO

DEPARTMENT OF MATHEMATICS

- **Keplee's Law of Planetoey Motion :**

Keplee's Laws :

The asteonomee Keplee discoveeed theee laws about the motion of planet aeound the sun.

- **Statement of theee laws :**

- **Keplee's Fiest Law :**

Eveey planet desceibes an ellipse having sun at one of its focus, OR

Oebit of each planet is an ellipse with sun at one focus.

- **Keplee's Second Law :**

The eadius vectoe deawn feom the planet to the sun sweeps out equal aeeas in equal time. OR

Aeeal velocity of the planet is constant.

- **Keplee's Thied Law :**

Squaee of the peeiodic time of the planet is peopoe-tional to the cube of the semi-majoe axis of the elliptic oebit.

• State and prove the Keplee's First laws :

Proof : Consider a planet is a central attractive force field with centre at point S

∴ The force is attractive.

∴ F obeys inverse square law.

$$\therefore F \propto \frac{1}{r^2}$$

r - distance of planet from centre of force.

$$\therefore F = \frac{-K}{r^2}$$

Where $K > 0$ is real.

Also, $$V = \frac{-K}{r}$$

$$V = -KV \qquad \left(\because \frac{1}{r} = V\right)$$

We know that integral equation of central orbit is

$$\theta = \theta_0 - \int \frac{dv}{\sqrt{\frac{2mE}{h^2} - \frac{2mV}{h} - v^2}}$$ // Note //

Put $v = -Kv$

$$\theta = \theta_0 - \int \frac{dv}{\sqrt{\frac{2mE}{h^2} - \frac{2mv}{h^2} - v^2}}$$

Put $\frac{2mE}{h^2} = \alpha$ and $\frac{2mK}{h^2} = \beta$

$$\theta = \theta_0 - \int \frac{dv}{\sqrt{\alpha + \beta v - v^2}}$$

We Know that,

$$\int \frac{dx}{\sqrt{ax^2 + bx + c}} = \frac{1}{\sqrt{-a}} \cos^{-1}\left[\frac{-2ax + b}{\sqrt{b^2 - 4ac}}\right]$$

Here $a = -1$, $b = \beta$, $c = \alpha$

$$\theta = \theta_0 - \frac{1}{-(-1)} \cos^{-1}\left[-\left(\frac{2(-1)v + \beta}{\sqrt{\beta^2 - 4(-1)\alpha}}\right)\right]$$

$$\theta = \theta_0 - \cos^{-1}\left[\frac{2v - \beta}{\sqrt{\beta^2 + 4\alpha}}\right]$$

$$\therefore \theta = \theta_0 - \cos^{-1}\left[\frac{-2v - \frac{2mk}{h^2}}{\sqrt{\left(\frac{2mk^2}{h^2}\right) + 4\left(\frac{2mE}{h^2}\right)}}\right]$$

$$\theta = \theta_0 - \cos^{-1}\left[\frac{-2v - \frac{2mk}{h^2}}{\sqrt{\frac{4m^2k^2}{h^4} + \frac{4.2mE}{h^2}}}\right]$$

$$\theta = \theta_0 - \cos^{-1}\left[\frac{2v - \frac{2mk}{h^{21}}}{\sqrt{\frac{4m^2k^2}{h^4}\left(1 + \frac{4.2mE}{h^2}\,\frac{h^4}{4m^2k^2}\right)}}\right]$$

$$\theta = \theta_0 - \cos^{-1}\left[\frac{2v - \frac{2mk}{h^2}}{\frac{2mk}{h^2}\sqrt{\frac{1 + 2Eh^{21}}{mk^2}}}\right]$$

$$\theta - \theta_0 = -\cos^{-1}\left[\frac{v - \frac{mk}{h^2}}{\frac{mk}{h^2}\sqrt{\frac{1 + 2Eh^2}{mk^2}}}\right]$$

$$\cos - (\theta - \theta_0) \cdot \frac{mk}{h^2}\sqrt{1 + \frac{2Eb^2}{mk^2}} = v - \frac{mk}{h^2}$$

$$\therefore u = \frac{mk}{h^2} + \frac{mk}{h^2}\sqrt{1 + \frac{2Eh^2}{mk^2}}\cos(\theta - \theta_0)$$

$$\therefore u = \frac{mk}{h^2}\left[1 + \sqrt{1 + \frac{2Eh^{-2}}{mk}}\cos(\theta - \theta_0)\right]$$

$$u = \frac{mk}{h^2}\left[1 + e\cos(\theta - \theta_0)\right]$$

Where, $e = \sqrt{1 + \frac{2Eh^2}{mk^2}}$

Put $u = \frac{1}{2e}$

$$\frac{1}{2e} = \frac{mk}{h^2}\left[1 + e\cos(\theta - \theta_0)\right]$$

$$\therefore \left(\frac{h^2}{mk}\right) = 1 + e\cos(\theta - \theta_0) \quad \text{——— (1)}$$

eqn (1) represents conic section with one focus at origin with eccentricity e and latus rectum $l = \frac{h^2}{mk}$

Now, we have the following classification :

eqⁿ ① represents hyperbola if $e > 1$

e, if $e = \sqrt{1 + \frac{2Eh^2}{MK}} > 1$

if $1 + \frac{2Eh^2}{MK^2} > 1$

ie. if $\frac{2Eh^2}{MK} > 0$

ie. if $E > 0$

eqⁿ ① represents parabola if $e = 1$.

ie. if $1 + \frac{2Eh^2}{MK^2} = 1$

ie. if $\frac{2Eh^2}{MK^2} = 0$

ie. if $E = 0$

eqⁿ ① represented ellipse if $e < 1$.

ie. if $1 + \frac{2Eh^2}{MK} < 1$

i.e. if $\frac{2Eh^2}{MK} < 0$

ie. if $E < 0$

eqn (1) represents circle if $e = 0$

i.e. if $1 + \frac{2Eh^2}{mk^2} = 0$

i.e. if $\frac{2Eh^2}{mk^2} = -1$

i.e. if $E = \frac{-mk^2}{2h^2}$

∴ Path of the planet is a conic section Here ellipse is a particular case of general conic.

∴ Kepler's first law is proved.

∴ Planet moves in an ellipse with sun at one focus which is the centre of force.

VINAYAK VIDNYAN MAHAVIDYALAYA,

NANDGAON KH.

TITLE OF THE PROJECT:

Differential Equation of Orbit

NAME OF STUDENT: Sakshi M. Dukare

YEAR: B.Sc.- II nd (2021-22)

SEMESTER: 4th

Name of Teacher: A. Bansod Sir.

SUBMITTED

TO

DEPARTMENT OF MATHEMATICS

Differential Equation of Orbit

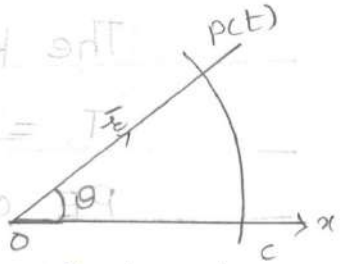
Derive the equation (differential equation) for a central orbit.

Statement:

for the central force field F, the path of a particle of mass m is given by

$$\frac{d^2u}{d\theta^2} + u = \frac{-m}{h^2u^2} F\left(\frac{1}{u}\right), \text{ where } u = \frac{1}{\bar{r}}$$

Proof: Let c be the path of the particle as shown in fig



Let o be the centre of force (Let p be the position of the particle at any time t with positibn vector $\bar{r}$)

Consider the particle moving in a central force field F ().

We know that central force motion is a motion in a plane.

∴ No. of quantities required to specify the position of particle is two.

∴ No. of degrees of freedom for the the system is two. here we consider the polar co-ordinates ε & θ

$$\therefore \quad x = \varepsilon\cos\theta$$

$$y = \varepsilon\sin\theta$$

$$x^2+y^2 = \varepsilon^2+\varepsilon^2\theta^2$$

The KE of system is

$$T = \frac{1}{2} m(\varepsilon^2+\varepsilon^2\theta^2)$$

PE of the system is

$$V = V(\varepsilon)$$

Lagrangian of the system is

$$L = T-V$$

$$L = \frac{1}{2} m(\varepsilon^2+\varepsilon^2\theta^2) - V(\varepsilon)$$

Lagrange's ε =eqⁿ is

$$\frac{d}{dt}\left(\frac{dL}{d\varepsilon}\right) - \frac{dL}{\partial\varepsilon} = 0$$

$$\frac{d}{dt}\left(\frac{1}{2}m2\dot{\varepsilon}\right) - \left(\frac{1}{2}m\dot{\theta}^2 2\varepsilon - \frac{\partial V}{\partial \varepsilon}\right) = 0$$

$$m\ddot{\varepsilon} - m\varepsilon\dot{\theta}^2 + \frac{\partial V}{\partial \varepsilon} = 0$$

$$\therefore m\ddot{\varepsilon} - m\varepsilon\dot{\theta}^2 = F(\varepsilon) \quad \text{---} \quad (2) \quad \left\{F(\varepsilon) = -\frac{\partial V}{\partial \varepsilon}\right\}$$

