



Yashwant Shikshan Sanstha's
Miraj Mahavidyalaya, Miraj

Affiliated to Shivaji University, Kolhapur - Code
Accredited by NAAC (3rd Cycle) with 'B+' Grade (CGPA 2.53)



CRITERION-II

TEACHING- LEARNING AND EVALUATION

KEY INDICATOR- 2.3: TEACHING- LEARNING PROCESS

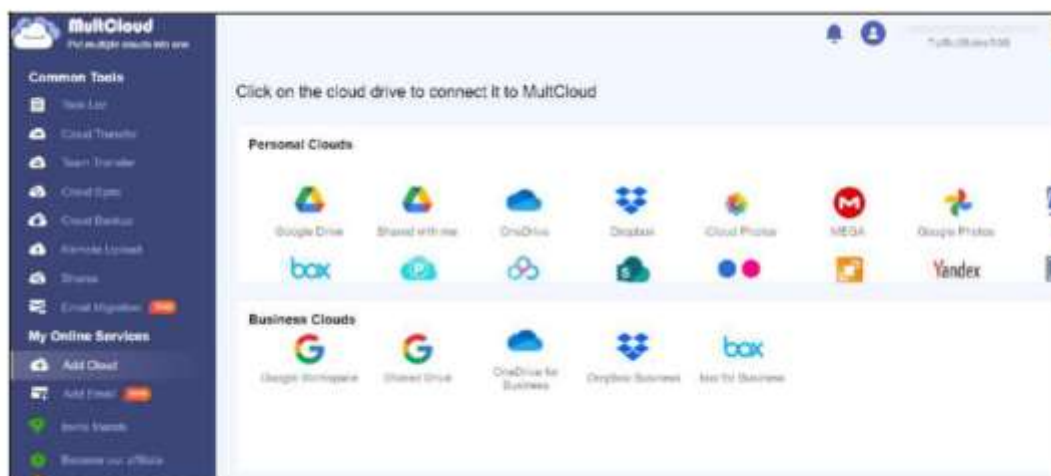
TEACHERS USE ICT ENABLED TOOLS FOR EFFECTIVE TEACHING-LEARNING PROCESS

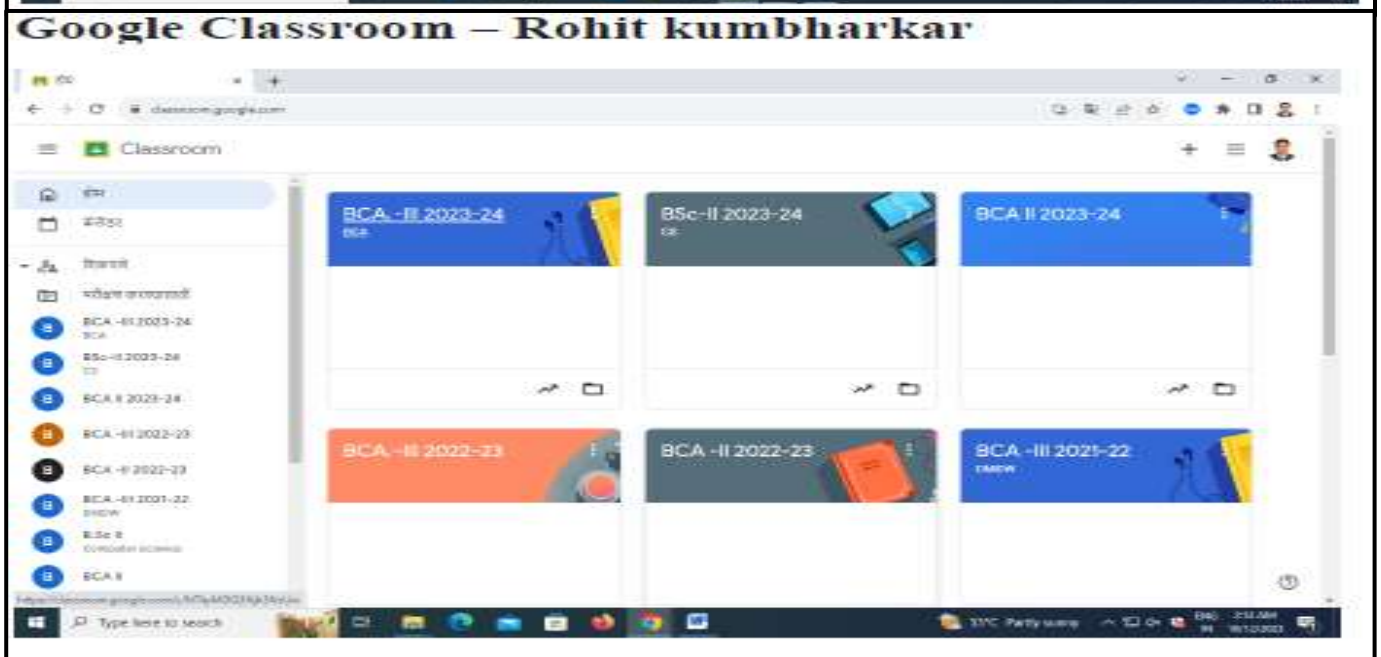
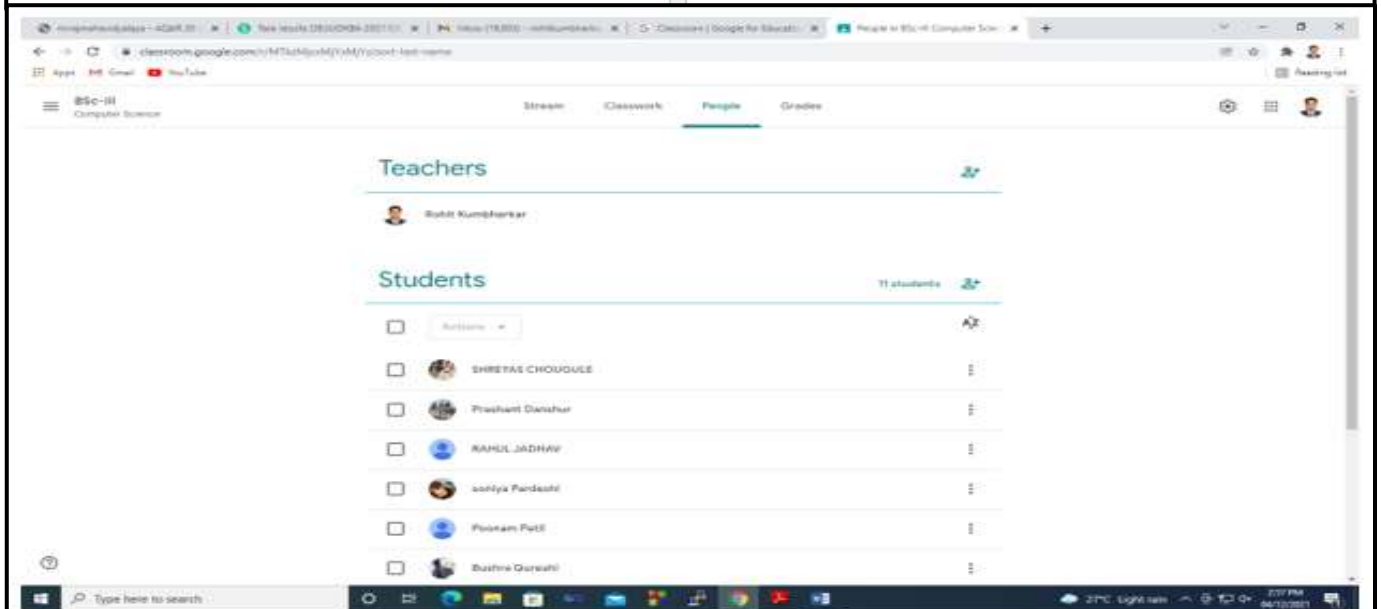
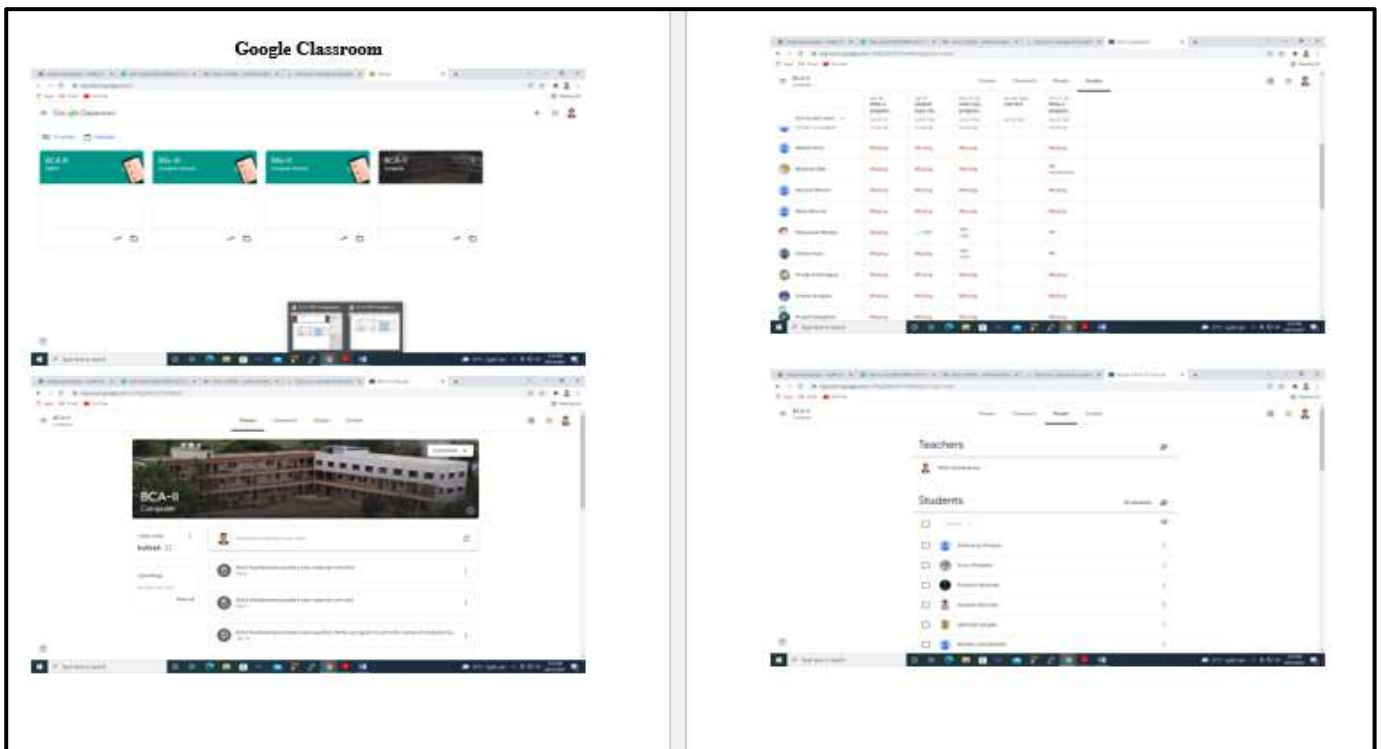
i. Google Classroom





