Manoharbhai Shikshan Prasarak Mandal Armori's
MAHATMA GANDHI ARTS, SCIENCE &
LATE NASARUDDINBHAI PANJWANI COMMERCE
COLLEGE, ARMORI
Dist. Gadchiroli (Maharashtra) 441 208
Affiliated to Gondwana University, Gadchiroli.
Re-accredited by NAAC 'A' with 3.24 CGPA

ANNUAL QUALITY ASSURANCE REPORT

AQAR : 2022-2023

CRITERION – I

CURRICULAR ASPECTS

METRIC NO: ~ 1.3.3.

METRIC NAME: ~Number of students undertaking project work / field work/ internships.

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Project Work Reports/ Field Visit Reports of B.Sc.

MANOHARBHAI SHIKSHAN PRASARAK MANDAL ARMORI'S
MAHATMA GANDHI ARTS, SCIENCE &
LATE NASARUDDINBHAI PANJWANI COMMERCE COLLEGE
ARMORI Dist. Gadchiroli (M.S.) 441 208
Affiliated to Gondwana University, Gadchiroli
Re-accredited by NAAC 'A' with 3.24 CGPA (2022)
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Certificate of Verification

The document herewith is a testimonial of the following specifics;

- AQAR 2022-23
- Criterion - **I (Curricular Aspects)**
- Metric no. – **1.3.3**
- Metric Particular – **Number of students undertaking project work / field work/ internships.**

It is affirmed that the attached document pertinent to the above cited specifics are duly verified and approved by the IQAC.

Criterion Head

IQAC Coordinator

IQAC-Co-ordinator

IQAC Chairperson

PRINCIPAL
M.G. Arts, Science &
Late N.P. Commerce College
ARMORI, Dist. Gadchiroli

M.G. Arts, Science & Late N.P. Commerce College * Armori *

Project Work Report B.Sc.III (Chemistry)

महात्मा गांधी कला विज्ञान

A ffiliated to

GONDWANA UNIVERSITY, GADCHIROLI

PROJECT REPORT

SESSION 2022 – 2023

DEPARTMENT OF CHEMISTRY

SKILI ENHANCEMENT COURCE

B.SC. (CHEMISTRY) SEM. VI

Topic :- "Survey on different types of Multivitamine, Antacid Antihistaminic, Hypertensitive, Antidiabetic Drugs using in Armori market Area"

In partial fulfilment of thre years full-time graduation degree program

UNDER THE GUIDENCE OF

Dr. N.D. BANSOD	**PROF. S.M. SONTAKKE**	**Dr.S.S.KOLA**
(ASSISTANT PROFESSOR)	(H.O.D. OF CHEMISTRY DEPARTMENT)	(ASSISTANTPROFESSOR)

SUMBITED BY

Group – II

SKILI ENHANCMENT GROUP II

CHEMISTRY

SKILL ENHANCEMENT COURCE CERTIFICATE

This is Certified that **GROUP-II** of Chemistry Department Satisfactorily Completed the Project work on the topic "**Survey on Different types of Multivitamine, Antacid Antihistaminic, Hypertensitive, Antidiabetic, Drugs using in Armori market area".** As Fulfilment for the Degree of Bachelor of Science (B.SC.) VI During Academic 2022-2023

Head of Department (Chemistry)

Prof. S. M. Sontakke

Head
Dept. of Chemistry
M.G. Arts, Science & Late N.P
Commerce College Armori

Project head

1) Dr. Naresh Bansod

Assistant Professor
Dept. of Chemistry
M.G. Arts, Science & Late N.P.
Commerce College Armori.

2) Dr. Satish Kola

DATE :-

PLACE :-

GROUP – II

DECLARATION

I Hereby Declare that the matter embedded in this project entitied **Survey on different types of Multivitamine, Antacid Antihistaminic, Hypertensitive, Antidiabetic, Drugs using in Armori market area.** Is genulne work carried out with my group members under the guidance of PROF S. M. SONTAKKE, Department of Chemistry. M. G. College Armori. The work presented in this is thesis is original and has not

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4	Pratiksha Anil Misar	Pmisar.
5	Jayant Namdeve Hargule	JNH.
6	Aswini Lalaji nagmoti	A.L.Nagmoti
7	Vaishnavi Bhojraj Thakare	VBthakare.
8	Asmita Santosh Mohurle	A.S.Mohurle
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10	Sushma Rhushiwar Pradhan	S.R.Pradhan
11	Kunal Rajendra Bawankar	KRBawankar
12	Shantanu Sunil Bangare	SSB.
13	Vaishnavi Vinod Shiurkar	Shiurkar

ACKNOWLEDGMENT

I take this opportunity to express my profound gratitude and deep regard to my guide Prof. S. M. Sontakke (HOD) Chemistry , M. G. College ,Armori for this examplary guidance , monitoring and constant encouragement throughout the course of this project. The blessings , help and guidance given by him time to time shall carry to me in the journey of our life on which I am about to embark.

I am extreamly thankfull to Dr. S. S. Kola and Dr. N . D. Bansod of Chemistry department , for their timely help . I also express a deep sense of gratitude to the Dr. L. H. Khalsa sir Principal of the M. G. College, for giving me this opportunity and for providing me all the require facilities in chemistry department .

Lastly, I thank Almighty , my parents and friends for there constant encouragement without which project would not be possible.

Skill Enhancement Group – II
Chemistry

VISIT REPORT

Skill enhancement group –II of BSc 3rd year 5th semester visited to the following medical stores located in armori town in gadchiroli district .

- Dhanvantari medical store Bhagatsing ward, Palora road Armori .
- Manoshanti medical store Tadulwar Nagar ,Old bus stop Armori.

We gatherd information from medical stores from armori town regarding patients using various Multivitamins , Antacid , Antihistaminic, Hypertensive , Antidiabetic Drugs.

The purpose of visit was to know more aboute dsrugs used in Multivitamins , Antacid , Antihistaminic, Hypertensive , antidiabetic drugs tablets and syrup , their effects uses guidelines etc.

In this way we have visited medical store to know chemical composition of the drugs. Pharmacists told us A lot about medicin and their used , side effects , composition and various brands. In this way we have completed our skill enhancement project successfully.


GPS Map Camera
Armori, Maharashtra, India
FX8P+WHM, Palora Rd, Armori, Maharashtra 441208, India
Lat 20.467358°
Long 79.986433°
24/11/22 11:03 AM GMT +05:30
Google


GPS Map Camera
Armori, Maharashtra, India
FX8P+9FH, Kohamara- Wadsa - Gadchiroli - Saoli - Chandrapur Rd,
Tadulwar Nagar, Armori, Maharashtra 441208, India
Lat 20.466117°
Long 79.986353°
24/11/22 11:24 AM GMT +05:30
Google

MULTIVITAMINS DRUGS

A **Multivitamins** is a preparation intended to serve as a dietary supplements with vitamins, dietary minerals , and other nutritional elements. Such preparations are available in the form of tablets, capsules, pastilles, powders, liquids, or injectable formulations. Other than injectable formulations, which are only available and administered under medical supervision, multivitamins are recognized by the Codex Alimentarius Commission as a category of food.

In healthy people, most scientific evidence indicates that multivitamin supplements do not prevent cancer, heart disease or other ailments, and regular supplementation is not necessary. However, specific groups of people may benefit from multivitamin supplements, for example, people with poor nutrition or those at high risk of macular degeneration.

There is no standardized scientific definition for multivitamin. In the United States, a multivitamin/mineral supplement is defined as a supplement containing three or more vitamins and minerals that does not include herbs, hormones, or drugs, where each vitamin and mineral is included at a dose below the tolerable upper intake level as determined by the Food and Drug Board, and does not present a risk of adverse health effects.

- **Chemical Contain of Multivitamins** –

Many multivitamin formulas contain vitamin C, B1, B2, B3, B5, B6, B7, B9, B12, A, E, D2 (or D3), K, potassium, iodine, selenium, borate, zinc, calcium, magnesium, manganese, molybdenum, beta carotene, and/or iron.

- **Storage Condition on Multivitamins –**

Store your vitamins in areas away from heat, moisture, and direct sunlight. Most vitamins must be stored at temperatures that do not exceed 30°C.

- **Uses of Multivitamins –**

➢ Vitamins are the main building blocks of the body and help you maintain good health. Some believe that multivitamin supplements can also compensate for poor eating habits and even reduce your risk of chronic diseases.

➢ The concept of vitamin supplements is not new for us, but this COVID-19 pandemic brings them into the limelight. They may help us to increase our natural immunity and fight against coronavirus.

➢ The Multivitamin capsule contains vitamin C, vitamin E, and vitamin D-know for strengthening the immune system. Vitamin C and vitamin E are antioxidants that help to reduce allergy symptoms.

Example :- Zincovit , Oxycrat

- Structure of Multivitamins -

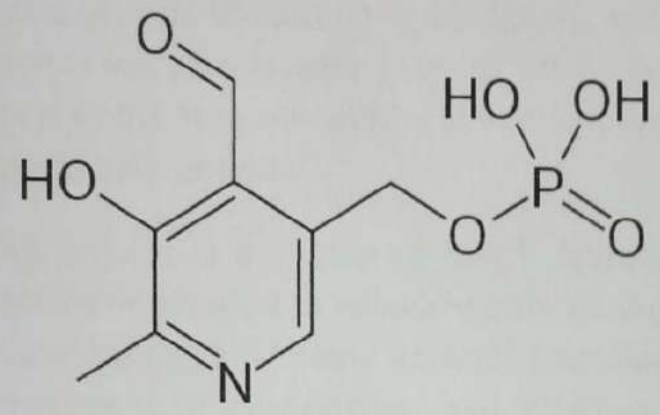


Fig. Vitamin B6 (Pyridoxine)

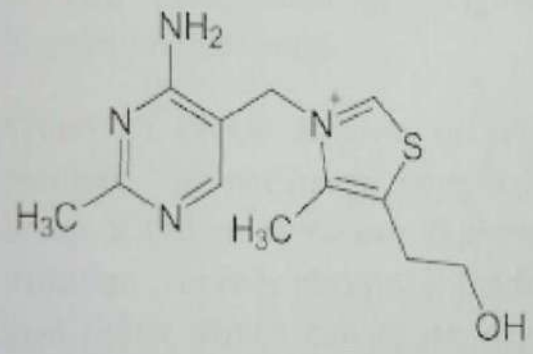


Fig. Vitamin B1 (thaimin)

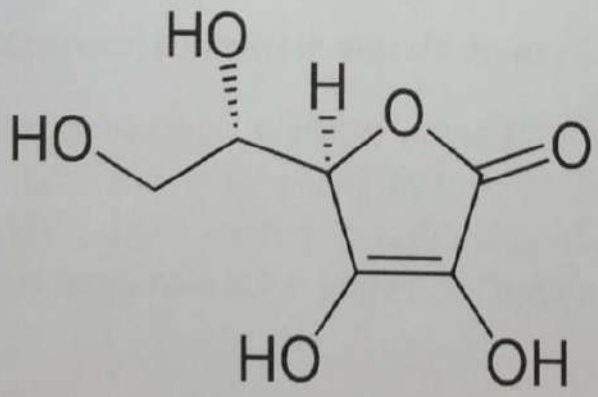


Fig. Vitamin C (Ascorbic acid)

ANTACID DRUGS

Antacids are a combination of various compounds with various salts of calcium, magnesium, and aluminum as active ingredients. The antacids act by neutralizing the acid in the stomach and by inhibiting pepsin, which is a proteolytic enzyme.

An antacid is a substance which neutralizes stomach acidity and is used to relieve heartburn, indigestion or an upset stomach.[1] Some antacids have been used in the treatment of constipation and diarrhea.[2] Marketed antacids contain salts of aluminum, calcium, magnesium, or sodium.[2] Some preparations contain a combination of two salts, such as magnesium carbonate and aluminium hydroxide.

When an excess amount of acid is produced in the stomach, the natural mucous barrier that protects the lining of the stomach can degrade, leading to pain and irritation. There is also potential for the development of acid reflux, which can cause pain and damage to the esophagus.

- **Chemical contains in antacid drugs -**

Most commercially available antacids are combinations of aluminum and magnesium hydroxide. Some effervescent antacids contain sodium bicarbonate, that old household remedy for tummy aches known as "baking soda."

Common types of Antacids

Aluminium Hydroxide, Magnesium Carbonate, Magnesium Trisilicate, Magnesium Hydroxide, Calcium Carbonate, Sodium Bicarbonate.

- **Storage Conditions of Antacid drugs -**

Store the Antacid calcium carbonate (Maalox, Mylanta, Rolaids, Tums) in its original container. Keep it sealed and somewhere children can't see or reach it. Store it at room temperature and away from excess heat and moisture. Do not store it in the bathroom.

Eight antacid mixtures were stored for 110 days at 25 degrees C, 35 degrees C and 45 degrees C in the form of suspensions in water. Changes in pH were followed, and the structural changes in suspension components were studied by X-ray analysis. It has been stated that formation of hydrotalcite, the product od interaction of the mixture components depends mainly on the kind and ratio of the suspension reactants, and only to a little degree on the storage temperature.

- **Uses of Antacid drugs -**

Antacids are medicines that counteract (neutralise) the acid in your stomach to relieve indigestion and heartburn. They come as a liquid or chewable tablets and can be bought from pharmacies and shops without a prescription.

Each of these cationic salts has a characteristic pharmacological property that determines its clinical use. Antacids have therapeutic use for the following-

Heartburn symptoms in GERD, Duodenal and gastric ulcers, Stress gastritis, Pancreatic insufficiency, Non-ulcer dyspepsia, Diarrhea caused by bile-acid, Biliary reflux, Constipation, Osteoporosis, Urinary alkalinization , Phosphate binding in chronic renal failure.

- **Example :- Pantin - D , Rabez – D.**

- **Structure of Antacid drugs –**

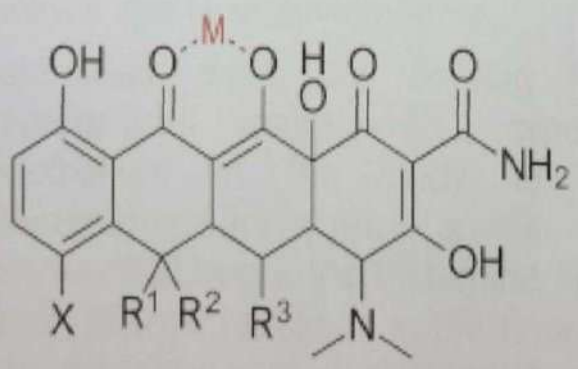


Fig. Antacid drugs

ANTIHISTAMINIC DRUG

Antihistamines are drugs which treat allergic rhinitis, common cold, influenza, and other allergies. Typically, people take antihistamines as an inexpensive, generic (not patented) drug that can be bought without a prescription and provides relief from nasal congestion, sneezing, or hives caused by pollen, dust mites, or animal allergy with few side effects. Antihistamines are usually for short-term treatment. Chronic allergies increase the risk of health problems which antihistamines might not treat, including asthma, sinusitis, and lower respiratory tract infection. Consultation of a medical professional is recommended for those who intend to take antihistamines for longer-term use.

Although people typically use the word "antihistamine" to describe drugs for treating allergies, doctors and scientists use the term to describe a class of drug that opposes the activity of histamine receptors in the body. In this sense of the word, antihistamines are subclassified according to the histamine receptor that they act upon. The two largest classes of antihistamines are H_1-antihistamines and H_2-antihistamines.

H_1-antihistamines work by binding to histamine H_1 receptors in mast cells, smooth muscle, and endothelium in the body as well as in the tuberomammillary nucleus in the brain. Antihistamines that target the histamine H_1-receptor are used to treat allergic reactions in the nose (e.g., itching, runny nose, and sneezing). In addition, they may be used to treat insomnia, motion sickness, or vertigo caused by problems with the inner ear. H_2-antihistamines bind

to histamine H_2 receptors in the upper gastrointestinal tract, primarily in the stomach. Antihistamines that target the histamine H_2-receptor are used to treat gastric acid conditions (e.g., peptic ulcers and acid reflux). Other antihistamines also target H_3 receptors and H_4 receptors.

Histamine receptors exhibit constitutive activity, so antihistamines can function as either a neutral receptor antagonist or an inverse agonist at histamine receptors. Only a few currently marketed H_1-antihistamines are known to function as inverse agonists.

- **Chemical Contain of Antihistaminic Drugs –**

Traditionally, H_1 Antihistamines have been classified into 6 chemical groups: **alkylamines, ethanolamines, ethylenediamines, phenothiazines, piperazines, and piperidines.**

Antihistamines are a pharmaceutical class of drugs that act to treat histamine-mediated conditions. There are two main classes of histamine receptors: H-1 receptors and H-2 receptors. Antihistamine drugs that bind to H-1 receptors are generally used to treat allergies and allergic rhinitis. Drugs that bind to H-2 receptors can treat upper gastrointestinal conditions that are caused by excessive stomach acid. This activity reviews the indications, contraindications, activity, adverse events, and other vital elements of antihistamine therapy in the clinical setting as relates to the essential points needed by members of an interprofessional team managing the care of patients with conditions that respond to histamine receptor blockade.

- **Storage condition on Antihitaminic drugs –**

  - Store at room temperature (15 to 25°C). Temperature is especially important in the case of insulin.
  - Store in a dry place.
  - Avoid storing your medicine in the bathroom or kitchen, as the heat and moisture in these rooms may cause damage to your medication. Your bedroom is a better place.
  - Keep all medicines out of sight and reach of children and pets.
  - Don't use medicines beyond their expiry date.
  - Keep the original containers as they generally contain instructions and are designed for optimal storage.
  - Keep your medication organised.
  - Don't keep different medications in a single container.
  - When travelling by plane, take your medications with you into the cabin. This ensures more stable temperatures and moisture levels. (Your medicine is also less likely to get lost.)

- **Uses of Antihistaminic Drugs** -

Antihistamines are medicines often used **to relieve symptoms of allergies, such as hay fever, hives, conjunctivitis and reactions to insect bites or stings**. They're also sometimes used to prevent motion sickness and as a short-term treatment for insomnia.

Histamine makes blood vessels more permeable (vascular permeability), causing fluid to escape from capillaries into tissues, which leads to the classic symptoms of an allergic reaction — a runny nose and watery eyes. Histamine also promotes angiogenesis.

Antihistamines suppress the histamine-induced wheal response (swelling) and flare response (vasodilation) by blocking the binding of histamine to its receptors or reducing histamine receptor activity on nerves, vascular smooth muscle, glandular cells, endothelium, and mast cells. Antihistamines can also help correct Eustachian Tube dysfunction, thereby helping correct problems such as muffled hearing, fullness in the ear and even tinnitus.

Example – Levocentrizine Tab IP , Cetrizine

- **Structure of Antihistaminic Drugs –**

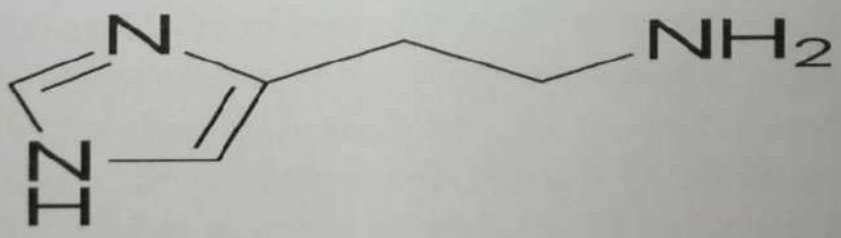


Fig. Antihistaminic Drugs

HYPERTENSIVE DRUGS

Antihypertensives are a class of drugs that are used to treat hypertension (high blood pressure). Antihypertensive therapy seeks to prevent the complications of high blood pressure, such as stroke and myocardial infarction. Evidence suggests that reduction of the blood pressure by 5 mmHg can decrease the risk of stroke by 34% and of ischaemic heart disease by 21%, and can reduce the likelihood of dementia, heart failure, and mortality from cardiovascular disease. There are many classes of antihypertensives, which lower blood pressure by different means. Among the most important and most widely used medications are thiazide diuretics, calcium channel blockers, ACE inhibitors, angiotensin II receptor antagonists (ARBs), and beta blockers.