Lagrange's θ-eqn is

$$\frac{d}{dt}\left(\frac{\partial L}{\partial \theta}\right) - \frac{\partial L}{\partial \theta} = 0$$

$$\frac{d}{dt}\left(\frac{1}{2}m\varepsilon^2 2\dot{\theta}\right) - 0 = 0$$

$$\frac{d}{dt}\left(m\varepsilon^2\dot{\theta}\right) = 0$$

On integrating,

$$m\varepsilon^2\dot{\theta} = h \qquad \{h\text{- constant}\}$$

$$\therefore \dot{\theta} = \frac{h}{m\varepsilon^2} \quad \text{---} \quad (3)$$

$$\therefore \dot{\theta}^2 = \frac{h^2}{m^2\varepsilon^4}$$

Putting this value in (2) we get,

$$m\ddot{\varepsilon} - m\varepsilon\frac{h^2}{m^2\varepsilon^4} = F(\varepsilon)$$

$$\therefore m\ddot{\varepsilon} - \frac{h^2}{m\varepsilon^3} = F(\varepsilon) \quad \text{---} \quad (4)$$

But $\varepsilon = \frac{1}{U}$

$$\dot{\varepsilon} = \frac{-1}{U^2}\frac{dU}{dt}$$

$$= \frac{-1}{U^2}\frac{dU}{d\theta}\frac{d\theta}{dt}$$

$$= \frac{-1}{U^2}\dot{\theta}\frac{dU}{d\theta}$$

$$= \frac{-1}{U^2}\frac{h}{m\varepsilon^2}\frac{dU}{d\theta} \quad \text{(by 3)}$$

$$= \frac{-hU^2}{U^2 m}\frac{dU}{d\theta} \quad \left(\because \varepsilon = \frac{1}{U}\right)$$

$$\dot{\varepsilon} = \frac{-h}{m}\frac{dU}{d\theta}$$

Now, $\ddot{\varepsilon} = \frac{-h}{m}\frac{d}{dt}\left(\frac{dU}{d\theta}\right)$

$$= \frac{-h}{m}\frac{d}{d\theta}\left(\frac{dU}{d\theta}\right)\frac{d\theta}{dt}$$

$$= \frac{-h}{m}\dot{\theta}\cdot\frac{d^2U}{d\theta^2}$$

$$= \frac{-h}{m}\cdot\frac{h}{m\varepsilon^2}\frac{d^2U}{d\theta^2} \quad \text{(by 3)}$$

$$\ddot{\varepsilon} = \frac{-h^2U^2}{m^2}\frac{d^2U}{d\theta^2}$$

putting this value in eqⁿ (A)

$$m.\left(\frac{-h^2u^2}{m^2}\frac{d^2u}{d\theta^2}\right) - \frac{h^2u^3}{m} = F\left(\frac{1}{u}\right) \quad \left\{\because r=\frac{1}{u}\right.$$

$$-\frac{h^2}{m}u^2\frac{d^2\theta}{d\theta^2} - \frac{h^2u^3}{m} = F\left(\frac{1}{u}\right)$$

Multiply by $= \frac{m}{h^2u^2}$

$$\therefore \frac{d^2u}{d\theta^2} + u = \frac{-m}{h^2u^2}F\left(\frac{1}{u}\right)$$

This is the required differential eqⁿ of central orbit.

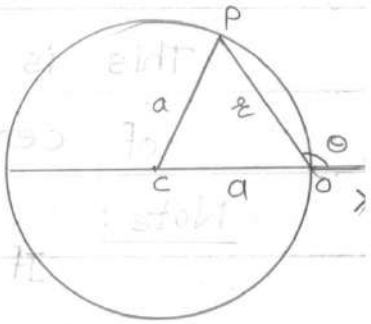
Note :

If F i.e. the force field is given, we can solve the above D.E and we get the relation between u (or r) and θ which is the equation of path of the particle. And conversely if the path of the particle is given, we can obtain the force field F or law of force.

Examples :-

① show that if a particle describe a circular orbit under the influence of an attractive central force directed towards points on the circle, then the force varies as the inverse fifth power of the distance (or to find the law of force).

Soln :- Consider the particle describing the circular path of orbit as shown in figure.



Let c be the centre of circle

Let O be the centre of Force.

Let a be the radius of circle. Also the force is attractive, Let ox be the intial line. Let p be the position of the partid at any time Let p be the position of

the particle at any time 't'

Let $OP = r$

& $\angle (XOP) = \theta$

Here we use polar co-ordinates to represent position of the particle.

i.e $P(r, \theta)$ is position of the particle at any time 't'.

We know that, polar eqn of circle of radius a is

$$r = 2a\cos\theta \quad \text{——} (1)$$

put $r = \frac{1}{u}$

or $\frac{1}{u} = r$

$\therefore \frac{1}{u} = 2a\cos\theta$

$$u = \frac{1}{2a}\sec\theta \quad \text{——} (2)$$

$$\frac{du}{d\theta} = \frac{1}{2a}\sec\theta \cdot \tan\theta$$

Again diff w.r.t θ,

$$\frac{dv}{d\theta} = \frac{1}{2a}\sec\theta.\tan\theta.$$

$$\frac{d^2v}{d\theta^2} = \frac{1}{2a}[\sec\theta.\sec^2\theta + \tan\theta.\sec\theta.\tan\theta]$$

$$\frac{d^2v}{d\theta^2} = \frac{1}{2a}(\sec^3\theta + \sec\theta.\tan^2\theta)$$

We know that diff eqn of central orbit is

$$\frac{d^2v}{d\theta^2} + v = \frac{-m}{h^2v^2}F\left(\frac{1}{v}\right)$$

Putting the values

$$\frac{1}{2a}(\sec^3\theta + \sec\theta\tan^2\theta) + \frac{1}{2a}\sec\theta = \frac{-m}{h^2v^2}F\left(\frac{1}{v}\right)$$

$$\frac{1}{2a}\sec\theta(\sec^2\theta + \tan^2\theta + 1) = \frac{-m}{h^2v^2}F\left(\frac{1}{v}\right)$$

$$\frac{1}{2a}\sec\theta(\sec^2\theta + \sec^2\theta) = \frac{-m}{h^2v^2}f\left(\frac{1}{v}\right)$$

$$\frac{1}{2a}2\sec^2\theta.\sec\theta = \frac{-m}{h^2v^2}F\left(\frac{1}{v}\right)$$

$$\frac{\sec^3\theta}{a} = \frac{-m}{h^2v^2}F\left(\frac{1}{v}\right)$$

$$\frac{(2av)^3}{a} = \frac{-m}{h^2v^2}F\left(\frac{1}{v}\right) \quad (\text{by } ②)$$

$$8a^2v^3 = \frac{-m}{h^2v^2}F\left(\frac{1}{v}\right)$$

$$\therefore \frac{h^2v^2}{m}.8a^2v^3 = F\left(\frac{1}{v}\right)$$

$$\left(\frac{-8a^2h^2}{m}\right) U^5 = F\left(\frac{1}{U}\right)$$

$$\therefore F\left(\frac{1}{U}\right) \propto U^5 \qquad \left(\because \frac{-8a^2h^2}{m} \text{ const.}\right)$$

$$\text{or } F(\varepsilon) \propto \frac{1}{\varepsilon^5} \qquad \left(\because \varepsilon = \frac{1}{U}\right)$$

which gives law of force.

where ε = distance of the particle from the centre of force

$\therefore$ The force varies inversaly as the fifth powee of the distance.

The negative sign in the above eqn indicate that the force is attractive.

A Project Report on

Title: Involvement of Group Theory in Physics, Chemistry and Biology

Submitted to

Department of Mathematics

Vinayak Vidnyan Mahavidyalaya, Nandgaon Kh.

Submitted by

Name of student : Ms. Vaishnavi Ravindra Gatwe

Class : B.Sc.- IInd **Semester:** IV **Project Group No.-** 6th

Name of Paper:- Modern Algebra (Groups - Rings)

Under the Guidance of

Dr. Priti B. Deshmukh, Department of Mathematics, VVM

Session: 2021-22

May-2022

Signature of student :

Signature of Supervisor:

Signature of Head :

12/05/2022

Contents :

Abstract

1. Group theory is the study of a set of element present in a group, in Maths. A group's Concept is fundamental to abstract algebra.
2. In this presentation, we will see the introduction and in short the history of Group theory :
3. Moreover, we will see the involvement of Group theory in Chemistry, physics as well as in Biology.

Introduction

- Group theory in mathematics refers to the study of a set of different elements present in a group. A group is said to be collection of several elements or objects which are Consolidated together for performing some operation on them.
- Group theory, in modern algebra, the study of groups, which are systems consisting of a set of elements and a binary operation that can be applied to two elements of the set, which together satisfy certain axioms.

History of Group Theory :

1. a mathematical domain studying groups in their various forms, has evolved in various parallel threads. There are three historical roots of group theory the theory of algebric equations, numb theory and geometry.

2. The French mathematician Evariste Galoi has a tragic untimely death in a duel i at the age of twenty but had in hi all to brief life made a revolutionar contribution, namely the founding of gro theory.