YASHAWANT SHIKSHAN SANSTHA'S
Miraj Mahavidyalaya Miraj
Dr. Smt. S. C. Yadav, Department of Physics







Yashwantrao Chavan
Miraj Mahavidyalaya, Miraj

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CRITERION-II

TEACHING- LEARNING AND EVALUATION

KEY INDICATOR- 2.3: TEACHING- LEARNING PROCESS

4. EFFECTIVE – TEACHING LEARNING PROCESS THROUGH ICT TOOLS

ii.YouTube Channels





YASHAWANT SHIKSHAN SANSTHA'S
Miraj Mahavidyalaya Miraj
Use of ICT

YouTube Link

- Lectures Uploaded on You Tube by Faculty in Miraj Mahavidyalaya, Miraj

Sr .	Name of faculty	Department	Subject	You Tube Link
1.	Mr. Rohit Kumbharkar	Computer Science	Features of C++(OOP)	https://www.youtube.com/watch?v=Me3ps_P6vo8
2.	Dr. More C. T.	Physics	Magnetic Levitation	https://www.youtube.com/watch?v=xiCp7Gwtz6o
3.	Dr. Smt. S. C. Yadav	Physics	Rotational Motion	https://www.youtube.com/watch?v=Gnbs5EXz_jE
4.	Dr. Smt. S. C. Yadav	Physics	Moment of Inertia	https://www.youtube.com/watch?v=7_cUPDcJq80
5.	Dr. Smt. S. C. Yadav	Physics	Gauss theorem	https://www.youtube.com/watch?v=JZePg8DPXkU
6.	Dr. Smt. S. C. Yadav	Physics	Gauss theorem	https://www.youtube.com/watch?v=KC0hXrHb3IQ&t=224s
7.	Dr. Smt. S. C. Yadav	Physics	Gauss theorem	https://www.youtube.com/watch?v=NqDJWuCCE6A
8.	Dr. Smt. S. C. Yadav	Physics	COVID	https://www.youtube.com/watch?v=zMK7NGPBdQ8&t=50s
9.	Dr. N. D. Potphode	Zoology	Projection of Snakes	https://youtu.be/HPWV5Ye7KPc

- ICT enabled Laboratories with LCD facilities:

1. Microbiology	2. Physics	3. Chemistry	4. Botany	5. Zoology
6. Computer Science	7. Geography	8. Maths & Stat	9. English Language Lab	10. Psychology

- **ICT TOOLS- DR. NITIN DADASAHEB POTPHODE**
Assistant Professor, Dept. of Zoology,
Miraj Mahavidyalaya, Miraj.



E-books Library -

<https://drive.google.com/drive/folders/1hHWjcwL7og04qkfAbj0fQMH3nJxRL-qV>



PPTs Library- B. Sc. I -

<https://drive.google.com/drive/folders/17uQXPeg-freTuwtuo900DhMc03K6WcE8>



PPTs Library- B. Sc. II -

https://drive.google.com/drive/folders/1wn8oTnIJzXB5XqnzNp-xyKe8gzqf_BeU



You tube Videos-

Name of the channel- Nitin Potphode@nitinpotphode762517

- <https://youtu.be/X55nkckSU-E?si=vScfrnWeuhOAasSH>
- <https://youtu.be/HPWV5Ye7KPc?si=KfzNho6VMhcn3DT4>
- <https://youtu.be/PyJ7bofivpY?si=w4ygKBrLL5VHXYjY>
- <https://youtu.be/ggfzvKlaXng?si=jsFRDxu7yB0ccnLJ>