Which type of medication to use initially for hypertension has been the subject of several large studies and resulting national guidelines. The fundamental goal of treatment should be the prevention of the important endpoints of hypertension, such as heart attack, stroke and heart failure. Patient age, associated clinical conditions and end-organ damage also play a part in determining dosage and type of medication administered.

The several classes of antihypertensives differ in side effect profiles, ability to prevent endpoints, and cost. The choice of more expensive agents, where cheaper ones would be equally effective, may have negative impacts on national healthcare budgets. As of 2018, the best available evidence favors low-dose thiazide diuretics as the first-line treatment of choice for high blood pressure when drugs are necessary. Although

clinical evidence shows calcium channel blockers and thiazide-type diuretics are preferred first-line treatments for most people (from both efficacy and cost points of view), an ACE inhibitor is recommended by NICE in the UK for those under 55 years old.

- **Chemical Contain of Hypertensive drugs –**

There are multiple classes of antihypertensive medications used for the treatment of HTN; the most recommended classes used as first-line for treatment are: **Thiazide-type diuretics. Calcium channel blockers. Angiotensin-converting enzyme (ACE) inhibitors and angiotensin II receptor blockers (ARBs)**

- **Storage condition on Hypertensive drugs –**

Drugs/medicines that are required to be kept in the refrigerator are called refrigerated drugs/medicines.
The temperature of the refrigerator should be in the range of 2C to 8C.
This temperature is required for maintaining stability and potency throughout the self-life of the drugs/medicines.
These drugs/medicines are very sensitive in nature and require some extra care while manufacturing, transportation, stocking, prescribing, etc.
There are some other drugs that are required to be stored at temperatures of -15C to -20C.

These drugs/medicines are covered under Schedule C of the Drug and Cosmetic Act & Rules, 1940.
The storage conditions are to be mentioned on the labels of the drugs/medicines.

- **Uses of Hypertensive drugs** -

Blood pressure medications treat high blood pressure, or hypertension, with the goal of **keeping your heart strong and preventing heart failure, a heart attack, kidney failure or a stroke**.

- **Example** :- Telmikind Bita 25, Telmikind H

- **Structure of Hypertensive drugs –**

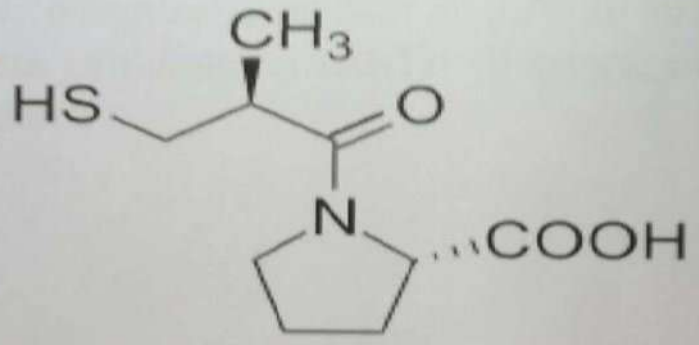


Fig. **Hypertensive drugs**

ANTIDIABETIC DRUGS

Antidiabetic drugs are **medicines developed to stabilise and control blood glucose levels amongst people with diabetes.** Antidiabetic drugs are commonly used to manage diabetes. There are a number of different types of antidiabetic drug including: Insulin.

Antidiabetic drugs are medicines developed to stabilise and control blood glucose levels amongst people with diabetes. Antidiabetic drugs are commonly used to manage diabetes.

There are a number of different types of antidiabetic drug including:

- Insulin
- Pramlintide (Amylin)
- GLP-1 receptor agonists (such as Byetta and Victoza)
- Oral hypoglycemics (tablets)

- **Chemical contain on Antidiabetic drugs –**

The *major classes of oral* antidiabetic medications include biguanides, sulfonylureas, meglitinide, thiazolidinedione (TZD), dipeptidyl peptidase 4 (DPP-4) inhibitors, sodium-glucose cotransporter (SGLT2) inhibitors, and α-glucosidase inhibitors.

- **Storage condition on Antidiabetic drugs-**

Follow any specific instructions for the storage of your medicines (e.g. some medicines require refrigeration, others do not).
Unless instructed otherwise, **store your medicines in a cool, dry place and protect them from moisture, heat and direct sunlight**.
Store medicine in the original labelled container.

The coating of other oral antidiabetic drugs can also be sensitive to temperature too. Hence, these medications need to be **stored in a fridge where the storage temperature is low**

- **Uses of Antidiabetic drugs-**

Antidiabetic drug, any drug that works to lower abnormally high glucose (sugar) levels in the blood, which are characteristic of the endocrine system disorder known as diabetes mellitus.

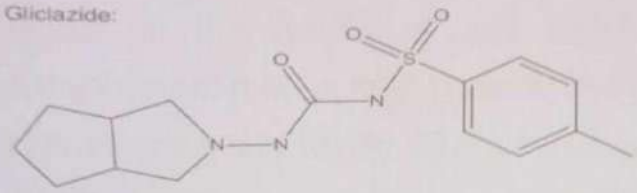
Diabetes is caused by the body's inability to produce or respond to the pancreatic hormone insulin. One of the important physiological actions of insulin is to control blood glucose levels. Glucose is an important nutrient for cellular metabolism, and cells must receive neither too little nor too much. A deficiency in the pancreatic secretion of insulin, or lack of tissue sensitivity to the hormone, leads to diabetes, the primary feature of which is elevated blood glucose levels (hyperglycemia). Most patients can be classified as having either type I diabetes or type II diabetes. Type I

is characterized by a lack of production of insulin, whereas type II is characterized by tissue resistance to the insulin that is produced by the pancreas.

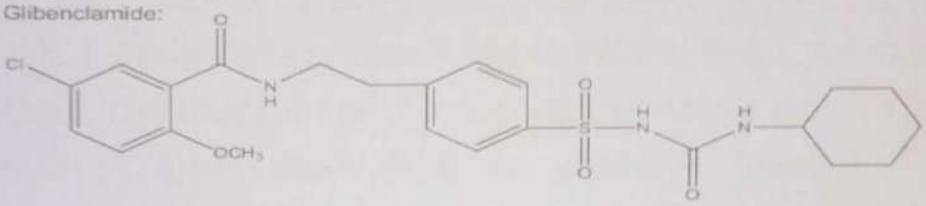
- **Example** :- Glycomate GP 1, Glychek M

- **Structure of Antidiabetic drugs –**

Gliclazide:

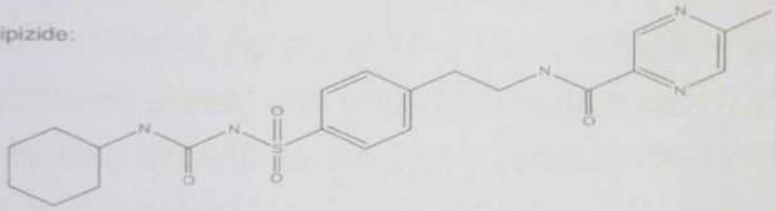


Glibenclamide:

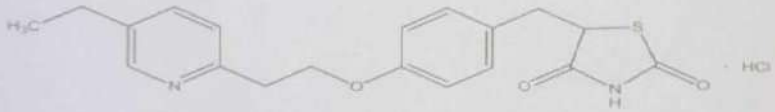


Glimepiride:

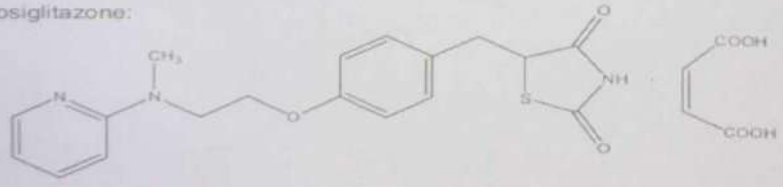
Glipizide:



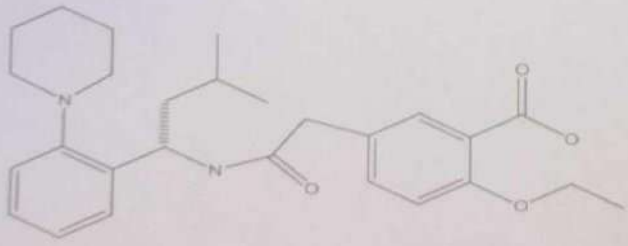
Pioglitazone:



Rosiglitazone:



Repaglinide:



Project Work Report B.Sc. III (Computer Science)

Mahatma Gandhi Arts, Science and Late Nasaruddhinbhai Panjwani Commerce College,

Armori Dist. Gadchiroli (M.S.)

PROJECT FILE

Subject :- Computer Science

Topic :- Business Writing

Class :- B.Sc.III Year (Sem V)

Student Name :-

1. Suraj Bajirao Dumane
2. Suraj Bhashkar Bhoyar
3. Tamendra Pannalal Sarwa
4. Sweta Daulat Undirwade

Guided by :-
Prof. Sunil D. Chute
(Head of Department)

Student Name & Topic Names

Business Writing

Sr.No.	Name of Student	Topic Name	HOD Sign
1)	Suraj B. Dumane	Positive tone in business communications, Intoroduction to Motivation	
2)	Suraj B. Bhoyar	Time as a Resource, Relavance and Types of Motivation	
3)	Tamendra P. Sarwa	Identify impotant time, Management Wasters	
4)	Sweta D. Undirwade	Techniques for better management	

INDEX

Business Writing

Guided by :-
Prof. Sunil D. Chute
(Head of Department)

Tone in Business communication

What is Tone in Business ?

"Tone in writing refers to the writer's attitude toward the reader and the subject of the message. The overall tone of a written message affects the reader just as one's tone of voice affects the listener in everyday exchanges"

Business writers should consider the tone of their message, whether they are writing a memo, letter, Report, or any type of business document. Tone is present in all communication activities. Ultimately, The tone of a message is a reflection of the writer and it does affect how the reader will perceive the Message.

How can I make sure my messages have the appropriate Tone?

In order to employ the proper tone in a document, you need to assess a few defining factors. Here are some of elements that define the type of tone your writing takes:

- **Audience**

The audience is always the most important aspect of business writing. Whether it is an employer or a Fellow worker, it is essential that you consider your reader before writing any document. Your Message will be much more effective if you tailor the document to reach your specific audience. The Message you wish to express must be written in a way that will effectively reach the reader. The Writer needs to have a clear understanding of who will be reading the document in order to write it to Their tastes. The text has to be tailored to their knowledge, needs, and preferences. The tone that you Use to write the document directly affects how the reader will interpret what is said.

Example-1

For example, a proposal written with a light-hearted, familiar tone may be suitable for a long-term, Domestic client but inappropriate for another new, international client.

- **Purpose**

The tone must match the document's goal. Each document is built to serve a specific purpose and language choice supports this purpose.A user manual is meant to instruct and so takes on a direct, neutral tone. A proposal is meant to win business and uses persuasive language to convince the reader. In order to apply the right tone, you need to have a clear concept of the purpose.

For example:

Suzy is writing a job acceptance letter to an employer but is unsure of the tone she should take in the message. She has decided to accept the position. When she asks herself, "What is my intent upon writing?" she answers, "I want to accept the position, thank the company for the offer, and establish goodwill with my new co- workers." As she writes the letter she quickly assumes a tone that is appreciative for the offer and enthusiastic about beginning a new job

- **Medium**

Tone varies with the document format. An email uses a different tone than a financial report or an Office memo. The way the document will be sent, prepared, or consumed modifies the language Used. In an era of short attention spans and long internet record-keeping, words must be phrased in Ways that suit their medium.

- **Brand Personality**

Finally, each company has their own style. Your brand may be hip and fun or serious and steady. Writing should match the overall quality, while still conceding to the previously mentioned Factors. For consistency, brand or marketing managers may provide a style guide for use in preparing Business documents.

Tips for Using the Appropriate Tone in Business Writing:

1) Confidence

Confidence is appealing. Firms want to do deals with people who are confident in their business, Their product and themselves.

Use the active voice. The passive voice is more difficult for readers to understand and less Persuasive.

Example:

1. Passive: Quick and efficient delivery will be carried out by our trained drivers. Active: Our trained drivers will carry out quick and efficient delivery.
   Avoid long sentences with the phrase ", and." A comma followed by the word "and" is rated in Readability studies as pleading rather than confident.

2. Unconfident: Write with more confidence and learn to project executive tone and find all errors.

   Confident: Write with more confidence,Learn to project executive tone.

2) Sincerity

To build a sense of trustworthiness, business writing should be sincere. As it can be difficult to Convey through text alone, it can be proven with evidence of past success.

Use numbers. Numbers provide clear and specific statements that are compelling to the reader. It is Difficult to debate numbers so readers receive genuine information. The text reads as sincere.

Example:

No numbers: We have helped many customers reach their social media goals.With numbers: We have helped 55 customers reach over 22,000 new customers through social Media.

3) Positivity

Positive tone is appealing to the reader. People are often motivated and attracted to a positive take. Positive output or benefits are appealing to the reader.

Phrase text in a positive way. Include phrases that are encouraging and enticing. Negative phrasing Should be avoided

Example:

Negative: Please accept the contract by Thursday at midnight. If not, we will be too busy to process Your order and it may not be completed. Positive: To guarantee delivery and top-quality service, please accept the contract by Thursday at Midnight.

4) Respectful

Business documents are read by a wide audience and should be inclusive. Speaking for and within a Company demands that the writer show respect to the reader.Stay neutral. Specifically, avoid gendered pronouns. Using gendered pronouns can show inadvertent Bias and be read as discriminatory by the audience. Use gender- neutral terms to avoid these issues.

Example:

Gendered: The chairman will be present to oversee the meeting administration.

Neutral: The chair will be present to oversee the meeting administration.

'They' as a neutral pronoun is becoming more popular. However, simply avoiding gender in writing May be a better choice.

5) Accessible

Business writing should be easy for the reader to grasp. A common mistake is when the writer tries to draft text in a highly sophisticated way. This word choice makes the writing less accessible to the reader, and therefore less successful in transferring the message. The goal is to communicate the content, not to flaunt fancy vocabulary.

Keep it simple. Short sentence structure and simple words ensure the document is accessible. Avoid using jargon. Simple does not mean condescending, but written in a way that makes it as easy as possible for the audience to understand.

Example:

Complex: The offline engagement process will ensure all stakeholders can provide feedback on the retail expansion project.

Simple: A public meeting will be held with local residents to hear concerns over the rezoning application.

6) Persuasive

Certain documents, such as proposals or bids, call for persuasive language. This tone invites the Reader to be convinced of a company's qualities. Decisions rely partly on how persuasive the tone is Within a document.

Use imperative for recommendations. By employing this verb form your writing is direct and Instructive. It doesn't leave space for questioning. It leaves the reader with a clear understanding of How you envision a solution.

Example:

Present: We suggest continuing with the next phase of HR expansion.

Imperative: Continue with the next phase of HR expansion.

7) Avoid qualifiers

Introducing qualifiers weakens the presented argument. While factors influencing success need to be Indicated, they should not detract from the core message. Consider including qualifiers in a separate Statement or section, if appropriate.

Example:

With Qualifiers: If at all possible, incorporating financial monitoring will likely improve quarterly Results.

Without Qualifiers: Incorporating financial monitoring will improve quarterly results.

8) Nagative Messages

Delivering bad or sensitive news is difficult. Finding the right tone is important to ensure the message is clear but compassionate.

Avoid the tendency to hide or soften bad news by burying it. The information must be clear to the reader so they don't feel sideswiped or manipulated. Be sincere — the reader will appreciate it.

Use a relevant buffer. If bad news is expected or won't cause an emotional response, include the negative information at the top of the document. Incorporate an explanation to clarify and finalize the decision to the reader.

If the bad news is unexpected or may cause an emotional response, use an indirect buffer. Keeping the buffer relevant to the topic will allow the reader more time to react.

Example:

Insincere: Your experience is impressive and we enjoyed the conversation during the interview. However, we have decided to hire another applicant for this position.

Sincere: After a number of impressive interviews, we have decided to hire another applicant for this position.

9) Always use appropriate language

Using appropriate language in the workplace is part of being a professional. In your business Writing, you should refrain from using slang, bad grammar, or sloppy sentence constructions, and You should use correct punctuation and capitalization. You must also avoid discriminatory or Derogatory language.

10) Avoid flowery or verbose language

Don't be wordy in a misguided attempt to be diplomatic or to sound more eloquent or educated. Rather, use clear, concise, simple language without talking down to your readers. For more Information on these topics, see the articles "Clarity" and "Conciseness".

11) Take the time to write well

Understand that a report to the members of your board is not the same as an e- mail you dash off to Your old high school friend; the former requires a great deal more thought and care. When Necessary,

do research so that you are knowledgeable on the subject about which you are writing And can adequately express your ideas. This too will help you to convey the appropriate tone by Allowing you to write with clarity and confidence.

12) Use Non-discriminatory Language

Non-discriminatory language is language that treats all people equally. It does not use any Discriminatory words, remarks, or ideas. It is very important that the business writer communicate in A way that expresses equality and respect for all individuals. Discriminatory language can come between your message and your reader. Make sure your writing is free of sexist language and free of Bias based on such factors as race, ethnicity, religion, age, sexual orientation, and disability.

- Use neutral job titles

  Not: Chairman
  But: Chairperson

- Avoid demeaning or stereotypical terms

  Not: After the girls in the office receive an order, our office fills it within 24 hours.
  But: When orders are received from the office, they are filled within 24 hours.

- Avoid words and phrases that unnecessarily imply gender.

  Not: Executives and their wives.
  But: Executives and their spouses

- Omit information about group membership.

  Not: Connie Green performed the job well for her age. But:
  Connie Green performed the job well.

- If you do not know a reader's gender, use a nonsexist salutation .

  Not: Dear Gentlemen.
  But: To Whom it May Concern:

- Do not use masculine pronouns.

  Not: Each student must provide his own lab jacket. But:
  Students must provide their own lab jackets. Or Each student must provide his or her own Lab jacket.

13) Stress the Benefits for the Reader

Write from the reader's perspective. Instead of simply writing from the perspective of what the reader can do for you, write in a way that shows what you can do for the reader. A reader will often read a document wondering "What's in it for me?" It is your job to tailor your document accordingly.

Not: I am processing your order tomorrow. But:
Your order will be available in two weeks.

Stressing reader benefits will help you to avoid sounding self-centered and uninterested.

14) *Write at an Appropriate Level of Difficulty*

It is essential that you write at an appropriate level of difficulty in order to clearly convey your message. Consider your audience and prepare your writing so that the reader will clearly understand what it is that you are saying. In other words, prepare your style of reading to match the reading abilities of your audience. Do not use complex passages or terms that the reader will not understand.
Accordingly, do not use simple terms or insufficient examples if the reader is capable of understanding your writing. A competent writer will match the needs and abilities of their reader and find the most effective way to communicate with a particular reader.

Time Management

Time management is the process of planning and controlling how much time to spend on specific activities. Good time management enables an individual to complete more in a shorter period of time, lowers stress, and leads to career success.

Time as a Resource :

Time is a unique resource which require a Management strategy. Since no business can achieve its ends instantaneously, every business needs to treat time as a resource. Since the cost of time is measured in terms of another resource, time often needs to be considered alongside resources such as labor, energy, and land.

Time is an intangible resource, unlike other resources. Even Human effort may be intangible to a certain extent, but it could be conceptualised in terms of the Number of men engaged, their skill level compounded by factors such as target and motivation. Target is the goal to be achieved and motivation is the inducement to attain [25-28]. Considering That time is going into any activity as an intangible premise, cutting downtime to reduce cost Renders it the status of a static resource. Time is beyond control.

Resource management is the process of allocating resources in order for a company to complete its work in the most efficient way possible. This process is often done by people with training in project management who have the expertise and background to make these kinds of judgments calls on behalf of a business.

Identify important time :

Why Is Time Management Important?

Time management is important because it helps you control your workday so you can build your business without compromising your work-life balance. Here are seven benefits of proper time management:

- **Improve Your Performance**

When you learn to block time out of your day for all your important tasks, you'll have a better idea of everything you need to accomplish and how long each task should take. When you have a schedule to follow, you'll likely find that you spend less time deciding what to work on or procrastinating and more time getting down to important work. Time management can help you focus on just the essential tasks ahead of you and avoid time-consuming distractions.