3. Lagrange, Abel and French mathematicia Galoris were early researchers in the field of group theory.

Involvement of Group theory in Physics :

Role of group theory in Spectroscopy

What is Spectroscopy :

Spectroscopy is defined as the Scient study of the many interaction between electromagnetic radiation and matter.

1. The application of group theory in spec troscopy intends to investigate of the way in which symmetry consideration influence the interaction of light with matter.

2. Another important function of group theory is the investigation of the light that excites different vibrational modes of a polyatomic molecule.

3. Overall, group theory plays a very important role in spectroscopy, which we can see from various applications of group theory in spectroscopy such as infrared spectrum, Raman spectrum, electronic spectrum, and so on.

Involvement of Group Theory in Chemistry

Group Theory is one of the most powerful mathematical tools use in Quantum chimistry and Symmetry. It allows the user to predict, interpret, rationalize, and often simplify complex theory and data.

1) Group theory in quantum chemistry :
In quantum chemistry, group theory can applied to be intio or semi-empirical calculations to significantly reduce the computational cost, symmetry can be used to simplify calculations. A symmetry operation is an action that leaves an object looking the same after it has been carried.

2) Group Theory in Symmetry :
1) Application of group theory in symmetry can help to solve many of the issues encountered in chemistry, and group theory

is the primary tool that is utilized to identify Symmetry. If we know how to determined the Symmetry of molecules, we can determine the Symm of other targets.

2) Group theory is the study Symmetry When an object appears Symmetric, group theory can help us study it. We apply label "Symmetric" to anything that is invariant under Some transformation.

3) In group theory, the Symmetry grou of a gemetric objects is the group of transformations under which the object is invariant, endowed with the group operation of Composition.

Involvement of Group Theory in Biology

Group Theory for Cell Cycle

- Cell Cycle is an example of a natural application of group theory because of the Cyc Symmetry govering the process.
- The step in the cell cycle include G1 → S → G M, and back to G1. In Some Cases G is essentially to brief as to be nonexist So we will ignore that state.
- To cast the Cell Cycle into group theory recall the definition of a group we gave ear The only reasonable approach for casting Cell Cycle into group theory is to use the Symmetries of a Square. Table Table 33 sho the group table for the cell cycle. It is Abelian and isomorphic to the cyclic group Z_4

Group Theory applied to DNA nucleotides to describe protein behavior

- blood group behave as a mathematical group. Blood types. A, B, AB and O are the elements of the group and the composition law is the way a group can be transfused to a patient. O is the neuter element of the group: it can be donated to any other group.

- the possibility that a mathematical, description based on group theory can describe the universal genetic code and codon sequences behavior, and consequently protein interactions.

- Applying Group Theory to DNA/proteins structure and following precise mathematical rules it is possible to explain the mechanism that regulates binding regions.

Conclusion :

- In this presentation, we had discuss the major role of Group Theory in Abstract Algebra

- Moreover, we had seen the Involvement of Group theory in physics, chemistry and biology but the specially in spectroscopy, Symmetry DNA, quantum chemistry and the cell cycle.

A Project Report on

Title: Role of Group Theory in Infrared (IR) spectroscopy and Raman spectroscopy.

Submitted to

Department of Mathematics

Vinayak Vidnyan Mahavidyalaya, Nandgaon Kh.

Submitted by

Name of student : Adeeba Saman Anees Khan.

Class : B.Sc.- IInd yr Semester: IVth Project Group No.- 02

Name of Paper:- Modern Algebra (Group and Rings)

Under the Guidance of

Dr. Priti B. Deshmukh, Department of Mathematics, VVM

Session: 2021-22

May-2022

Signature of student : Adeeba

Signature of Supervisor: 12/05/2022

Signature of Head

Abstract :-

Group theory is an important component for understanding the fundamentals of vibration spectroscopy.
Group theory is a mathematical model connecting molecular symmetry to properties such as Infrared (IR) active vibrational mode.
Application of group theory to the symmetry of molecules is powerful method.
In that this project we find the IR and Raman Active mode.

Introduction :-

There are two types of vibrational spectroscopy.

① Infrared (IR) spectroscopy :-

It is the measurement of interaction of infrared radiation with matter by absorption, emission or reflection.

② Raman spectroscopy :-

It is a non-destructive chemical analysis technique which provides detailed information about chemical structure, phase and polymorphy, crystallinity and molecular interactions

Group :- If G is non-empty set under the binary operation (*). The algebric structure (G, *) is said to be group iff it satisfied following properties.

(i) closure :- $a, b \in G \Rightarrow a * b \in G$
(ii) Associative :- $a, b, c \in G \Rightarrow a*(b*c) = (a*b)*c \in G$

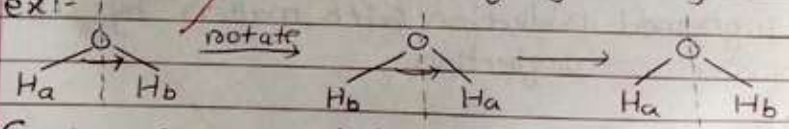
(iii) Identity element :- $a \in G$, there exist an 'e' such that $a*e = a$ or $e*a = a$
e is an identity element.

(iv) Inverse :- $a \in G$ there exist an element $a' \in G$ such that $a*a' = e$, a' is the inverse of element a.

- Point Group :- Each point group is a collection all the symmetry operations that can be carried out on a molecule belonging to that group.

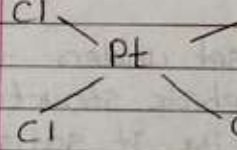
(i) Identity E [found in all molecules]
(ii) Inversion (i) → centre of symmetry
ex :-

(iii) Rotation (C_n) → axis of symmetry
ex :-



C_2 → axis of rotation is 2

(iv) Reflection (σ) → plane of symmetry
ex :- vertical plane (σ_v)
Horizontal plane (σ_h)



$2\sigma_v$
σ_h

- Character Table :- It is a two dimensional table whose rows correspond to irreducible representation and whose columns correspond to conjugacy classes of group element.

To find IR (infrared) and Raman Active mode.

- step 1 :- Find out reducible representation
  (i) No. of unshifted atom.
  (ii) contribution of characters per unshifted atom
  Firstly we will see
  (ii) contribution →

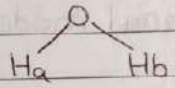
  $E = 3 \quad i = -3 \quad \sigma = 1$ for these three operation the value is fixed

  $C_n = 2\cos\theta + 1 \qquad S_n = 2\cos\theta - 1$

  $C_2 = 2\cos 2x - 1 + 1 = -1 \qquad S_4 = -1$

  $C_3 = 2 \times -\frac{1}{2} + 1 = 0 \qquad S_3 = -2$

example :-
Water molecule (H_2O)



E	C_2	σxz	σyz
3	1	1	3
3	-1	1	1
9	-1	1	3

- step 2 :- $N = \frac{1}{h} \sum_R g_p \chi_i(R) \cdot \chi_R(R)$ this value for C_{2v} character table is 1

C_{2v}	E	C_2	σv	$\sigma v'$	h = 4	
A_1	1	1	1	1	z	x^2, y^2, z^2
A_2	1	1	-1	-1	R_z	xy
B_1	1	-1	1	-1	x, Ry	xz
B_2	1	-1	-1	1	y, Rx	yz

$A_1 = \frac{1}{4}[(1 \times 9) + (1 \times -1) + (1 \times 1) + (3 \times 1)] = 3$

$A_2 = \frac{1}{4}[(1 \times 9) + (1 \times 1) + (-1 \times 1) + (-1 \times 3)] = 1$

$\Gamma B_1 = \frac{1}{4}[(1\times9)+(-1\times-1)+(1\times1)+(-1\times3)] = 2$

$\Gamma B_2 = \frac{1}{4}[(1\times9)+(-1\times-1)+(-1\times1)+(1\times3)] = 3$

$\Gamma irreps = 3A_1 + A_2 + 2B_1 + 3B_2$

- Step 3:- To find Translational and Rotational mode then we find vibrational modes

