GOUR MAHAVIDYALAYA,MANGALBARI,MALDA

DEPARTMENT: MATHEMATICS

01.07.2019 to 30.06.2020

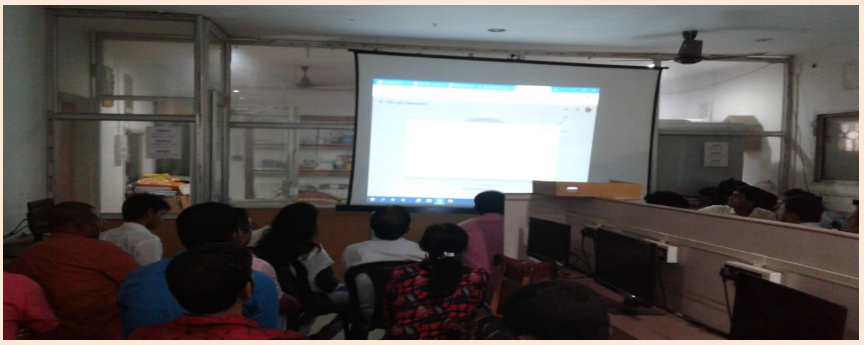
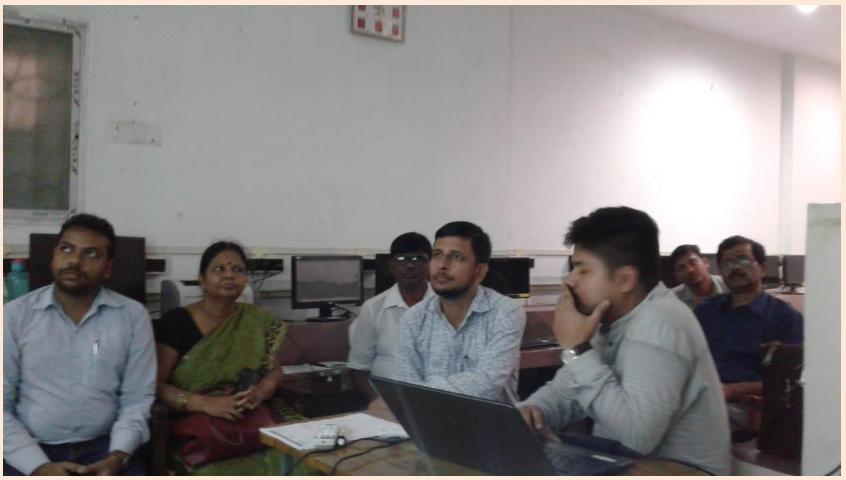
TEACHING AND LEARNING: USE OF ICT TOOLS

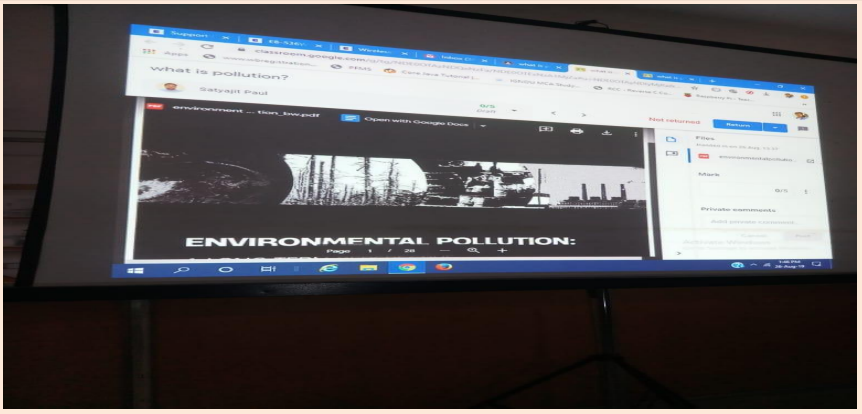
OFFLINE AND ONLINE CLASS : DOCUMENTS

ONLINE TEACHING AND LEARNINGP:2019-20			
DOCUMENTS			
Name of Teacher and Department	**Name of the Module**	**Platform on which module is developed**	**Date of launching offline and online classes**
1.MATHEMATICS: Rakesh Sarkar,Assistant Professor in Mathematics	**Orientation,Class(Offline), Zoom Meeting, Google Meeting,Google Classroom,gmail.com,Whats App Group :uploading and sharing of relevant course/study materials and on line class(Offline:**	**Screen, Laptop, Projector (Offline) Laptop, Mobile (Online)**	**11.7.2019(Offline),2.4.2020 onwards(Online)**

	Laptop,Screen, Projector)		
2. Tilak Kumar Pal, State Aided College Teacher, Mathematics	Zoom Meeting, Google Meeting,Google Classroom,gmail.com,Whats App Group :uploading and sharing of relevant course/study materials and on line class(Offline: Laptop,Screen, Projector)	Screen, Laptop, Projector (Offline) Laptop, Mobile (Online)	11.7.2019 (Offline),2.4.2020 onwards(Online)
3.Poly Karmakar, State Aided College Teacher, Mathematics	Zoom Meeting, Google Meeting,Google Classroom,gmail.com,Whats App Group :uploading and sharing of relevant course/study materials and on line class(Offline: Laptop,Screen, Projector)	Screen, Laptop, Projector (Offline) Laptop, Mobile (Online)	17.3.2020 onwards
4.Md Sahid Alam, State Aided College Teacher,	Zoom Meeting, Google Meeting,Google Classroom,gmail.com,Whats App Group :uploading and sharing of	Screen, Laptop, Projector (Offline) Laptop, Mobile (Online)	8.4.2020 onwards

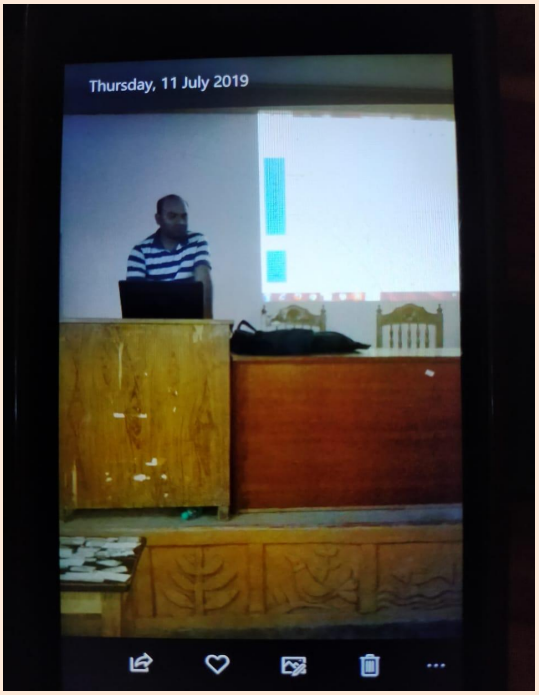
Mathematics	**relevant course/study materials and on line class(Offline: Laptop,Screen, Projector)**		

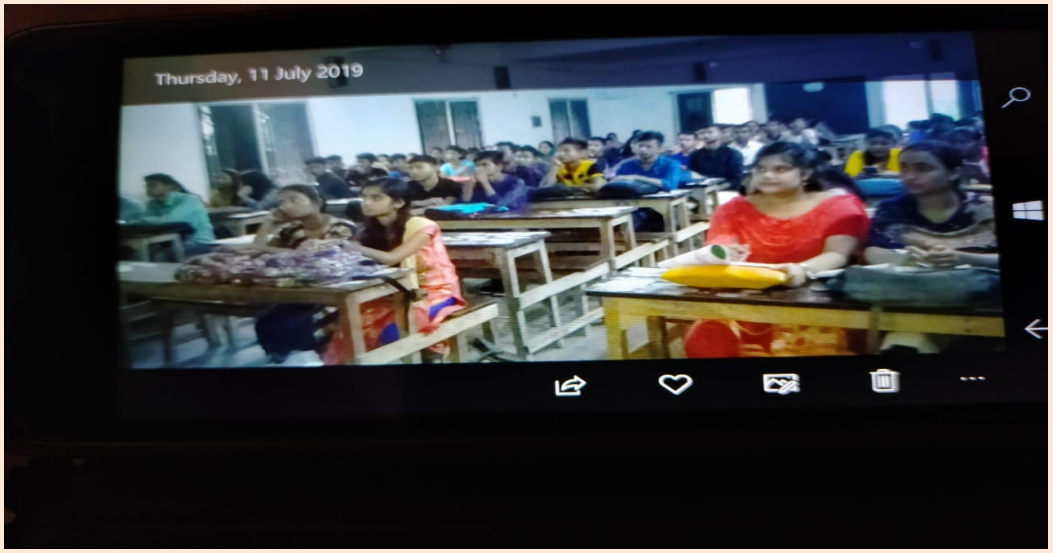
Photo-Screen Shot -Online Class,Offline class-Use of ICT Tools:





Programme: Demonstration of Google Class Room :(a) Links of website/app for free tutorials and e- contents;(b)Creation of whatsApp group of students; (c)Use of Google classroom as learning management system;(d)Swayam poster update:Demonstrators: SyfujjamanTarafder,Convenor of e- learning committee,SriArijit Bhattacharya, Assistant Professor in Computer Science,member of ICT committee, Mr EkramAlam,Assistant Professor in Computer Science, member of ICT committee, Sri AkhilDas,Convenor, ICT Committee,MursedAlam, Assistant Professor in English, Sri Satyajit Paul, Assistant Coordinator, IQAC:Venue: Department of Computer Science:Date:26.8.2019(From 1 P.M. to 3 P.M.)

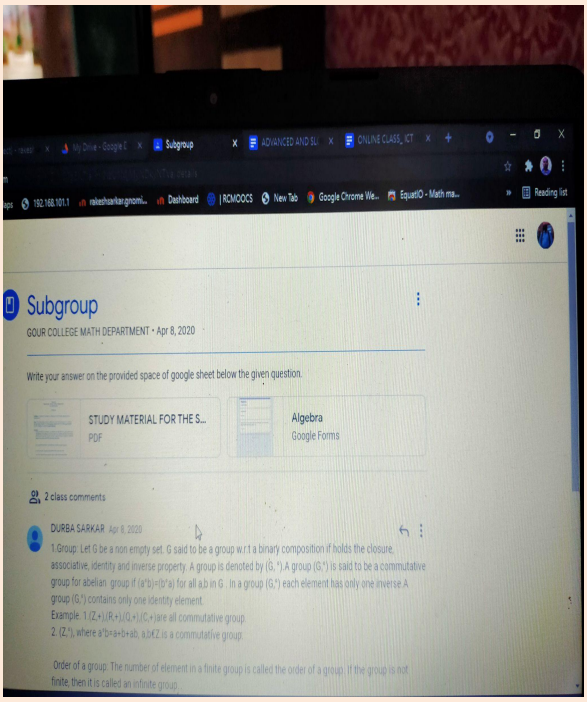
(CBCS:Central Orientation Programme:Dr.AnirbanRay,Member of Academic Council,11.7.2019)

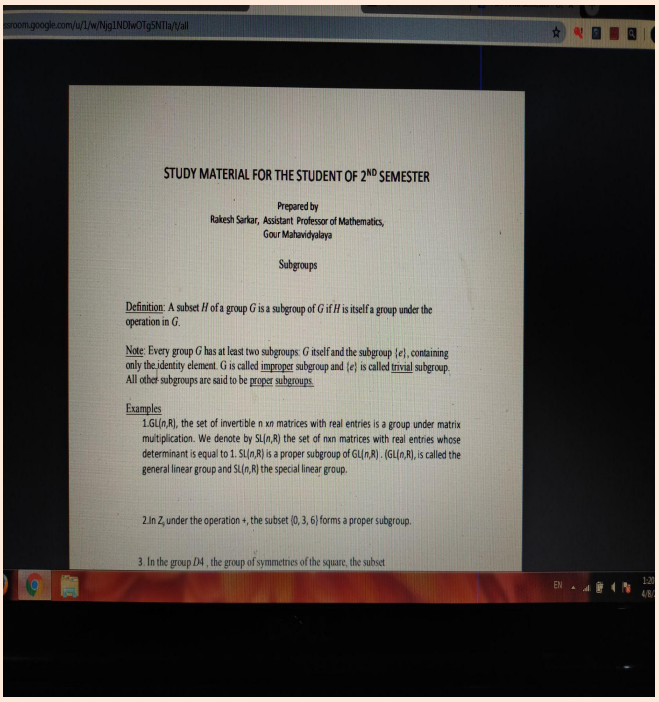




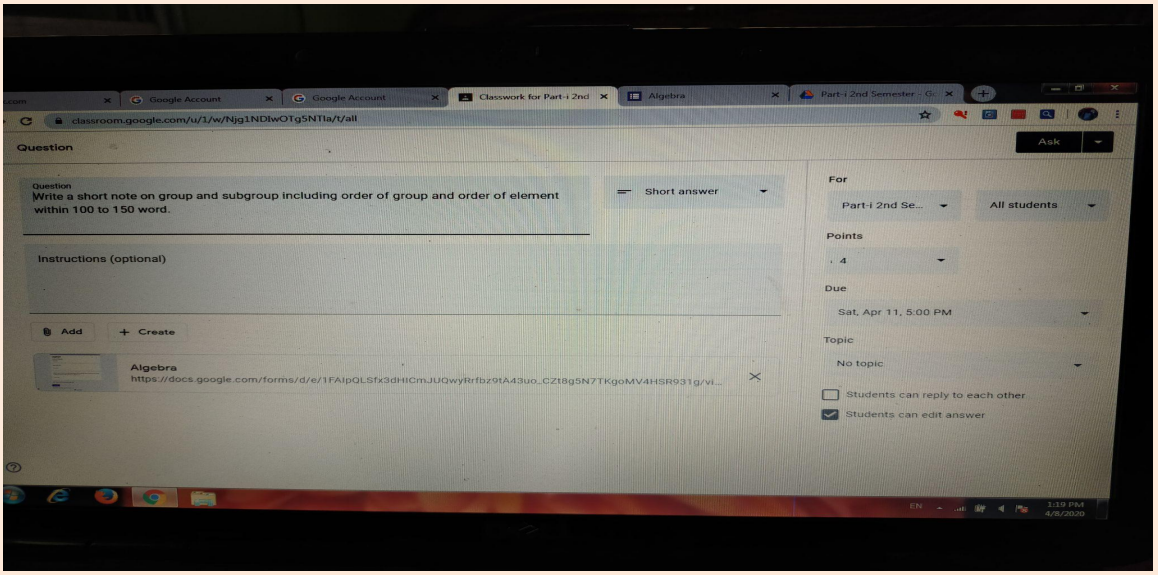
Student Orientation Programme
DEPARTMENT:- : MATHEMATICS
, Rakesh Sarkar, Assistant Professor)
Date:11.7.2019