- **Produce Better Work**

When you're not constantly racing to meet a deadline, you can put more effort and thought into your work. Time management helps you prioritize your tasks so that you ensure you have enough time available to complete every project. The quality of your work increases when you're not rushing to complete it ahead of a fast approaching deadline.

- **Deliver Work on Time**

Properly managing your time involves assigning every task on your list to a specific blocks of time. Many people use time management to allow themselves several days to complete a project, or finish it ahead of the due date to provide a buffer for any challenges that might arise. If you properly schedule the time needed to complete your work, you'll be able to hit your deadlines every time.

- **Reduce Your Stress**

It's easy to become anxious when you have a full list of tasks to accomplish both for work and in your personal life. Good time management can help you prioritize your to-do list and set aside the time needed for your most important tasks, so you know exactly what you need to do and how much time you have available to complete everything. Prioritizing your tasks and giving yourself enough time to accomplish them can help reduce your stress levels.

- **Improved Career Opportunities**

Time management can help you become a more reliable employee who always submits high-quality work by your due dates. This in turn will make you more valuable as a worker and improve your professional reputation, which can help you find new opportunities to expand your career.

- **Boost Your Confidence**

When you manage your time properly and successfully meet your deadlines, you'll feel a sense of accomplishment and confidence in your abilities. Consistently finishing your daily to-do list is a huge motivator that can drive people to further improve their time management skills and take on new work opportunities.

- **Become More Efficient**

When you understand how to manage your time effectively, you'll become more focused at work which allows you to accomplish more with less time available. For example, instead of trying to work on a big project when you have fifteen minutes free before a meeting, you can accomplish a few small tasks in that time and save the bigger tasks that require more brain power for when you have a large block of time free. You'll be able to work more efficiently to achieve more with less time.

Time management wasters :

Time wasters are behaviors, obligations and other phenomena that waste time. It might be anything from social media distractions to busywork. Everyone is vulnerable to these time wasters, and being vulnerable doesn't necessarily make you a terrible writer, painter, or entrepreneur.

Why is it important to avoid time-wasters in the workplace?

It's important to avoid time-wasters in the workplace because they can cause distraction, interruption or a lack of productivity. Avoiding these impediments can improve a professional's ability to focus on their tasks, work efficiently and accomplish their goals. There are various environmental and individual

factors that can contribute to wasted time at work, and being aware of these factors can help professionals overcome them to cultivate success in their careers.

9 time-wasters and how to avoid them - Here are nine time-wasters you may experience at work and strategies for avoiding them so you can work more efficiently and better meet expectations in your role:

1. **Social media**

Social media is one of the biggest time-wasters for professionals in any work environment. You can log onto social media platforms via any device, including your phone and computer, meaning such distractions are highly accessible regardless of where you are and what you're doing at a given moment. Therefore, it's important to be able to overcome the urge to scroll through social media feeds instead of focusing on other tasks. To avoid wasting time on social media, remove temptations by using settings on your phone and computer that block certain applications during designated hours.

2. **Interruptions**

It's common for professionals to face a variety of interruptions throughout their workday, including those from email notifications, calls, text messages and coworkers stopping by to ask a question. While these interruptions may seem harmless, they can distract you from the tasks you were originally working on and make it challenging to refocus. Consider setting a specific time period during your workday that you can use to focus without interruptions. You can put up an away message on your email, turn off your phone and hang a sign on your door to notify colleagues so they can come back later

3. **Multitasking**

Many professionals believe that multitasking—or the act of working on multiple tasks simultaneously—can help them save time and accomplish their goals more efficiently. Unfortunately, though, this isn't usually the case because multitasking often takes the form of task-switching, where professionals shift between tasks rather than performing them at once. Therefore, to avoid wasting time, try to focus on one task at a time and see it through to completion rather than attempting to multitask.

4. **Working without a plan**

As professionals often face many tasks throughout a single workday, it's important to plan strategically. If you work without a plan, you may risk wasting time as you attempt to figure out what duties to focus on and when. You can overcome this challenge by purposefully planning your workflow for the next day at the end of your shifts. From here, you can come up with a schedule that you can follow to achieve your objectives most efficiently.

5. **Disorganization**

Working in a cluttered environment can lead to higher rates of inefficiency. If you need to spend time searching for paperwork in your office or finding files on your computer, you may waste more time trying to accomplish your goals than if you develop a more effective organizational system. You can

avoid wasting time due to disorganization by decluttering your workspace and strategically organizing key items so you can easily access them when you need them.

6. Procrastination

When professionals procrastinate completing key to-do list items, they may waste more time than otherwise. This is because procrastination often results in professionals spending time putting off their tasks by worrying about them and rescheduling them continuously. To avoid wasting time procrastinating, shift your workflow principles and implement a personal policy for taking care of your tasks as they arise. This policy can help you become more efficient over time and strengthen your reflexes so you can overcome the impulse to procrastinate in the future.

7. Unnecessary meetings

Meetings aren't always necessary. Sometimes, the information communicated in a meeting can be relayed through alternative methods like email, instant messages or memos. Therefore, both in-person and virtual meetings can often lead to wasted time in the workplace. You can avoid unnecessary meetings by thinking logically about the objectives of a proposed meeting prior to its occurrence. Try to identify the goals you intend to achieve through a meeting, and evaluate whether you may be able to meet those goals more efficiently through other actions.

8. Taking on coworkers' tasks

In a collaborative work environment, it's common for professionals to help coworkers by taking on some of their responsibilities. While doing this can periodically help move workflow forward, it's important to avoid taking on too much so you can save your time and energy for completing your own tasks. You can overcome this challenge by being reasonable with your expectations of yourself and setting clear boundaries with your coworkers regarding project workflow.

9. Equipment issues

Many professionals use equipment such as computers, tablets and phones to perform their tasks on a regular basis. With this, when equipment malfunctions, it can create significant delays to workflow and result in inefficiency. Therefore, it's important to avoid facing equipment issues whenever possible. You can do this by ensuring all of your equipment is up to date, has functional software and is serviced regularly.

Techniques for better Time Management :

Time management is about planning and organizing the time you will spend on specific activities. The main purpose is to increase efficiency and productivity.
Effective time management enhances success rate at work and in life.

The availability of an effective time management program enables the correct use of time. In return, it improves productivity and engagement.

Now that we have discussed the four D's of time management, let us look at the following time management techniques.

1. **Delegation**

You might have faced situations when your employees face the crunch of completing their work and projects. When such a situation arises, the not-so-essential tasks get piled up.

This increases their workload, and thus, managing time for the pending work becomes a hassle.

To avoid this, you can ask your employees to break the job into segments and delegate the tasks. This will help them manage their time and complete the job faster and better within the team.

2. **Autonomy**

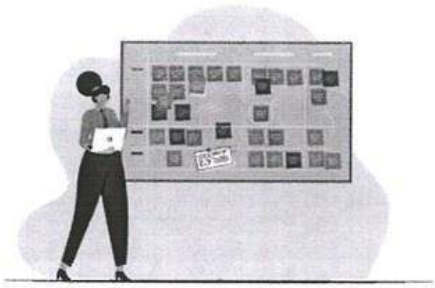
Giving your employees autonomy increases not only their productivity but also improves their engagement. Every employee has a comfort zone and ways to do their job.

Some employees like to do their tasks the hard way, and some resort to easy methods.

It is crucial to keep in mind that as long as the job gets done in time, you should not interfere with their ways of doing things. When you provide autonomy, your employees will value time. They will be less distracted from interference and give more time to their work.

This way, they are likely to save up and manage time in their way.

3. Planning the day in advance



Every employee likes to have their whole day sorted out instead of getting stuck to one thing. If everything is not sorted out before the day starts, then there might come such times where employees might feel that they are lost.

Eventually getting frustrated and burned out. And the best way to avoid it is to plan the whole day out. It is one of the most essential and proven techniques of time management.

Firstly, it allows them to organize their day; secondly, it gives them detailed insights into the things they need to do. Planning the day makes it easy to complete one task at a time more efficiently and sincerely.

4. Limiting Email check

When you start your day at work, checking relevant emails is essential. But when your mail inbox gets crowded with unnecessary and spam messages, it becomes challenging to pick out the important ones.

Statistics have said that an average worker spends about 30 hours a week checking their email. That is a whole lot of working hours.

To avoid wasting those hours of work in emails, you can limit checking emails to only those which need an immediate response. And the rest you can keep track of during your free hour without wasting time or at the end of the day.

You can apply filters that mark your important emails and dump those "spammy" ones.

5. Prioritizing

Without proper guidance, employees might lose track of their goals and deviate from their duties. And with the growing corporate world, keeping up with changes can be a difficult task. Having smart goals is not enough if you don't focus on achieving those.

To manage time well, you can ask your employees to prioritize their vital tasks at first. This way, they will learn how to use the time to complete critical tasks and improve their work rate.

As Stephen Covey quoted, *'The key is not to prioritize what's on your schedule but to schedule your priorities.'*

6. Preventing Distractions

Social media, pop-up texts, notifications, emails, and your colleagues pull your attention away from work. And to be more engaged in your job, you need to block these distractions. They take up too much of your time, and your work gets piled up.

Learn to say no to your colleagues when you are between your work. Turn off notifications and put away your phone. But most importantly, stay focused on what you are doing. Limit yourself from indulging in tasks that limit your productivity.

When you get invested in your work, you will manage more time by completing it before the deadline day hovers over you.

7. **Maintaining a Structure**

You will accomplish your daily task in a time when you follow a rigid structure. This is why it is essential to plan out a schedule and sort out the time you will need to complete each task.

A predetermined time will allow you to prepare mentally for the day and dedicate the time to complete the job. This will help you in bringing out more efficiency and increase productivity throughout the day.

Helping you and the organization manage time well without hindering the flow of work.

8. **Focus on one task**

Managing the time you have is an integral part of your life. Because time is precious and irreplaceable, it is essential to complete the task you have in hand.

Always try to focus on doing one task at a time so that there is no room for error. If you complete your job in a rush, there are chances that you will have to again invest more time on the mistakes.

It will be a learning process, but there will be a significant loss of time. This is why do one task at a time for better efficiency. And do not resort to multitasking which might hinder the job at hand.

9. Using Time Management Tools

Technology has taken over the world in every sector. The corporate environment has also embraced the changes going around. The digital transformation has not only made life easy for everyone, but it has also made time management smooth.

There is an abundant number of tools present that you can use to make full use of your time. Tools that focus on:

- Time tracking: Keeps track of your time and how much you have spent completing one task using a desktop time tracker.
- To-Do list: Helps you focus on organizing your work and schedule everything according to your day.
- Communication: This Lets you create streamless connectivity within your organization without leaving your table, helping you save time.
- Logging: Helps you create a spreadsheet about all the work you have done or the pending work. And according to that, you can plan your schedule.

MOTIVATION

Introduction of Motivation

Motivation is the reason for which humans and other animals initiate, continue, or terminate a behavior at a given time. Motivational states are commonly understood as forces acting within the agent that create a disposition to engage in goal-directed behavior. It is often held that different mental states compete with each other and that only the strongest state determines behavior.[1] This means that we can be motivated to do something without actually doing it. The paradigmatic mental state providing motivation is desire. But various other states, such as beliefs about what one ought to do or intentions, may also provide motivation.

Motivation is derived from the word 'motive', which denotes a person's needs, desires, wants, or urges. It is the process of motivating individuals to take action in order to achieve a goal. The psychological elements fueling people's behavior in the context of job goals might include a desire for money.

Various competing theories have been proposed concerning the content of motivational states. They are known as content theories and aim to describe what goals usually or always motivate people. Abraham Maslow's hierarchy of needs and the ERG theory, for example, posit that humans have certain needs, which are responsible for motivation. Some of these needs, like for food and water, are more basic than other needs, such as for respect from others. On this view, the higher needs can only provide motivation once the lower needs have been fulfilled.[2] Behaviorist theories try to explain behavior solely in terms of the relation between the situation and external, observable behavior without explicit reference to conscious mental states.

Motivation may be either intrinsic, if the activity is desired because it is inherently interesting or enjoyable, or extrinsic, if the agent's goal is an external reward distinct from the activity itself.[3][4] It has been argued that intrinsic motivation has more beneficial outcomes than extrinsic motivation.[4] Motivational states can also be categorized according to whether the agent is fully aware of why he acts the way he does or not, referred to as conscious and unconscious motivation. Motivation is closely related to practical rationality. A central idea in this field is that we should be motivated to perform an action if we believe that we should perform it. Failing to fulfill this requirement results in cases of irrationality, known as akrasia or weakness of the will, in which there is a discrepancy between our beliefs about what we should do and our actions.

Research on motivation has been employed in various fields. In the field of business, a ce is ntral question concerns work motivation, for example, what measures an employer can use to ensure that his employees are motivated. Motivation is also of particular interest to educational psychologists because of its crucial role in student learning. Specific interest has been given to the effects of intrinsic and extrinsic motivation in this field.

It the process of stimulating people to actions to accomplish the goals.

In the work goal context the psychological factors stimulating the people's behaviour can be -

- desire for money
- success
- recognition
- job-satisfaction
- team work, etc

One of the most important functions of management is to create willingness amongst the employees to perform in the best of their abilities. Therefore the role of a leader is to arouse interest in performance of employees in their jobs. The process of motivation consists of three stages:-

1. A felt need or drive.
2. A stimulus in which needs have to be aroused.
3. When needs are satisfied, the satisfaction or accomplishment of goals.

Therefore, we can say that motivation is a psychological phenomenon which means needs and wants of the individuals have to be tackled by framing an incentive plan.

Relevance and types of Motivation

Motivation reflects something unique about each one of us and allows us to gain valued outcomes like improved performance, enhanced wellbeing, personal growth, or a sense of purpose. Motivation is a pathway to change our way of thinking, feeling, and behaving.

Being passive is not our default mode as human beings.

Otherwise, we would have been born as a sloth or a panda bear (no offense to these lovely creatures).

It is in our nature to strive, to want, and to move in a direction of something we desire and deem valuable.

" Action may not always bring happiness, but there is no happiness without action ".

- William James

This article explains the reasons why understanding human motivation is important and well worth the time spent on learning to increase it. It lists many benefits of healthy motivation and distinguishes the types of motivation that are more effective in dealing with our complex and rapidly changing environment.

" I have learned from my mistakes, and I am sure I can repeat them exactly ".

- Peter Cook

" My grandfather once told me that there were two kinds of people: those who do the work and those who take the credit. He told me to try to be in the first group; there was much less competition ".

- Indira Gandhi

Types of Motivation in Business :

Intrinsic and extrinsic motivation are the two main types of motivation and represent all motivational drivers. Intrinsic motivation describes all motivational-types driven by internal rewards while extrinsic motivation describes all motivational-types driven by external rewards.

The types of motivation in business include:

1. **Achievement Motivation**

Achievement motivation states that people are driven by the desire to pursue and achieve specific goals. People who are driven by this type of motivation desire the achievement of a task or goal itself, and not necessarily because of the reward that's attached. For example, an entrepreneur might build a business for the goal of building a world-class organization, and not necessarily because there's money involved.

If you're driven by achievement motivation, you are typically self-motivated and process-oriented, meaning that you value the process of getting better more than the end result itself. While the achievement of a goal might seem like an external reward, in actuality this type of motivation is largely internal. This is because you aren't enamored by the glitz and glamour of a reward like money, but rather the feeling of accomplishment you get when you complete a worthy task.

2. Incentive Motivation

Incentive motivation, unlike achievement motivation, says that people are motivated more by the reward than by the achievement of the goal itself. Instead of being motivated by the pursuit of a task, those who are motivated by incentives are driven to take action because of an expected (and often specific) reward. For example, if you want a promotion because of the higher salary and not because the new responsibility makes you feel fulfilled, you are motivated by incentives over achievement.

However, incentive motivation isn't a bad thing. In fact, while it seems like the opposite of achievement motivation, the two can actually be used together. For example, if you want a promotion, you can be motivated both by the higher salary as well as the more complex and fulfilling work. In scenarios like this, it's a win-win, because you are externally rewarded as well as internally fulfilled. Seek goals or tasks that have incentives as well as elements of achievement motivation.

3. Fear Motivation

Fear motivation is a motivational type that uses consequences to drive people into action. Fear motivation can be thought of as a "negative motivator" in that you aren't motivated by a reward but by the avoidance of pain or consequences. Rather than incentivizing yourself or others with positive motivators, fear motivation uses punishment or negative motivators—like getting fired—as a way to keep you productively moving towards specific goals, tasks, or deliverables.

While fear motivation sounds bad, it can actually be used as a positive. For example, if you need to get in shape, you can plan a summer pool party at your house or apartment complex, and use the fear of showing up out of shape as motivation to stick with the gym and your diet. Think of fear motivation as positive stressors or positive constraints that help you outsmart your future self, overcome bad habits, and live the life you want (but might be too afraid to go after).

4. Power Motivation

Power motivation is a motivational factor that says people are motivated by control over their own lives and the lives of others. Everyone wants choices, and people are often motivated to increase their overall life-options and control the environment around them. For this reason, power motivation manifests itself in the desire to affect the direction of our lives and the lives of those around us.

Power motivation, taken to its extreme, can be seen in real-world horrors like Nazi Germany and other scenarios where the hunger to control others outweighs any moral obligation or code. However, when scaled back, power motivation can actually be positive. For example, while it might be bad to control others, trying to place control over your own life can be a good thing. Power motivation, then, motivates you to be intentional in your thoughts and actions so you manifest the life you want.

5. Competence & Learning Motivation

Competence motivation, also known as learning motivation, states that people are motivated more by the process itself rather than by the reward at the end. The reason is that people who are motivated by competence motivation are literally motivated by the act of learning or getting better as they move towards the completion of a goal or task instead of the destination itself.

For example, if you want a promotion because you'll learn valuable skills and not because of the higher expected salary, you're motivated by competence or learning motivation. This is an extremely valuable motivator and should be used in almost any motivational strategy. This is because new, relevant skills are often more valuable than even money because, unlike material things, they're assets that no one can take away from you.

6. Attitude Motivation

Attitude motivation refers to the type of motivation that's cultivated through the desire to change the way you or other people think and feel. While it has some similarities to the externally-focused social motivation below, people who are motivated by attitude engage in actions and interactions with the express intent of making themselves and the people around them feel better in a positive and uplifting way.

For example, if you're motivated to work for a non-profit or volunteer in a soup kitchen because making people feel good makes you feel good, you're motivated by a change in attitude. Similarly, if you're a manager at a company and you get joy out of helping your direct reports grow and succeed, you're also taking part in attitude motivation.

7. Creative Motivation

Many people are motivated by creativity or the innate drive for creative expression. When you're motivated by the desire to express yourself, you are tapping into creative motivation. Examples of creative motivation include things in which you feel compelled to create, such as the motivation to write a book, act in a movie, play the guitar, build a product, or start a business.

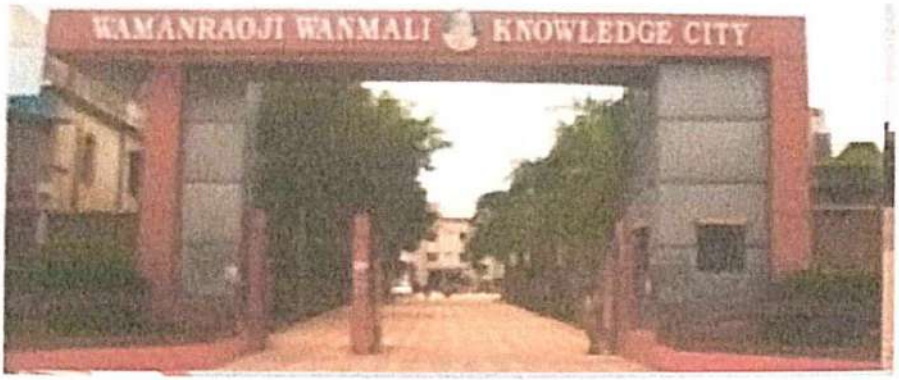
Creative motivation typically manifests itself as an internal feeling that you have something to say that needs to get out. Whether you want the entire world to see your art or just a few people, anything you create in an attempt at self-expression is driven by creative motivation. While the things you create can be tangible they can also be intangible or ephemeral.