$\Gamma irreps = 3A_1 + A_2 + 2B_1 + 3B_2$

depends on the axises → $\Gamma Trans.\ mode = A_1 + B_1 + B_2$

$Rot.\ mode = A_2 + B_1 + B_2$

$Vibrational\ modes = \Gamma irreps - [\Gamma Trans.mode + Rot$

$= 3A_1 + A_2 + 2B_1 + 3B_2 - [A_1 + B_1 + B_2 + A_2 + B$

$= 3A_1 + A_2 + 2B_1 + 3B_2 - A_1 - 2B_1 - A_2 - 2$

$= 2A_1 + B_2$

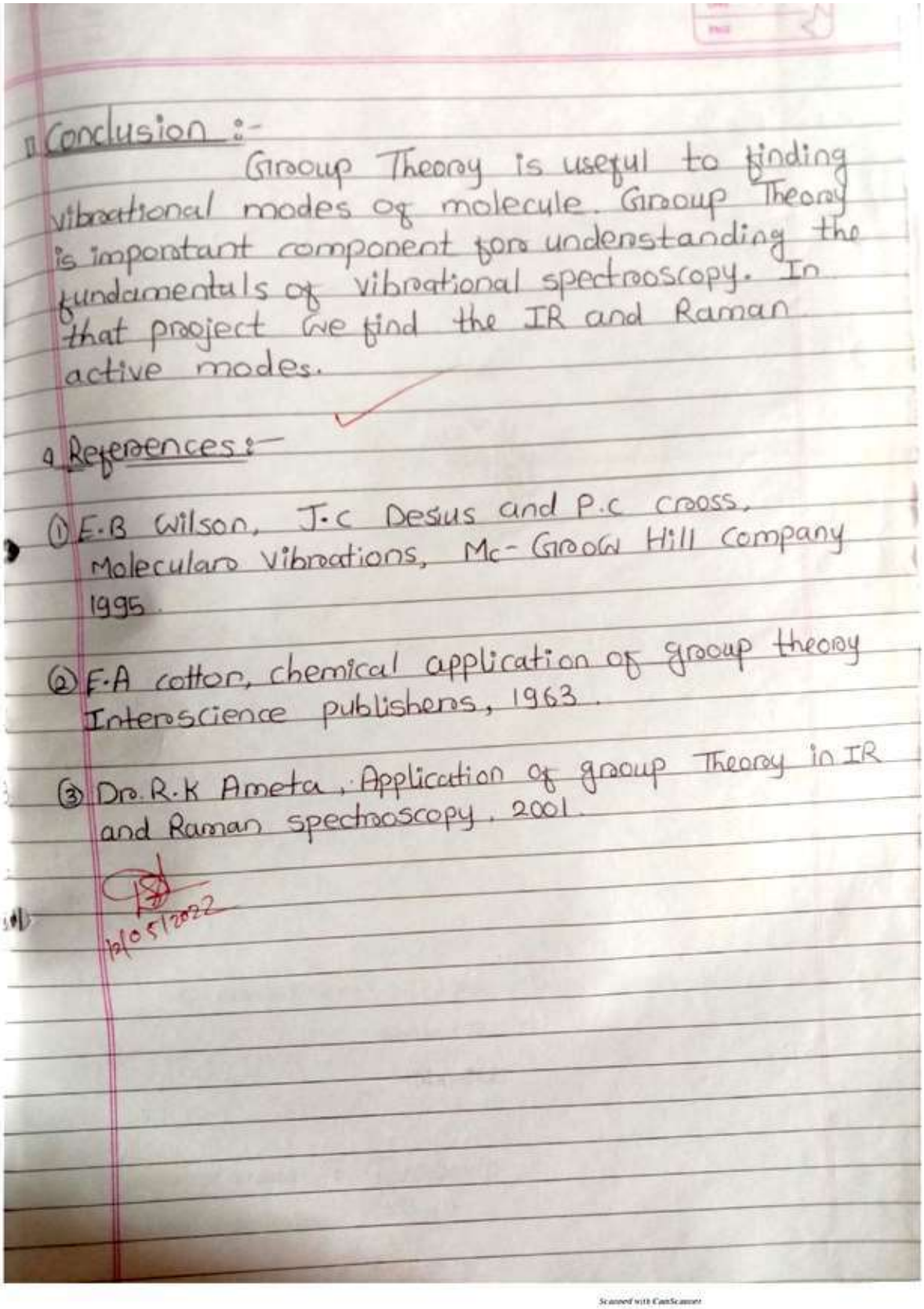
- Step 4:- To find the IR and Raman Active modes.

Vibrational mode $= 2A_1 + B_2$

IRaman Active mode = the compound show's dipole mon

IR active mode $= 2A_1 + B_2$

Raman active mode $= 2A_1 + B_2$



Conclusion :-

Group Theory is useful to finding vibrational modes of molecule. Group Theory is important component for understanding the fundamentals of vibrational spectroscopy. In that project we find the IR and Raman active modes.

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① E.B Wilson, J.C Desus and P.C cross, Molecular Vibrations, Mc-Graw Hill Company 1995.

② F.A cotton, chemical application of group theory Interscience publishers, 1963.

③ Dr. R.K Ameta, Application of group Theory in IR and Raman spectroscopy. 2001.

12/05/2022

NAAC CRITERION - I

PROJECT WORK

COMPUTER SCIENCE

VinayakVidnyanMahavidyalayaNandgaonKhandeshwar

Project submission list (S-21-22)

Class:- B SC III Sem-VI Subject: Computer Science

Sr. No	Name	Project Topic	Date of Submission	Signature of Students
1	AkashShivshankarjiBhavare	Online action system	29.04.22	
2	AtulParshramBhosale	Symbol recognition	29.04.22	A.P. Bhosale
3	BhushanGajananOmbase	Android battery system	29.04.22	B.G Ombase
4	Prathmesh Ganesh Gawner	crime rate prediction	29-04-22	
5	Prayas Shankar Dubey	Cursor movement on objectionation	29-04-2022	
6	SaurabhGovindraoBhadke	Restaurant Booking Website	29-04-2022	
7	SaurabhLaxmanraoSatpaise	Web Scraping Beautiful Soap	29-04-2022	
8	AbhijeetGajananRithe	IHconet of thinking.	29-04-22	
9	AnandBhauraoNanhe	Building Chatboks	29-04-22	A.B. Nanhe
10	HarshadHorndevGhate	Uber Data Analysis	29/4/22	
11	Leena Shankar Gondane	Electronic Book	29/4/22	
12	LokeshDipakMarotkar	OpenCV Face Detection	29/4/22	
13	Mohammad Anwar MohdAsrar	Handwritten Digit CNN	29/4/22	M.A. Modkrar
14	NamrataMulchandRaut	smart health consulting android systems	29/4/22	
15	PayalVyankateshBhasme	Mobile wallet with purchase pay	29/4/22	
16	Pranav DinkarGulhane	Common Dialogue Control mfc	29/4/22	
17	Pratik NandkishorKaje	Library management sy	29-4/22	
18	Roshan NamdeoRathod	Visual basic control	29/04/22	
19	RutujaMangeshGulhane	5G Wireless Technology	29/04/22	
20	SakshiDevidasAmbulkar	Data mining	29/04/22	
21	Shraddha RajendraRaut	Visual basic control	29/04/22	S.R. Raut
22	Shubham Arjun Rathod	common dialogue control	29-04/22	
23	ShubhamRamesraoGulhane	Car Data set Analysis	29-04/22	
24	Shweta PandurangCharpe	online shopping system	29-4-22	
25	SnehaRajkumarVanjari	Smart farming using IOT	29-4-22	
26				
27				

Asstt. Prof
Vinayak Vidnyan Mahavidyalaya
Nandgaon Kh. Dist. Amravati.

PRINCIPAL
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khan. Dist. Amravati

VinayakVidnyanMahavidyalayaNandgaonKhandeshwar

Project submission list (S-21-22)

Class:- B SC II Sem-IV Subject: Computer Science

Sr. No	Name	Project Topic	Date of Submission	Signature of Students
1	AdarshaNivruttiGavner	Face detection	26/03/2022	A.N.Gavner
2	Aditya Anil Deshmukh	Online acution system	26/03/2022	A. A. Deshmukh
3	AmanMurlidharGawaner	Evaluation of acadmic	26/03/2022	A.M.Gawaner.
4	AmanPradipraoKakade	Fetures of PL/SQL	26/03/2022	A.P.Kakade
5	AmbikaNarhariChavhan	Data likage detection system	26/03/2022	[signature]
6	ChanchalKishorGajbhiye	Software Privee Protection	20/5/2022	[signature]
7	Mamta Sanjay Meshram	Android local train-ticking system	26/03/22	[signature]
8	Mo Abuzar Mo Iliyas Shaikh	features of PL/SQL	26/03/22	A.I.Shaikh
9	Mo Sajid Hamid Makrani	e-Authentic System	26/03/22	[signature]
10	ParivartanArunTayade	Android task monitoring	26/03/22	[signature]
11	Poornima Ganesh Raut	Symbol recognition	26/03/22	P. G. Raut
12	Pranav KishorraoShelke	Anroid batty saver system	26/03/22	Pranav. K. Shelke
13	PrathmeshDadaraoHambarde	library managment	26/3/22	P.D.Hambarde
14	Prathmesh Suresh Inzalkar	Twitter sentiment analysis	26/3/22	P.S. inzalkar
15	ReshmaArunraoMargade	smart health prediction system	26/03/22	[signature]
16	Rohit Madan Bodhankar	Election Analysis	26/3/22	R. M Bodankar
17	Roshan RameshwarKalalkar	fingerprint Atm system	26-3-22	[signature]
18	SarveshDharmednraVirulkar	sms span filtering	26/3/22	S. D. Virulkar
19	Shreya Pramodrao Chore	Fingerprint based ATM system	26/03/2022	S.P. Chore
20	Shreyash Ramesh Kapse	Placement cell	26/3/22	S. R. Kapse
21	TalibFaooqRamlani	wireless sound control	26/3/22	T.F Ramlani
22	YashPramod More	Data likage detection	26-03-2022	[signature]
23	YashShyamkantPawar	computer Networking using wireless network	26/03/2022	[signature]
24	AkanshaKashinathRaut	sentiment analysis for product rating	26-03-22	A.K.Raut
25	Anuja Ajay Tayade	credit card fraud	26-03-22	[signature]
26	Chaitali Sanjay Dok	software privacy protection	26-03-22	C.Dok.
27	DaminiVilasraoDhage	Face detection	26/3/22	D. V. dhage
28	DattatryaOnkarGiri	Stachar and query language	20/5/2022	[signature]
29	DurgeshDhanjayMendhe	sentiment analysis for product rating	26/03/2022	D. Mendhe
30	GayatriAvinashSolanke	online Voting system	26/3/22	G. A. Solanke
31	Jay ShamraoGawande	Fingerprint ATM system	26/3/2022	J.S.Gawande
32	Kiran ArunKambale	Android ~~local train~~ patient tracker	26/3/22	[signature]