ONILE CLASS:

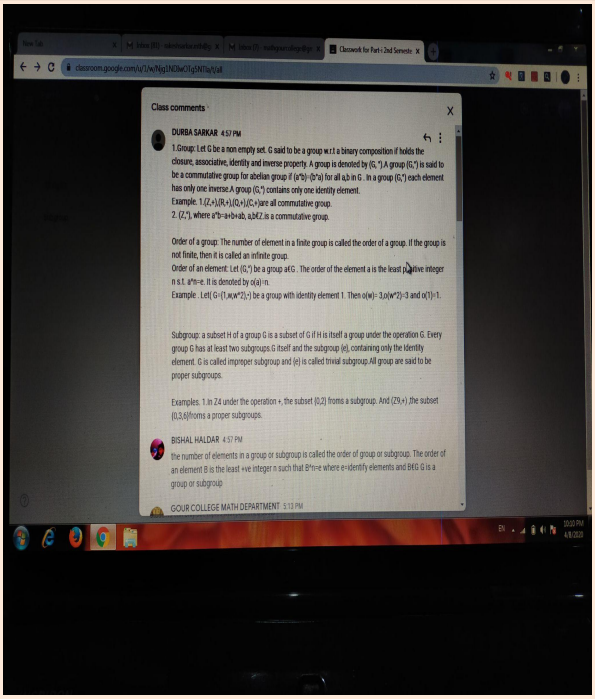


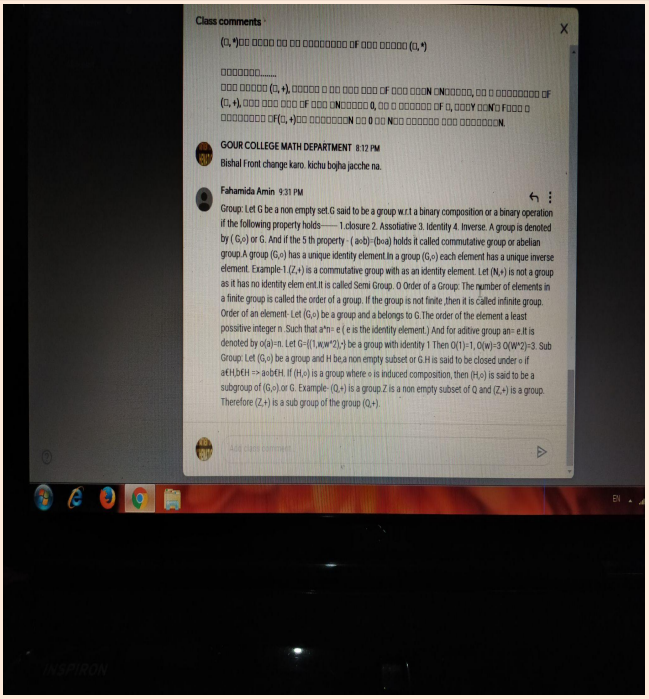


Rakesh Sarkar submitted study material through Google Classroom on 08.04.2020

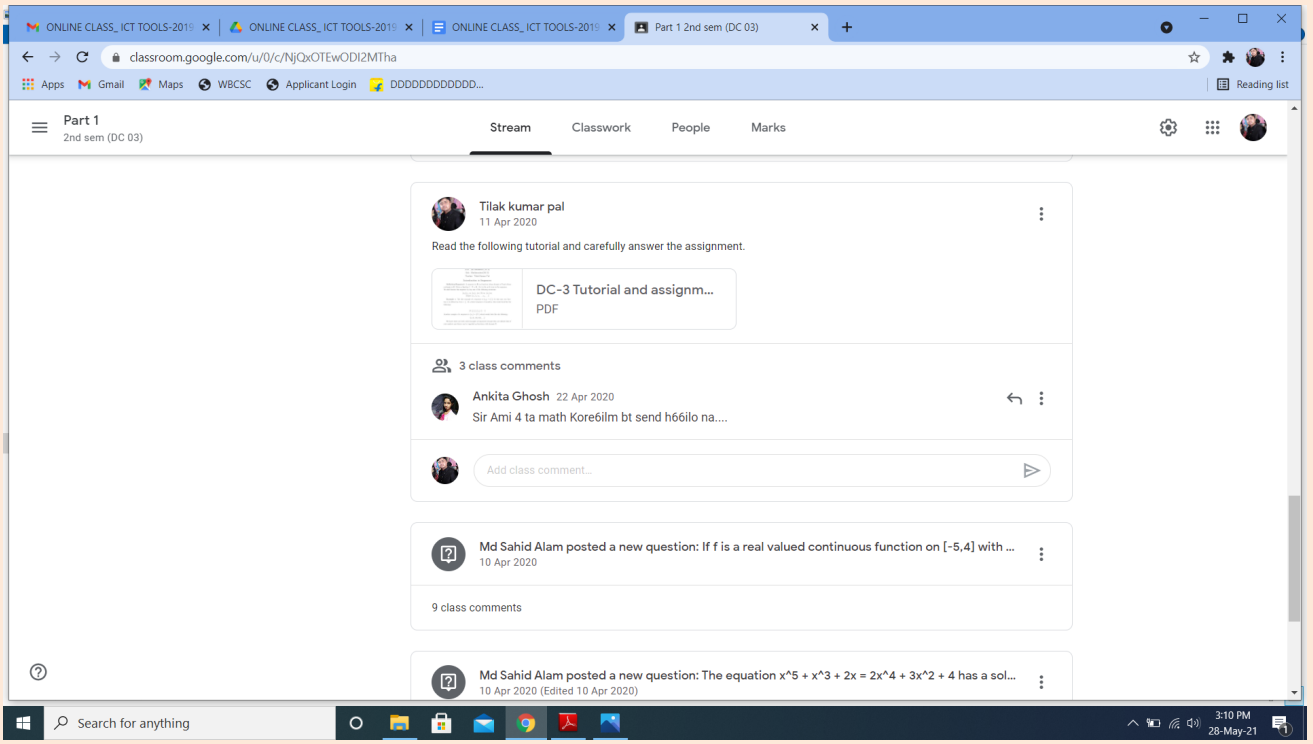


Rakesh Sarkar posted Assignment question trough Google Classroom on 08.04.2020

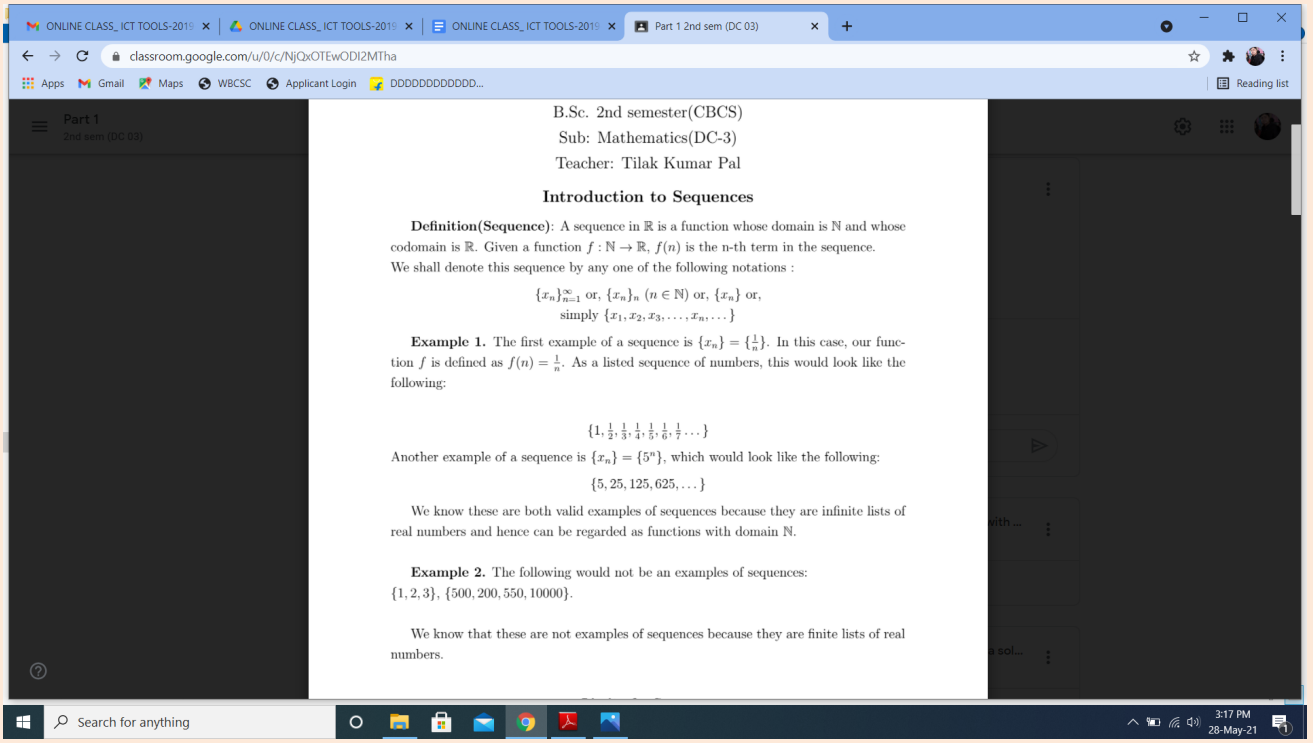




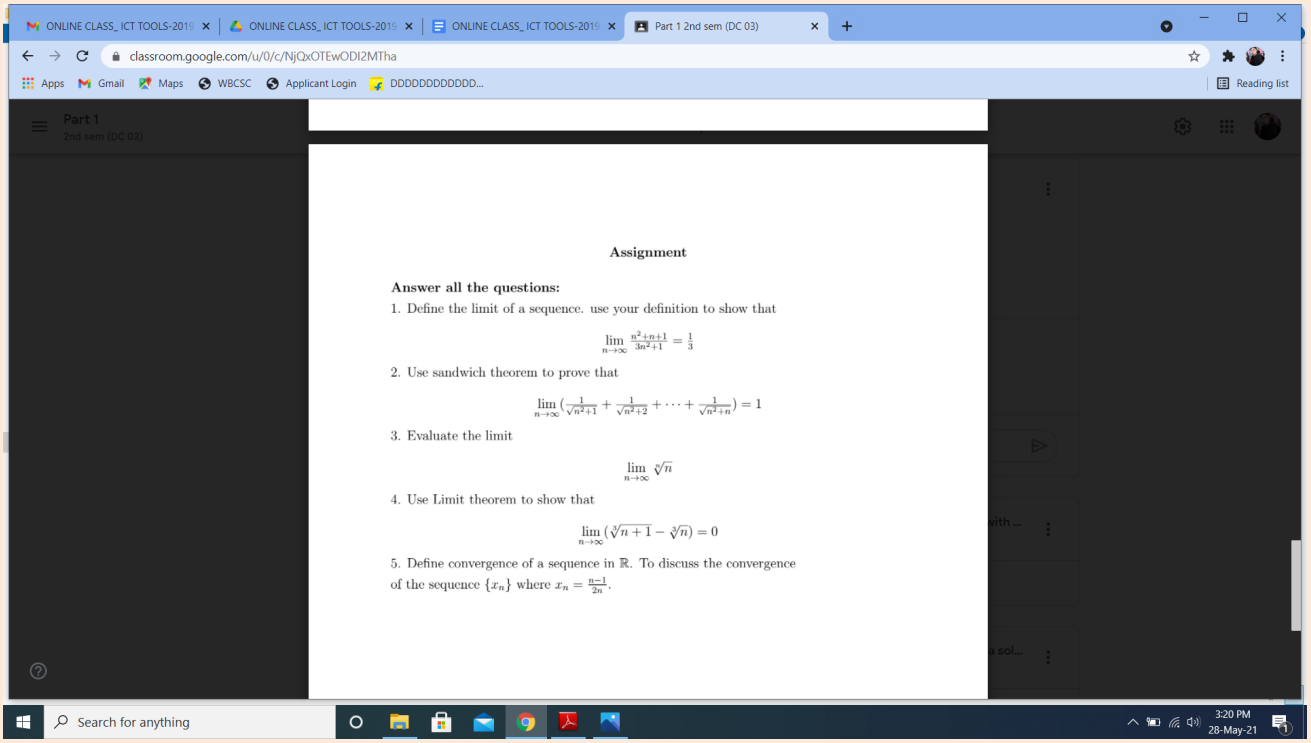
Students submitted Assignment through Google Classroom



Tilak Kumar Pal submitted study material through Google classroom on 11-03-2020.