Project Work Report B.Sc. III (Geology)

Mahatma Gandhi Arts, Science & Late N. P. Commerce College Armori. Dist. Gadchiroli (M.S.) 441208

Reaccredited by NAAC Bangalore with 'A' Grade CGPA - 3.24 (2022)

Right Place for Bright Future



SKILL ENHANCEMENT COURSE
2022-2023

Name of the Student-

- **Shruti S. Meshram**
- **Bhargav S. Kuthe**
- **Aishwarya R. Shende**
- **Roshani B. Kolte**

Class- B.Sc. Geology SEM -VI

TOPIC NAME- Classification of Mineral Deposits

Guided By.

Dr. C. P. Dorlikar Sir (HOD)

Dr. P. S. Ganvir Sir

Department of Geology

Mahatma Gandhi Arts, Science & Late N. P. Commerce College, Armori.

2022-2023

Certificate

This to certify that the Project Report entitled **"Classification of Mineral Deposits"** is submitted to the Department of Geology, Mahatma Gandhi Arts, Science & Late N. P. Commerce College, Armori. For the partial fulfilment of requirement of the B.Sc. (Geology) Semester VI degree course embodies the results of bonafide work carriedout

- **Shruti S. Meshram**
- **Bhargav S. Kuthe**
- **Aishwarya R. Shende**
- **Roshani B. Kolte**

Under my guidance.

Guided By.

Dr. C. P. Dorlikar Sir (HOD)

Dr. P. S. Ganvir Sir

CERTIFICATE

'This is certified Shruti S. Meshram, Bhargav S. Kuthe, Aishwarya R. Shende, Roshani B. Kolte has carried out project work on **"Classification of Mineral Deposits"** Under the concern faculty supervision for the partial fulfillment of the B.Sc. they has carried out Project Work in the field and laboratories of the department of Geology, Mahatma Gandhi College Armori & Gondwana University Gadchiroli. They has fulfilled all the necessary requirements of the regulation related to the nature the preseribed period of work as per rules required under the ordinance related to the M.G. College Armori, Gondwana University Gadchiroli.

Date:- 15/4/2023

Place: - Armori

Mahatma Gandhi Arts, Science & Late N. P. Commerce College, Armori
Department of Geology

15/4/23

Internal Examiner

HEAD

Dr. C. P. Dorlikar

Dept. of Geology

M. G. College Armori

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I must express my sincere and whole hearted thanks to M.G. College Armori, Gondwana University for giving this opportunity to submit the Project.

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I specially acknowledge with thanks to Asst. Dr. P.S. Ganvir Department of Geology for his helping nature and efforts which helped and solve all difficulties.

Once again I pledge my sincere gratitude to all other who helped me directly and indirectly for the accomplishment of my goal.

Date:-

Place: - Armori

- ☐ Shruti S. Meshram----------
- ☐ Bhargav S. Kuthe----------
- ☐ Aishwarya R. Shende----------
- ☐ Roshani B. Kolte----------

B.Sc. Geology SEM- VI

2022-2023

Mahatma Gandhi Arts, Science & Late N. P. Commerce College, Armori
Department of Geology

15/4/2023

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Introduction

A "mineral occurrence" is a concentration of a mineral (usually, but not necessarily, considered in terms of some commodity, such as copper, barite or gold) that is considered valuable by someone somewhere, or that is of scientific or technical interest. In rare instances (such as titanium in a rutile-bearing black sand), the commodity might not even be concentrated above its average crustal abundance. A "mineral deposit" is a mineral occurrence of sufficient size and grade that it might, under the most favorable of circumstances, be considered to have economic potential. An "ore deposit" is a mineral deposit that has been tested and is known to be of sufficient size, grade, and accessibility to be producible to yield a profit. (In these days of controlled economies and integrated industries, the "profit" decision may be based on considerations that extend far beyond the mine itself, in some instances relating to the overall health of a national economy.) On one hand, the field observations usually begin with "mineral occurrences" (or with clues to their existence) and progress with further study to "mineral deposits" and only rarely to "ore deposits," but we must present information that helps us deal with all classes of "mineral occurrences," not just "ore deposits." On the other hand, in terms of accessible information our sample is strongly biased toward "ore deposits," for it is only in them that sufficient exposure is available to develop a real knowledge of the overall character of the mineralization process. Some mineral occurrences are, therefore, unrecognized mineral deposits, while others are simply mineralized localities where ore-forming processes were so weak or incomplete that a deposit was not formed. Thus we summarize the state of knowledge regarding ore deposit models, and we call them "mineral deposit models" with the hope that what we have learned about large and high-grade metal concentrations will help us sort out all mineral occurrences to identify their true

character and, we hope, to recognize which have potential to constitute ore deposits

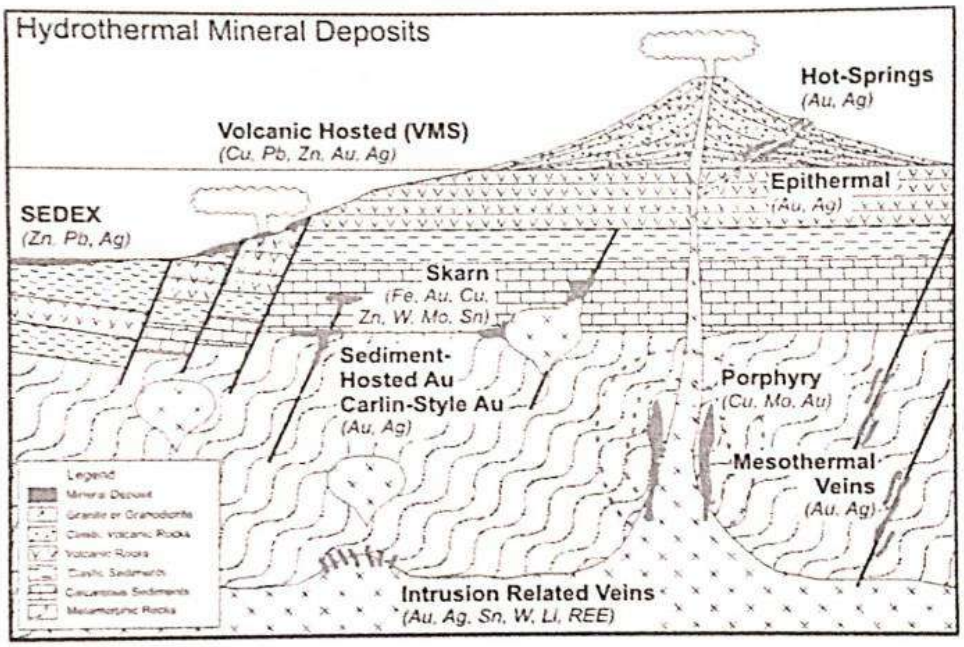
The attributes or properties of a mineral occurrence are, of course, those features exhibited by the occurrence. When applied to a model, these terms refer to those features possessed by the class of deposits represented by the model. It is useful to consider attributes on at least two scales: the first deals with local features that may be observed directly in the field (mineralogy, zonal patterns, local chemical haloes, and so on); the second is those features concerning the regional geologic setting and which must be interpreted from the local studies or may be inferred from global tectonic considerations (for instance, that the rock sequence under study represents a deep-water, back-arc rift environment, or that the area is underlain by anomalously radioactive high-silica rhyolite and granite). Two of the most prominent attributes, the commodities/geochemical patterns and the mineralogy, are cross-indexed to model types in Appendixes C and D, respectively. To the greatest extent possible, models were constructed so as to be independent of site-specific attributes and therefore contain only those features which are transferable from one deposit to another. This goal is difficult to attain, because we do not always know which features are site specific. The term "model" in an earth-science context elicits a wide variety of mental images, ranging from the physical duplication of the form of a subject, as in a scale model of the workings of a mine, to a unifying concept that explains or describes a complex phenomenon. In this context we shall apply only the latter usage. Therefore, let us propose a working definition of "model" in the context of mineral deposits, the overriding purpose being to communicate information that helps mankind find and evaluate mineral deposits. A mineral deposit model is the systematically arranged information describing the essential attributes (properties) of a class of mineral deposits. The

model may be empirical (descriptive), in which instance the various attributes are recognized as essential even though their relationships are unknown; or it may be theoretical (genetic), in which instance the attributes are interrelated through some fundamental concept. One factor favoring the genetic model over the simply descriptive is the sheer volume of descriptive information needed to represent the many features of complex deposits. If all such information were to be included, the number of models would escalate until it approached the total number of individual deposits considered. Thus we should no longer have models, but simply descriptions of individual deposits. Therefore, the compilers must use whatever sophisticated or rudimentary genetic concepts are at their disposal to distinguish the critical from the incidental attributes. It is commonly necessary to carry some possibly superficial attributes in order not to preclude some permissible but not necessarily favored, multiple working concepts. The following example illustrates the problem. One of the commonly accepted attributes of the model for the carbonate-hosted lead-zinc deposits of the Mississippi Valley type is the presence of secondary dolomite. But do we know that this is essential? Suppose a deposit were found in limestone; would we reject its assignment to the Mississippi Valley class? 2 Or could it be correct that the critical property is permeability and that the formation of dolomite either (1) enhances permeability (and thereby makes the ground more favorable), or (2) reflects pre-existing permeability that is exploited by both the dolomite and the ore? Perhaps the dolomite merely records a particular range of Ca/Mg ratio in the fluid which in turn is characteristic of the basinal brines that constitute the ore fluid. In any event, the dolomite is a powerful ore guide and belongs somewhere in the "final model."

In order to more readily study mineral deposits and explore for them more effectively, it is helpful to first subdivide them into categories.

This subdivision, or classification, can be based on a number of criteria, such as minerals or metals contained, the shape or size of the deposit, host rocks (the rocks which enclose or contain the deposit) or the genesis of the deposit (the geological processes which combined to form the deposit).

Since there is considerable debate among geologists as to the exact mode of formation (genesis) of most mineral deposits, this is not a good classification criterion.



It is best to stick to features we can all agree on, namely, the physical description of the deposit. We soon see that, even though no two mineral deposits are exactly alike, most of them fall into one or another of a small number of categories.

We also see that each of these categories coincides with a generally accepted hypothesis as to how the mineral deposits formed. In other words, although we started out with a physically descriptive classification, we end up with a classification which also coincides with what we perceive to be unique genetic processes.

It is therefore useful to define a small number of terms used in the classification which have a genetic connotation:

Hydrothermal

Hydrothermal volcanogenic deposits

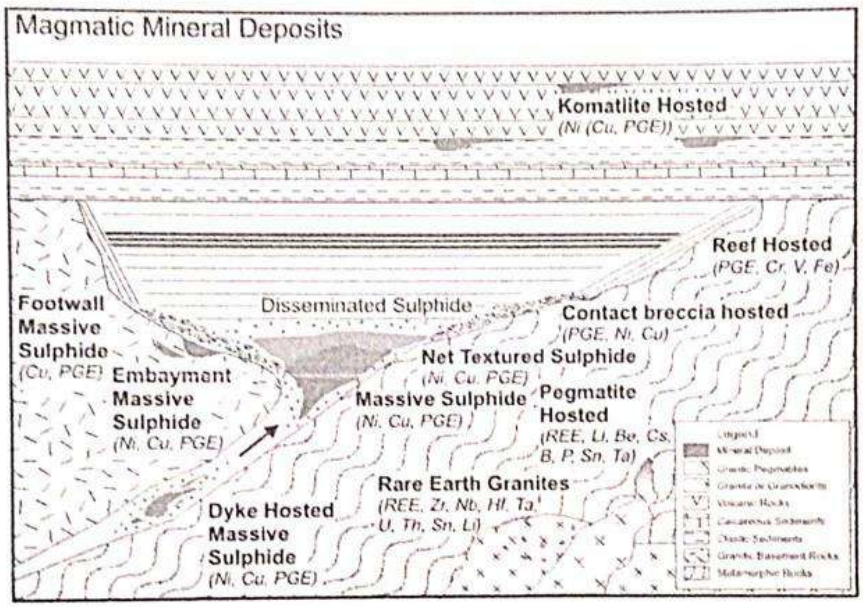
Hot water or hydrothermal solutions have actually been observed forming mineral deposits, for example, the "black smokers" on the sea floor. The ore constituents, such as Cu, Pb, Au or other metals are dissolved in a hot aqueous solution along with other deposit constituents such as Si, S and Fe.

These elements are deposited to form the ore and gangue minerals in response to a change in the solution, very often a sharp decrease in temperature. an example of this process would be if you dissolved as much table salt as possible in boiling water. If you then cool the solution in the fridge, much of the salt will precipitate or come out of solution.

Magmatic

Some mineral deposits, particularly those containing Ni, Cr and Pt, form by the separation of the metal sulphide or oxides in the molten form, within an igneous melt before it crystallizes. These are known as magmatic deposits.

They occur within theigneous rock from which they were derived, such as a gabbro. The ore metals concentrated as liquid in much the same manner as metals are purified in a smelter or blast furnace. The heavier metal-rich liquids sink and concentrate at the base of the intrusive body, while lighter silicate liquid and crystals tend to rise, the same asthe slag in a blast furnace.



Syngenetic

A syngenetic mineral deposit is a deposit which formed at the same time as the rocks that enclose it. Magmatic deposits are syngenetic in that the ore minerals crystallize from the same liquid that produces the silicate minerals which form the

bulk of the intrusive - they crystallize more or less simultaneously as the melt cools.

Deposits which form on the earth's surface in the form of a sedimentary layer are also syngenetic. The rocks which they lie upon were deposited just prior to the mineralizing event, while the overlying rocks were deposited just after - all three layers being deposited at essentially the same time in terms of the geological time frame.

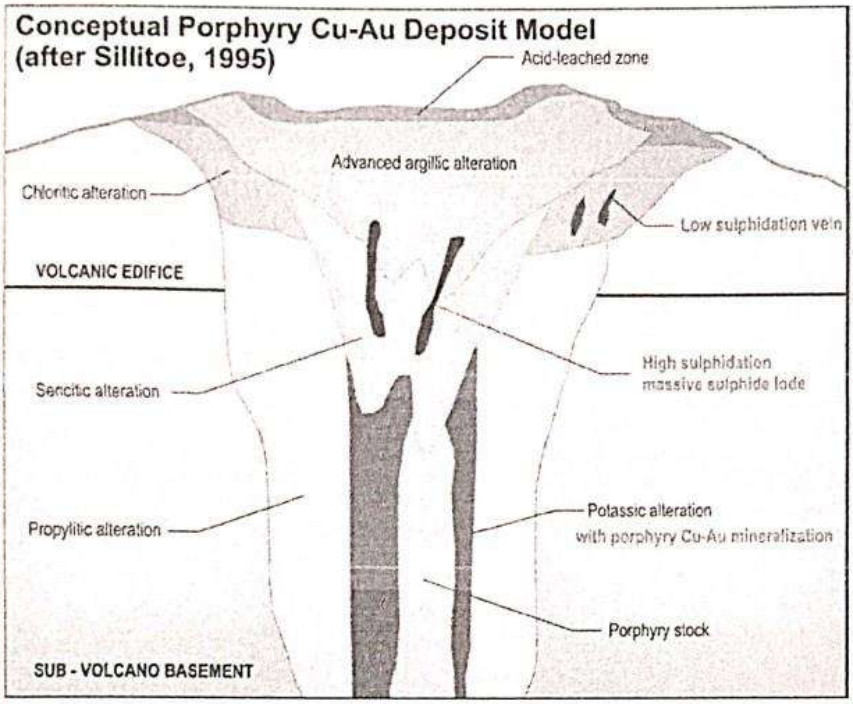
Epigenetic

If a mineral deposit formed much later than the rocks which enclose it, it is said to be epigenetic.

An example is a vein. The first step in the formation of a vein is the fracturing or breaking of rock along a fault zone, at a depth ranging from surface to several kilometers below surface. The rock must be solid (lithified) and brittle, creating open spaces when it breaks. Hydrothermal solutions pass along the fault zone and deposit or precipitate the ore and gangue minerals within the open spaces. Thus, the vein is necessarily younger than the rocks that contain it.

Since we are fairly certain which deposits are syngenetic and which are epigenetic (although there will always be some degree of uncertainty and overlap), it is convenient to begin the classification with this discrimination. Beyond this, the various categories are based on their physical description, including size and shape. A third level of subdivision is usually based on the metals contained. Here, then, is the classification:

Porphyry



Large, low grade deposits usually associated with a porphyritic intrusive body.

A. Cu-Mo

B. Cu (-Au)

C. Mo (-W)

Skarn

Mineral deposits formed by replacement of limestone by ore and calc-silicateminerals, usually adjacent to a felsic or granitic intrusive body.

A. W-Cu (-Zn, -Mo)

B. Zn-Pb-Ag (-Cu, -W)

C. Cu (-Fe, -Au, -Ag, - Mo)

D. Fe (-Cu, - Au)

E. Sn (-Cu, -W, -Zn)

F. Au (-As, -Cu)

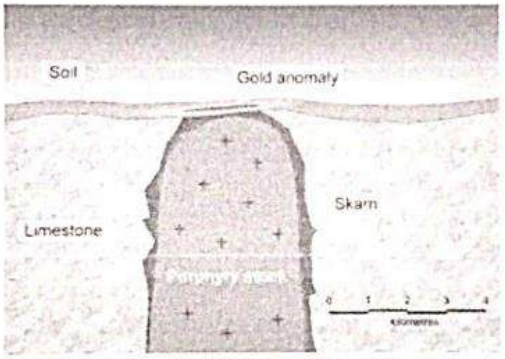
Vein

Fracture filling deposits which often have great lateral and/or depth extent but which are usually very narrow.

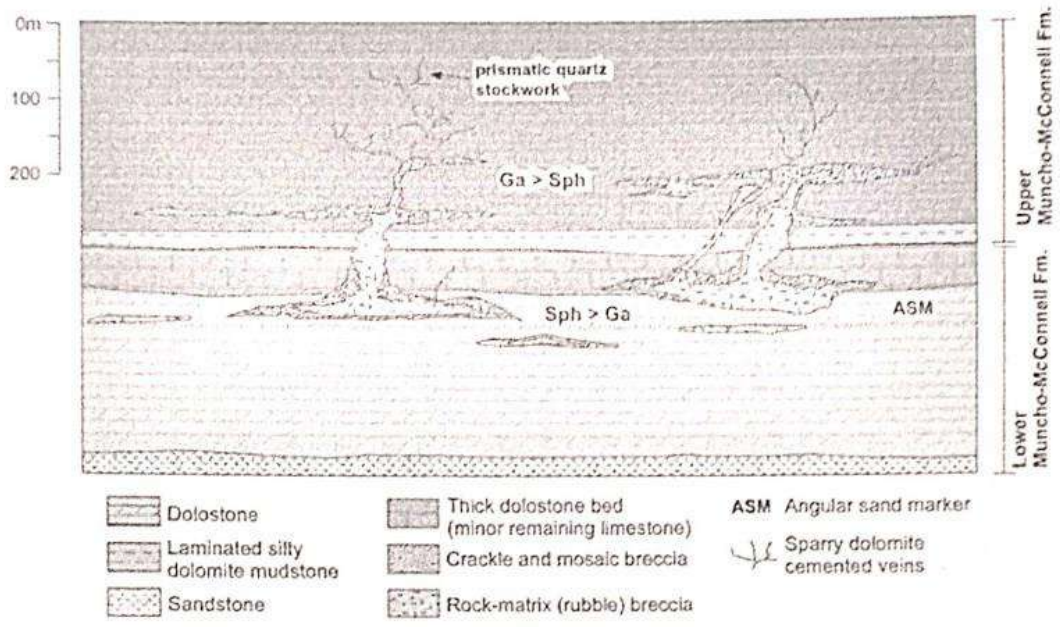
A. Hypothermal - Cu (-Au)

B. Mesothermal - Cu-Pb-Zn-Ag-Au

C. Epithermal - Au-Ag (-Hg)



Mississippi Valley



Named for the region where they were first described, these deposits formed within porous carbonate rocks (limestone reefs or caves). They are Pb-Zn deposits with low Ag values.