VinayakVidnyanMahavidyalayaNandgaonKhandeshwar				
33	Manish KishorTarhekar	Bookmarks keeper	26-3-2022	M.K.Tarhe
34	Mayur Manish Tayade	Learn to create app on kubernete	26-3-22	MMayade
35	Ritesh Motiram Ghoddeswar	Two truths & a lie game	26-3-2022	RMGhoddeshwar
36	RituDevnarayanChaudhari	E-learning Platform	26.3.2022	Ritu Dchaudhari
37	Roshan Ashok Bharaskar	chatbot Song Recommendee	26-3-2022	
38	RutujaSudhirraoGulhane	Companion App	26-3-2022	R.S.Gulhane
39	SakshiSubhashraoHerode	bug tracking	26-3-2022	S.S.Herode
40	Shoeb Ahmad Noor	Library Management system	26-3-2022	S.A.Noor
41	VaishnaviGajananDeulkar	Automated payroll System with GPS tracking.	26-3-2022	Deulkar
42	VaishnaviRavindraGatule	online shopping System	26-3-22	Gatule

Asstt. Prof
Vinayak Vidnyan Mahavidyalaya
Nandgaon Kh. Dist. Amravati

PRINCIPAL
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khan. Dist. Amravati

Project

ON

"Online Shoping System"

Project Report Submitted
In the partial fulfillment of
Bachelor In Science (B.Sc.)
Sant Gadge Baba Amravati University, Amravati

Submitted by

Name : Vaishnavi G. Deulkar
Bsc 3rd year sem (V)

Under the Guidance of

Prof. Ashivini D. Ambadakar

Submitted to

Prof. Ashivini D. Ambadakar
Department of Computer Science
Vinayak vidnyan mahavidyalya. College, Nandgaon(Kh)
(2021-22)

Declaration

I Hereby declare that the Project Assignment entitled **"Online Shoping System"**Submitted for the class is my original work Carried out by me under the guidance of **"Prof. Ashivini D. Ambadakar"** for the partial fulfillment of the award of the degree of bachelor of Science. The matter embodies in this report has of any other degree/diploma. Submitted any where else for the award.

V. Deulkar.

Place:- Nandgoan (Kh)

Signature of student

Date:-

Vaishnavi G. Deulkar

Asstt. Prof
Vinayak Vidnyan Mahavidyalaya
Nandgaon Kh. Dist. Amravati.

Vinayak vidnyan mahavidyalya Nandgao (kh)

DEPARTMENT OF COMPUTER SCIENCE

Abstract :-

This project is an ecommerce based website for online shopping through the internet. The project objective which is delivered the online shopping system application into the internet. This project is an attempt to provide the adventage of online shopping to customers of a real shop. It helps buying the products in the shop anywhere through the internet by using an ecommerce website. Thus the customer will get the services of online shopping and home delivery from this favorite shop. This system could be implemented to any kind of shop in the locality or to the multinational branded shops having retail outlet chain. Since the services should be available in the internet it is easy to accessible and avaible always.

Introduction :-

This project is a web based shopping system for an existing shop. The project objective is to deliver the online shopping application into android platform. online shopping is the process whereby consumers directly buy goods or services from a seller in real-time, without an intermediary service, over the internet. It is a form of electronic commerce. This project is an attempt to provide the advantages of online shopping to customers of a real shop. It helps buying the products in the shop anywhere through internet by using an android device. Thus the customer will get the service of online shopping and home delivery from his favorite shop

Project Objective :-

The objective of the project is to make an application in android platform to purchase items in an existing shop. In order to build such an application complete web support need to be provided. A complete and efficient web application which can provide the online shopping experience is the basic objective of the project. The web application can be implemented in the form of an android application with web view.

Project scope :-

This system can be implemented to any shop in the locality or to multinational branded shops having retail outlet chains. The system recommends a facility to accept the orders 24*7 and a home delivery system which can make customers happy. If shop are providing an online portal where their customers can enjoy easy shopping from anywhere, the shops won't be losing any more customers to the treading online shops such as flipkart or e-bay. Since the application is available in the smartphone it is easily accessible and always avaible.

Study of the System

Modules :-

The system after careful analysis has been identified to be presented with the following modules and roles :

The modules involved are.

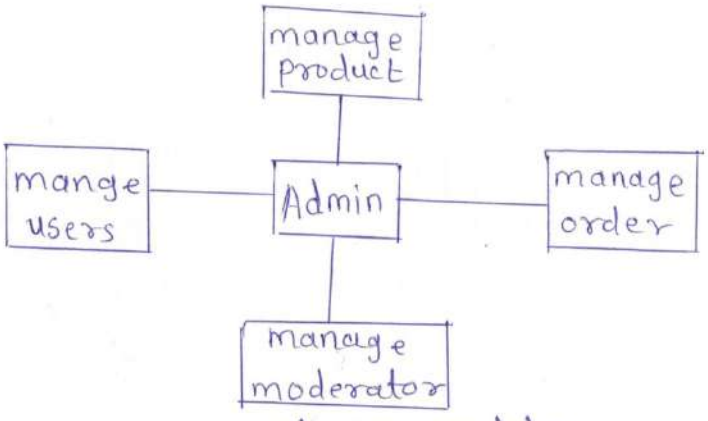
- Administrator
- moderators
- users

- **Administrator :-**

The administrator is the super user of this application. only admin have access into this admin page. Admin may be the owner of the shop. The administrator has all the information about all the users and about all products.

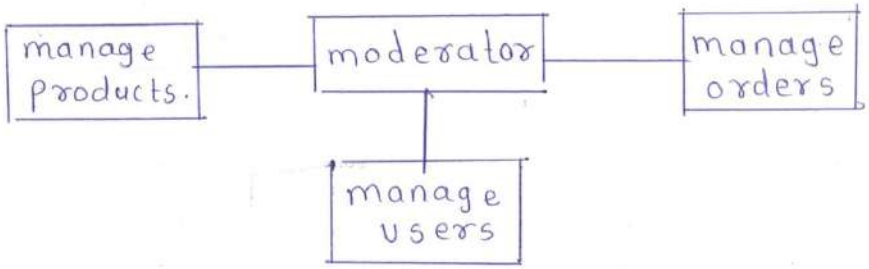
This module is divided into different sub-modules.

1. manage moderators.
2. manage products
3. manage users
4. manage orders



Admin module

- Moderators :-

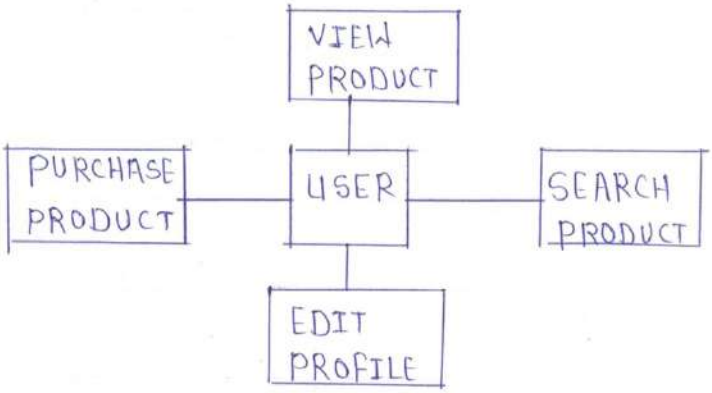


moderator module.

A moderator is considered as a staff who can manage orders for the time being. As a future update moderator may give facility to add and manage his own products. moderators can reduce the work load of admin. Now moderator his all the privilege an admin having exept managing other moderators. He can add products and users. He can also check the orders and edit his profite.

- manage products
- manage users
- manage orders.

- **Users** :-



User Module.

* **Registration** :- A new user will have to register in the system by providing essential details in order to view the products in the system.

* **Login** :- A user must login with his user name and password to the system after registration.

* **View products** :- user can view the list of products based on their names after successful login.

* **Search product** :- users can search for a particular product in the list by name.