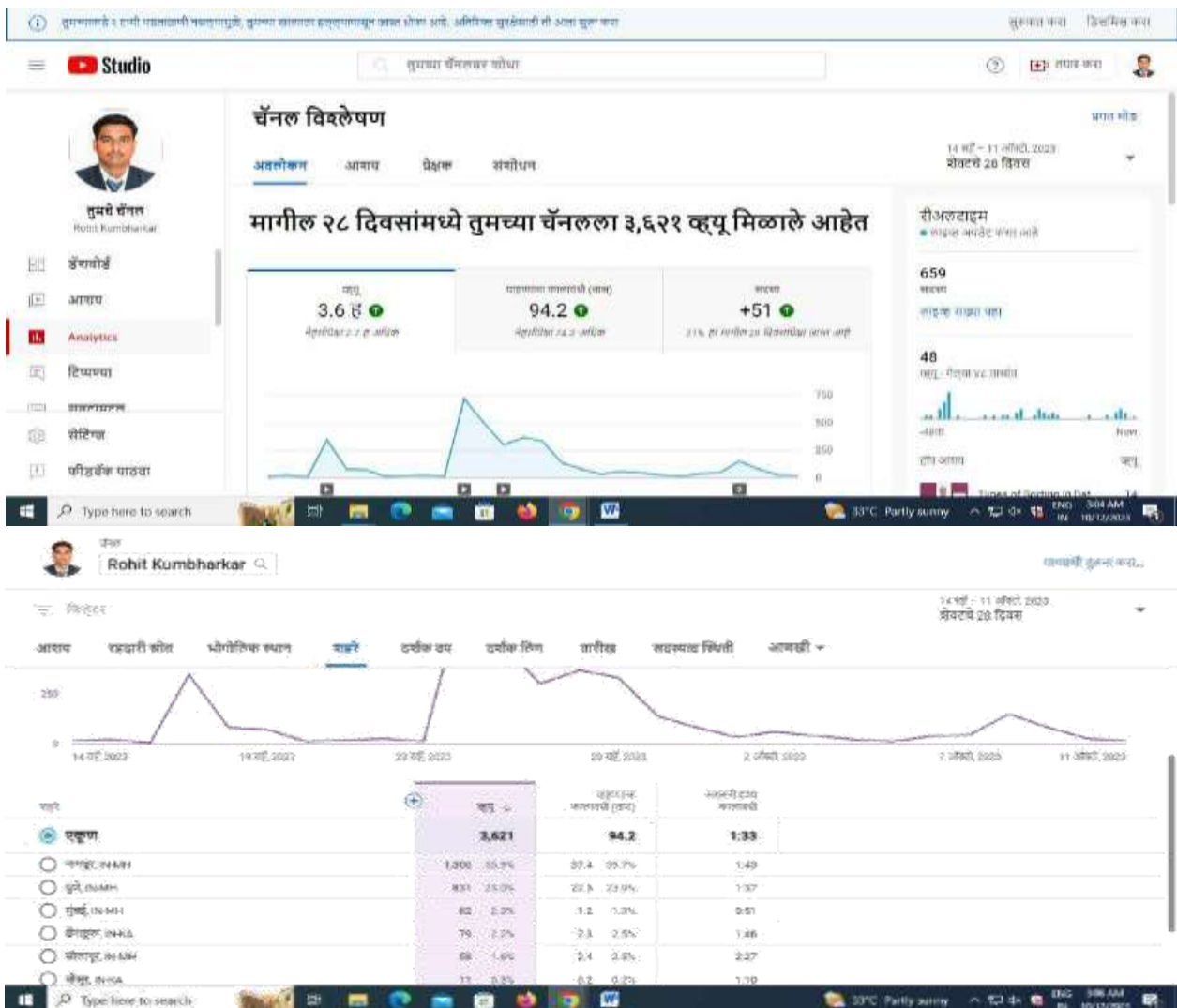


• **YOU TUBE CHANNEL NAME – MR. ROHIT KUMBHAKAR**



**Assistant Professor, Dept. of Zoology,
Miraj Mahavidyalaya, Miraj.**

- 1) HTML -CSS
<https://youtu.be/HSzsl7RY0>
- 2) OOP(C++)
<https://youtu.be/A37nJ4YhmdY>
- 3) Features of CPP(OOP)
https://youtu.be/Me3ps_P6vo8?si=VdqcfGIILC4FkJCs
- 4) HTML -Text elements
<https://youtu.be/Y3nMZQ6uTY>
- 5) Creating a Table(HTML)
<https://youtu.be/tJFghx5FA>
- 6) HTML -Text formatting element
Part2 <https://youtu.be/rc843X-nTKM>
- 7) Basic HTML Programming
<https://youtu.be/iVHFgdNd4>



ICT Tools:

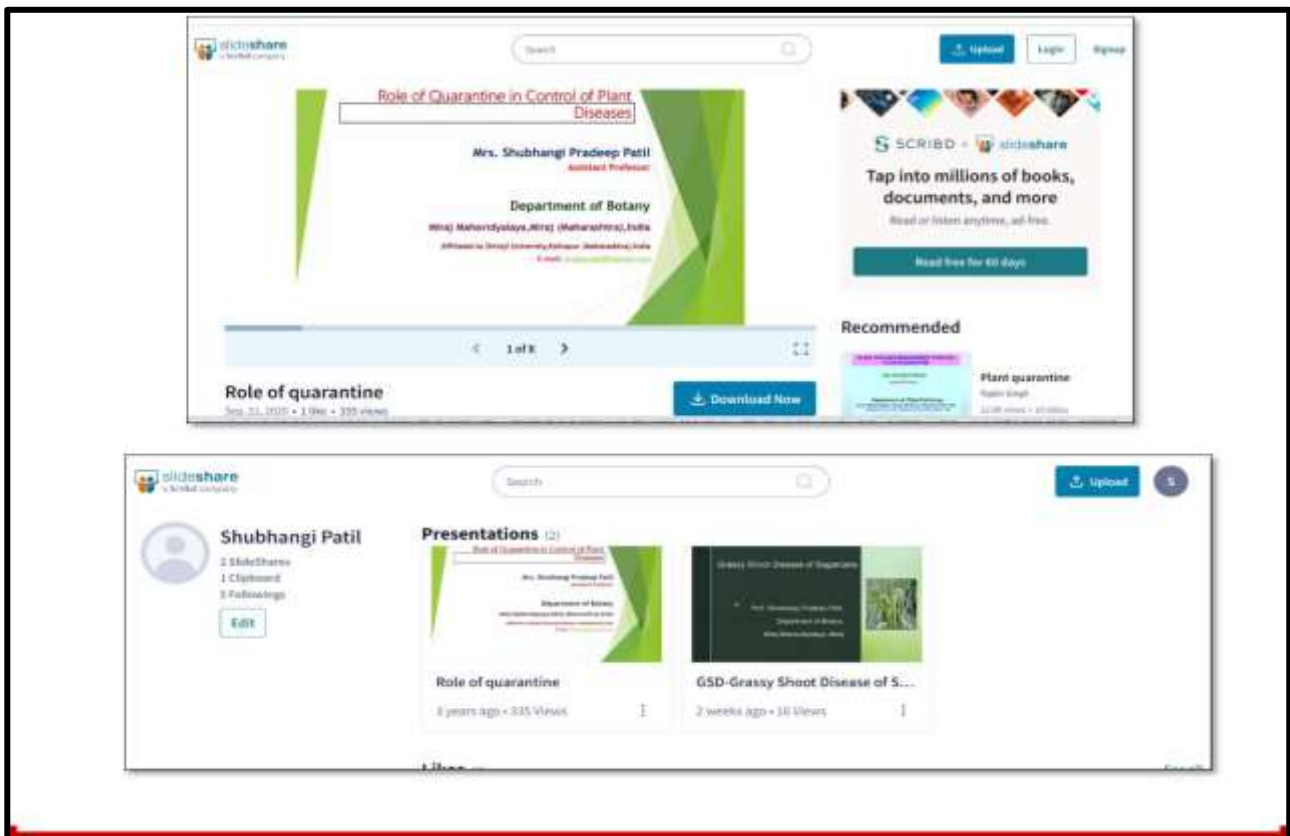
- **NAME OF TEACHER: MRS. SHUBHANGI PATIL,**
Assist. Prof, Dept. of Botany
Miraj Mahavidyalaya, Miraj.



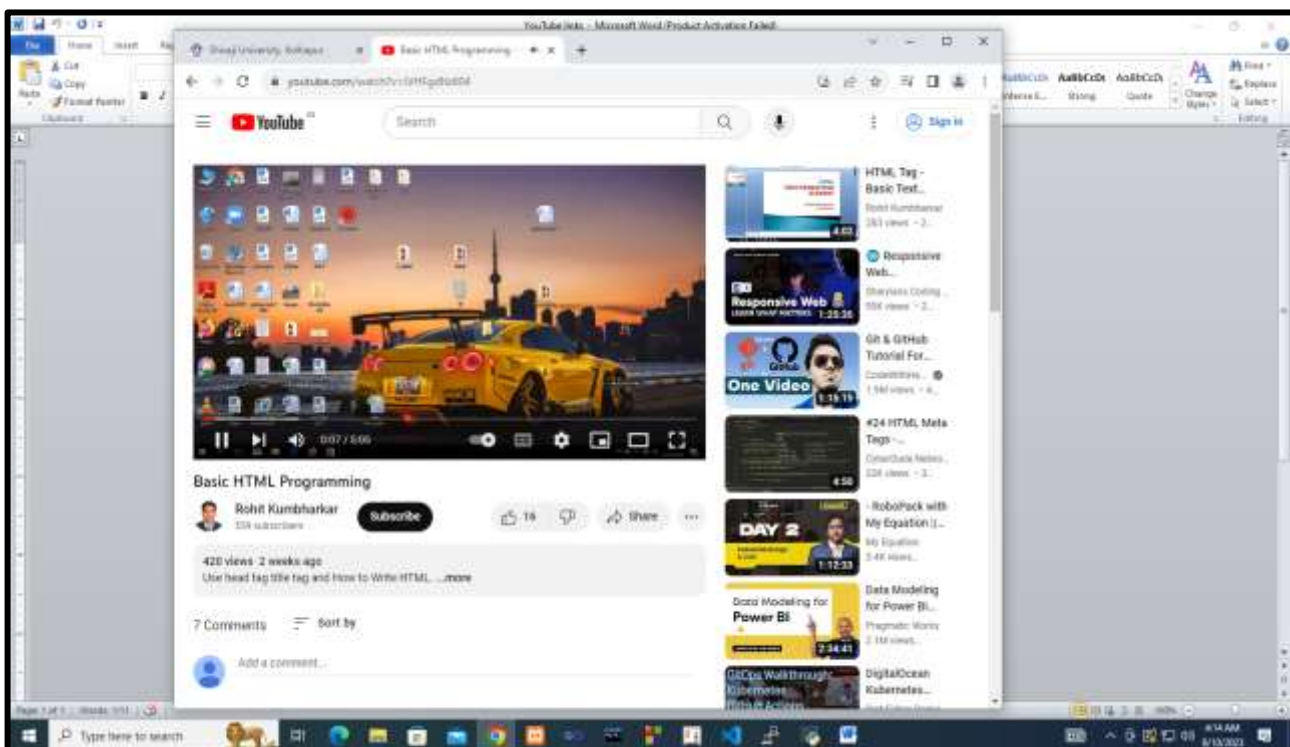
- ❖ **YouTube Videos:** <https://www.youtube.com/watch?v=UXS2sQlNY8c&t=24s>
<https://www.youtube.com/channel/UCyWEj6dNVHJQClcpcfZlBgg>
<https://www.youtube.com/channel/UCyWEj6dNVHJQClcpcfZlBgg>
- ❖ **E-Book Library:**
<https://drive.google.com/drive/folders/1d8F6YbxHHkv6AS4qm2y4M13wDf4sHoKY>
- ❖ **PPTs-**
<https://drive.google.com/drive/folders/1a3aE0Gz0H5Ab8FM5NdPrIu3eE5e0wqV>
- ❖ **Google Classroom:**
https://drive.google.com/drive/folders/0B1bG1XF2POwBfmNoWERVUy1lMUZENgoyWGducUlwWUtmQXRXZm10V3ByOThjQW1iSEotRzg?resourcekey=0-7-_cfeo7fkTrH-CQgZORcg
- ❖ **PPTs uploaded on Slide share:**