2. Syngenetic

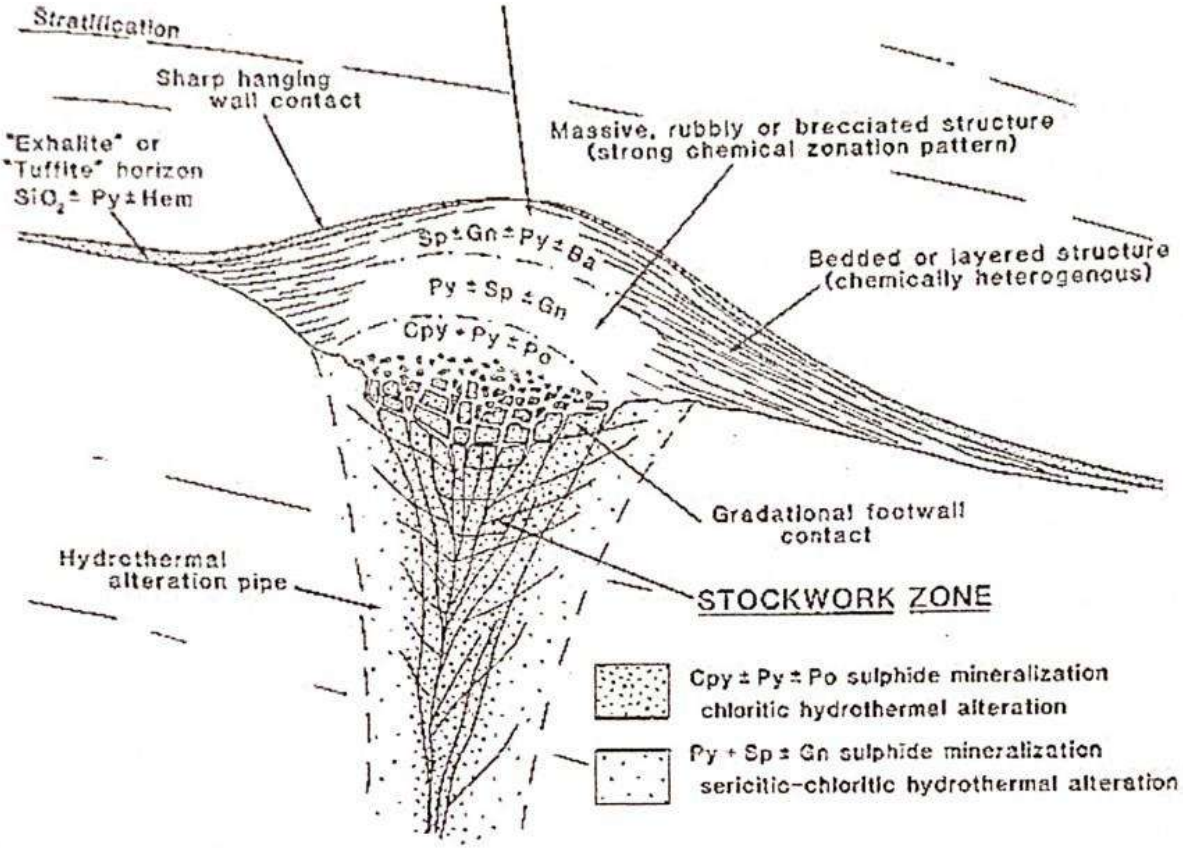
Volcanic Massive Sulphide (VMS)

These deposits formed as massive (over 60% sulphide) lens-like accumulations on or near the sea floor in association with volcanic activity.

A. Felsic volcanic hosted - Cu-Pb-Zn-Ag-Au

B. Mafic volcanic hosted - Cu (-Zn, -Au)

C. Mixed volcanic/sedimentary - Cu-Zn (-Au)



Sedimentary Massive Sulphide (Sedex)

sedimentary massive sulphide deposit SEDEX

These are formed by hydrothermal emanations on or near the sea floor in association with the deposition of sedimentary rocks.

A. Pb-Zn-Ag

B. Ba

Magmatic- layered mafic intrusion layered ultramafic intrusion

During the crystallization of a magma, usually mafic or ultramafic, heavy, metal-rich liquids settle and accumulate at specific sites, often at the base, within the intrusion.

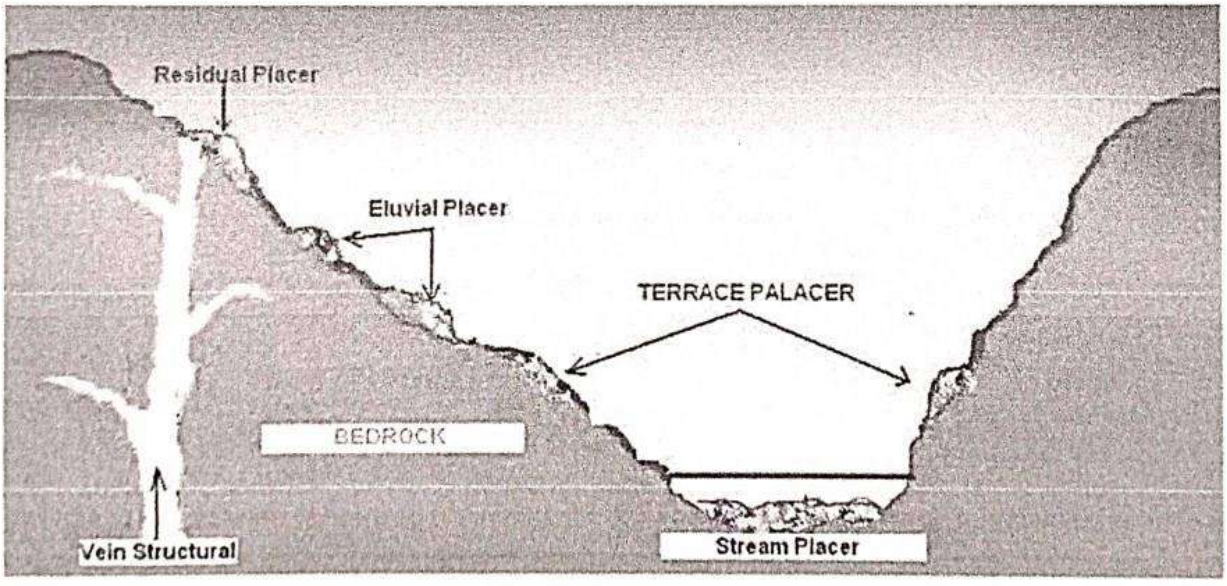
A. PGM (Platinum group metals)

B. Chromite

C. Ni-Cu (-PGM)

Placer

types of placer deposits



PLACER DEPOSITS

Formed within sediments by the concentration of heavy resistant minerals (Au diamond, cassiterite) by stream or wave action.

Classification of deposits

Generally we can classify mineral deposits into two major groups: Industrial and non industrial. Several classification concepts exist today. All these concepts have advantages and disadvantages. In general the classifications have to be applicable with scientific and useful bases.

a) Classification according to environment of formation: Sedimentary, magmatic and metamorphic ore deposits.

b) Classification according to form or symmetry of the mineral deposit: The symmetry or the form of a deposit gives very defined groups of different locations.

c) Classification according to the content in chemical elements: It is possibly the most scientific way.

We consider Gondwana as a complex amalgamation of different parts of different ages. During earth history many ore building processes took place within different geotectonic situations. Therefore mineral deposits located in the continent once belonging to Gondwana are treated in a general sense. In this section we do not delve into details of mineral deposits of Gondwana, rather we just mention a few of these deposits.

These deposits include for example gold, copper, diamonds, iron, oil, salt, coal and many more. Even the distribution of mineral deposits in Gondwana provides hints for the original configuration of the continents as for example the distribution of

the Middle Cambrian orogenic gold provinces in the world. (Haeberlin Y.; Moritz R.; Fontbote L. 2003)

Gold: Bajo de la Alumbrera (Argentina), Witwatersrand (South Africa), New Wells of the South (Australia)

Copper: Bajo de la Alumbrera (Argentina)

Diamonds:

Africa: Catoca, Camatue, Camajico, Camafuca, Camafuca-Camazambo (Angola), Orapa (Botswana), Mwadui (Tanzania).

South America: Mazurani (Guyana), Diamantino (Brazil), Guaniamo (Venezuela)

MINERAL DEPOSITS

The thin outermost crust of the earth, directly or indirectly accessible to us, we have defined as a shell having a thickness of 10 miles or 16 kilometers^ while the radius of the earth is about 4,000 miles. The deepest shaft is about 8,200 feet (on the Rand), the deepest bore hole 12,786 feet (in Western Texas). Many holes have reached 11,000 feet. This crust consists, as explained above, mainly of silicate rocks or their derivatives. The rocks consist of manifold mineral aggregates, formed at different times and in various ways. Each individualized mass of mineral aggregates—such as an intrusive mass, a lava flow, a stratum, a dike, a vein, a lenticular mass—is called a " formation," a "member," or in general a " geologic body." Geologic bodies which consist mainly of a single useful mineral—for instance beds of pure gypsum or coal—or which contain, throughout or in places, valuable min erals which can be profitably extracted—for instance veins containing disseminated gold—are called " mineral deposits." Geologic bodies that are not worked for any particular mineral or minerals, but for the aggregate of minerals—the rock itself—are usually designated as deposits of the particular rock. Thus a bed of roofing slate is not spoken of as a mineral deposit but as a slate deposit. Economic geology treats of the occurrence, composition, structure, and origin of those geologic bodies which can be technically utilized; it shows where they may be searched for and how their value may be ascertained.1 The mineral deposits which we know are all contained in the " crust" as defined above. Practically all of these were formed within 10 miles and the great majority within 5 miles from the surface. They were formed by many different processes, such as magmatic differentiation, sedimentation, weathering, and, generally, by the action of solutions of many kinds of the solid rocks of the crust. The mineral deposits are thus local accumulations or concentrations of useful substances. The science of the

mineral deposits tries to trace and explain these concentrations. In part they are caused by the pref erence of certain elements for certain rocks; for instance, tin, tungsten, and molybdenum for acidic rocks; platinum, chromium, nickel, copper for basic rocks. Useless, for instance, to look for tin deposits in basic rocks, or platinum in acidic rocks. The circulation of the elements is a fascinating study. We trace, for instance, phosphorus from apatite in the igneous rocks to phosphate in organisms and from there to sedimentary phosphate beds. Some elements travel far and wide; others are averse to migration. Naturally, solubility is the main factor. Processes of Concentration.1 1. Differentiation by Fractional Crys tallization and Unmixing in Cooling Magmas.—Fractional crystallization is most important here. The heavy minerals generally separate out first. Thus there may result by settling of crystals, masses of magnetite, chromite, ilmenite, the chromite sometimes carrying with it diamonds and platinum; or the sulphides dissolved in the hot magmas may separate by liquid unmixing carrying with them Ni, Cu, Au, Ag, Pt, and Pd. The deposits are not abundant though often large and important. Fortunately for humanity there is another process of differentiation in magmas which works in another direction. The salic products are carried upward and with them ascend gaseous products. 2. Salic Extracts, Mostly Represented in Pegmatite Dikes.—Alkali feldspar and quartz tend to separate in the upper part of the molten magma carrying with them tin, tungsten, beryllium, columbium, rare earth metals, radium, uranium, phosphorus, fluorine, boron, rarely sulphides, more commonly arsenides. The salic extracts are the first and last deposits for many metals. 3. Gas-fluxing Components, Reaching Farther from the Magma than the Salic Extracts.—In these products silica is again well represented carrying with it much water of magmatic origin and other volatile substances. These waters, at first acid, ascend carrying carbon dioxide, nitrogen, sulphur compounds, further fluorides, chlorides, phosphates, arsenic and antimony compounds, selenides, and tellurides. The metals

are gold, silver, iron, copper, lead, zinc, bismuth, tin and tungsten, mercury, manganese, nickel, cobalt, radium, and uranium. The gas-fluxing components appear as sublimates in volcanic eruptions near the surface and as veins and replacement deposits above and near igneous intrusions.

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Project Work Report B.Sc. III (Mathematics)

MAHATMA GANDHI ARTS, SCIENCE AND

LATE N. P. COMMERCE COLLEGE, ARMORI

DEPARTMENT OF MATHEMATICS

B.Sc. Sem-VI

(Session 2022-23)

SKILL ENHANCEMENT COURSE

PROJECT REPORT

ON

'FUNDAMENTALS OF GRAPH THEORY'

GROUP-A

1) BHARTI SUDHARAM KOWACHI

2) SAKSHI VIJAY RAUT

3) PRACHI GOPAL RAUT

4) GUNJAN DHANRAJ THAKARE

R.A.K 24/04/23

Mahatma Gandhi Arts, Science & Late N.P. Commerce College, Armori
Department Of Mathematics

MAHATMA GANDHI ARTS, SCIENCE AND LATE N. P. COMMERCE COLLEGE, ARMORI, DIST:GADCHIROLI

CERTIFICATE

This is to Certify that Group-A

1) Bharti sudharam Kowachi
2) Sakshi Vijay Raut
3) Prachi Gopal Raut
4) Gunjan Dhanraj Thakare

Of Class B.Sc. Sem-VI (Summer-23) has successfully completed their project work on the topic Fundamentals of Graph theory *under the Guidance Of Prof. A. A. Kharwade Sir for the* **'SKILL ENHANCEMENT COURSE'** *(Session 2022-23).*

Dr. I. H. Khalsa
Head of the Department

HEAD
Department of Mathematics
Mahatma Gandhi Arts,science
N.P.Commerce College,Armori

FUNDAMENTALS OF GRAPH THEORY

INDEX

• *BASIC CONCEPTS*

A graph is a diagram of points and lines connected to the points. It has at least one line joining a set of two vertices with no vertex connecting itself. The concept of graphs in graph theory stands up on some basic terms such as point, line, vertex, edge, degree of vertices, properties of graphs, etc.

Point

A point is a particular position in a one-dimensional, two-dimensional, or three-dimensional space. For better understanding, a point can be denoted by an alphabet. It can be represented with a dot.

Example:

Here, the dot is a point named 'a'.

Line

A **Line** is a connection between two points. It can be represented with a solid line.

Example:

Here, 'a' and 'b' are the points. The link between these two points is called a line.

Vertex

A vertex is a point where multiple lines meet. It is also called a **node**. Similar to points, a vertex is also denoted by an alphabet.

Example:

Here, the vertex is named with an alphabet 'a'.

Edge

An edge is the mathematical term for a line that connects two vertices. Many edges can be formed from a single vertex. Without a vertex, an edge cannot be formed. There must be a starting vertex and an ending vertex for an edge.

Example:

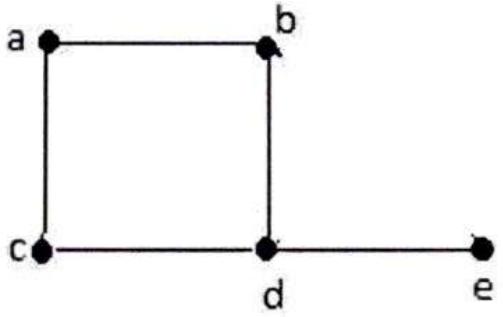
Here, 'a' and 'b' are the two vertices and the link between them is called an edge.

• DEFINITION OF GRAPH

A graph is a pictorial representation of a set of objects where some pairs of objects are connected by links. The interconnected objects are represented by points termed as **vertices,** and the links that connect the vertices are called **edges**.

Formally, a graph is a pair of sets **(V, E),** where **V** is the set of vertices and **E** is the set of edges, connecting the pairs of vertices.

Take a look at the following graph:



In the above graph,

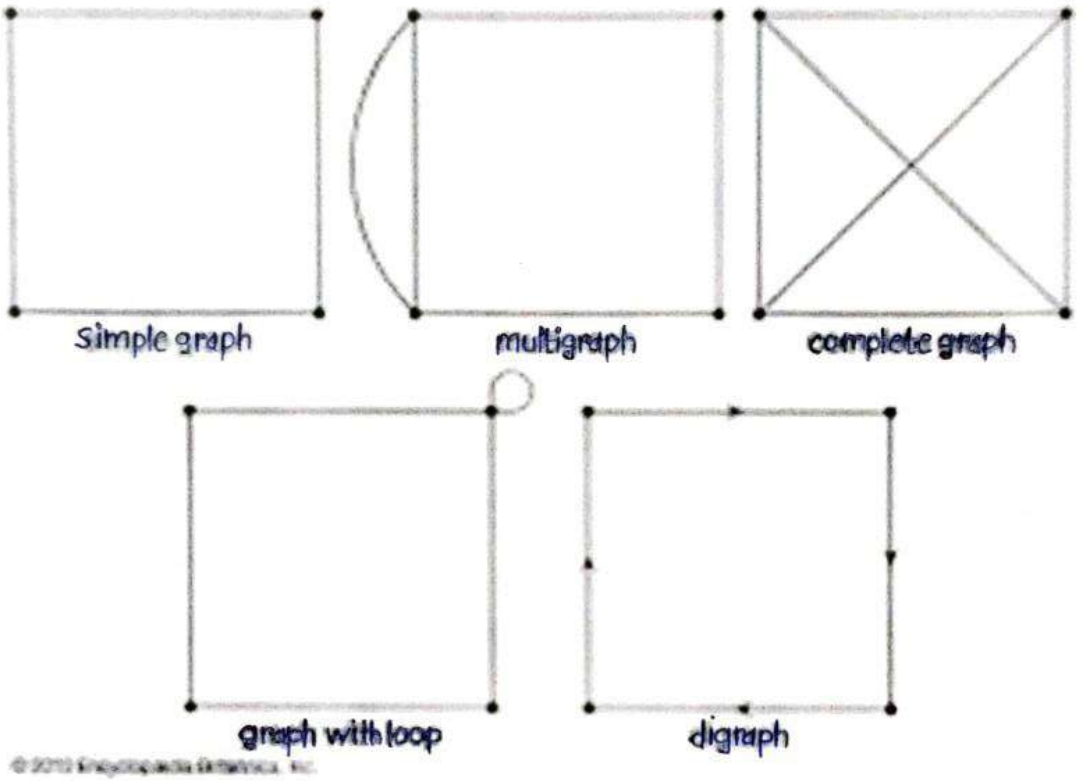
Set of vertices, V = {a, b, c, d, e}

Set of edges, E = {ab, ac, bd, cd, de}

- ***TYPES OF GRAPH***

SIMPLE GRAPH	MULTIGRAPH	NULL GRAPH
DIRECTED GRAPH	NON-DIRECTED GRAPH	COMPLETE GRAPH
EULER GRAPH	HAMILTONIAN GRAPH	CONNECTED GRAPH
DISCONNECTED GRAPH	PLANAR GRAPH	CYCLIC GRAPH

- ***SOME EXAMPLES OF GRAPHS***



• APPLICATIONS OF GRAPH THEORY

Graph theory has its applications in diverse fields of engineering-

- **Electrical Engineering:** The concepts of graph theory is used extensively in designing circuit connections. The types or organization of connections are named as topologies. Some examples for topologies are star, bridge, series, and parallel topologies.

- **Computer Science**: Graph theory is used for the study of algorithms.

For example,

- Kruskal's Algorithm
- Prim's Algorithm
- Dijkstra's Algorithm

- **ComputerNetwork:** The relationships among interconnected computers in the network follows the principles of graph theory.

- **Science:** The molecular structure and chemical structure of a substance, the DNA structure of an organism, etc., are represented by graphs.

- **Linguistics:** The parsing tree of a language and grammar of a language uses graphs.

- **General:** Routes between the cities can be represented using graphs. Depicting hierarchical ordered information such as family tree can be used as a special type of graph called tree.