Tilak Kumar Pal, Submitted tutorial through Google classroom on 15-03-2020.



Assignment

Answer all the questions:

1. Define the limit of a sequence. use your definition to show that

$$\lim_{n\to\infty} \frac{n^2+n+1}{3n^2+1} = \frac{1}{3}$$

2. Use sandwich theorem to prove that

$$\lim_{n\to\infty} \left(\frac{1}{\sqrt{n^2+1}} + \frac{1}{\sqrt{n^2+2}} + \cdots + \frac{1}{\sqrt{n^2+n}}\right) = 1$$

3. Evaluate the limit

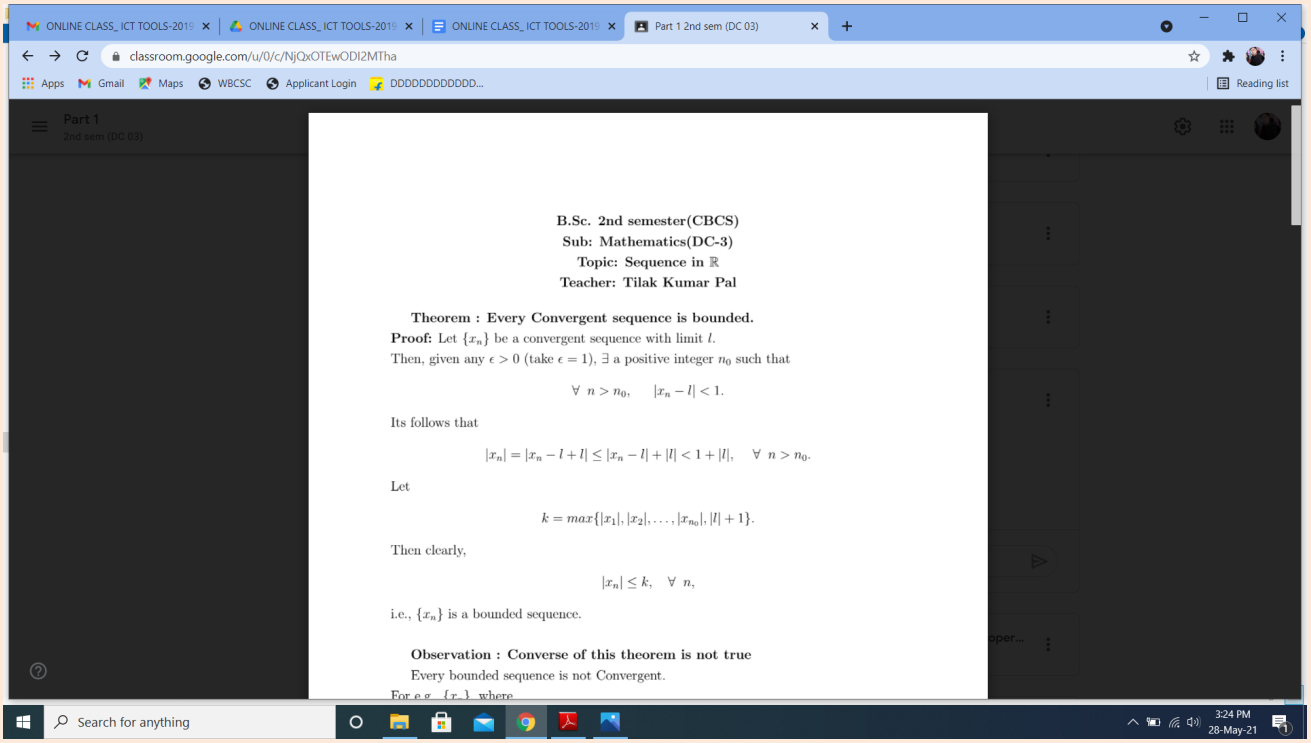
$$\lim_{n\to\infty} \sqrt[n]{n}$$

4. Use Limit theorem to show that

$$\lim_{n\to\infty} (\sqrt[n]{n+1} - \sqrt[n]{n}) = 0$$

5. Define convergence of a sequence in $\mathbb{R}$. To discuss the convergence of the sequence $\{x_n\}$ where $x_n = \frac{n-1}{2n}$.

Tilak Kumar Pal submitted Assignment through Google Classroom on 20-03-2020.



B.Sc. 2nd semester(CBCS)
Sub: Mathematics(DC-3)
Topic: Sequence in $\mathbb{R}$
Teacher: Tilak Kumar Pal

Theorem : Every Convergent sequence is bounded.

Proof: Let $\{x_n\}$ be a convergent sequence with limit l.
Then, given any $\epsilon > 0$ (take $\epsilon = 1$), $\exists$ a positive integer n_0 such that

$$\forall\ n > n_0, \quad |x_n - l| < 1.$$

Its follows that

$$|x_n| = |x_n - l + l| \leq |x_n - l| + |l| < 1 + |l|, \quad \forall\ n > n_0.$$

Let

$$k = max\{|x_1|, |x_2|, \ldots, |x_{n_0}|, |l| + 1\}.$$

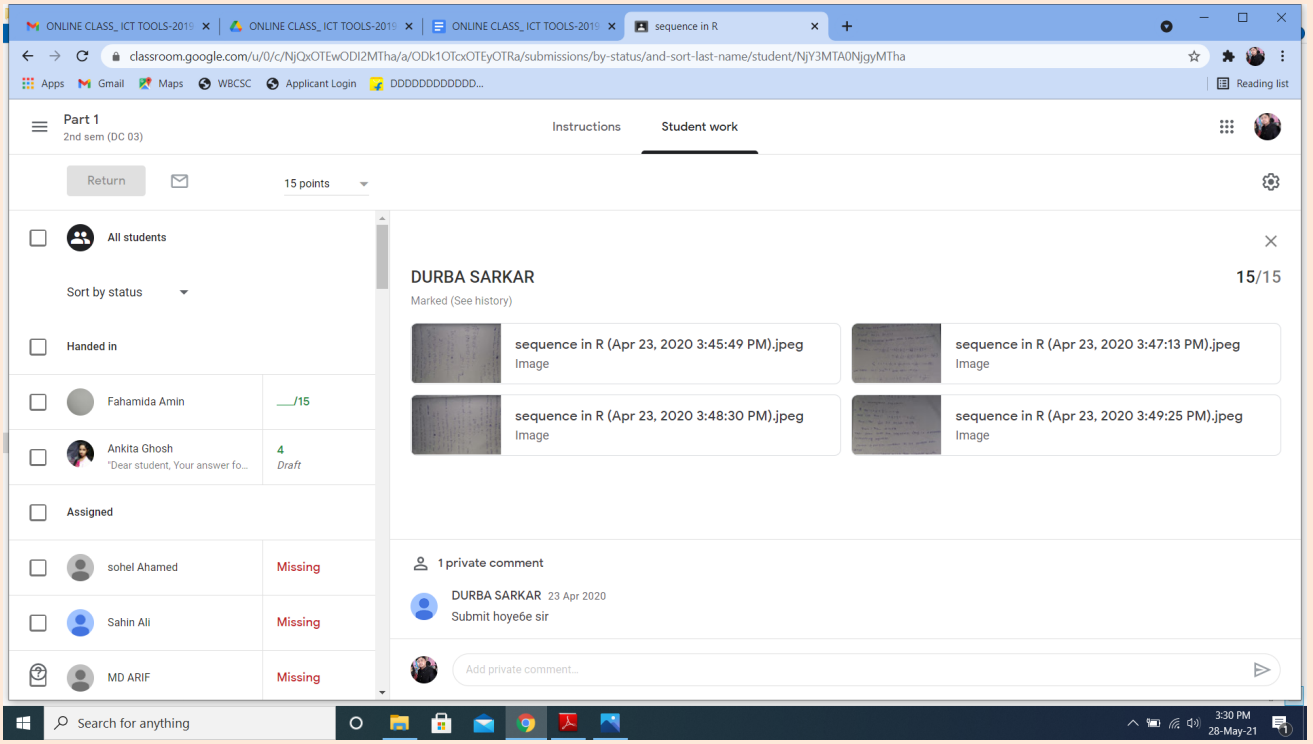
Then clearly,

$$|x_n| \leq k, \quad \forall\ n,$$

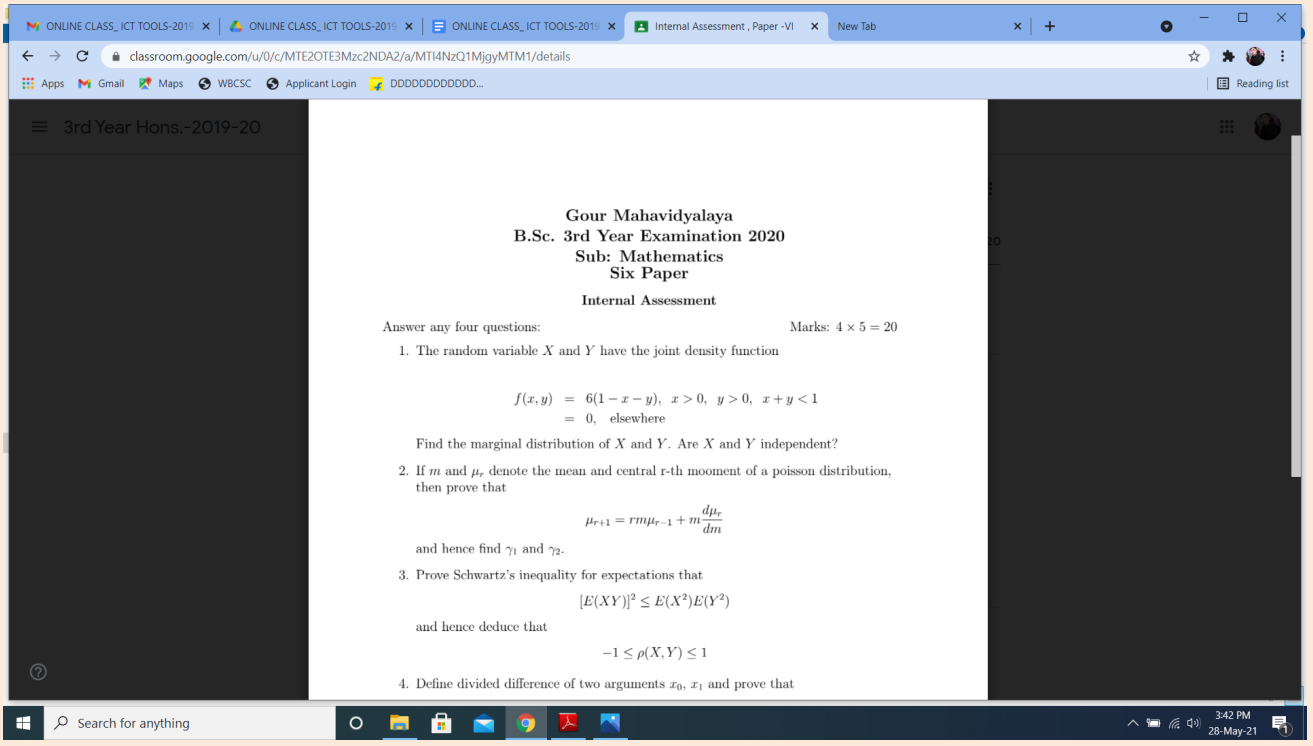
i.e., $\{x_n\}$ is a bounded sequence.