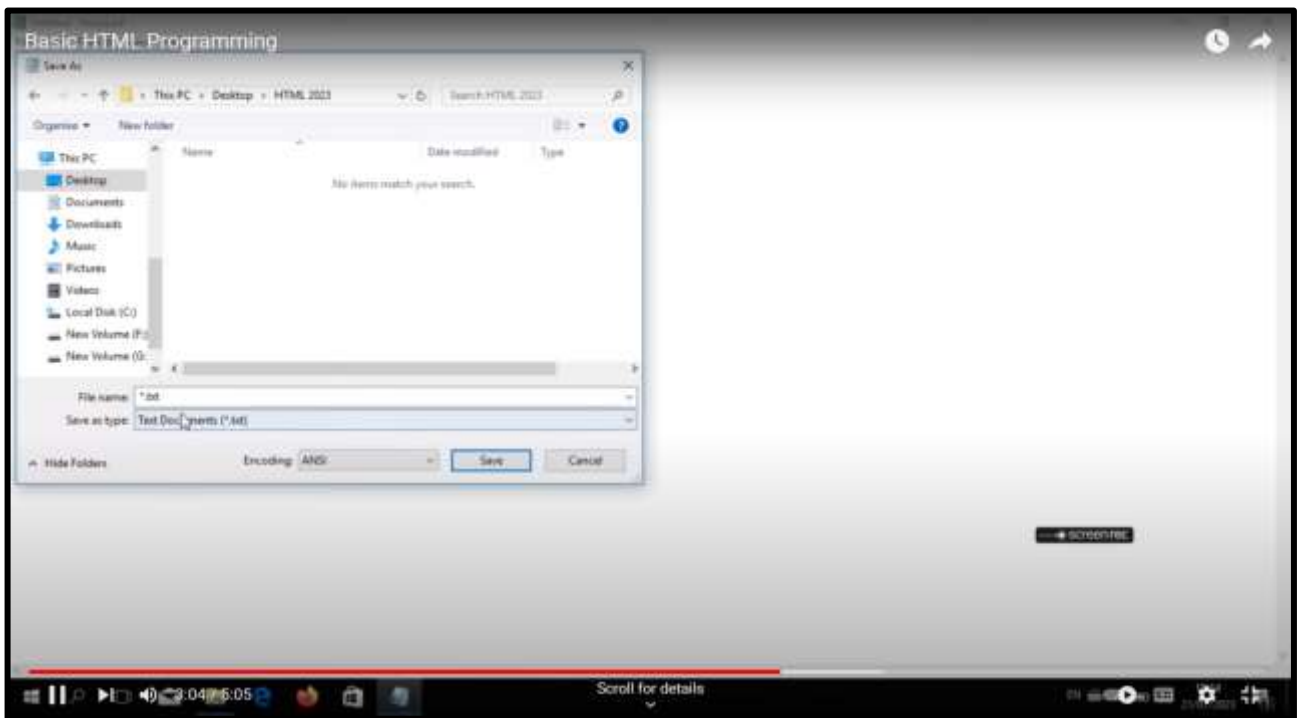
https://www.slideshare.net/ShubhangiPatil35/role-of-quarantine?from_search=6

<https://www.slideshare.net/ShubhangiPatil35/gsdgrassy-shoot-disease-of-sugarcane.pdf>



- **USE OF YOUTUBE LECTURES BY MR. R. B. KUMBHAKAR,**
Asst. Prof, Dept. of Physics,
Miraj Mahavidyalaya, Miraj.



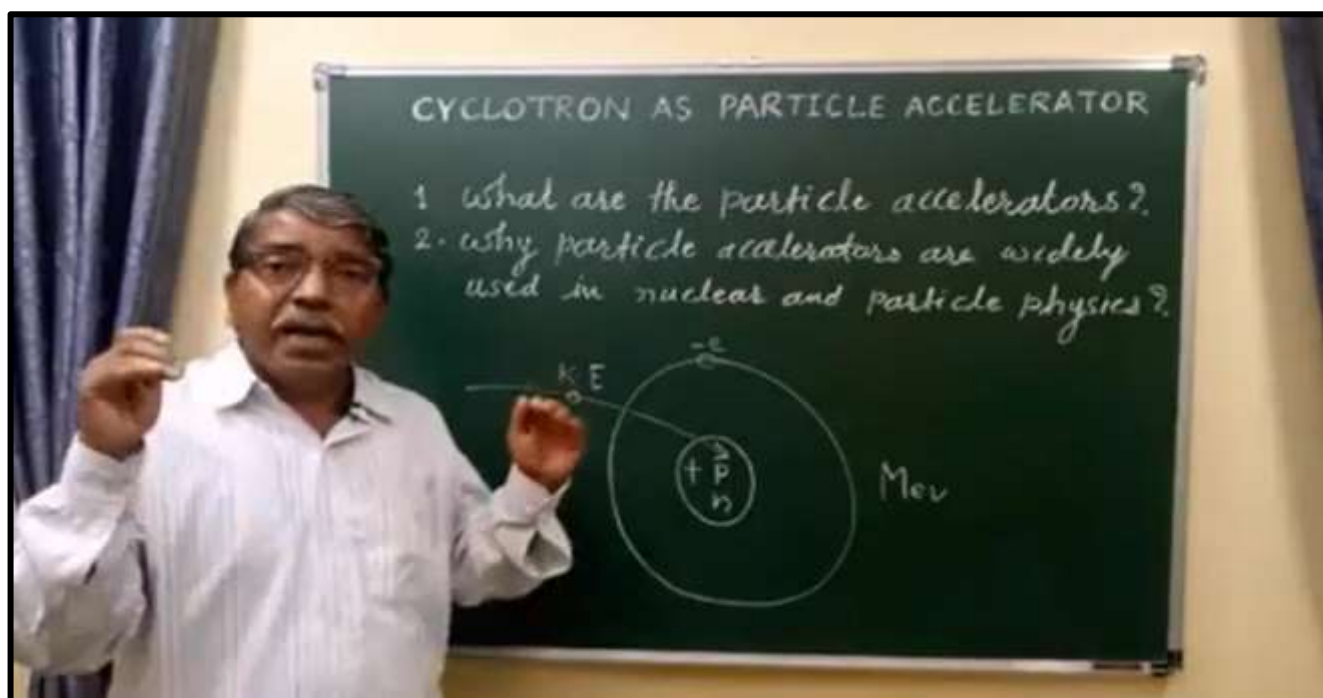
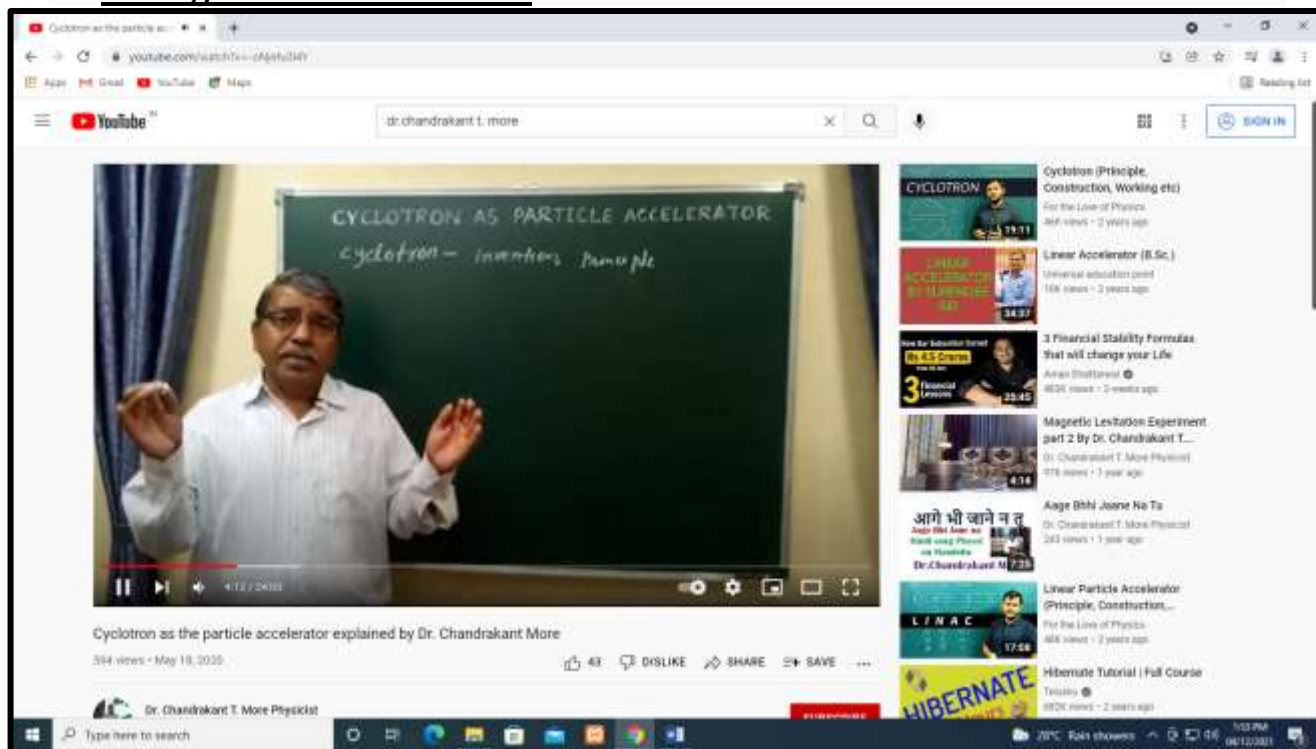