THE STUDY OF EFFICACY OF COMMON SPICES AGAINST HUMAN PATHOGEN

A PROJECT SUBMITTED TO

GONWANA UNIVERSITY, GADCHIROLI

IN PARTIAL FULFILLMENT OF THREE YEARS FULL TIME GRADUATION DEGREE PROGRAM
B.Sc. III (MICROBIOLOGY)

SUBMITTED BY
MS. ASMITA MOURLE
(GROUP LEADERS)

UNDER THE GUIDANCE OF

PROF. KAVITA KHOBRAGADE
Head
Department of Microbiology

MAHATMA GANDHI ARTS, SCIENCE AND LATE N.P. COMMERCE COLLEGE, ARMORI
SESSION 2022-23

MAHATMA GANDHI COLLEGE ARMORI

UNDER GRAUATE DEPARTMENT OF

MICROBIOLOGY

CERTIFICATE

This is to certify that they are the bonfide student of **B.Sc III (Microbiology)** of this college for this session 2022-2023 .They have completed their dissertation under the guidance of **Prof. K. D. Khobragade** on the project entitled "**The study of Efficacy of Common Spices Against Human Pathogen**".

The dissertation is being submitted to the **Gondwana University Gadchiroli**, for the partial fulfilment of the requirement for the award of Degree of Batchelor of science in Microbiology.

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Prof. K. D. Khobragade

HOD

Mahatma Gandhi College

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We are extremely grateful to our principal **Dr. L. H. Khalsa** for his support and permission to carry our project in this college. We express our regards towards **Prof. K. D. Khobragade**, Head of Department of Microbiology, Mahatma Gandhi College Armori. This dissertation was possible only because of her active guidance and infinite help. We express our heartfelt thanks and sincere gratitude for providing all possible facilities in the laboratory. Also, we would like to thanks our **Prof. Shradha Ghongade** and non-teaching staff **Mr. B. B. Shende** for their help during project. We would like to express our gratitude to our parents for providing moral support and encouragement and our colleagues for having stood by us during the duration of dissertation. We thank almighty for having given us the strength and ability to successfully complete our work with honesty.

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1. INTRODUCTION

Spice is defined as "one or other of various strongly flavored or aromatic substances of vegetable origin, obtained from tropical plants, commonly used as condiments or employment for other purposes on account of their fragrance and preservatives qualities" (Oxford dictionary). In other words, a Spice is dried parts of aromatic plants that enriches or alters the taste of food, especially in a small degree. They consists of rhizomes, barks, and leaves, fruits, seeds and other parts of plants. They play an important role in human nutrition and medicine. It is proved that spices not only alter the taste of the food but also do have medicinal value because of its Antimicrobial Aactivity (Arora and Kaur, 1999).

Traditional medicine particularly based on medicinal plants or herbal medicines have been used to treat various human diseases for centuries and its interest has been increasing worldwide during last decade. More than 80% of the population use herbal medicine to treat disease (WHO, 2002). Herbal medicines were used by Vaidyas, Hakims and in Siddha ways of treating patients, which were based mostly on Ayurvedic, Unani and Siddha systems (Baral and Kurmi, 2005).

Though the exact origin of the herbalism is unknown, plants have been used as a drug from the beginning of human civilization probably as far as 4500 BC to 1000 BC when the Rig Veda, perhaps the oldest repository of human knowledge, was written. It describes the healing properties of some 67 plants. Later on special faculty was developed known as Ayurveda, which deals with human philosophy of health including utilization of medicinal plants so as to restore normal physical fitness and has also mentioned 290 herbal drugs (Malla and Shakya, 1984/85; Sharma, 1981). Susruta samhita and Charaka samhita were followed after Ayurveda which contain the art of surgery and the therapeutic and medicine in detail (Joshi, 2000; HMG, 1970).

There is an increasing interest in medicinal plants as a natural alternative to synthetic drugs, particularly against microbial agents (Fabio *et al*., 2007) so as to overcome the problem of resistant bacteria (Farah, 1998; Freeman, 1997).

Primarily, spices are taken as the condiments but not common food stuffs. Spice helps to preserve food, to make it digestible, season or flavor food. They supply much nutritional prophylactic substance. They are of great economic value as they are incorporated in perfumes, cosmetic and some dietary products and also in medicine due to their sweet scent (El-Gammal, 1993; Loewenfeld and Back, 1979).

From time immemorial, certain wild herbs were known for their healing power (Loewenfeld & Back, 1979). Spices have been shown to possess medicinal value. Several spices particularly

Clove, Black Pepper, Cinnamon,Thyme are used mostly in the Indian diet and in Indian medicine (Arora and Kaur, 1999).

In recent time the growing concern about food safety has led to the development of naturalAntimicrobials to control food borne pathogens and spices are some of the most commonly used Antimicrobials in food (Nanasombat and Lohasupthawee, 2005).

Spices are aromatic and pungent product of plants whose properties are often base on essential oil which are only Benzene or Terpene derivatives. Spices include leaves, flower, bulbs, fruits, stem, rhizomes and other plant parts (Shelif, 1989). They have been used for Thousands of years to increase the flavour, Color and Aroma of food. In addition spices are also known for their preservative and medicinal value (DeSouza, 2005). The antioxidant and antimicrobial property of added material is very important to preserve the quality of food material and at the same time provide safety to consumer (Singh *et al*., 2007). Antimicrobial activity of spices and herbs has been known and described for several centuries (Bagamboula *et al*., 2003). So common culinary herbs, spices and aromatic plants the exhibit Antimicrobial activity could provide source of acceptable, natural alternatives (Deloquis *et al*., 2002). Medicinal value of spices is due to Antimicrobial activity exhibited by different bioactive compound like Alkaloids, Flavonoids, IsoflaAonoids, Tannins, Cumarins, Glycosides, Terpens and phenolic compounds.

Spices are used as flavourings or as seasoning both in their fresh and dried forms which is obviously the original use of spices in food (Oiye and Muroki, 2002). A part from the seasoning of the food, spices are found to be beneficial in cases of flatulence and colic, alleviating the cough and pharynx complaints, as expectorants in chest trouble, as stimulant to excite languid stomachs and as emetics. They are also helpful in cases of gastritis and dyspepsia. Externally, some spices are of value in treating rheumatism, lumbago, neuralgia, bronchitis and similar obdurate complaints. The antiseptic properties of Clove and hyme have a place in tooth paste, mouth refresher and throat sprays (Parry, 1969).

Besides flavouring agents, spices, as effective preservatives (i.e. as Antioxidants and Antimicrobials) have been demonstrated but application of those findings in food processing has been minimal. Spices can be the alternative to chemical food additive (Chandarana *et al*., 2005). So research on in vitro as well as in vivo effects of spices should be carried out.

Herbal medicine is the primary health care system available in the remote area because modern medicine hasn't reached those areas and is expensive too. To be safe from the side effect of

synthetic drug, use of herbal medicine should be encouraged and exploration of the flora to establish their medicinal value should be carried out extensively.

Spices also take as important part in every day meal. Some of the spices are imported from India and other SAARC countries and some of them are cultivated. Some of the spices are used as home herbal remedies for common ailments like cough, cold, stomach disorder, headache, nausea and vomiting, headache, dysentery etc.

Some little work has been done in the study of Antimicrobial activity of medicinal plants. This study mainly focused on the Antibacterial properties of the some common Spices used in our local area like Clove, Black Pepper, Cinnamon and Ajowan. The Antibacterial activity of Acetone fraction and Methanol fraction of these Spices is studied.

OBJECTIVE

General objectives

- To study the Antibacterial activity of some common spices (Clove, Black pepper, Cinnamon and Ajowan)

Specific objectives

- To extract an acetone and methanol extract of spices.
- To assay the Antibacterial activity of an acetone and methanol extracts.
- To determine minimum bactericidal concentration (MBC).

2. LITERATURE REVIEW

Medicinal plant

Reviewing the history of the development of medicines, came to know that most of herbal medicines were originally derived from the food. A single medicinal plant may be defined as a food, a functional food, a dietary supplement as an herbal medicines in different countries, depending on the regulations applying to foods and medicines in each country (WHO, 2005). The plants that possess therapeutic properties or exert beneficial pharmacological effects on the human body are termed as "Medicinal plants".

Spices

May be defined as "any dried, fragrant, aromatic or pungent vegetables or plant substances in whole, broken or ground forms that contribute flavour, whose primary function in food is seasoning rather than nutrition and that may contribute piquancy of foods and beverages." Spices enrich or alter the quality of a thing, altering the taste of the food. Spices contain other chemical substances which give them fragrant, aromatic, pungent, acrid, and bitter or other properties of aroma and taste. In other word it may be defined as plant substances from indigenous or exotic origin, aromatic or with strong taste, used to enhance the taste of food. Spices constitute essential items used daily in food. Spices impart good taste and odour to food and nutritional products and also used as preservatives (Chandarana *et al.,* 2005; ElGammal, 1993).

Spices include leaves (bay, mint, rosemary, coriander, laurel and oregano), flower (clove), bulbs (garlic, onion), fruits (cumin, red chilli and black pepper), stem (coriander, cinnamon), rhizomes (ginger) and other plant parts (Shelif, 1989). These - 6 - plant parts contain and other chemical substance that gives them fragrant, aromatic, pungent, acrid, bitter or other properties of aroma and taste.

History of spices and its tradition

Spices and herbs have played a dramatic role in the development of western civilization. Now a day there are lots of different kinds of spices, mostly used as flavouring, but in ancient times, they were rare and precious products, used as medicine, perfume, incense and flavouring. They were valued as highly as gold.

The use and cultivation of spices, however, go back to the beginning of history. They have played a major part in all civilization of antiquity, in ancient china and India, in Babylon and


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CONTROL

13.	Penicillin G	R	S	-	-	-	-	-	R	R	-

Note :- (-) indicates not included; S = Susceptible; R = Resistant; I = Intermediate

The ZOI of antibiotics against each bacterium are in the append ix IV

Fig. 1. Four different Spices Powdered Extracts

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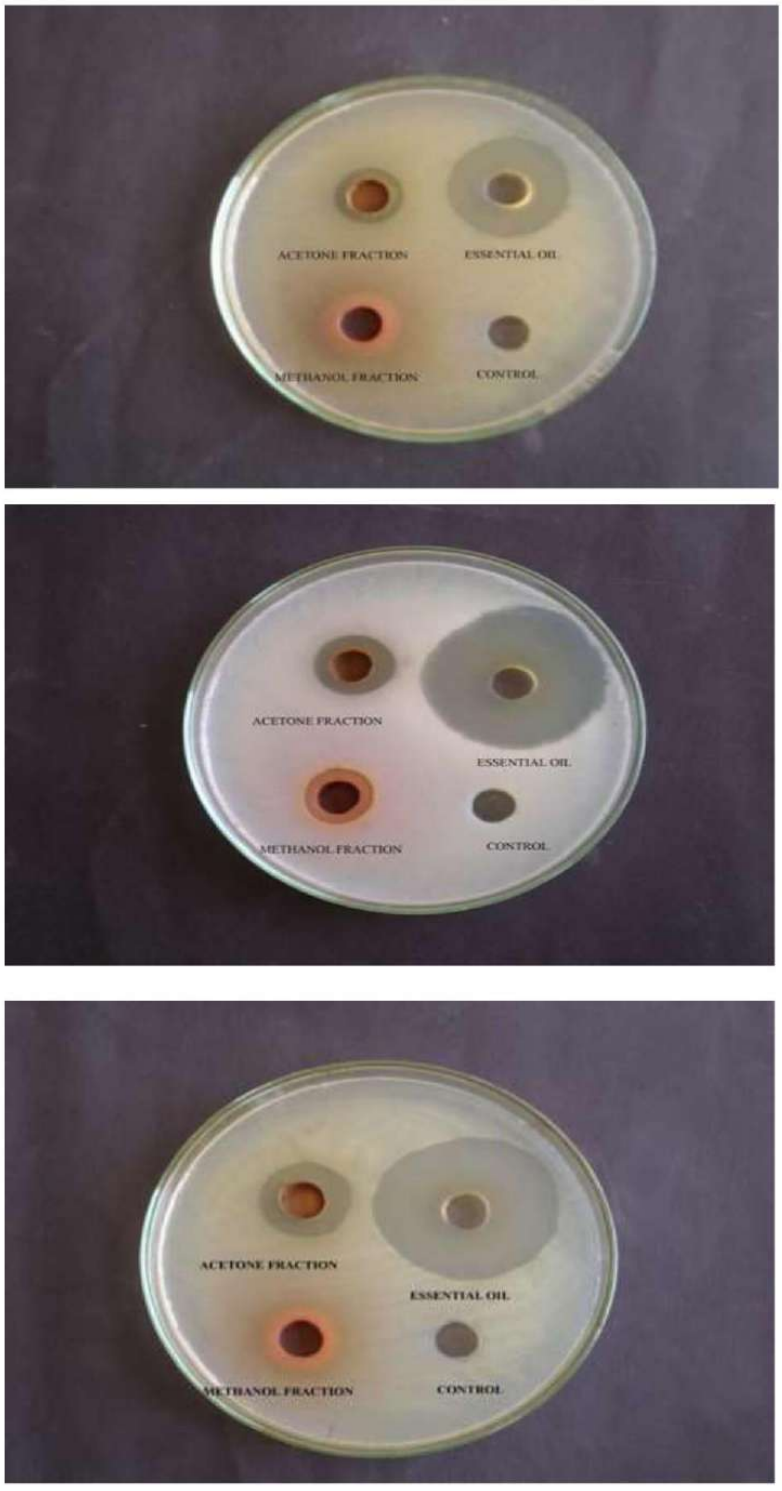

Fig.2. Antimicrobial Activity of different Extracts of Spices against Pathogen

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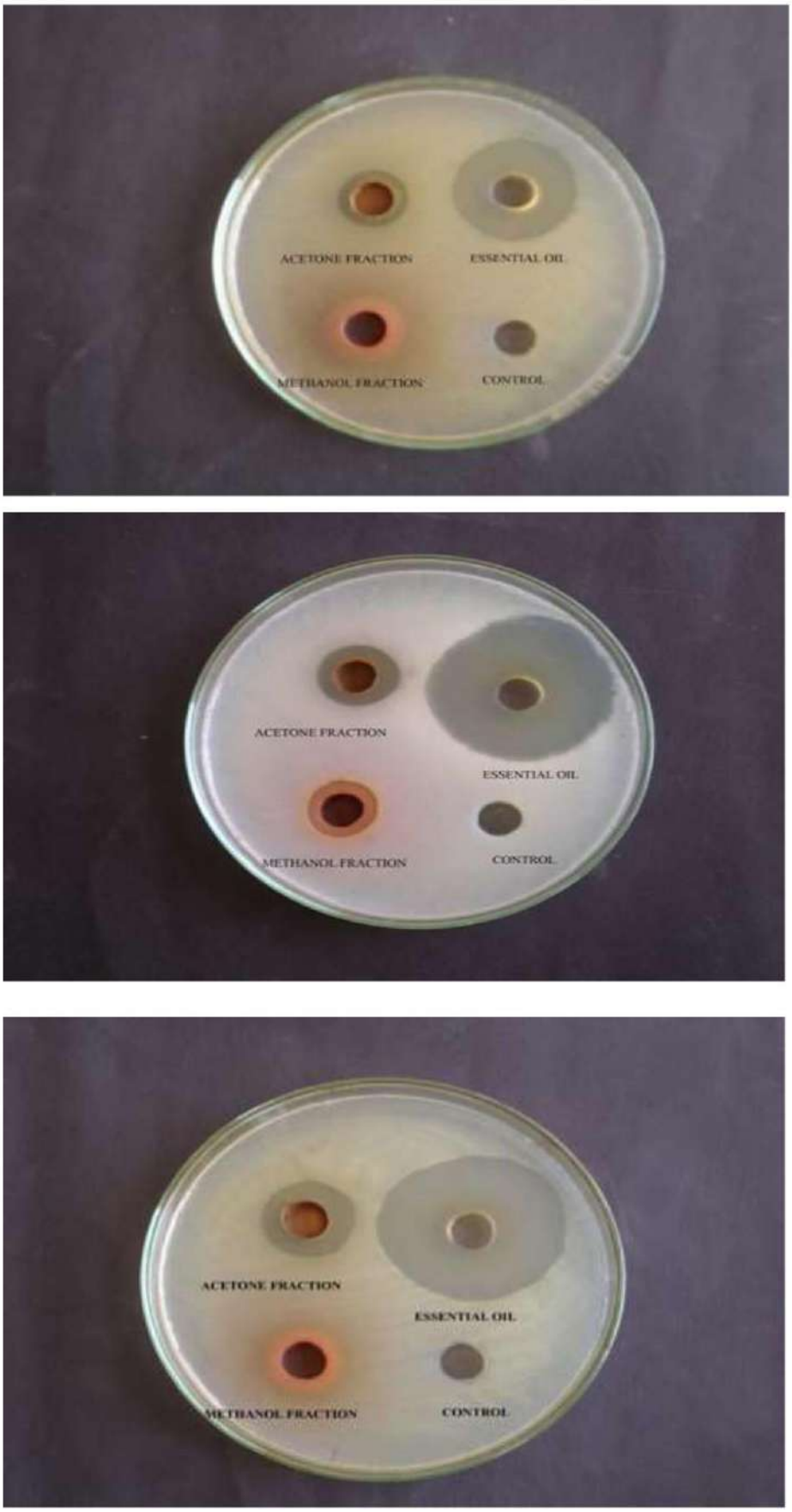

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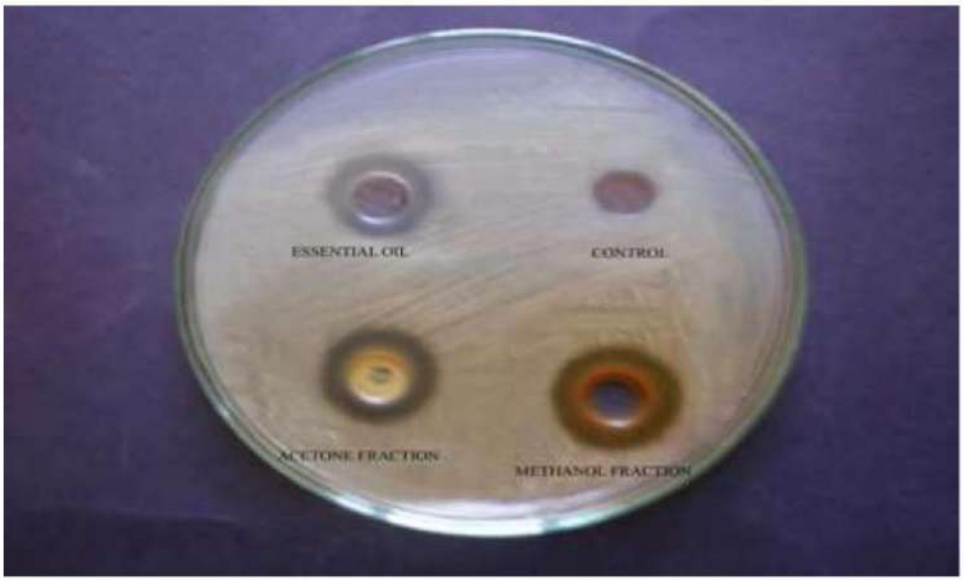
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Project Work Report B.Sc. III (Physics)

महात्मा गांधी कला विज्ञान
व
★ आरमोरी ★

SKILL ENHANCEMENT COURSE

Department of Physics

B.Sc. III Year
Session :- 2022-23

Topic Name :- Operational Amplifier & Application of Amp.

Head of Department
Dr. R. M. Thombre

Sr. No.	Group Members	Sign
1.	Pralay V. Chahande	Pralay.V.C
2.	Rajeshwari R. Ganvir	Ganvir
3.	Rutuja R. Kirme	R.Kirme.

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Guided by :-
Dr. R. M. Thombre
(Head of Department)

Difference Amplifier :

The difference or differential amplifier is a direct coupled amplifier and it is used as an input stage of an Operational Amplifier (OP-AMP). The difference amplifier has two input terminal and two output terminals. The difference amplifier amplifies the difference between two input voltage signals. Hence, it is known as difference amplifier.

Figure shows the circuit diagram of difference amplifier. It consists of two identical transistors Q_1 and Q_2.