Observation : Converse of this theorem is not true
Every bounded sequence is not Convergent.
For e.g. $\{x_n\}$ where

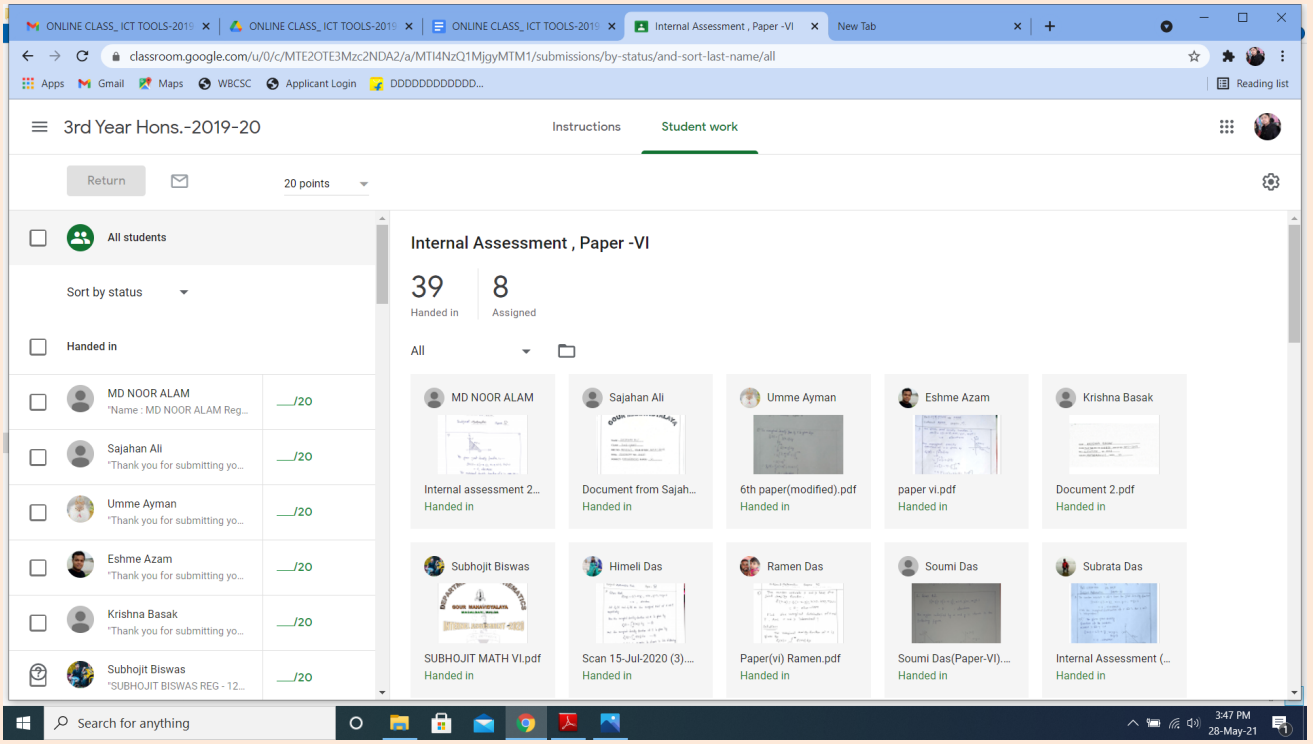
Tilak Kumar Pal submitted study material through Google Classroom on 11-04-2020.



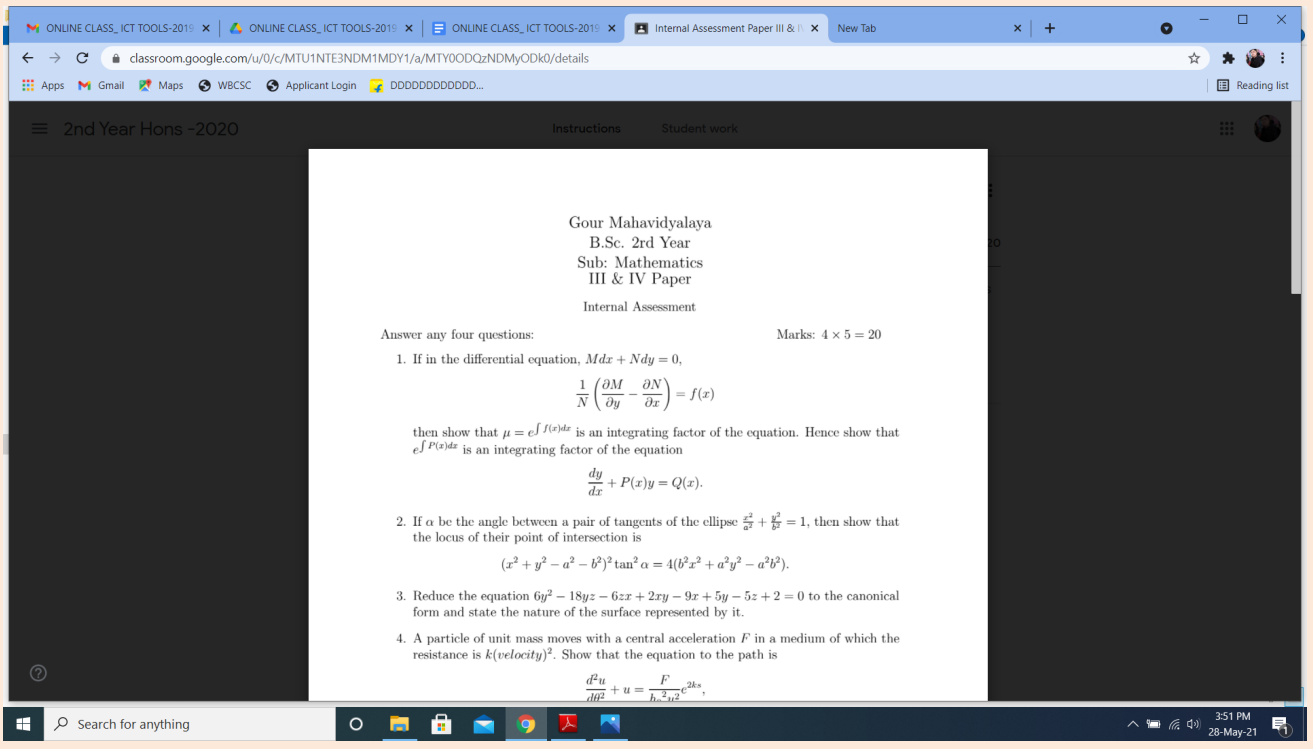
Tilak Kumar Pal, Students response sheets for Assignment through Google Classroom on 23-04-2020.



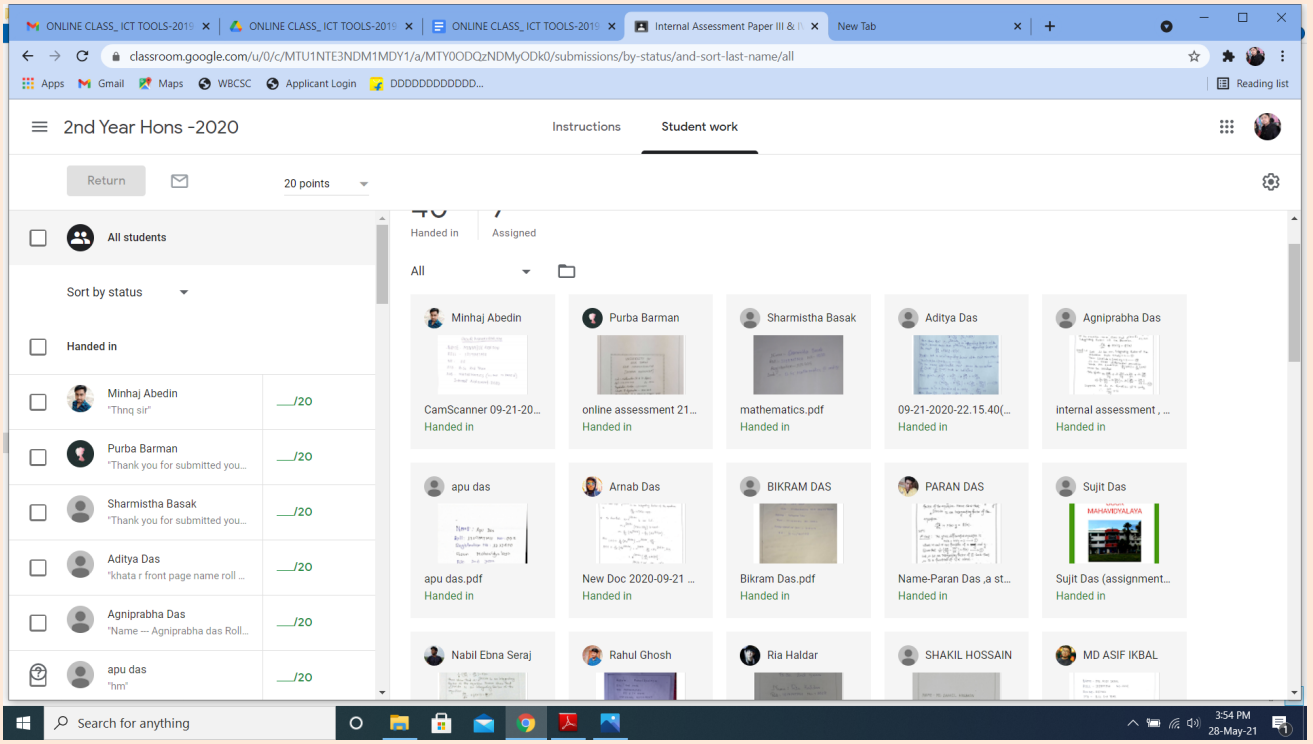
Tilak Kumar Pal Post Internal examination Question Paper Through Google Classroom on 15-6-2020.



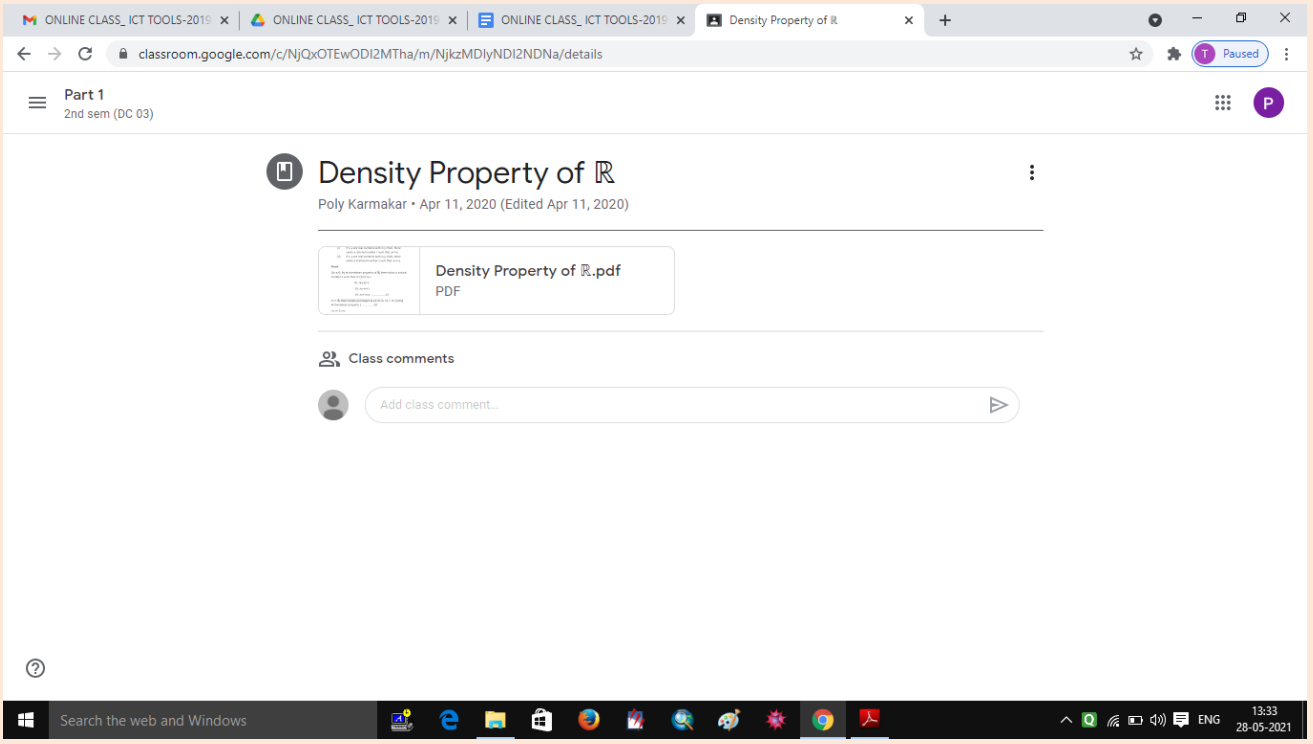
Tilak Kumar Pal, Students Response Sheet of Internal Examination through Google Classroom on 20-06-2020.



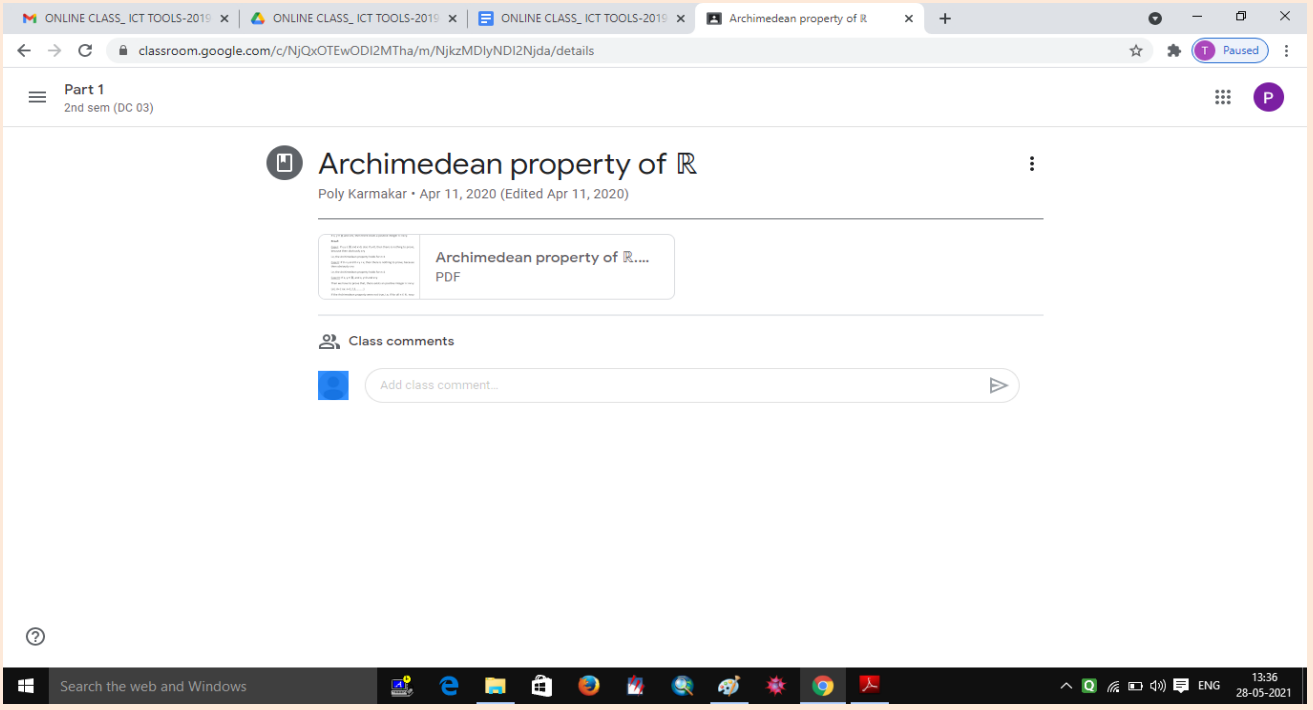
Tilak Kumar Pal post B.sc 2nd year internal Examination question paper through Google classroom on 10-6-2020.