YouTube Link: - <https://youtu.be/iVHFgdNdl04>

➤ NAME OF TEACHER: DR. CHANDRAKANT MORE,
Asst. Prof, Dept. of Physics,
Miraj Mahavidyalaya, Miraj.

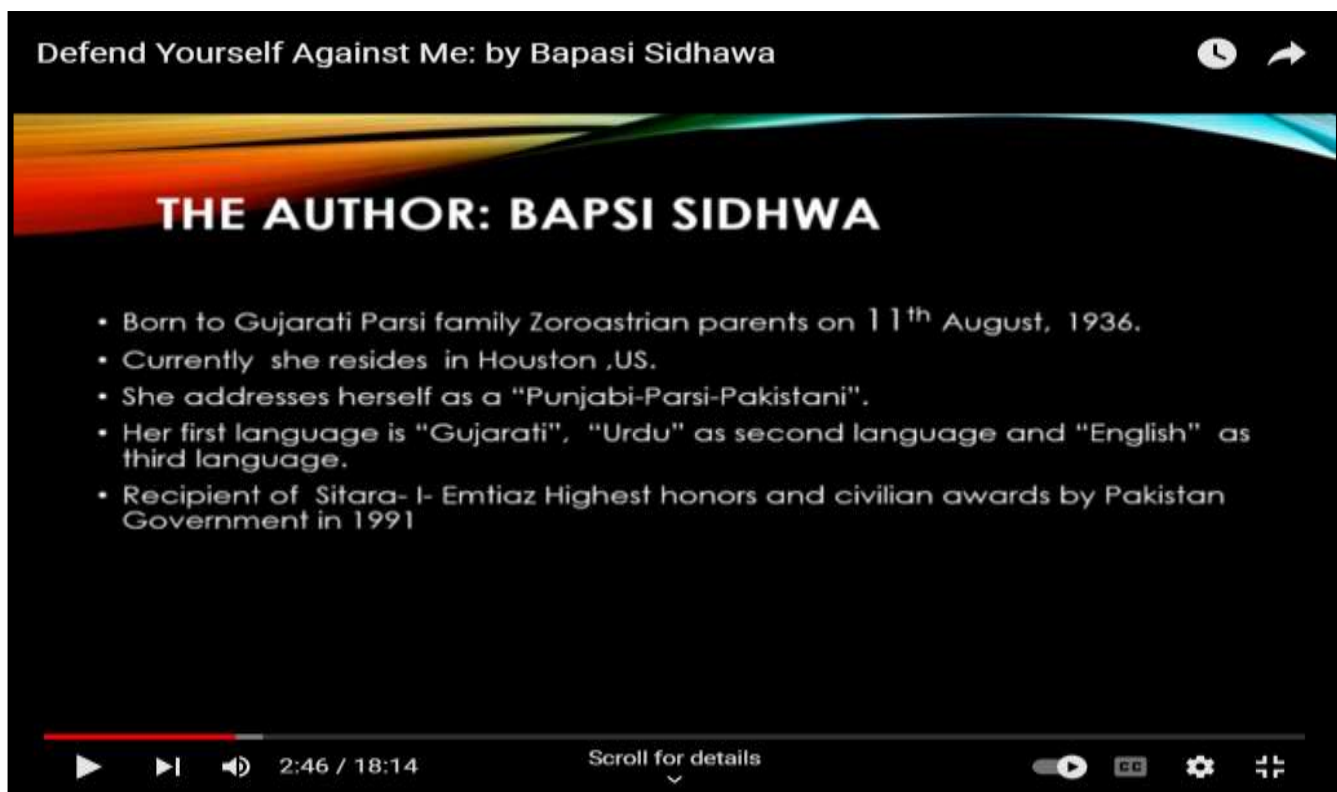
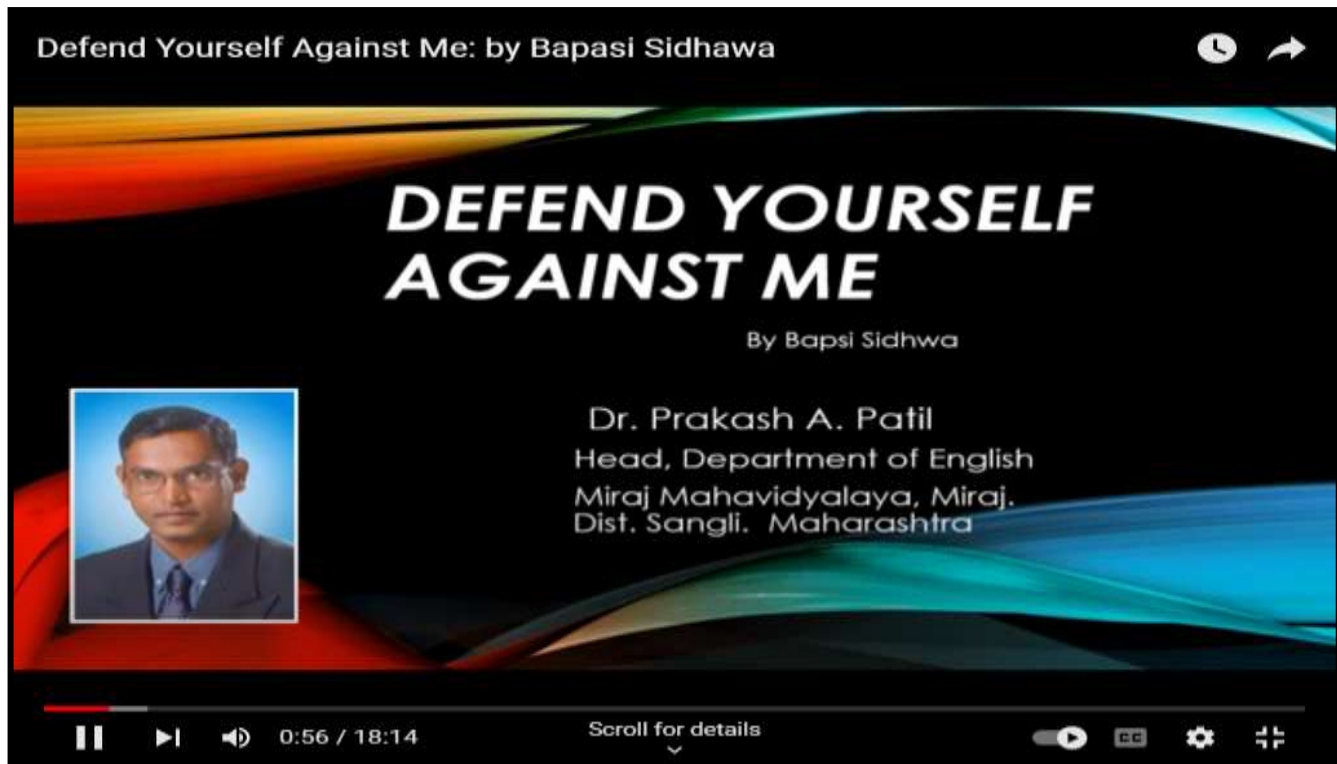


- Cyclotron as the particle accelerator explained by Dr. Chandrakant More through YouTube channel.