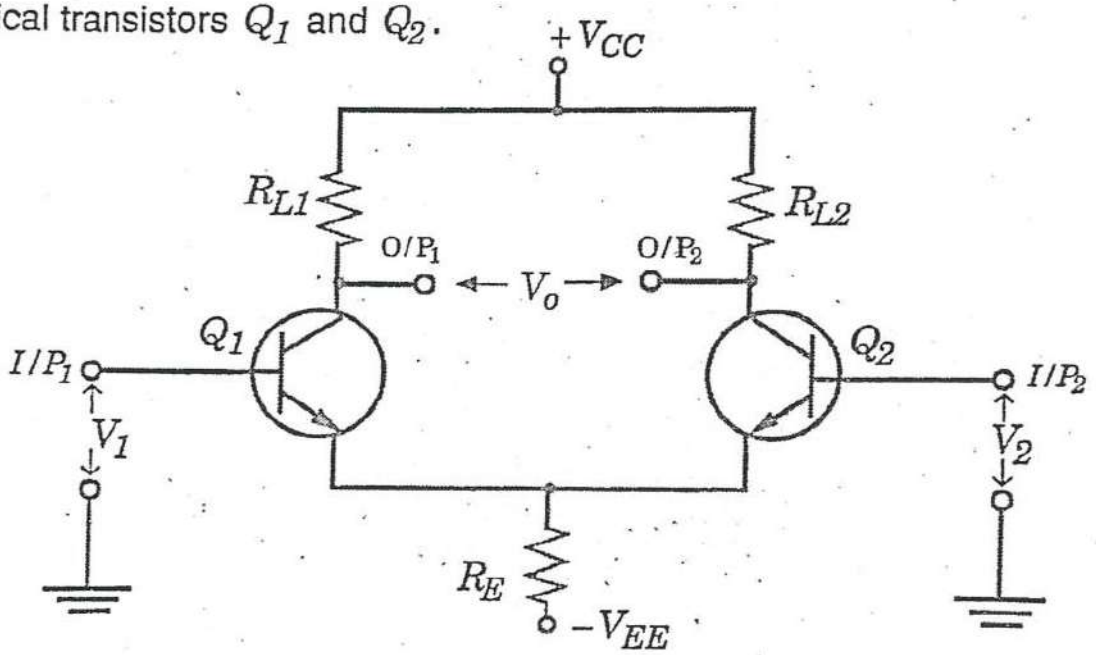

Figure : Difference Amplifier.

The collector resistors R_{L1} and R_{L2} are also identical. The emitters of the two transistors are tied together and given sufficient voltage for proper biasing of the two transistors. There are two input terminals I/P_1 and I/P_2 and two output terminals O/P_1 and O/P_2. Two d.c. power supplies $+V_{CC}$ and $-V_{EE}$ are used in the circuit.

Working : There are two modes of using difference amplifier.

(1) **Common Mode Gain (A_c) :** Any voltage that is applied equally and simultaneously to each input lead with respect to ground is known as **common-mode signal.**

Let V_1 and V_2 be the two inputs to the difference amplifier.

The average level of two input signals is the common mode signal denoted by V_c.

$$\therefore \quad V_c = \frac{V_1 + V_2}{2}$$

If we apply two input voltages which are equal in magnitude and in phase to the difference amplifier then ideally the output voltage V_o between the two collectors must be zero.

But, in practical difference amplifier, due to imperfect matching, there will be some output voltage for the common mode signal.

Thus, there exist some finite output voltage for $V_1 = V_2$, due to the gain known as **common mode gain (A_c).**

The common mode gain is given by :

$$A_c = \frac{V_o}{V_c} = \frac{V_o}{\frac{(V_1 + V_2)}{2}} = \frac{2V_o}{V_1 + V_2}$$

The common mode gain (A_c) is very small.

The difference amplifier rejects common-mode signals.

(2) **Difference Mode Gain** (A_c) : If we apply two inputs V_1 and V_2 such that, $V_1 = -V_2$ (difference mode signal) then the collector voltage of one transistor increases and that of the other transistor decreases by the same amount. And the voltage between two collectors is the required output voltage.

The difference between the two inputs $(V_1 - V_2)$ is the difference voltage and denoted as V_d.

The differential gain A_d is given by :

$$A_d = \frac{V_o}{V_d} = \frac{V_o}{V_1 - (V_1)} = \frac{V_o}{2V_1}$$

The function of a difference amplifier is to amplify the difference between two input signals.

So, the total output of any difference amplifier is :

$$V_o = A_c V_c + A_d V_d$$

Thus, the difference amplifier rejects undesirable common-mode signal and only amplifies difference-mode signal.

OP-AMP as Inverting Amplifier :

Figure shows circuit diagram of an inverting amplifier using Op-Amp. The input voltage V_i is applied to the inverting input terminal through the input series resistance R_1. The non-inverting input terminal of the Op-Amp is grounded.

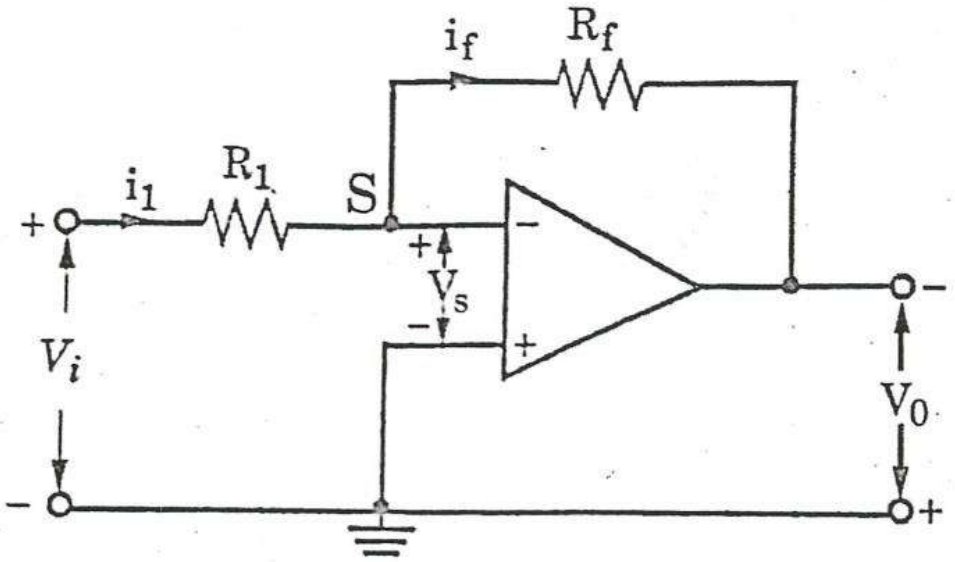

Figure : Op-Amp as inverting amplifier.

The negative feedback is applied through the feedback resistor R_f. Because of the infinite input impedance of an ideal Op-Amp, the current i_1 flowing through the resistor R_1 will also flow through the feedback resistance R_f.

$$\therefore \; i_1 = i_f$$

$$\therefore \quad \frac{V_i - V_s}{R_1} = \frac{V_s - V_o}{R_f}$$

As summing point S is at virtual ground, $V_s = 0$.

$$\therefore \quad \frac{V_i - 0}{R_1} = \frac{0 - V_0}{R_f} \qquad \therefore \quad \frac{V_i}{R_1} = -\frac{V_o}{R_f}$$

$$\therefore \quad \frac{V_o}{V_i} = -\frac{R_f}{R_1}$$

But, voltage gain with feedback, $A_{vf} = \frac{Output\ Voltage}{Input\ Voltage} = \frac{V_o}{V_i}$

$$\therefore \quad A_{vf} = -\frac{R_f}{R_1} \qquad \ldots(1)$$

The negative sign indicates that the input and output voltages are 180^o out of phase. Hence, the name **inverting amplifier.**

Eq.(1) gives the closed loop gain of inverting Op-Amp, which is negative and depends only on the feedback resistor R_f and input resistor R_1.

If $R_f = R_1$ then $V_o = -V_i$ and the Op-Amp acts as a sign changer.

OP-AMP as Non-Inverting Amplifier

Figure shows the circuit diagram of a non-inverting amplifier, using Op-Amp.

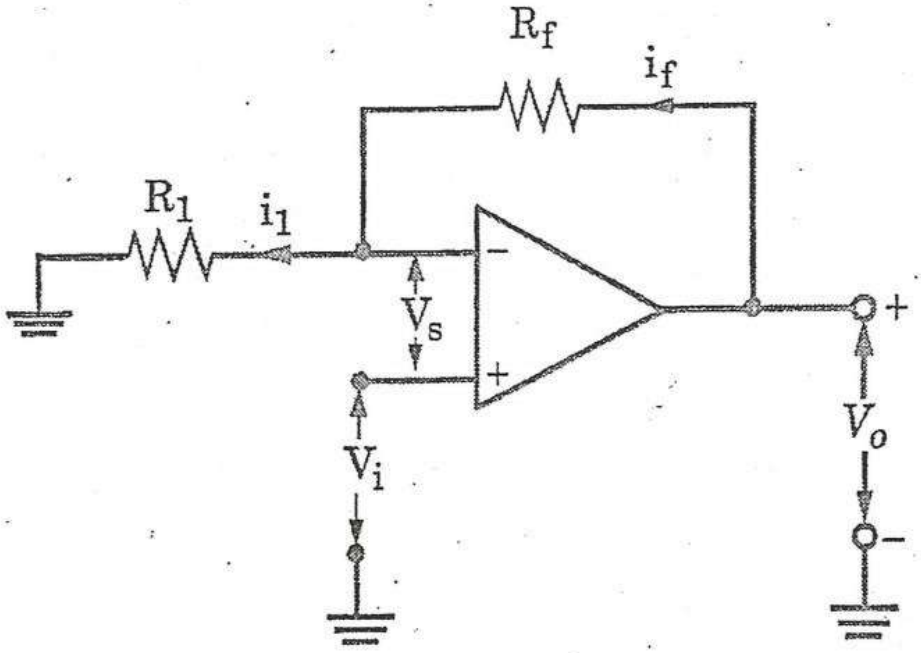

Figure : Op-Amp as non-inverting amplifier.

The input signal V_i is applied directly to the non-inverting (+) input terminal of the Op-Amp. The feedback resistor R_f is connected between output terminal and inverting (–) input terminal. The resistor R_1 is connected between the inverting terminal and the ground.

Expression for Closed Loop Voltage Gain :

Because of virtual short between the two Op-Amp input terminals, $V_s = 0$.

It means that, voltage across R_1 i.e. V_1 is equal to input voltage V_i.

$$\therefore V_1 = V_i \qquad But, \quad V_1 = i_1 R_1$$

$$\therefore V_i = i_1 R_1 \qquad ...(1)$$

As the input impedance of an Op-Amp is infinity, $i_1 = i_f$.

The output voltage V_o across the series combination of R_1 *and* R_f is given by :

$$V_o = i_1 (R_f + R_1) \qquad ...(2)$$

Dividing eq.(2) by eq.(1) we get : $\dfrac{V_o}{V_i} = \dfrac{R_f + R_1}{R_1} = 1 + \dfrac{R_f}{R_1}$

$$\therefore \textit{ Closed Loop Voltage Gain, } A_{vf} = \frac{V_o}{V_i} = 1 + \frac{R_f}{R_1}$$

The output and input voltages of a non-inverting amplifier are in phase. Hence, the name non-inverting amplifier.

The closed loop voltage gain A_{vf} of a non-inverting amplifier is always greater than or equal to one and only depends on the values of R_1 *and* R_f.

If $R_f = 0$ *and* $R_1 = \infty$ *then* $A_{vf} = 1$ *and* $V_o = V_i$.

In this case, Op-Amp acts as a **voltage follower** or buffer.

Q. : Explain the use of Op-Amp as an adder.

OP-AMP as an Adder (Summing Amplifier) :

Due to high input impedance of an Op-Amp, more than one input signal can be applied to the inverting amplifier. All input signals to be added are applied to the inverting input terminal of an Op-Amp, as shown in figure.

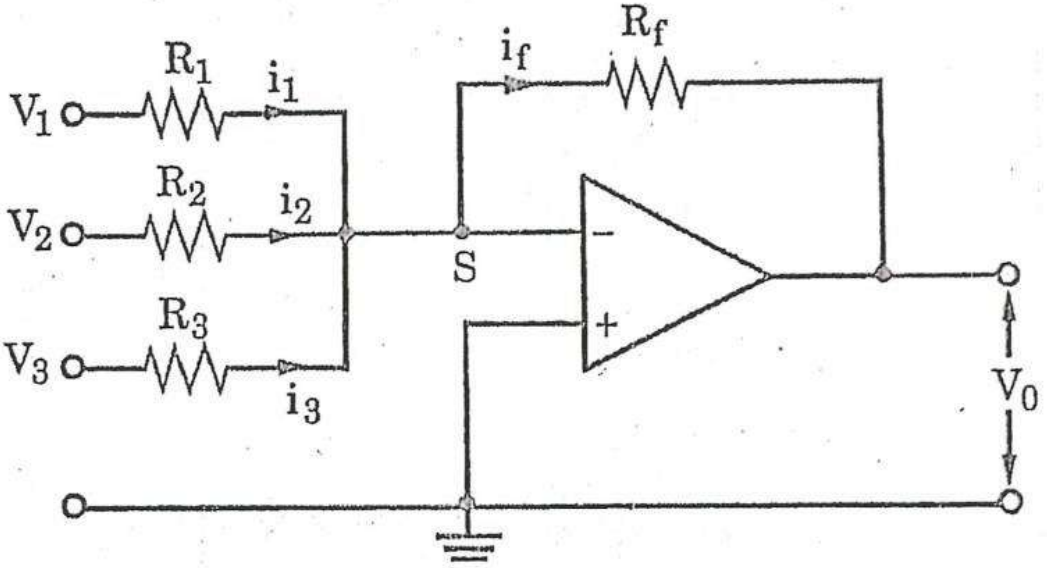

Figure : Adder or Summing Amplifier.

Thus, the net effective output is the sum of all inputs. Hence, it is called adder or summing amplifier.

The various input currents are :

$$i_1 = \frac{V_1}{R_1} \quad , \quad i_2 = \frac{V_2}{R_2} \quad and \quad i_3 = \frac{V_3}{R_3}$$

The sum of the currents which flows in the feedback resistor R_f generates an output voltage V_o.

$$\therefore \; V_o = - \, i_f \, R_f$$

As input impedance of an Op-Amp is infinite : $i_f = i_1 + i_2 + i_3$

$$\therefore \; V_o = - \left(\frac{V_1}{R_1} + \frac{V_2}{R_2} + \frac{V_3}{R_3} \right) R_f$$

$$\therefore\ V_o = -\left(\frac{R_f}{R_1}V_1 + \frac{R_f}{R_2}V_2 + \frac{R_f}{R_3}V_3\right)$$

$$\therefore\ V_o = -\left(K_1 V_1 + K_2 V_2 + K_3 V_3\right)$$

Thus, the output voltage is equal to negative sum of the input voltages, each multiplied by constant gain factor.

If $R_1 = R_2 = R_3 = R_f = R$ then above equation reduces to :

$$\boxed{V_o = -\left(V_1 + V_2 + V_3\right)}$$

Thus, the magnitude of the output voltage is equal to sum of the input voltages.

OP-AMP as a Subtractor :

Op-Amp as a subtractor is a circuit which gives an output proportional to the difference between two input signals. There are two inputs V_1 *and* V_2 in the subtractor circuit, as shown in figure.

When input V_2 is zero, the circuit acts as an inverting amplifier.

Let V_{o1} = Output due to input V_1 only, assuming $V_2 = 0$.

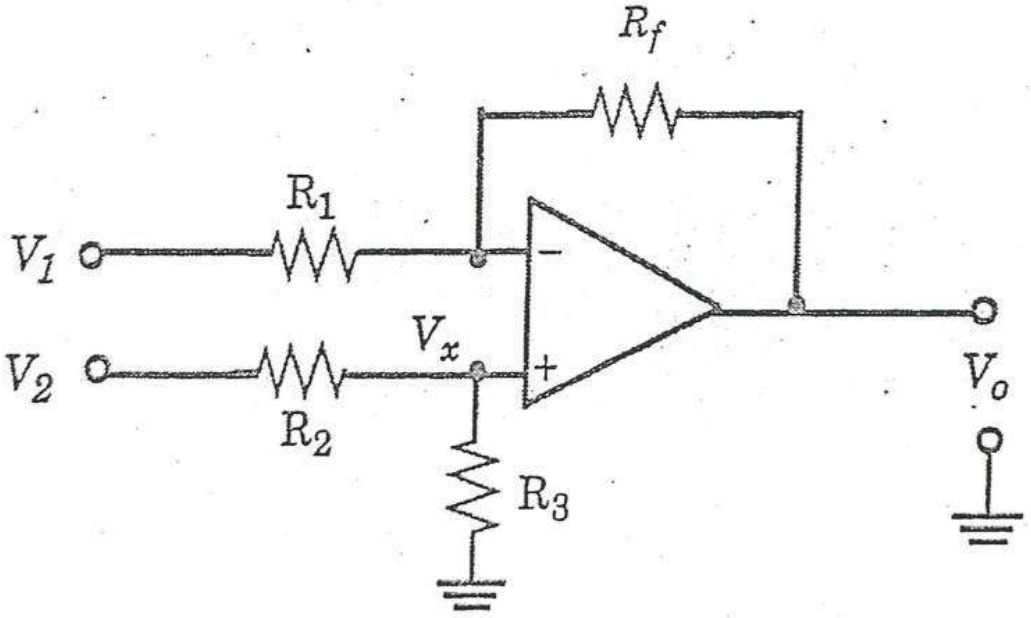

Figure : Op-Amp as a Subtractor.

$$V_{o1} = -\frac{R_f}{R_1} V_1 \quad \ldots(1)$$

But, when V_1 is zero, the circuit acts as a **non-inverting** amplifier, having voltage divider network of R_2 *and* R_3.

Hence, effective input V_x is given by : $V_x = \left(\frac{R_3}{R_2 + R_3}\right) V_2$

Let V_{o2} = Output due to input V_2 only, assuming $V_1 = 0$.

$$V_{o2} = \left(1 + \frac{R_f}{R_1}\right) V_x = \left(1 + \frac{R_f}{R_1}\right)\left(\frac{R_3}{R_2 + R_3}\right) V_2$$

If $R_1 = R_2$ *and* $R_f = R_3$ *; then we get :*

$$V_{o2} = \left(1 + \frac{R_f}{R_1}\right)\left(\frac{R_f}{R_1 + R_f}\right) V_2$$

$$\therefore \; V_{o2} = \frac{R_f}{R_1} V_2 \quad \ldots(2)$$

$\therefore$ The net output of an Op-amp by superposition theorem is given by :

$$V_o = V_{o1} + V_{o2} = -\frac{R_f}{R_1} V_1 + \frac{R_f}{R_1} V_2$$

$$\boxed{\therefore \; V_o = \frac{R_f}{R_1} (V_2 - V_1)}$$

Thus, the output voltage V_o is proportional to the difference between two input voltages.

If $R_1 = R_f$ *then we get :* $V_o = V_2 - V_1 \quad \ldots(3)$

Thus, the output voltage V_o is equal to subtraction of two input voltages.

OP-AMP as an Integrator :

In an integrator circuit, the output voltage is equal to integration of input voltage. The integrator circuit can be obtained by replacing the feedback resistor R_f of an Op-Amp in the inverting mode, by a capacitor C, as shown in figure.

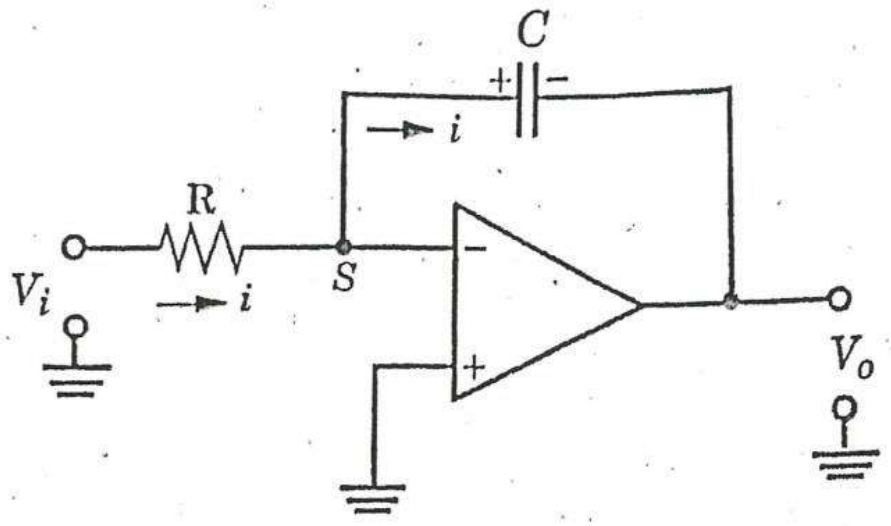

Figure : Op-Amp as an integrator.