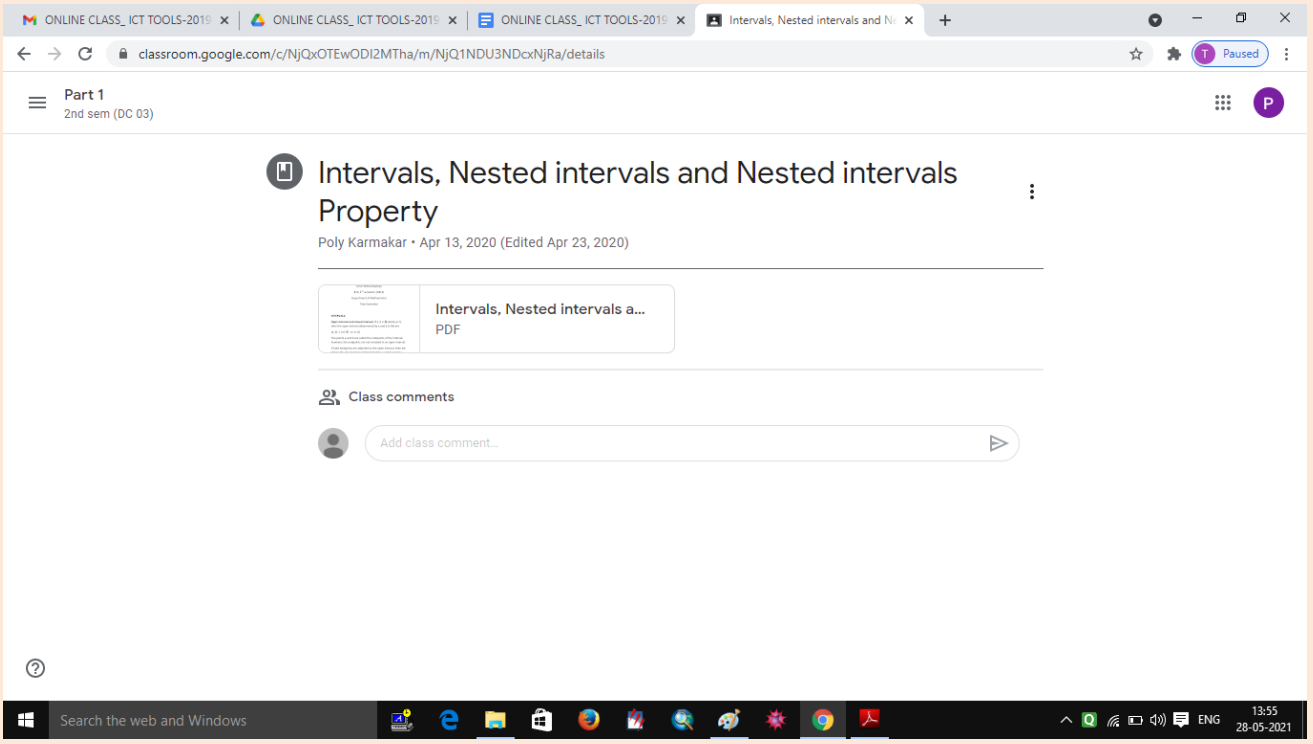
Tilak Kumar Pal, received B.sc 2nd year internal examination answer paper through Google Classroom.



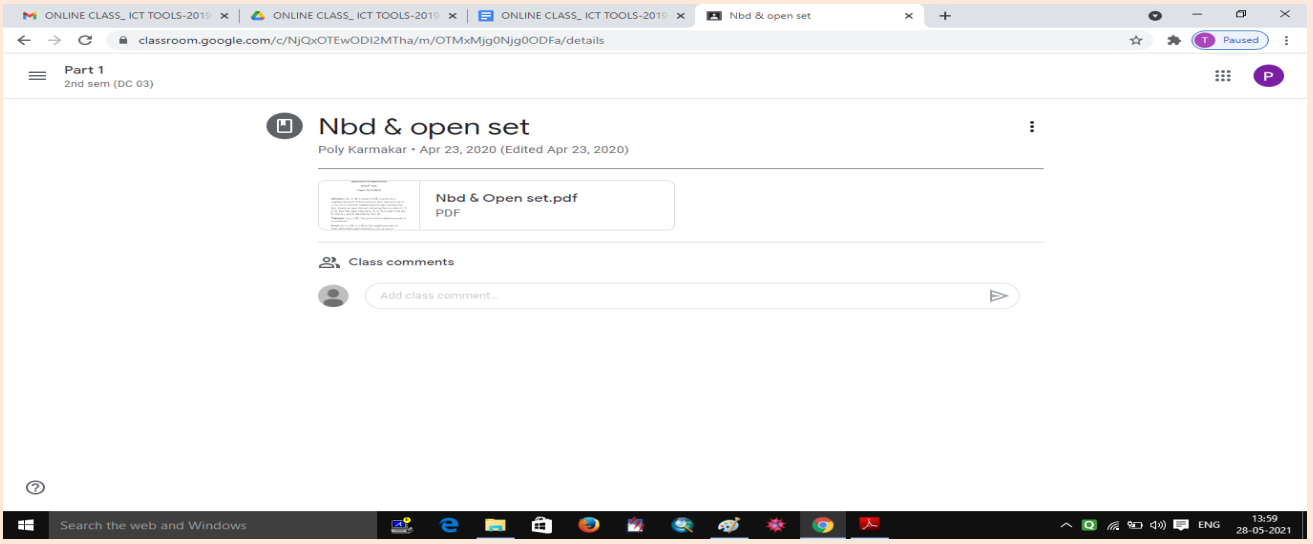
Poly Karmakar submitted study material through Google Classroom on 11.04.2020.



Poly Karmakar submitted study material through Google Classroom on 11.04.2020.

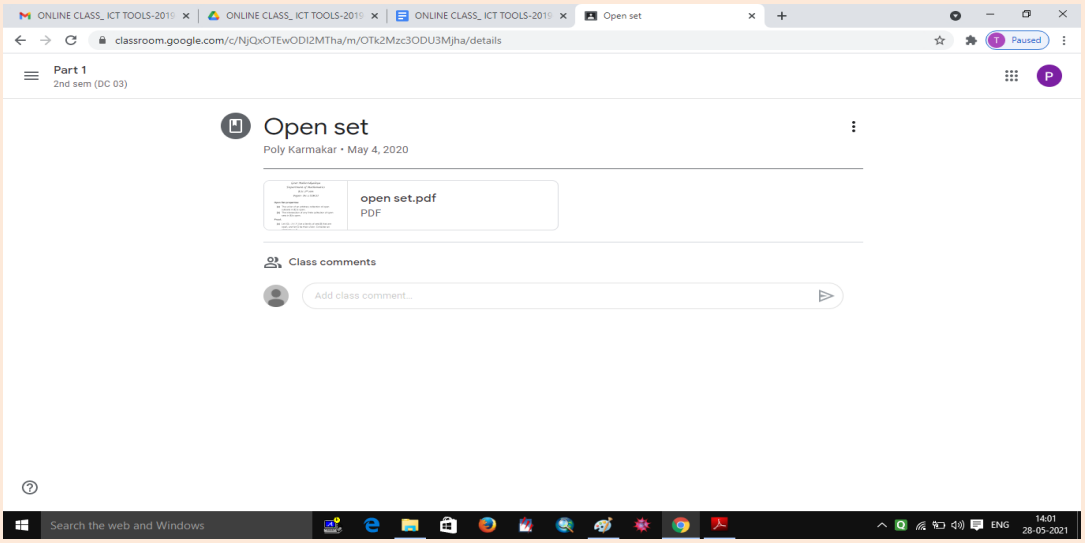


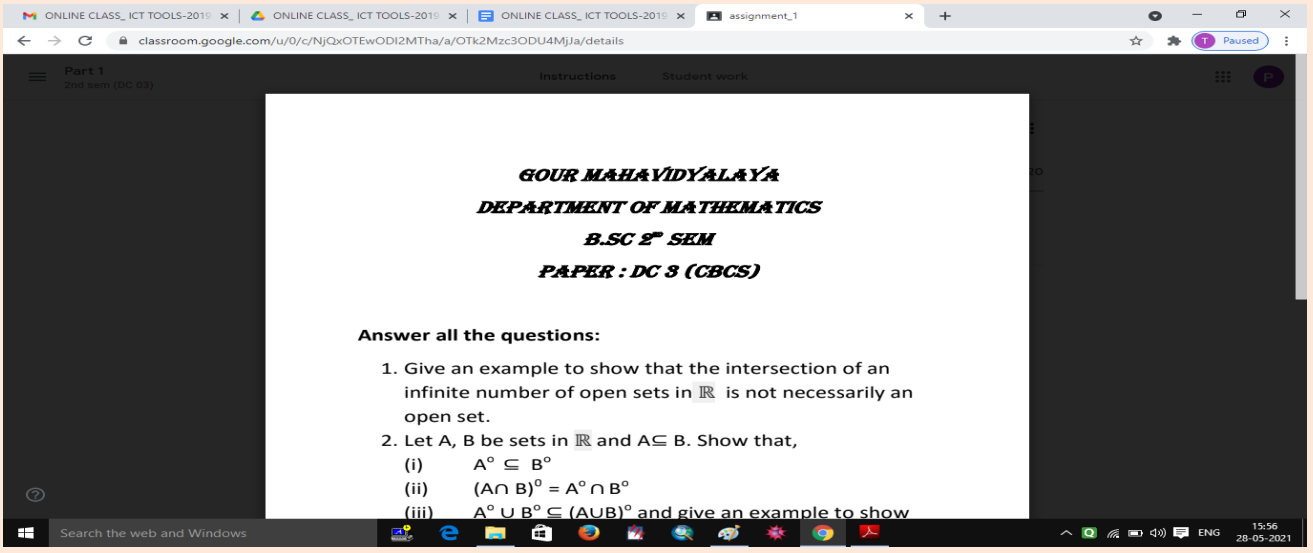
Poly Karmakar submitted study material through Google Classroom on 13.04.2020.



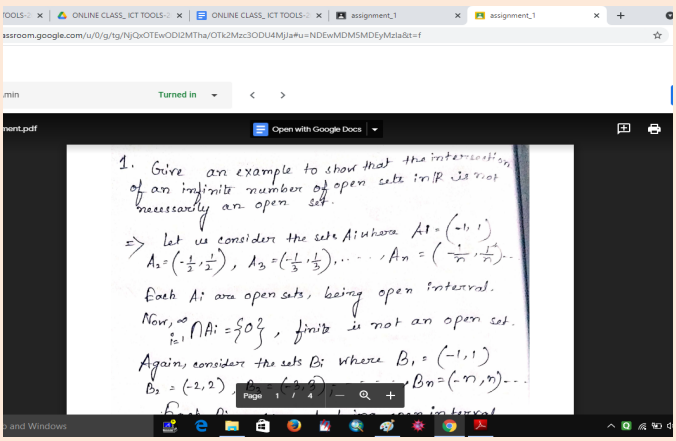
Poly Karmakar submitted study material through Google

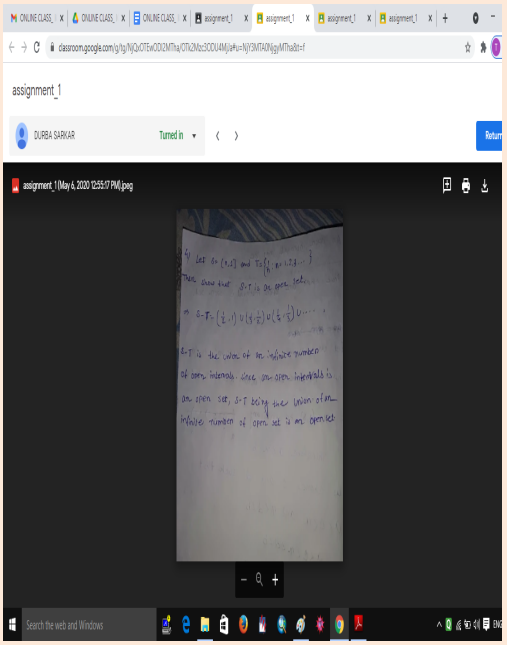
Classroom on 23.04.2020.