Conclusion :-

The project entitled online shopping system was completed successfully. The system has been developed with much care and free of errors and at the same time it is efficient and less time consuming. The purpose of this project was to develop a web application and an android application for purchasing items from a shop. This project helped us in gaining valuable information and practical knowledge on several topics like designing web pages using html & css, usage of responsive templates, designing of android applications and management of database using mysql. we learned how to test different features of a project.

References :-

1] complete CSS Guide, maxine sherrin and John Allsopp - O'Reilly media; september 2012.

2] ~~http~~: Mc GrawHill's. Java: The complete reference 7th Edition, Herbert schildt.

3] Javascript Enbightenment, Cody Lindley - first Edition, based on Javascript 1.5 ECMA-262, Edition.

Project

ON

"Crime rate prediction"

Project Report Submitted
In the partial fulfillment of
Bachelor In Science (B.Sc.)
Sant Gadge Baba Amravati University, Amravati

Submitted by

Name :- Reshma Arunrao Margade.
Class : 3rd year Sem (Vth)

Under the Guidance of

Submitted to

Prof. Ashivini D. Ambadakar
Department of Computer Science
Vinayak vidnyan mahavidyalya. College, Nandgaon(Kh)
(2021-22)

Declaration

I Hereby declare that the project Assignment entitled **"Crime rate prediction"** Submitted for the class is my original work Carried out by me under the guidance of **"prof. Ashvini Ambadkar** for the partial fulfillment of the award of the degree of bachelor of Science. The matter embodies in this report has of any other degree/diploma. Submitted any where else for the award.

Place:- Nandgoan (Kh)

Date:- 15-10-22

Signature of student

Resham A. Margade

Vinayak vidnyan mahavidyalya Nandgao (kh)

DEPARTMENT OF COMPUTER SCIENCE

Certificate

This is to certify that **"Reshma Arunrao Margade"** has worked under my guidance to prepare her project entitled **"Crime rate prediction"** in partial fulfillment of the requirement for the bachelor of Computer Science (B.Sc.), affiliated to Sant Gadge Baba Amravati University, Amravati during the Academic Year 2021-22.

Ambedkar
15/10/-22

Seminar Guide:- prof. Ashvini D. Ambadkar

Asstt. Prof
Vinayak Vidnyan Mahavidyalaya
Nandgaon Kh. Dist. Amravati.

Department of Computer Science
Vinayak vidnyan mahavidyalya. College, Nandgaon(Kh)

CONTENT

ABSTRACT

Crime analysis and prevention is a systematic approach for identifying & analyzing patterns and trends in crime. by using the concept of Data Mining, we can extract previously unknown useful information from an unstructured data. Supervised learning uses data sets to train, test and get desired results on them whereas Unsupervised learning divides an inconsistent, unstructured data into classes or clusters.

Decision trees, Naive Bayes and Regression are some of the supervised learning methods in data mining and machine learning on previously collected data and thus used for predicting. With the increasing advent of computerized systems, crime data analysts can help the Law enforcement officers to speed up the process of solving crimes. Even though we cannot predict who all may be the victims of crime but can predict the place that has probability for its occurrence.

INTRODUCTION

Crime is a violation of humanity, often punishable by law. Criminology is a study of crime, interdisciplinary science that investigates and investigates crime and criminal performance data. Criminal activity is now high and the police department is responsible for controlling and reducing criminal activity. There has been tremendous increase in machine learning algorithms that have made crime prediction feasible based on past data. The aim of this project is to perform analysis and prediction of crimes in states using machine learning models. It focuses on creating a model that can help to detect the number of crimes by its type in a particular state.

In this project various machine learning models like linear regression, boosted decision trees will be used to predict crimes. Various visualization techniques and plots are used which can help law enforcement agencies to detect and predict crimes with higher accuracy.

LITERATURE REVIEW

Crime rate prediction is different in various applications, some of the studies are given below:

C.P. chaithanya, N. Manohar, Ajay Bazil Issac describes Text detection is the method of locating areas in a picture wherever, text is present. Text detection and classification in natural pictures is very important for several computer vision applications like optical character recognition, distinguish bet^ human & machine inputs and spam removal. Currently the challenge in text identifying is to detect the text in natural pictures due to many factors like, low image having a lot of color stroke than the background color, blurred pictures due to some natural problems like rain, sunny, snow, etc. The main aim of this work is to identify and classify the text in natural pictures. Here system detects the text and finds the connected regions, chain them together in their relative position. Uses a text classification engine to filter chains with low classification confidence scores.

DESIGN & METHODOLOGIES

- Data collection

Data Collection is one of the most important tasks in building a machine learning model. We collect the specific dataset based on requirements from internet. The dataset contains some unwanted data also. So first we need to pre-process the data and obtain perfect data set for algorithm.

- Pre-Processing

In is the gathering of task related information based on some targeted variables to analyze and produce some valuable outcome. However, some of the data may be noisy, i.e. may contain inaccurate values, incomplete values or incorrect values. Hence, it is must to process the data before analysing it and coming to the results. Data pre-processing can be done by data cleaning, data transformation, data selection.

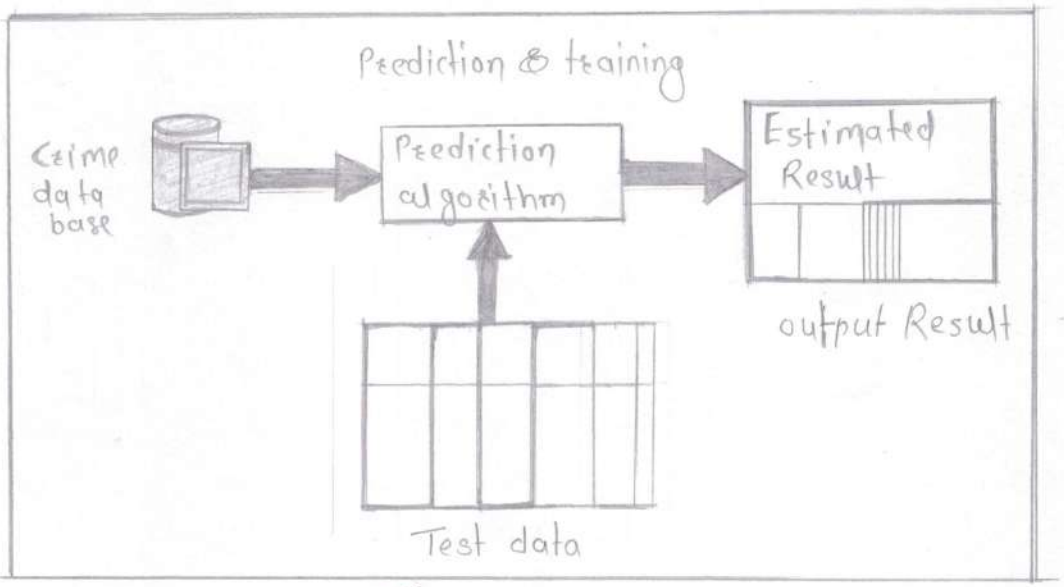
- Data Mining Techniques

Data Collection is one of the most important tasks in building a machine learning model. We collect the specific dataset based on requirement from internet. The dataset contains some unwanted data also. So first we need to pre-process the data & obtain perfect data set for algorithm.

* Linear regression :- Linear regression is one of the regression models where the variables dependent is either binary is categorical. It cannot handle continuous data.
* Decission Trees :- The decision tree was built to predict the target column, after splitting the dataset into random training and test sets. The splitting criterion 'Entropy' was decided upon for splitting the datasets.
* Random forest classifier :- Random forest classifi-ers correct the decision trees' habit of overfi-tting the training dataset. It constructs multiple trees at the training time and outputs a mean prediction in regression and mode prediction in classification of the data set.

IMPLEMENTATION

Architecture Diagram



CONCLUSION

In this system, we get to classify and cluster to improve the accuracy of location and pattern - based crimes. From the clustered results it is easy to identify crime prone areas areas and can be used to design precaution methods for future. The classification of data is mainly used to distinguish types of preventive measures to be used for each crime.

Different crimes require different treatment and it can be achieved easily using this application.

REFERENCES

* Ashish sharma, Dinesh Bhuriya, Upendra Singh "Survey of Stock Market Prediction Using Machine Learning Approach". ICECA 2017.

* http://www.google.com/events/io/2011/index-live.html

* http://en.wikipedia.org.