YouTube Link: - <https://www.youtube.com/watch?v=-oNjefu3l4Y>

➤ NAME OF TEACHER: DR. PRAKASH A. PATIL,
Head, Department of English,
Miraj Mahavidyalaya, Miraj.



YouTube Link:- <https://youtu.be/38oH5q3GXTM?si=SyU9SLxGro2JUmJh>

➤ **NAME OF TEACHER: MR. VISHAL TANAJI PATIL,**
Head & Asst. Prof, Dept. of Computer Science,
Miraj Mahavidyalaya, Miraj.

E- Notes



<https://drive.google.com/drive/folders/1humHZpFSdBch0imyLUOFG7-ThlFTgu42?usp=sharing>

- **Database Management System**

1) Unit –I Introduction to Database

<https://drive.google.com/file/d/1EMsKUJhBModV8J7IOgtGrESrgiT5kCDR/view?usp=sharing>

2) Unit -II Data Models

https://drive.google.com/file/d/1T22BURSQAyuvJI_4JsXvJELQrNQ1KFzT/view?usp=sharing

3) Unit -III Intro. to MS Access

https://drive.google.com/file/d/1T22BURSQAyuvJI_4JsXvJELQrNQ1KFzT/view?usp=sharing

4) Unit - IV Organization of Database

<https://drive.google.com/file/d/1n9Grbh-xpsXyvW3HafBR47lb358DDr/view?usp=sharing>

- **Office Automation**

1) Unit –I Internet & Advanced Communication

https://drive.google.com/file/d/12l_lBCBgQWVsH8LsI_vzdcQ9SY7RPBEZ/view?usp=sharing

2) Unit -II Intro. to MS -Word

https://drive.google.com/file/d/1FW_KAjaGXCBlRYD0IG9w4l6_KNassnLj/view?usp=sharing

3) Unit -III Intro. to Open Office Writer

<https://drive.google.com/file/d/1Ou-wZ1XB3fzbMlnASDHZfb2ZLvDFpVRX/view?usp=sharing>

4) Unit - IV Intro. to Power Point

<https://drive.google.com/file/d/1ky7jJuwVq6MxGo-Kvi3Hv-CaAK4mVBbl/view?usp=sharing>

- **Relational Database Management System**

<https://drive.google.com/file/d/1SHV6NdZAZR22dhEJZdm7cLx2agsisSwt/view?usp=sharing>

- **PHP**

1) https://drive.google.com/file/d/1B6zs6_-F0UJ5DzRsmrdPtmC6TDna6BW/view?usp=sharing

2) <https://drive.google.com/file/d/1fxVRjpaR3Q8DmFvD1LXMmKgu3QBYG9r9/view?usp=sharing>

➤ **ICT Tools:**

➤ **Name of Teacher:** Mr. Annasaheb Mahavir Chougule,

Asst. Prof, Dept. of Computer Science,

Miraj Mahavidyalaya, Miraj

❖ **YouTube Videos:**

<https://www.youtube.com/watch?v=29WdVkaFNCU>

<https://www.youtube.com/watch?v=z7octAiGqT4>

<https://www.youtube.com/watch?v=lOM2n1Wqpb8>

<https://www.youtube.com/watch?v=qsUu40Tc3g>

<https://www.youtube.com/watch?v=bi1zkRGEwa0>

❖ **E-Book Library:**

<http://admin.phyusicjournal.com/>

❖ **PPTs-**

<http://admin.phyusicjournal.com/>

❖ **PPTs uploaded on self-website:**

The screenshot shows a personal website for Mr. Annasaheb M. Chougule. The website has a teal header with a navigation menu: Home, Experience, Education, Skills, e-Content, and Contact. A callout bubble points to the 'e-Content' link with the text 'Click Here to access e-Content'. Below the header, there is a section titled 'upload to e-content' and a table titled 'Annasaheb M. Chougule E-Content library'. The table lists four uploaded PPTs with their names, owners, last modified dates, and file sizes.

Name	Owner	Last modified	File size
SCA-I-C,PSOU,UNIT 1.ppt 45	Deepa Nodhan	11/7/19	61 KB
SCA-II-Pybox ROR,UNIT 1.ppt 46	Deepa Nodhan	11/7/19	51 KB
SCA-III-Pybox ROR,UNIT 2.ppt 46	Deepa Nodhan	11/7/19	17 KB
SCA-IV-C,PRIG,UNIT 2.ppt 45	Deepa Nodhan	11/7/19	61 KB



YASHAWANT SHIKSHAN SANSTHA'S
Miraj Mahavidyalaya Miraj
Use of ICT

Different E-software used by Dr. Smt. S. C. Yadav, Head, Dept of Physics for teaching

Sr No.	E-Software	Tools
1.	A drawing tool	Autodraw
2.	Jamboard	jamboard.google.com
3.	Open Broadcast System:	OBS
4.	webcaptioner.com/captioner	Window: Captions (windowed) Google Chrome
5.	Animated VIDEO	Powtoon
6.	Online whiteboard	whiteboard
7.	wiki pages	younedawiki.com
8.	animated presentation	Canva
9.	ppt: Google slides	Pear Dock
10.	online whiteboard	whiteboard.fi

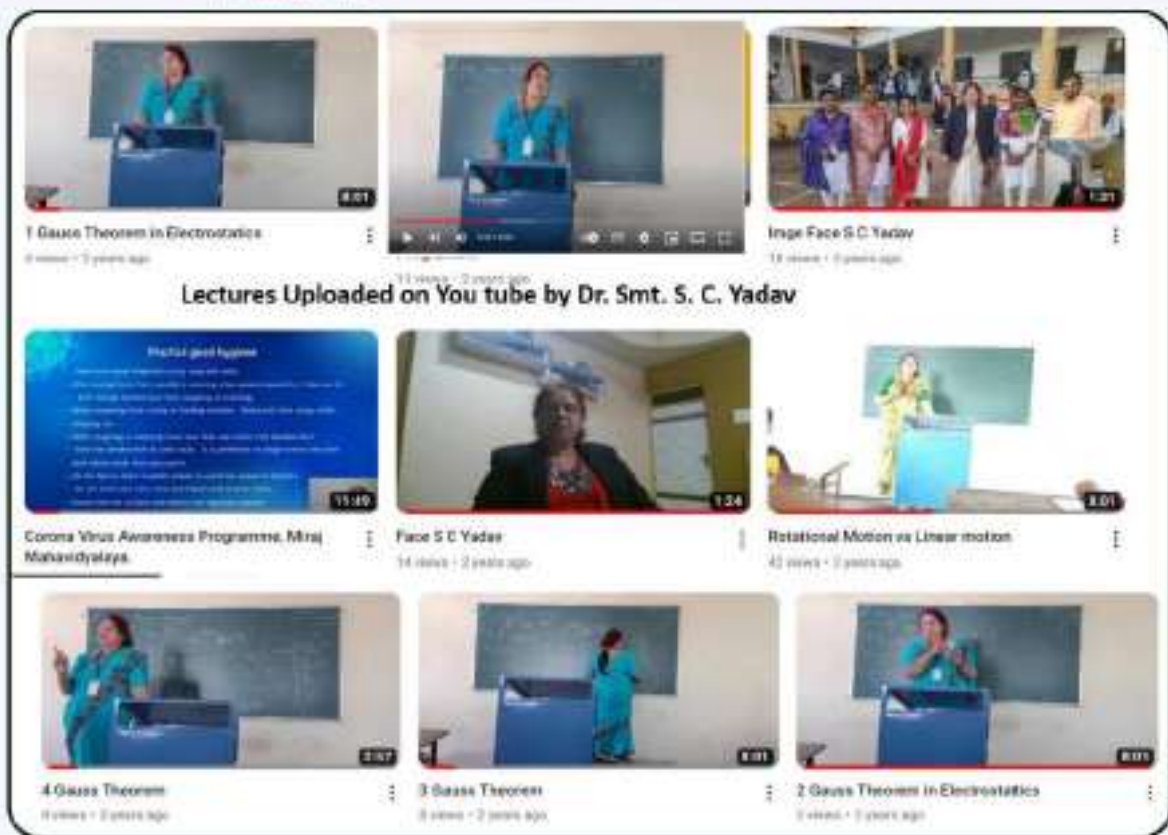
Software: Web store: for extensions, Meet attendance, Nod reactions for Google meet, Mercury