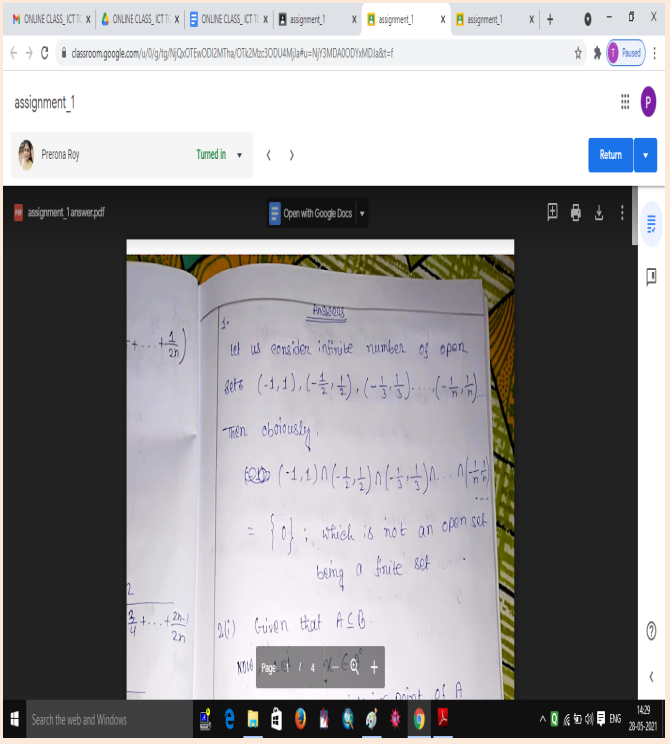




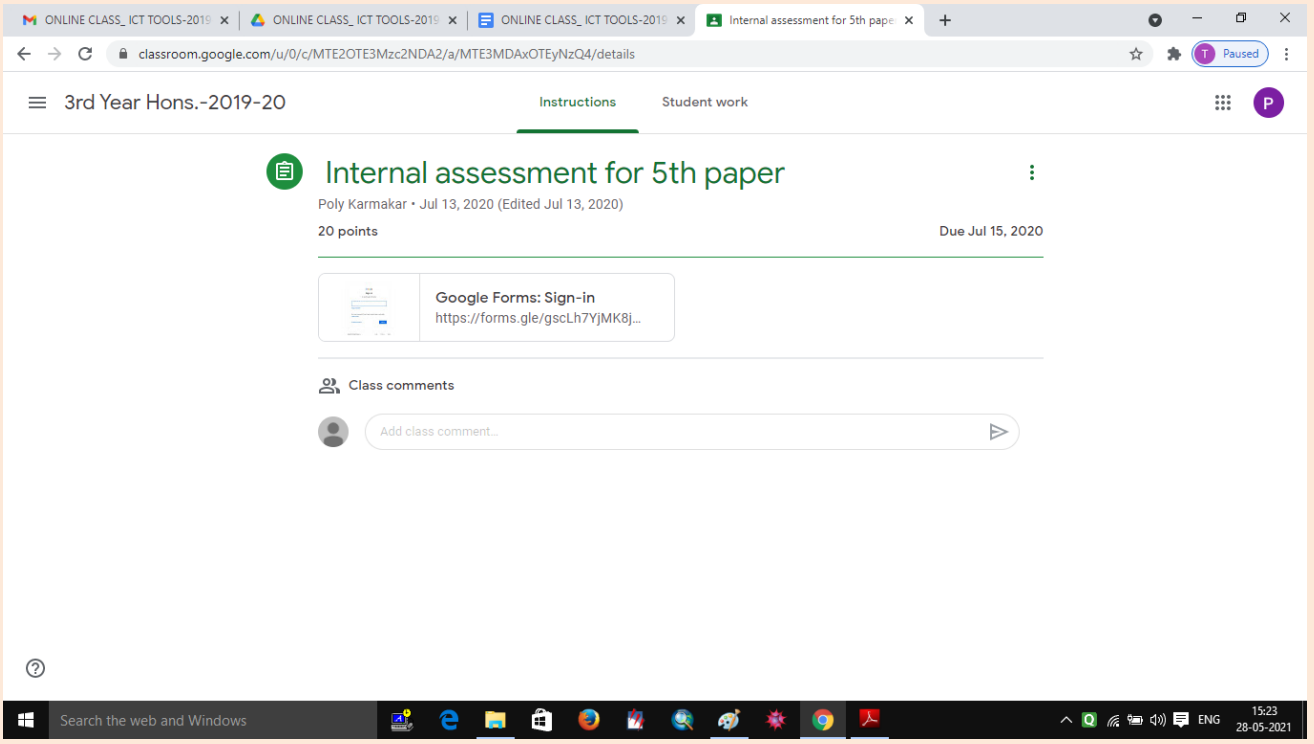
Poly Karmakar posted an Assignment question through Google Classroom on 08.04.2020.



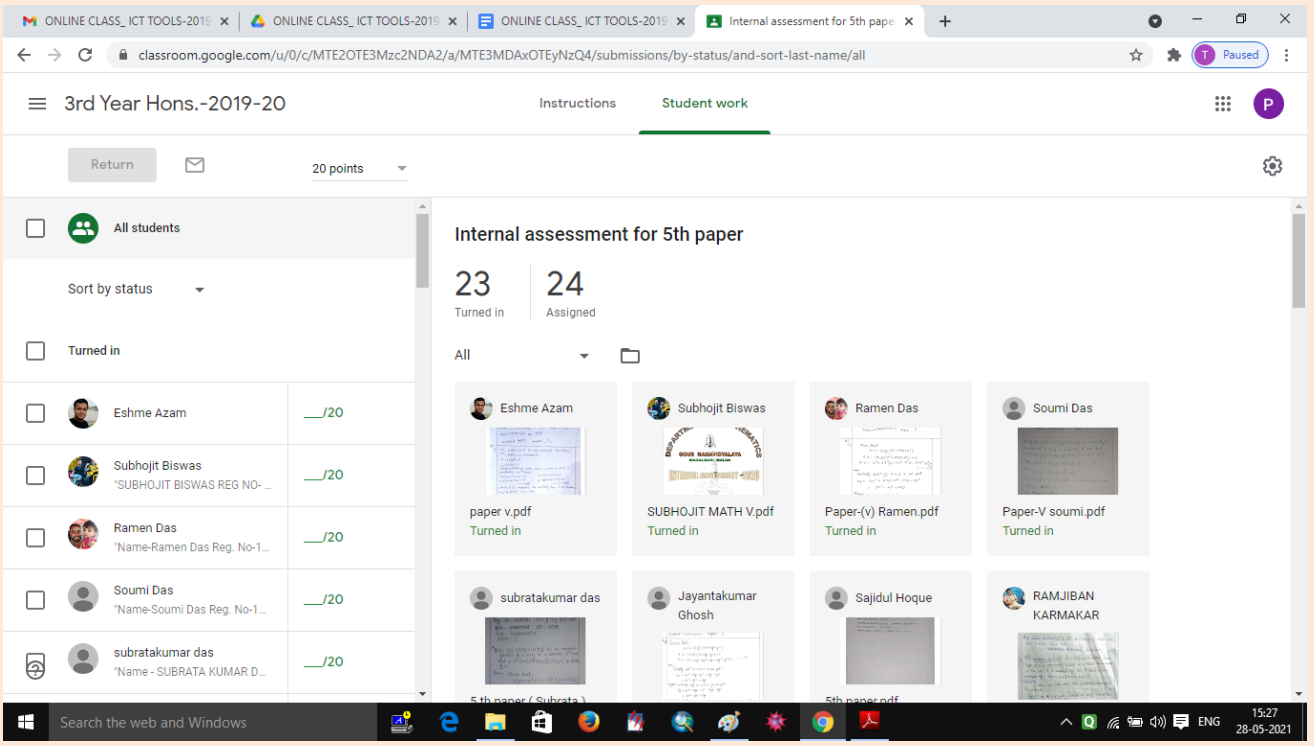




Students submitted assignments through Google Classroom.

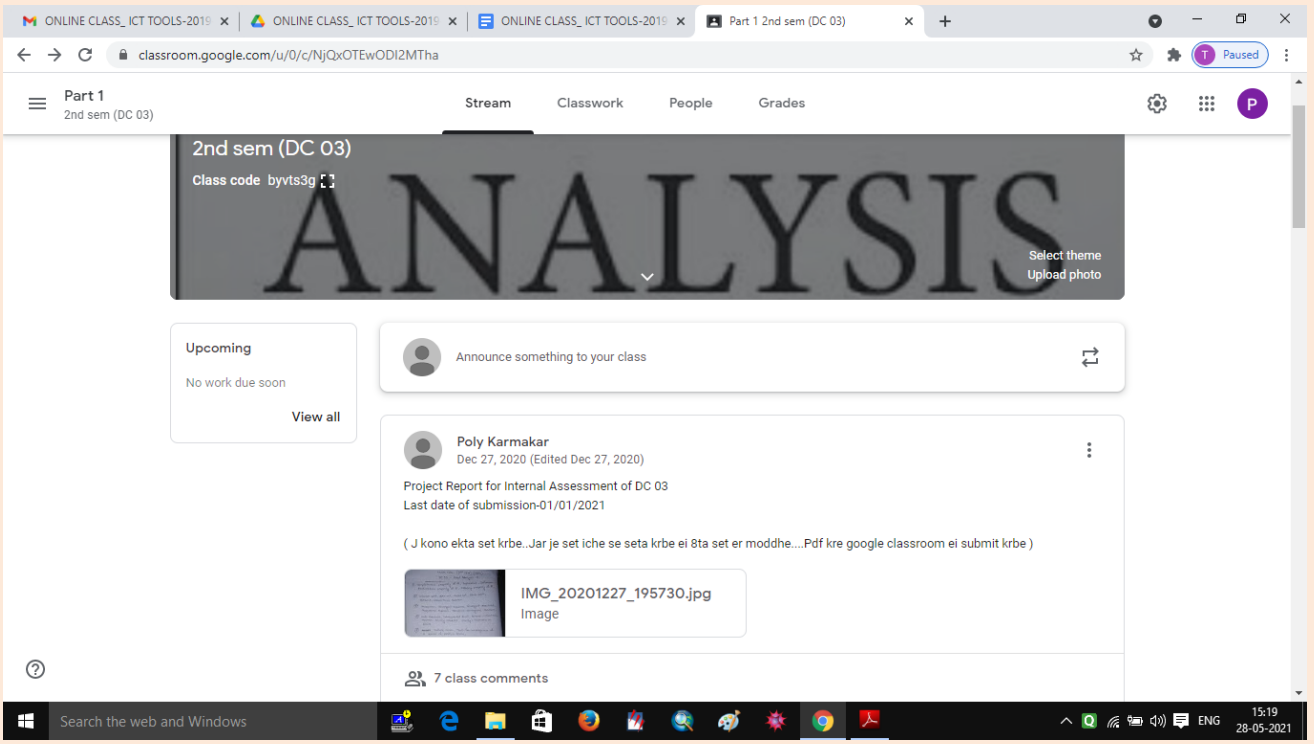


Poly Karmakar posted an Assignment for internal assessment through Google Classroom.

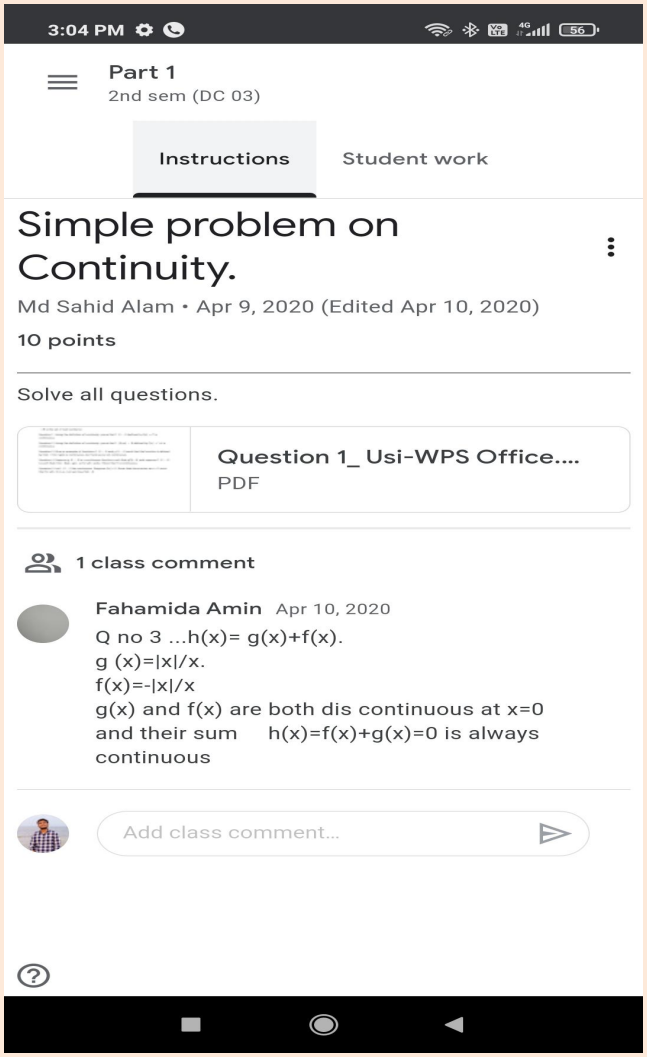


Students submitted assignments through Google

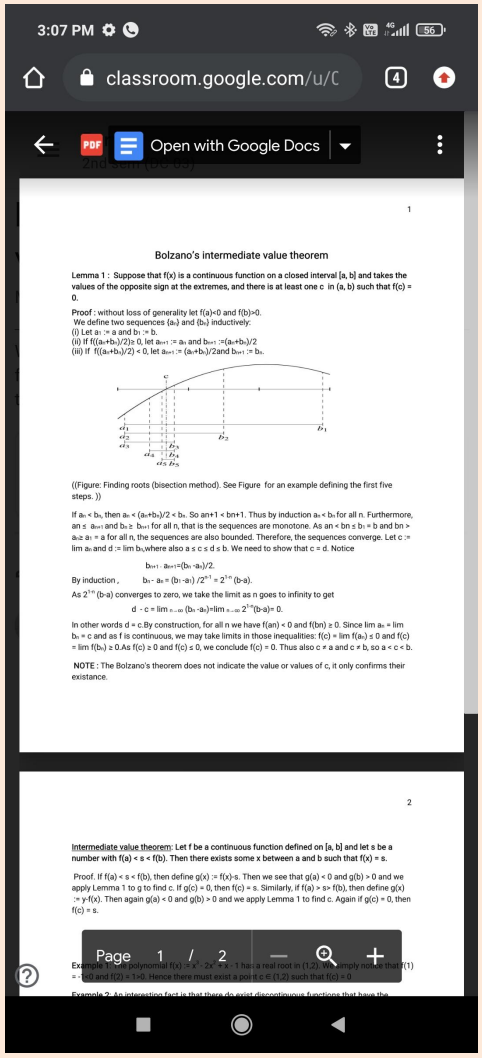
Classroom.Poly Karmakar posted an questions papers for practical marks evaluation through Google Classroom on.