Mahadkar 15/10/22

NAAC CRITERION - I

PROJECT WORK

ELECTRONICS

VINAYAK VIDNYAN MAHAVIDYALAYA NANDGAON (KH.)
B.Sc. Part II Sem. IV Summer - 2022
Subject : Electronics
2021-22

Students Project report Submission Record

Sr. No.	Name of Student	Project and Seminar topic	Remark
1	Adarsha Nivrutti Gavner	Light activated switch circuit -	Submitted
2	Aditya Anil Deshmukh	Light activated switch circuit	Submitted
3	Aman Murlidhar Gavner	Light activated switch circuit	Submitted
4	Aman Pradip Kakade	D/D sound generator circuit	Submitted
5	Ambika Narhari Chavhan	IR Remote control circuit	Submitted
6	Chanchal Kishor Gajbhiye	Dancing Bicolor LED light circuit	Submitted
7	Mamta Sanjay Meshram	Boolean Algebra calculator	Submitted
8	Mo.Abuzar Mo. Iliyas Shaikh	Solar Battery charger circuit	Submitted
9	Mo.Sajid Hamid Makrani	Pull pin security alarm system	Submitted
10	Parivartan Arun Tayade	Pull pin security alarm system	Submitted
11	Poornima Ganesh Raut	Auto intensity control of street light	Submitted
12	Pranav Kishor Shelke	Simple FM Radio jammer circuit	Submitted
13	Prathmesh Suresh Inzalkar	TV remote jammer circuit	Submitted
14	Prathmesh Dadarao Hambarde	Mobile jammer circuit	Submitted
15	Reshma Arun Margade	Battery charger circuit using SCR	Submitted
16	Rohit Madan Bodhankar	Wailing siren circuit	Submitted
17	Roshan Rameshwar Kalalkar	Cell phone detector circuit	Submitted
18	Sarvesh Dharmendra Virulkar	Home Automated System circuit	Submitted
19	Shreya Pramod Chore	USB Mobile charger circuit	Submitted
20	Shreyash Ramesh Kapse	L.E.D.lamp dimmer circuit	Submitted
21	Yash Pramod More	Automatic wash room light switch	Submitted
22	Yash Shyamkant Pawar	Automatic door bell with object detection	Submitted

Signature of Teacher.
Asstt. Prof
Vinayak Vidnyan Mahavidyalaya
Nandgaon Kh. Dist. Amravati.

Principal
PRINCIPAL
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khan. Dist. Amravati

VINAYAK VIDNYAN MAHAVIDYALAYA NANDGAON (KH.)
B.Sc. Part III Sem. VI Summer - 2022
Subject: Electronics
2021-22

Students Project and Seminar file Submission Record

Sr. No.	Name of Student	Project and Seminar topic	Remark
1	Akash Shivshankar Bhaware	Biometric attendance system circuit	Submitted
2	Atul parshram Bhosale	Simulating a 555Timer with PSoC	Submitted
3	Bhushan Gajanan Ombase	Wireless switch circuit using CD4027	Submitted
4	Prathmesh Ganesh Gawner	Electronic letter box circuit	Submitted
5	Prayash Shankar Dubey	Curtain opener and closer circuit	Submitted
6	Saurabh Govind Bhadke	Polic light using 555 timer	Submitted
7	Saurabh Laxman Satpaise	Water level alarm using 555 timer	Submitted

Signature of Teacher.

Vinayak Vidnyan Mahavidyalaya
Nandgaon Kh. Dist. Amravati.

Principal

PRINCIPAL
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khan. Dist. Amravati

NAAC CRITERION - I

FIELD VISIT

PHYSICS

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI AFFILIATED

Pravin Khodke Memorial Trust's

Vinayak Vidnyan Mahavidyalaya

Tq. Nandgaon Khandeshwar, Dist. Amravati

Date: 13.11.2021

Department of Physics

All the faculty members of department of Physics are hereby informed that,we are going to organized one day educational tour to **"Raman Science Centre"** Nagpur for the students of B.Sc. I on date **27.11.2021**

Agenda of Meeting

1. Circulate this message with the students of B.Sc. part I.
2. Prepare all documents for one day educational tour.
3. Discuss and decide schedule for one day tour.
4. Collection of fees from students
5. Take RTO permission for tour.
6. Arrangement for the travels on date **27.11.2021**
7. Refreshment arrangement during tour.

All the faculty members are requested to be present for the meeting in the department of Physics.

Dr. Prashant B. Kharat

Mr. Ajay V. Ambhore

Dr. Anant Wadatkar
Assistant Professor
Department of Physics

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI AFFILIATED
Pravin Khodke Memorial Trust's
Vinayak Vidnyan Mahavidyalaya
Tq. Nandgaon Khandeshwar, Dist. Amravati

Date 13.11.2021

Department of Physics

The meeting was held on dated **13.11.2021** in the department of Physics where following points were discussed

Minutes of meetings

1. Mr. Ajay V. Ambhore has taken the responsibility to circulate this message with the students of B.Sc. part I semester I.

2. Dr. Anant Wadatkar has taken the responsibility to prepare all documents for one day tour.

3. Discussed and decided schedule for one day tour.

4. Dr. Prashant B. Kharat has taken the responsibility to collect fees for the tour from the students.

5. Mr. Ajay V. Ambhore has taken the responsibility to take RTO permission for tour.

6. Dr. Prashant B. Kharat Dr. Anant Wadatkar has taken the responsibility to arrange the travels for tour.

7. Dr. Anant Wadatkar has taken the responsibility to arrange the refreshment for the student during journey.

Dr. Prashant B. Kharat

Mr. Ajay V. Ambhore

Dr. Anant Wadatkar
Assistant Professor
Department of Physics

To

The Principal

Vinayak Vidnyan Mahavidyalaya,

Nandgaon Khandeshwar, Dist.: Amravati

Subject: Permission to organize one day educational tour to **"Raman Science Centre"** Nagpur for the students of B.Sc. I

Respected Madam.

As per the above-cited subject. Department of Physics, Vinayak Vidnyan Mahavidyalaya. Nandgaon Khandeshwar. Dist. Amravati is planning to organize one day educational tour to **"Raman Science Centre"** Nagpur for the students of B.Sc. I on 27th November 2021.

Please permit us to organize the above-mentioned educational tour.

List of Students is attached with this letter.

Thanking you.

Date: **15 Nov. 2021**

Place: **Nandgaon Khandeshwar Yours Sincerely**

Permission Granted to organize educational tour

PRINCIPAL
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khan. Dist. Amravati

Dr. Anant S. Wadatkar
Assistant Prof. and Head
Department of Physics

VINAYAK VIDNYAN MAHAVIDYALAYA
Nandgaon Khandeshwar, Dist. Amravati
(An Institute run by Pravin Khodke Memorial Trust, Amravati)

Dr. Anant Wadatkar
Head
Mob. 96235 64711

Department of Physics

Dr. Alka A. Bhise
Principal
Mob. 98235 26341

NOTICE

Department of Physics

All the students of B.Sc. I of Physics (PCM, P.M.Cp. and P.E.Cp.) are hereby informed Department of Physics is going to organized one day educational tour to **"Raman Science Centre"** Nagpur on date **27th November 2021.** Interest students register their name and tour Fees of Rs. 500 on or before **20th November 2021** to Dr. Prashant B. Kharat.

Date 15.11.2021

Dr. Anant S. Wadatkar
Assistant Professor and Head
Department of Physics
Vinayak Vidnyan Mahavidyalaya
Nandgaon (Kh.), Dist.Amravati

VINAYAK VIDNYAN MAHAVIDYALAYA

Nandgaon Khandeshwar, Dist. Amravati

(An Institute run by Pravin Khodke Memorial Trust, Amravati)

Sau. Sulabha Sanjay Khodke
(MLA, Amravati)
President, PKM Trust, Amravati

College Code: 197 Ph. No. 07221-222245
Email: vvm197@sgbau.ac.in

Dr. Alka Anant Bhise
Principal
Mob. 98235 26341

Ref.: PKMT/VVM/ 2021/05/ 20.11.21 Date: 20.11.2021

To,
Project Director,
Raman Science Center
Nagpur-440018

Subject: Regarding the educational tour at Raman Science Center, Nagpur.

Dear Sir/Madam,

Department of Physics, Vinayak Vidnyan Mahavidyalaya, Nandgaon Khandeshwar, Dist. Amravati has planned an educational tour at **Raman Science Center, Nagpur** on **Saturday, 27th November, 2021**. There will be **20 students and 3 teaching staff** arriving at your Center, so please allow our students and staff with necessary concession in the fees for the same.

Yours faithfully,

Dr. Alka Bhise
PRINCIPAL
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khan. Dist. Amravati

VINAYAK VIDNYAN MAHAVIDYALAYA
Nandgaon Khandeshwar, Dist. Amravati
(An Institute run by Pravin Khodke Memorial Trust, Amravati)

Dr. Anant Wadatkar
Head
Mob. 96235 64711

Department of Physics

Dr. Alka A. Bhise
Principal
Mob. 98235 26341

Educational Tour schedule

Department of Physics, Vinayak Vidnyan Mahavidyalaya, Nandgaon Khandeshwar has organized one day educational tour for BSC 1st year students at Raman Science Centre, Nagpur on 27th November 2021. there where 20 students and 23 teaching staff the schedule of the tour is tabulated as follows.

Time	Event
7:30 AM	Departed from College (VVM, Nandgaon Kh.)
12:30 PM	Reached Raman Science Centre, Nagpur
01 :00 pm to 01 :20	Planetarium Show
01 :30 pm to 01:20	Science on a Sphere Show
02: 00 pm to 02:20	3-D Science Show
02: 30 pm to 02:50	Fun Science Gallery
03:00 pm to 03:30	Lunch
03:30 pm to 04:00	Inventions Gallery
04:00 pm to 04:50	Water: The Elixir of life Gallery
5:30 PM	Departed from Raman Science Centre for College
9:30 PM	Arrived at College (VVM, Nandgaon Kh.)