Reader Bitly: shorter URLS

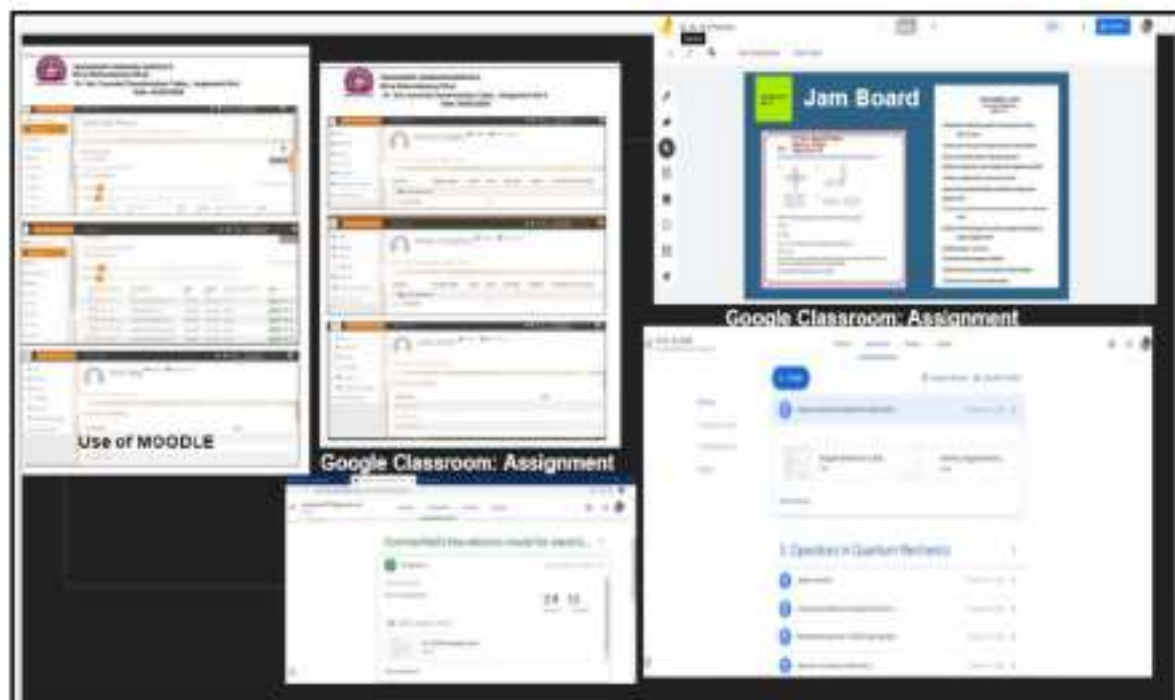
Game quizizz: Kahoot.it-student, Kahoot.com-teacher



YASHAWANT SHIKSHAN SANSTHA'S
Miraj Mahavidyalaya Miraj
Use of ICT



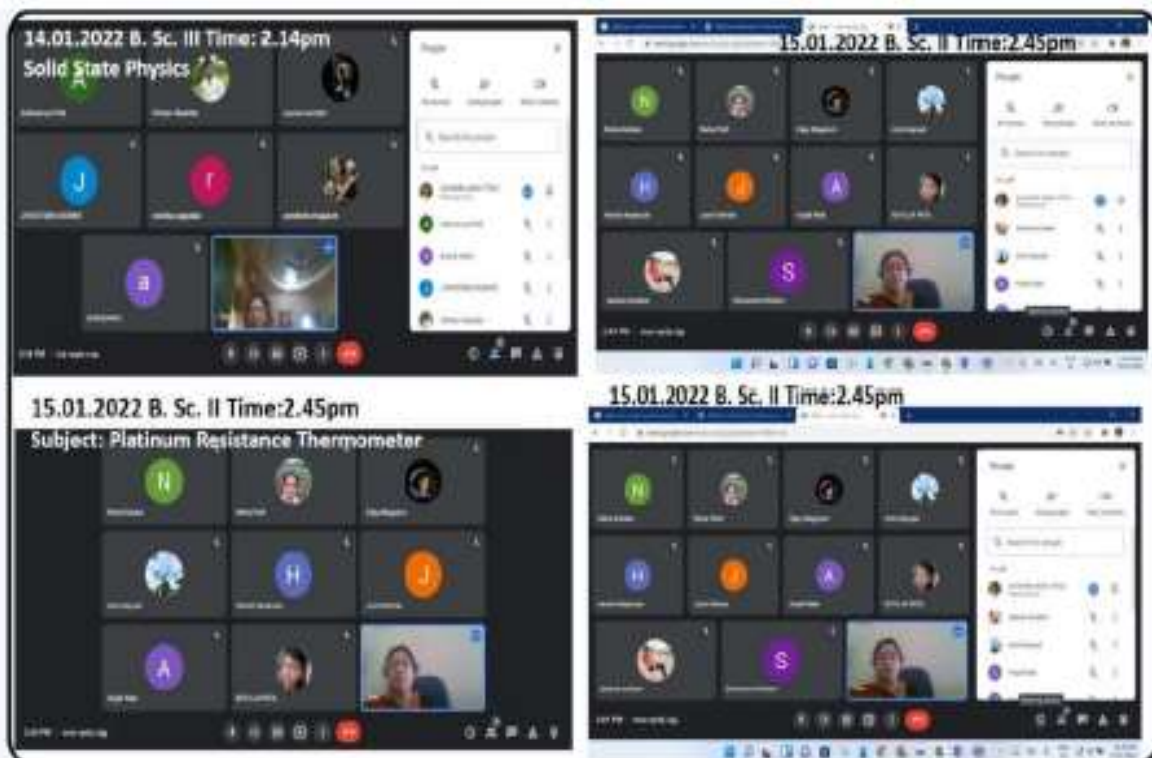
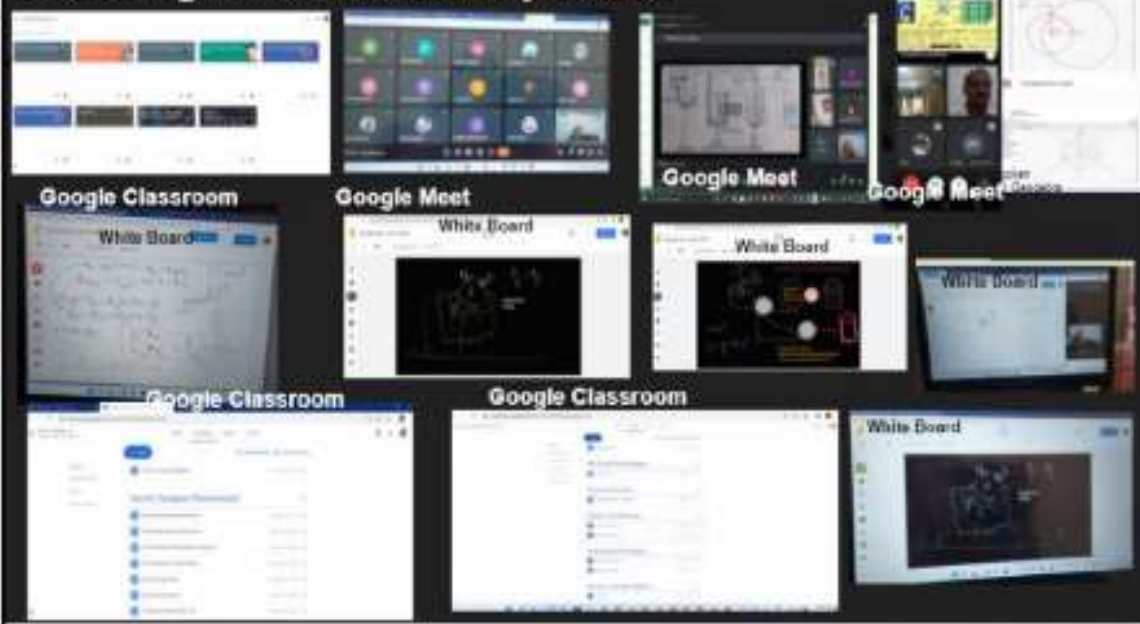
Moodle