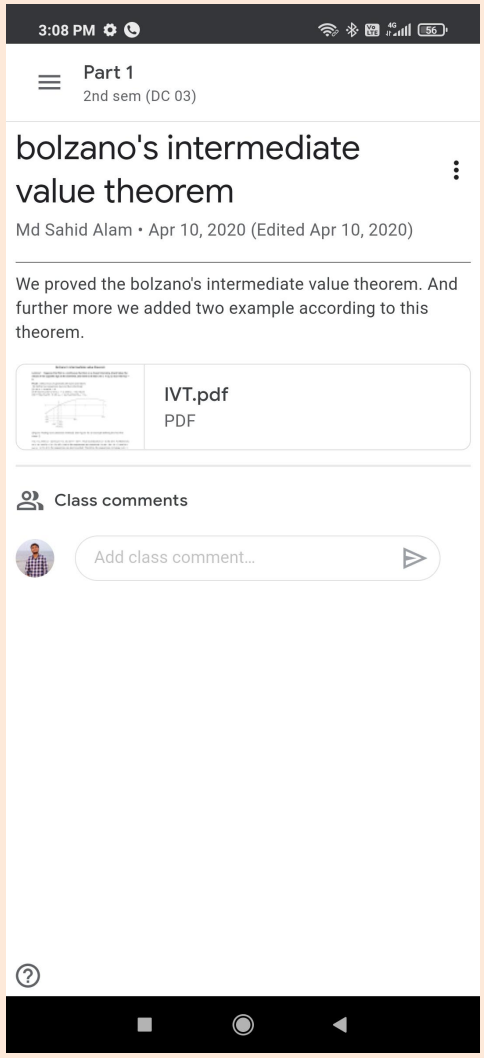


Poly Karmakar posted an Assignment for internal assessment through Google Classroom.

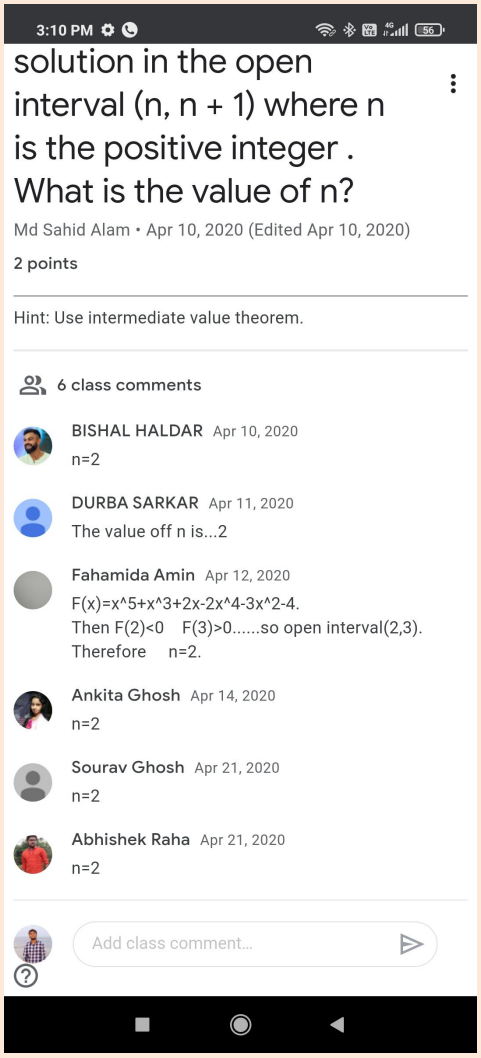


Md Sahid Alam submitted study material through Google Classroom on 09.04.2020.





Md Sahid Alam submitted study material through Google Classroom on 10.04.2020.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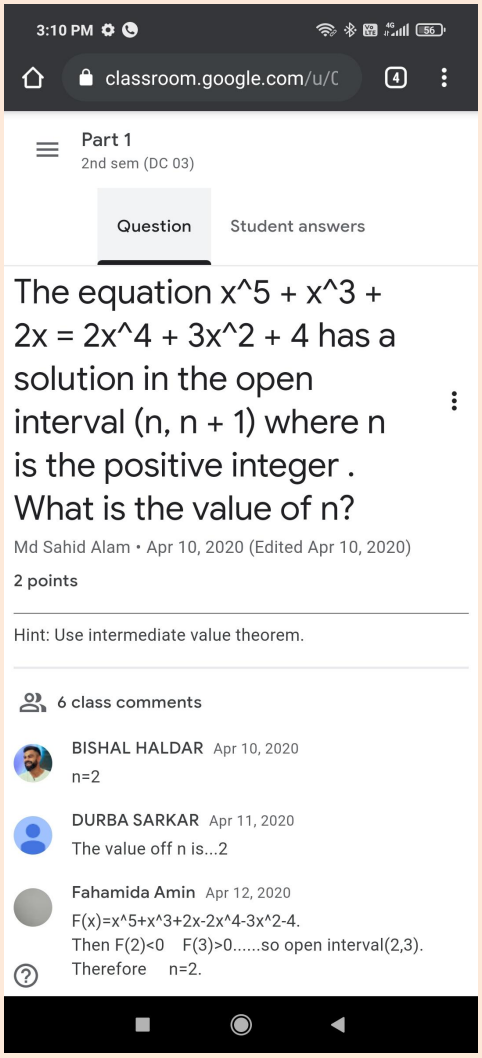
solution in the open interval (n, n + 1) where n is the positive integer . What is the value of n?
Md Sahid Alam • Apr 10, 2020 (Edited Apr 10, 2020)
2 points
Hint: Use intermediate value theorem.
6 class comments
BISHAL HALDAR Apr 10, 2020
n=2
DURBA SARKAR Apr 11, 2020
The value off n is...2
Fahamida Amin Apr 12, 2020
F(x)=x^5+x^3+2x-2x^4-3x^2-4.
Then F(2)<0 F(3)>0.....so open interval(2,3).
Therefore n=2.
Ankita Ghosh Apr 14, 2020
n=2
Sourav Ghosh Apr 21, 2020
n=2
Abhishek Raha Apr 21, 2020
n=2
Add class comment...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Part 1
2nd sem (DC 03)
Question
Student answers
The equation x^5 + x^3 + 2x = 2x^4 + 3x^2 + 4 has a solution in the open interval (n, n + 1) where n is the positive integer . What is the value of n?
Md Sahid Alam • Apr 10, 2020 (Edited Apr 10, 2020)
2 points
Hint: Use intermediate value theorem.
6 class comments
BISHAL HALDAR Apr 10, 2020
n=2
DURBA SARKAR Apr 11, 2020
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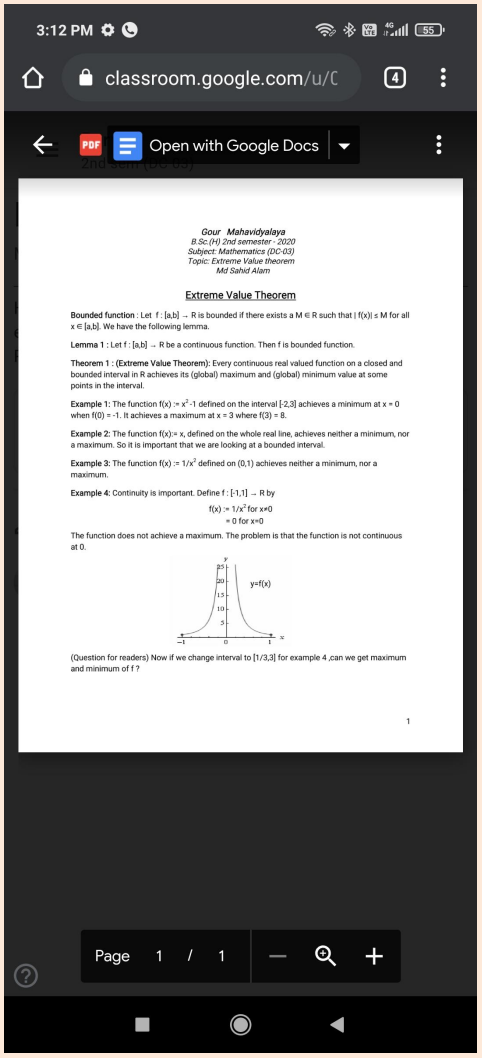
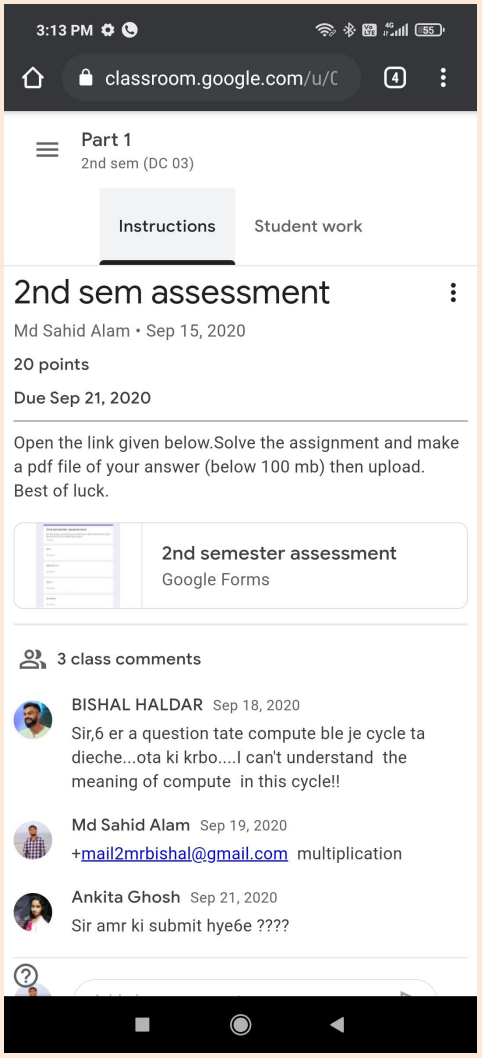
Then F(2)<0 F(3)>0.....so open interval(2,3).
Therefore n=2.

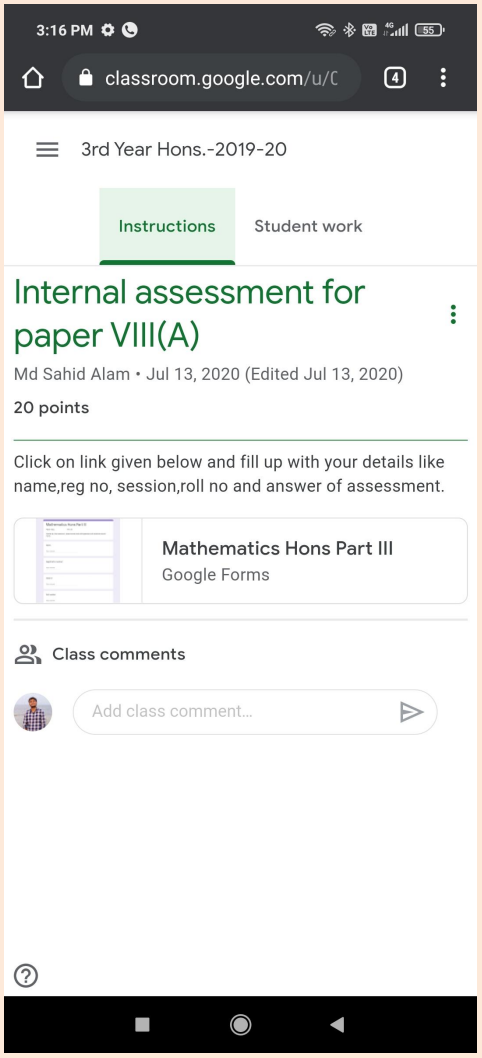
Md Sahid Alam submitted questions through Google Classroom on 10.04.2020 and students answer.