Dr. Anant S. Wadatkar
Assistant Professor and Head
Department of Physics
Vinayak Vidnyan Mahavidyalaya
Nandgaon (Kh.), Dist.Amravati

Vinayak Vidnyan Mahavidyalaya, Nandgaon Khandeshwar

Department of Physics

Educational Tour at Raman Science Centre, Nagpur

List of Students

Sr.No.	Name of Students	Mobile No.	Class	Fees	Remark
1.	Chetan Chandan Shinde	8265074287	B.Sc. I	500	Paid
2.	Chetan Ganeshrao Vaidya	8806680775	B.Sc. I	500	Paid
3.	Komal Rajesh Narode	8767123060	B.Sc. I	500	Paid
4.	Pratik Rajendra Shendre	9021356371	B.Sc. I	500	Paid
5.	Sakshi Hemantrao Sonone	7350958117	B.Sc. I	500	Paid
6.	Sameer Damodhar Dhomane	9657435955	B.Sc. I	500	Paid
7.	Shaikh Tahir Shaikh Ameen .	9175256250	B.Sc. I	500	Paid
8.	Shivam Shyam Bhusare	7498983428	B.Sc. I	500	Paid
9.	Shyam Niranjan Kanse	7709617712	B.Sc. I	500	Paid
10.	Vaishnavi Ratnakar Belsare	9158491418	B.Sc. I	500	Paid
11.	Aachal Rajesh Tobre	7498743312	B.Sc. I	500	Paid
12.	Prajwal Govindrao Kakade	7218725501	B.Sc. I	500	Paid
13.	Sachin Kishor Raut	9529232567	B.Sc. I	500	Paid
14.	Yash Vinod Ravekar	9823682393	B.Sc. I	500	Paid
15.	Ajinkya Sureshrao Daroi	9307120056	B.Sc. I	500	Paid
16.	Aman Sanjeet Tadam	7030060212	B.Sc. I	500	Paid
17.	Buddhshanti Pramod Sukhdeve	8551099490	B.Sc. I	500	Paid
18.	Pratik Jayvant Gadekar	7841004256	B.Sc. I	500	Paid
19.	Prerna Sanjay Deshmukh	8999950130	B.Sc. I	500	Paid
20.	Shantanu Avinash Solanke	9370910662	B.Sc. I	500	Paid

Head
Department of Physics

Principal
Vinayak Vidnyan Mahavidyalaya
Nandgaon Khandeshwar,

Vinayak Vidnyan Mahavidyalaya, Nandgaon Kh.
Department of Physics

Report of Educational Tour

Title: Educational Tour at Raman Science Centre, Nagpur
Date: 27th November 2021

Educational tour objectives, students need to apply skills, values and general knowledge in new settings. It is a great and actual way to learn specific subjects beyond textbooks and lectures. Study tours can be a great way to learn new things about different cultures and be aware of certain differences between them, as well as similarities. It makes students see certain issues in a new perception and some study tours even allow students to immerse themselves in a different community. In return, they are exposed to cultures of different socio-economic statuses which help them build consideration and better thoughtful for these cultures.

Science is a part of our routine life and is universal. There is a necessity to have clear vision and determination to pursue it and Raman Science Centre is a place which helps students in giving that vision and determination. This tour not only enhanced their quality to know more in depth, but also provide proper guidance to sightsee more and come up with new ideas.

At this Raman Science Centre, students observed Spiral musical pipe and understood its functioning. They also observed Size-weight illusion, Kinetic sculpture, Pendulum wave, Invisible chair, Colour filters, Colour TV principle, Hyperbolic, Simple camera, Taller and easier balance, illusion mechanism, pattern recognition. Students also collected an information of Scientists and their Inventions. Students enjoyed the experiments placed in 3D show of Apollo and Planetarium the story "The Sun". Students also experienced learning and understood that science is really fun and full of knowledge.

Dr. Anant S. Wadatkar
Assistant Professor and Head
Department of Physics


Photographs of Tour
RAMAN SCIENCE CENTRE
Vinayak Vidnyan Mahavidyalaya
Department of
Physics

NAAC CRITERION - I

FIELD VISIT

BOTANY AND ZOOLOGY

Report on World Wetlands Day (Field Work)

Vinayak Vigyan Mahavidyalaya Nandgaon Khandeshwar, run by Pravin Khodke Memorial Trust, jointly celebrated World Wetlands Day on 2nd February 2022 in association with Zoology and Botany. On this occasion, bird watching was organized for the college students at Savner Lake near Nandgaon Khandeshwar.

The Department of Zoology and Botany of the College always organizes various programs for environmental awareness. 35 students visited the lake at Savner on the occasion of World Wetlands Day on 2nd February. The aim of the program is about to create awareness among the students about the environment and the biodiversity of birds.

First of all, the organizer of this program Asst Prof. Dr. Swapnil Tinkhede explained the role of this program. Mr. Amit Sontakke, Wildlife Scholar, was the chief guide on this occasion. He gave important information to the students about different birds as well as their habitat, their way of life. At this time the students observed many migratory birds from different regions.

The students got to see a variety of migratory and local birds such as River tern, Painted Stock, Black Head Ibis, Gray Heron, Black Wing Stealth at the lake. On this occasion, IQAC coordinator of the college Asst Prof.. Dr. Suchita Khodke was the chief guest. She also guided the students about the environment and its depletion.

Head of Zoology Prof. Dr. Pratibha Mahalle also guided the students on the importance of birds in the environment. A large number of students were present at this time. At the end of the program, Prof. Dr. Gajendrasingh Pachlore thanked the audience. For the success of the program, Prof. Dr. Swapnil Tinkhede, Prof.Dr. Gajendrasingh Pachlore, Asst prof. Shilanand Hiwarale, Prof. Subodh Bansod worked tirelessly and the event passed with enthusiasm.

PJMahalle

Head
Dept. of Zoology
Vinayak Vidnyan Mahavidyalaya
Nandgaon Kh.

NAAC CRITERION - I

INTERNSHIP

B.Sc. III and B.Com. III

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Date 07 JUL 2022

To,
The Principal,
Vinayak Vidnyan Mahavidyalaya,
Nandgaon Khandeshwar, Dist. Amravati.

Subject: Summer Internship Programme 2021-22

This is to certified that, following students of the class **B.Sc. Part III** with subject **Botany** from your institutes have completed a **"Summer Internship"**on **"Biofertilizer**from **21st June to 6thJuly 2022.**

During this internship, we had given enough exposure to theory as well as practical aspects of the Biofertilizer which will be proven helpful for their academic progress in future. All the students were **Curious, Hardworking,** and **Diligent** during this internship programme.

We wish them every success in their life and career. Looking forward for the same cooperation in future also.

List of students for Internship in 2021-2022			
Sr. No.	Name of Student	Class	College
1	Asmita Gopal Sable	B.Sc. III	Vinayak Vidnyan Mahavidyalaya,Nandgaon Kh. Dist-Amravati
2	Bhagyashri Jaykumar Shelke		
3	Divya Murlidhar Kakade		
4	Jayashree Rajendra Tankar		
5	Pallavi Prabhakar Gulhane		
6	Pratiksha Vilasrao Shahade		
7	Priyanka Pramodrao Gulhane		
8	Rajani Ashokrao Chavhan		
9	Rupali Vasudeo Mahato		
10	Sarthak Uttamrao Raut		

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Managing Director
Director

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18 JUL 2022

To,

The principal ,

Vinayak Vidnyan Mhavidyalaya

Nandgaon Khandeshwar,

Dist. Amravati

Subject : Summer Internship Program 2021-22

This is to certify that, Following Student of your College Vinayak Vidnyan Mahavidyalaya, Nandgaon Khandeshwar affiliated to Sant Gadge Baba Amravati University, Amravati has completed an internship programme "Customer Relationship Management at our organization from 01 July 2022 to 15 July 2022.

During his internship period, we found him sincere, dedicated and enthusiastic, we wish him good luck for his future projects.

Sr. No	Name of Candidate	Class
1	Abhijeet Rameshrao Suroshe	B.Com -III
2	Abhijit Pravin Mohture	B.Com -III
3	Adarsh Sanjay Lanjewar	B.Com -III
4	Aditya Prakashrao Hadke	B.Com -III
5	Arpit Sudhir Ganthale	B.Com -III
6	Ashish Ramesh Nagpure	B.Com -III
7	Ashvini Namdeo Marabde	B.Com -III
8	Dipali Manikrao Meshram	B.Com -III
9	Dipali Sanjay Shende	B.Com -III
10	Divya Rajeshrao Kene	B.Com -III
11	Gaurav Arunrao Shinde	B.Com -III
12	Gaurav Subhash Hambarde	B.Com -III
13	Prathmesh Vijay Raut	B.Com -III
14	Pratiksha Rajesh Ingole	B.Com -III
15	Vaishnavi Gajanan Marotkar	B.Com -III

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