YASHAWANT SHIKSHAN SANSTHA'S
Miraj Mahavidyalaya Miraj
Use of ICT

Use of Digital Platforms for my course:





YASHAWANT SHIKSHAN SANSTHA'S
Miraj Mahavidyalaya Miraj
Use of ICT





CRITERION-II

TEACHING- LEARNING AND EVALUATION

KEY INDICATOR- 2.3: TEACHING- LEARNING PROCESS

4. EFFECTIVE – TEACHING LEARNING PROCESS THROUGH ICT TOOLS

iii. PowerPoint Presentation



• POWERPOINT PRESENTATION BY FACULTY-



Dr.N.D.Potphode



Dept. of Zoology

MIRAJ MAHAVIDYALAYA , MIRAJ

Epidemiology of Diseases

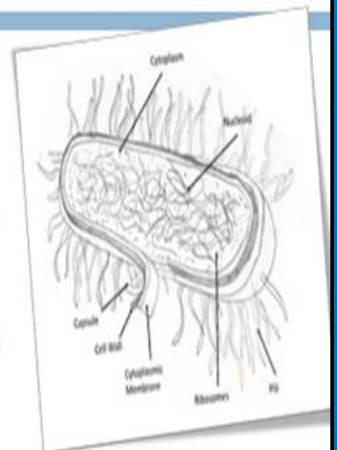
Tuberculosis



- The name **mycobacterium** is derived from the word "mold" meaning fungus like bacterium.
- Mycobacterium comprises acid-fast bacilli i.e. Resistant to decolorization by weak mineral acids because they have an unusual cell wall that contains **mycolic acid**.
- Another important feature of these organisms is that they grow **more slowly**.
- Because of **hydrophobicity**, organisms tend to clump so that nutrients are not easily allowed into the cell.
- Growth is slow or very slow with colonies becoming visible in **2 to 60 days** at optimum temperature.

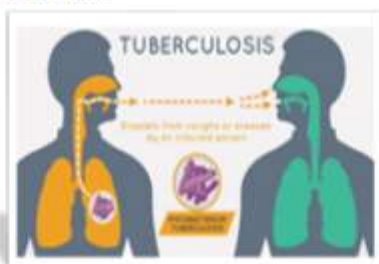
General Morphology of *M. tuberculosis*:

- *M. tuberculosis* is a **straight** or slightly **curved rod** measuring about **0.5-0.6 μm** in breadth and **3-4 μm** in length.
- They occur singly or in pairs or as small **clumps**.
- They are **non-motile, non-sporing, non-capsulated** and are **acid fast bacilli**.



Pathogenesis of tuberculosis:

- Tuberculosis may be primary or post primary depending on the time of infection and the type of **host immune response**.
- 1. **Primary tuberculosis:**
- 2. **Active tuberculosis:**
- 3. **Secondary tuberculosis:**



- **Antibiotics**
- A number of antibiotics ('**RIPE**') may be used to treat TB.
- **Rifampicin (R):**
- **Isoniazid (H):**
- **Pyrazinamide (Z):**
- **Ethambutol (E):**



2. Active tuberculosis:

- In a few, in **children** with unpaired immunity or other risk factors, tubercle may enlarge.
- The tubercle invade a **bronchus** and thus MTB infection spread to other part of the **lungs**.
- The tubercle may invade an artery or other blood supply line. The hematogenous spread of MTB result in extrapulmonary tuberculosis known as **milliary tuberculosis**.
- The secondary lessons caused by milliaryTB can occur at almost any **anatomical location** but usually involve the genitourinary system, bones, joints, lymph nodes and peritoneum.
- With the passage of time, MTB are either killed or they remain dormant within the macrophages or they are actively multiplying leading to progressive infection. The first two conditions are called the **latent TB infection**.

3. Secondary tuberculosis:

- It affects mainly the **upper lobes** of the lungs, the lesion undergoing **necrosis** and **tissue destruction**, leading to **cavitation**.
- Lymph node involvement is unusual.
- The necrotic materials break out into the airways, leading to expectoration of **bacteria-laden sputum**, is the main source of infection to other healthy individuals.
- In the immunodeficient patients cavity formation is unusual. Instead there is widespread dissemination of lessons in the lungs and other organs.
- Tuberculosis develops months or years later due to **poor health, malnutrition** or **defective immune responses**.



Laboratory diagnosis

- **Specimens:**
- Samples depends on the site of infection
- PTB:- sputum,
- Tubercular meningitis:- CSF
- Genitourinary TB:- urine.
- Others- laryngeal swabs, gastric lavage, pleural fluid, pus sample, nasopharyngeal aspirates.

Laboratory diagnosis

- **Specimens:**
- Samples depends on the site of infection
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Control of tuberculosis:

- **Bacille Calmette-Guérin**
- The BCG is the worlds most used vaccine with an estimated **3 billion vaccinations administered**.
- BCG is a **live attenuated vaccine**. Its efficacy is dependent on a number of factors, particularly age: it is more effective when administered at a younger age.
- **Mantoux test**
- A Mantoux test (tuberculin skin test) is **required prior to administration in those aged > 6 years**, or younger if there is a history of exposure to TB.



Prevention of Tuberculosis

1. Travelers should **avoid close contact** prolonged time with known TB patients in crowded, enclosed environments (for example, clinics, hospitals, prisons, or homeless shelters).
2. Although **multidrug-resistant (MDR)** and **extensively drug-resistant (XDR) TB** are occurring globally. **HIV-infected travelers** are at greatest risk if they come in contact with a person with MDR or XDR TB.
3. Air travel itself carries a relatively low risk of infection with TB of any kind. Travelers who will be working in clinics, hospitals, or other health care settings where TB patients are likely to be encountered should **consult infection control or occupational health experts**

Nucleic Acids



Dr. N.D. Potphode
Dept. of Zoology
MIRAJ MAHAVIDYALAYA, MIRAJ

HISTORY

Friedrich Miescher (1859) - Nuclein

Altman (1889) - Nucleic Acid

Kossel (1894) - Histones & Protamines
(1910) - 2 Purines & Pyrimidines

M.Chase & A.D.Hershey (1952) - Genetic material

Nucleic Acid

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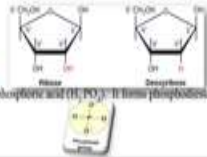
graph TD
    NA[Nucleic Acid] --> DNA[DNA]
    NA --> RNA[RNA]
    DNA --> NG[Non-Genetic]
    DNA --> G[Genetic]
    RNA --> NG
    RNA --> G
  
```

Genetic

Nucleic Acids

Chemical Component of Nucleic Acid
Nucleotides are the structural unit of nucleic acid. Each nucleotide has three components. a) Sugar b) Phosphate group c) Nitrogen bases

a) Sugar:
There are two types of pentose sugar present in nucleic acid i.e. Deoxyribose sugar in DNA ($C_5H_{10}O_4$) and Ribose sugar in RNA ($C_5H_{10}O_5$).

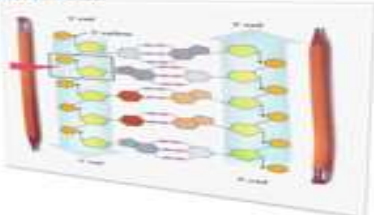


b) Phosphate group:
It is derived from phosphoric acid (H_3PO_4) in form of phosphodiester backbone of nucleic acid

Nitrogen bases are discovered by Kossel in 1910 and awarded Nobel prize for his discovery. These are cyclic compound made up of carbon, hydrogen, oxygen and

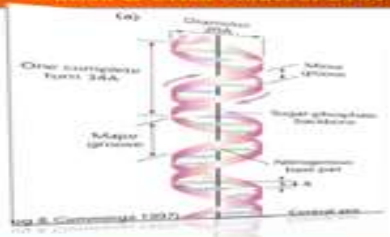
Nucleotides = Phosphate + Sugar + Nitrogen base
Nucleosides = Sugar + Nitrogen base

STRUCTURE OF DNA



DNA

Watson & Crick Model of DNA



Other characteristic feature: S.A.A.

Major groove

Minor groove

Sugar-phosphate backbone

Hydrogen bond pair

Complementary base pairing

Watson & Crick (1953)

Types of DNA

DNA can exist in different morphological forms such as A, B and Z DNA

Form	Structure	Base Pairing	Length	Width	Height
A-DNA	Right-handed helix	10.5 Å	2.8 Å	2.8 Å	2.8 Å
B-DNA	Right-handed helix	3.4 Å	3.4 Å	3.4 Å	3.4 Å
Z-DNA	Left-handed helix	3.6 Å	3.6 Å	3.6 Å	3.6 Å