As input current of Op-Amp is zero, the entire current i flowing through R also flows through C.

The voltage across capacitor C is given by :

$V_c = \frac{q}{C}$ Where, q = charge stored in the capacitor.

$But, \quad \frac{dq}{dt} = i \qquad \therefore \; dq = i\,dt \qquad \therefore \quad q = \int i\,dt$

$\therefore \; V_c = \int \frac{i}{C}\,dt \qquad ...(1)$

The output voltage V_o is the voltage drop across the capacitor C.

But, as the positive terminal of the capacitor C is at virtual ground S and the negative terminal is connected to the output, we can write :

$$V_o = -V_c$$

$$\therefore V_o = -\int \frac{i}{C}\, dt \qquad But,\ i = \frac{V_i}{R}$$

$$\boxed{\therefore V_o = -\frac{1}{RC}\int V_i\, dt} \quad \ldots(2)$$

Where, $\frac{1}{RC}$ = Time constant or **Scaling factor** of integrator.

So, the Op-Amp provides an output voltage which is proportional to the time integral of the input voltage.

The negative sign indicates that there is phase change of 180° between input and output.

When $R = 1\,M\Omega$ and $C = 1\,\mu F \quad \therefore RC = 1$

$\therefore$ *Output Voltage,* $V_o = -\int V_i\, dt$

If the input to the integrator is a square wave, then the output of the integrator is a triangular wave.

OP-Amp as Differentiator :

The function of differentiator circuit is to provide an output voltage which is proportional to the rate of change of input voltage. Differentiator circuit can be obtained by interchanging the resistance R and the capacitor C in the integrator circuit.

The input voltage V_i appears across the capacitor as its other end is at virtual ground S.

Let, V_i = instantaneous voltage across the capacitor.

q = Instantaneous charge on the capacitor.

i_1 = instantaneous current in the capacitor.

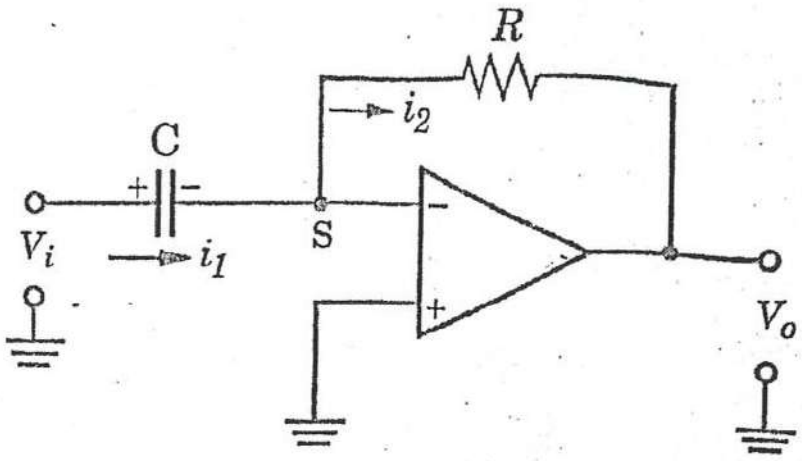

Figure : OP-AMP as Differentiator.

$$\therefore\ i_1 = Rate\ of\ flow\ of\ charge = \frac{dq}{dt} = \frac{d}{dt}(C V_i) \qquad (Since,\ q = C V_i)$$

$$\therefore\ i_1 = C\ \frac{dV_i}{dt} \qquad \ldots(1)$$

Since, the input impedance of an Op-Amp is very large, the current i_1 flowing through the capacitor is equal to current i_2 flowing through resistor R.

$$\therefore\ i_1 = i_2$$

$$But, \quad i_2 = \frac{0 - V_o}{R} = -\frac{V_o}{R} \qquad \ldots(2)$$

Equating eq.(1) and eq.(2) we get :

$$C\ \frac{dV_i}{dt} = -\ \frac{V_o}{R}$$

$$\boxed{\therefore\ V_o = -RC\ \frac{dV_i}{dt}} \qquad \ldots(3)$$

Thus, output voltage at any instant 't' is proportional to the derivative of the input. The factor RC is known as differentiating time constant or scale factor of the circuit.

Project Work Report B.Sc. III (Zoology)

SR.NO	NAME OF STUDENTS	PHOTO	SIGNATURE
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DEPARTMENT OF ZOOLOGY

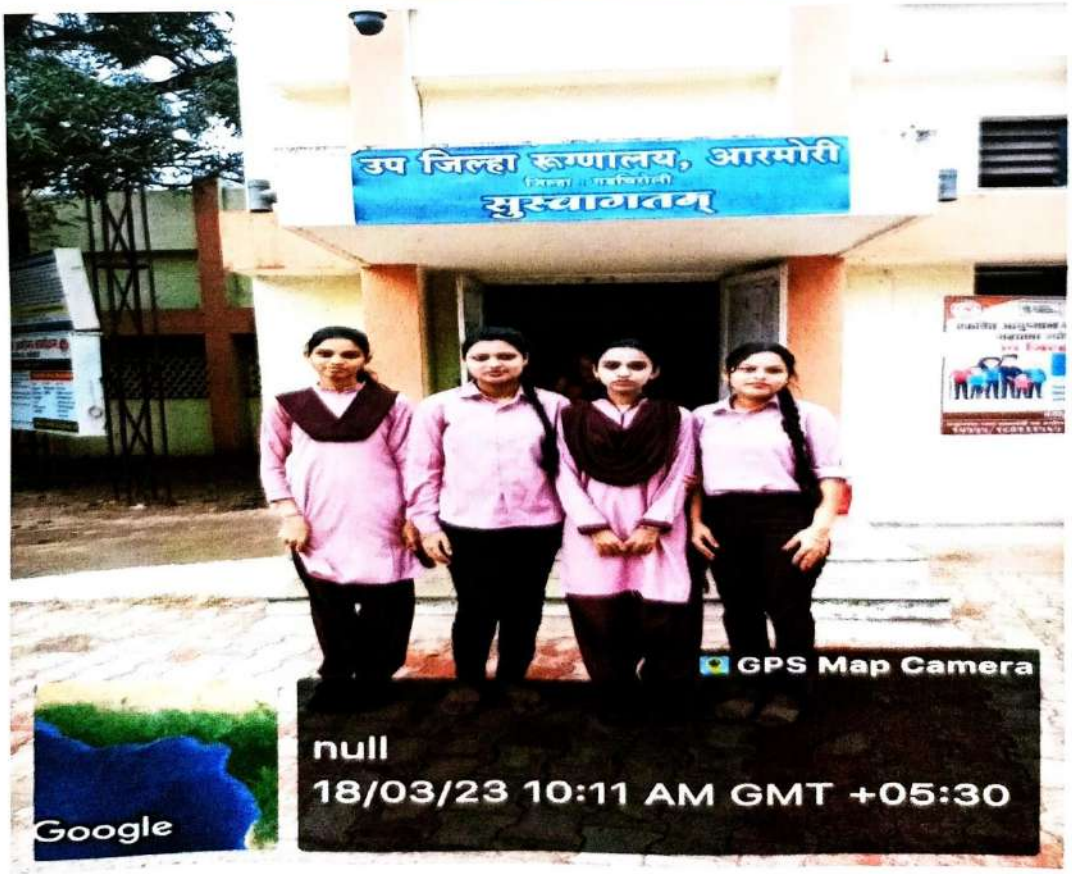
MEDICAL DIAGNOSTICS

FILARIASIS DESEAS CAUSING TO HUMAN BEING

SKILL ENHANCEMENT COURSE (SEC) PROJECT

B.SC. 3RD YEAR (SEM VI)

(GROUP – D)



Guided By: - Prof. Dr. JAYESH PAPADKAR

INTRODUCTION: -

Filariasis is a disease caused by a chronic mosquito-borne parasitic infection. Chronic infection can lead to swelling of the extremities, hydroceles, and testicular masses. It is the second-largest cause of permanent deformity and disability behind leprosy worldwide. Lymphatic filariasis (LF) is currently considered a neglected tropical disease. The Global Programmed to Eliminate Lymphatic Filariasis is providing mass drug administrations (MDA) to populations in endemic areas in a push to eradicate this disease. Several programs exist to encourage participation with MDA.

- Lymphatic filariasis is caused by the worms wucheriria bancroftian, brugia malayi, and brugia timori. These worms occupy the lymphatic system, including the lymph nodes; in chronic cases, these worms lead to the syndrome of elephantiasis.
- Subcutaneous filariasis, is caused by loa loa (the eye worm), mansonella streptocerca, and onchocerca volvulus. While o. volvulus causes river blindness.
- Serous cavity filariasis is caused by the worms mansonella perstans and mansonella ozzardi, which occupy the serous cavity of the abdomen. Dirofilarial immitis the dog heartworm, rarely infects humans.

ACKNOWLEDGMENT

We would like to express our special tanks of gratitude to our zoology teacher Dr. J.N. PAPADKAR Sir for their able guidance and support in completing our project

REFERENCE

1. Non-mulberry silk, FSO agriculture services bulletin,1979 (Published by food and agricultural services organization of the United Nations).
2. The silk moths of north America by Paul m. tuskes, James p. Tuttle, Mitchel m. Collisions (Cornell university press).
3. Butterflies and moth of north America.

RESULT: -

The morbidity of human filariasis results mainly from the host reaction to microfilaria of developing adult worms in different areas of the body. Long term disability may result from chronic lymphatic damage or blindness, depending on the infections filaria organism. Howler if the disease in left untreated, obstruction of the lymph plow will cause particular areas of the body especially the legs and external genital, to well profoundly. Chronic inflamation may progress to hardening of the lymphatic vessel (fibrosis) and obstruction of the lymph flow.

The adult filarial worms cause inflammation of the lymphatic system, resulting in lymphangitis and lymphadenitis. These conditions lead to lymphatic vessel damage, even in asymptomatic people, and lymphatic dysfunction, which predispose the lower limbs in particular to recurrent bacterial infection. These secondary infections provoke adenolymphangitis (ADL), commonly called "acute attacks", which are the commonest symptom of lymphatic filariasis and play an important role in the progression of lymphoedema. It has been suggested that bacteria commonly gain access to damaged lymphatic vessels through "entry lesions", often between the toes. ADL, which resembles erysipelas or cellulitis, is associated with local pain and swelling and with fever and chills.

CONCLUSION: -

- W. bancrofti causes bancroftian filariasis, elephantiasis.
- It is the most common and widespread species of filarial infecting humans.
- Completes its life cycle in two hosts: Man, and female mosquito.
- At the 3rd stage larva is in infective form.
- Lab diagnosis includes:

Detection of microfilaria in blood, urine and hydrocele fluid.

Demonstration of adult worm in biopsy specimen.

Immunodiagnostic: detection of antigen and antibody.

RECOMMENDATION:

The goals of treatment for filariasis are: to prevent, reverse, or halt progression of disease: and interrupted transmission of the parasite. Selecting the appropriate therapy. For the patient with lymphatic filariasis required knowledge of various clinical features of filarial disease and their pathogenesis. Regardless of the clinical manifestation of filarial disease in a particular patient, the following tree components of treatment should, in general, he considered: supportive of disease specific clinical care (including hygiene and diet), patient education and counselling and finally, antiparasitic chemotherapy with diethylcarbamazine (DEC) or the combination of (DEC) with ivermectin.

Study To ur Report B.Sc. III (Botany)

Mahatma Gandhi Arts, Science and Late N. P. Commerce College, Armori

Department of Botany

Glory of Allapalli

Study Tour Report

Academic Session 2022-23

Study Tour Report

Department of Botany

Plant Diversity of Allapalli

Excursions are arranged to give exposure to students. Field education is equally important as classroom teaching. It adds vigor in learning processes and relieves monotones of indoor education. Field study is an essential part of botany as plants are best studied in their natural habitat. This tour also helps to build good repo amongst students and teachers.

As a part of B.Sc. Curriculum, one day trip was organized to Glory of Allapalli by Department of Botany, Mahatma Gandhi Arts, Science & Late N. P. Commerce College, Armori on 11th March, 2023 for B. Sc. I, B. Sc. II & B. Sc. III botany students. A group of 45 students were accompanied by Dr. Seema T. Nagdeve and Dr. Vasanta I. Kahalkar of Botany department. The main objective was to familiarize the students with the local flora and ecology of this region. Also, to familiarize them with the importance of local biodiversity and the threats of biodiversity face due to natural and human activity. Students collected plants for identification, documentation and analysis plant diversity of this region. Students were familiarized with the fruit dispersal mechanism of *Datura metal*, *Xanthium indicum*, *Triumfetta* etc. The tour fruitfully skilled in students the practicality of different theoretical concepts of Botany.

List of plant species

Sr. No.	Family	Botanical name	Remark
1	Menispermaceae	Cissampelos pareira L.	Climber
2		Cocculus hirsutus (L.) Diels.	Climber
3	Capparaceae	Capparis zeylanica L.	Climber
4	Flacourtiaceae	Casearia graveolens Dalz.	Tree
5	Malvaceae	Kydia calycina Roxb.	Tree
6		Sida acuta Burm.f.	Herb
7		Sida cordifolia L.	Herb
8		Urena lobata L.	Shrub
9	Bombacaeae	Bombax ceiba L.	Tree
10	Batneriaceae	Byttneria herbacea Roxb.	Herb
11	Sterculiaceae	Eriolaena hookeriana Wight & Arn.	Tree

12		Helicteres isora L.	Shrub
13		Steculia urens Roxb.	Tree
14	Tiliaceae	Grewia damine Gaertn.	Shrub
15		Grewia villosa Willd.	Shrub
16		Triumfetta rhomboidea Jacq.	Shrub
17	Malpighiaceae	Aspidopterys cordata (Heyne ex Wall) A. Juss.	Climber
18	Rutaceae	Aegle marmelos (L.) Corr.	Tree
19	Burseraceae	Boswellia serrata Roxb. *ex* Coleb	Tree
20		Garuga pinnata Roxb.	Tree
21	Meliaceae	Soymida februfuga (Roxb.) A. Juss.	Tree
22	Olacaceae	Olax scandens Roxb.	Climber
23	Celastraceae	Cassine glauca (Rottb.) O. Kuntze	Tree
24		Celastrus paniculatus Willd.	Climber
25	Rhamanaceae	Ventilago denticulata Willd.	Climber
26		Ziziphus caracutta Buch.-Ham. *ex* Roxb.	Tree
27		Ziziphus oenoplia (L.) Mill.	Straggling shrubs
28	Vitaceae	Ampelocissus latifolia (Roxb.) Planch.	Climber
29		Ampelocissus ternata (Roth *ex* Rpem. & Scult.) DC	Climber
30		Cissus rependa Vahl.	Climber
31	Sapindaceae	Schleichera oleosa (Lour.) Oken	Tree
32	Anacardiaceae	Buchanania cochinchinensis (Lour.) Almeida.	Tree
33		Lannea coromandelica (Houtt.) Merr.	Tree
34		Semecarpus anacardium L.f.	Tree
35	Fabaceae	Butea monosperma (Lamk.) Taub.	Tree
36		Butea superba Roxb.	Climber
37		Dalbergia lanceolaria ssp paniculata (Roxb.) Thoth.	Tree
38		Dalbergia volubilis Roxb.	Climber
39		Derris scandens (Roxb.) Benth.	Climber
40		Desmodium triflorum (L.) DC. Prodr.	Herb
41		Pterocarpus marsupium Roxb.	Tree
42		Teramnus labialis (L.f) Spreng.	Climber
43	Caesalpinaceae	Bauhinia racemosa Lamk.	Tree
44		Cassia fistula L.	Tree
45		Tamarindus indica L.,	Tree
46	Mimosaceae	Acacia catechu (L.f.) Willd.	Tree
47		Acacia leucophloea (Roxb.) Willd.,	Tree

48		Acacia torta (Roxb.) Craib.	Climber
49		Albizia amara (Roxb.) Boivin	Tree
50	Combretaceae	Anogeissus latifolia (Roxb. ex DC.) Guil & Perr.	Tree
51		Calycopteris floribunda (Roxb.) Poir.	Straggling shrubs
52		Terminalia alata Heyne *ex* Roth.	Tree
53		Terminalia arjuna (Roxb.) Wight & Arn.	Tree
54		Terminalia bellirica (Gaertn.) Roxb.	Tree
55	Lythraceae	Lagerstroemia parviflora Roxb.	Tree
56	Onagraceae	Ludwigia perennis L.	Herb
57	Aliangiaceae	Alangium salvifolium (L.f.) Wangerin.	Tree
58	Rubiaceae	Gardenia latifolia Ait.	Tree
59		Gardenia resinifera Roth.	Tree
60		Haldina cordifolia (Roxb.) Ridsd	Tree
61		Hymenodictyon orixensis (Roxb.) Mabb.	Tree
62		Ixora pavetta Andrews	Tree
63		Mitragyna parvifolia (Roxb.)	Tree
64		Morinda citrifolia L.	Tree
65		Tamilnadia ulogonosa (Retz.) Tirveng.	Tree
66	Asteraceae	Ageratum conyzoides L.	Herb
67		Blumea lacera (Burm.f.) DC.	Herb
68		Xanthium indicu Koen	Herb
69	Sapotaceae	Madhuca longifolia (J. Koenig) Macbr.	Tree
70	Ebenaceae	Diospyros melanoxylon Roxb.	Tree
71		Diospyros montana Roxb.	Tree
72	Oleaceae	Nyctanthes arbor-tristis L.	Tree
73	Apocynaceae	Holarrhena pubescens (Buch.-Ham.) Wall. *ex* G. Don.	Tree
74		Ichnocarpus frutescens (L.) R. Br.	Climber
75	Periplcaceae	Criptolepis buchnani Roem. & Schult.	Climber
76		Hemidesmus indicus (L.) R.Br.	Climber
77	Loganiaceae	Strychnos potatorum L.f.	Tree
78	Solanceae	Datura metel L.	Herb
79	Bignoniaceae	Stereospermum chelenoides (L.f.) DC.	Tree
80	Acanthaceae	Andrographis paniculata (Burm.f.) wall ex Nees	Herb
81		Barleria cristata L.	Herb
82		Blepharis maderaspatensis (L) Roth.	Herb

83		Eranthemum purpurascens Nees in Wall	Shrub
84		Hemigraphis latebrosa (Heye ex Roth) Nees in DC	Herb
85		Peristrophe paniculata (Forssk) Brummitt.	Herb
86	Verbenaceae	Tectona grandis L.f.	Tree
87	Amaranthaceae	Achyranthes aspera L.	Herb
88		Alternanthera sessile (L.) R. Br. ex DC.	Herb
89	Loranthaceae	Dendrophthae falcata (L.f.) Etting	Herb
90	Euphorbiaceae	Acalypha sp.	
91		Antidesma acidum Retz.	Tree
92		Bridelia retusa (L.) Juss.	Tree
93		Cleistanthus collinus (Roxb.) Benth.	Tree
94		Emblica officinalis Gaertn.	Tree
95	Moraceae	Ficus hispida L.f.	Tree
96		Ficus religiosa L.	Tree
97		Streblus asper Lour.	Tree
98	Orchidaceae	Vanda tessellata (Roxb.) Hook. ex G. Don.	Epiphytic herb
99	Arecaceae	Borassus flabellifer L.	Tree
100	Poaceae	Cynodon dactylon (L.) Pers.	Gass
101		Dendrocalamus strictus (Roxb.) Nees.	Bamboo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GLORY OF ALLAPALLI
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Longitude: 80.184053
Elevation: 323.09±100 m
Accuracy: 96.0 m
Time: 03-11-2023 12:08
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