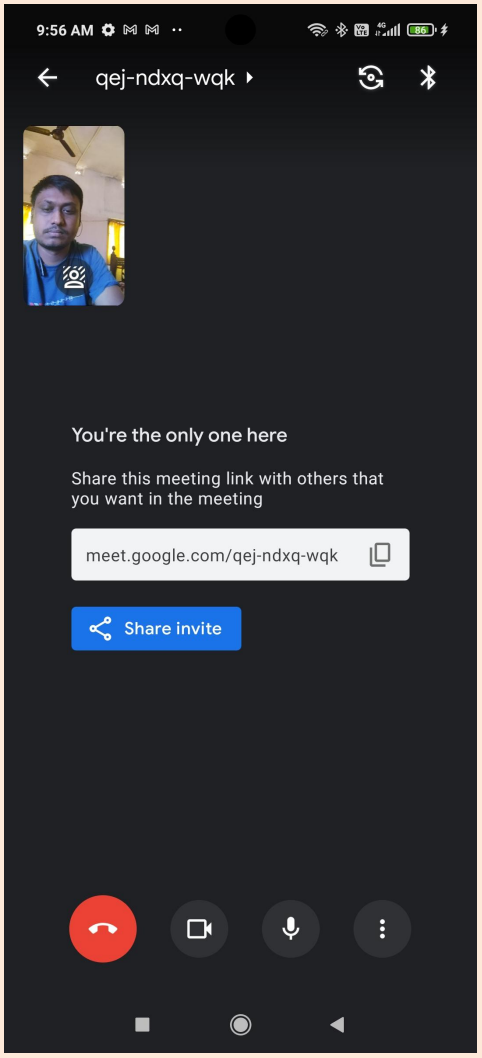
Md Sahid Alam submitted study material through Google Classroom on 11.04.2020.



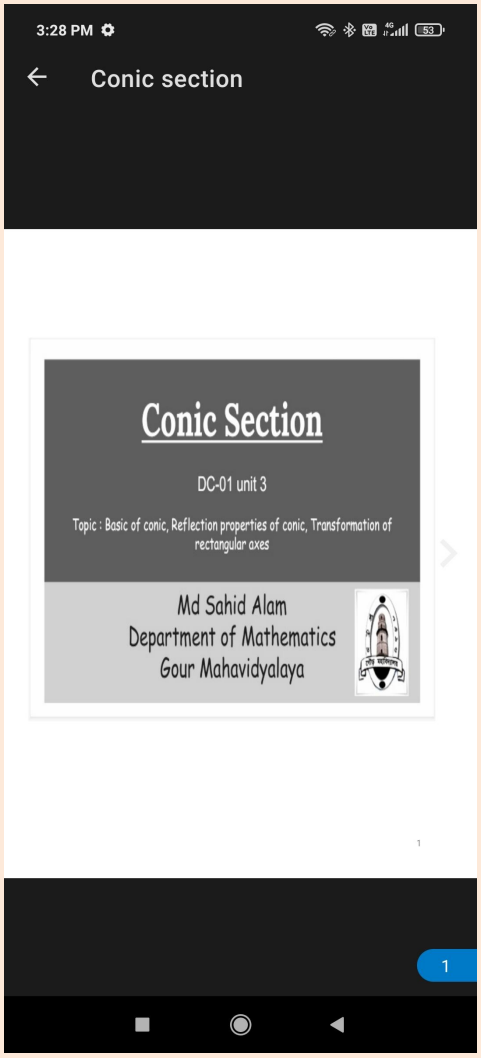
Md Sahid Alam submitted assignment through Google Classroom .

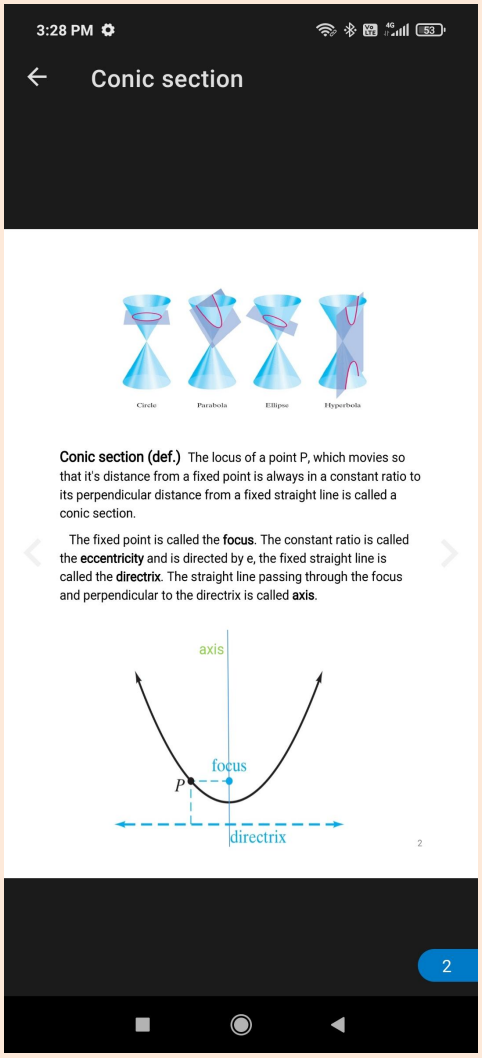


Md Sahid Alam submitted assessment through Google Classroom .

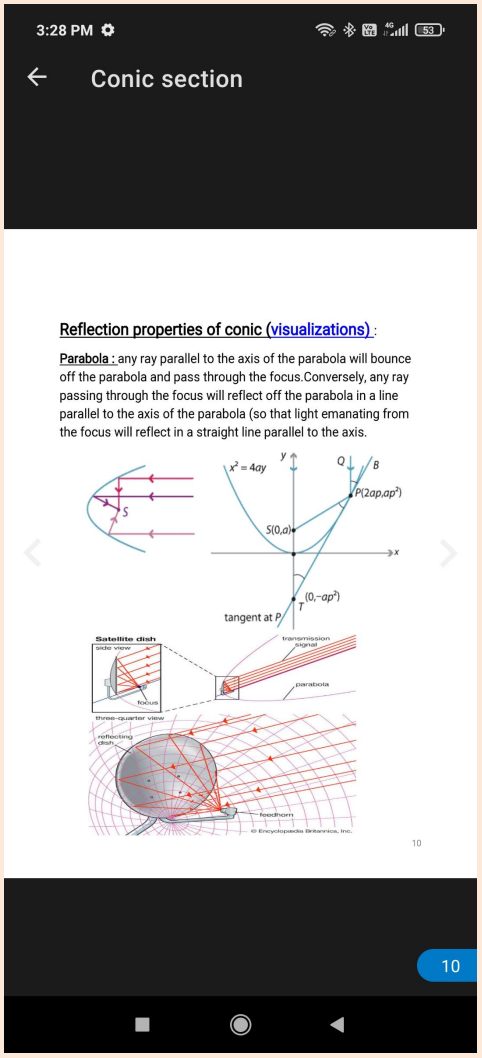


Md Sahid Alam took class through Google meet .

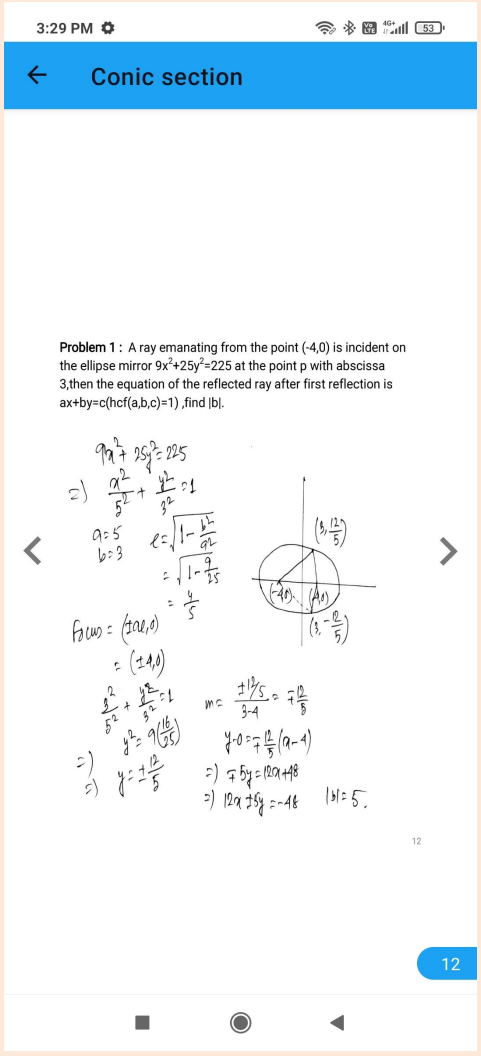


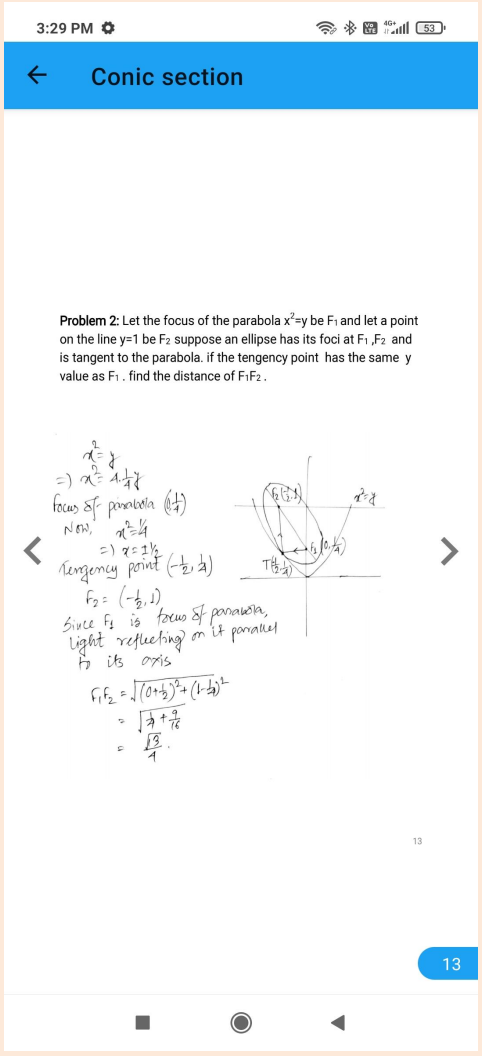


Md Sahid Alam submitted study materials through teachmint app .



Md Sahid Alam submitted study materials through teachmint app.



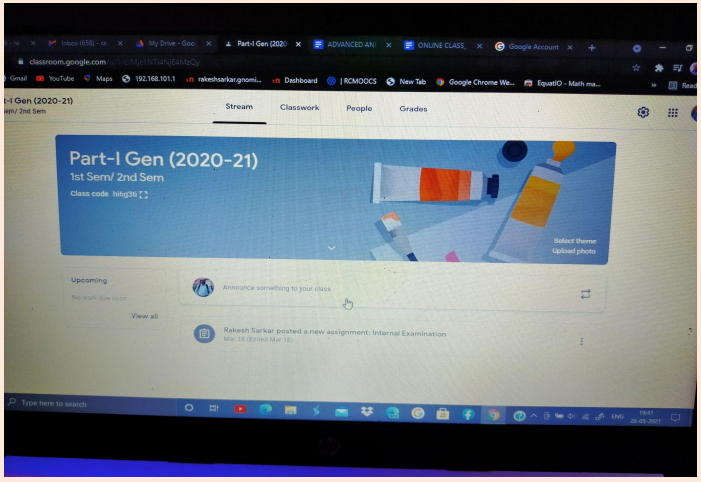


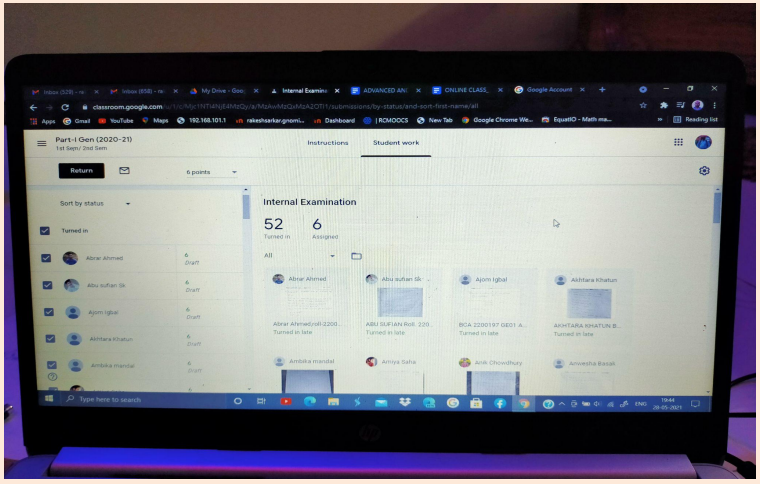
Md Sahid Alam taken online class through teachmint app.

TEACHING AND LEARNING:USE OF ICT TOOLS

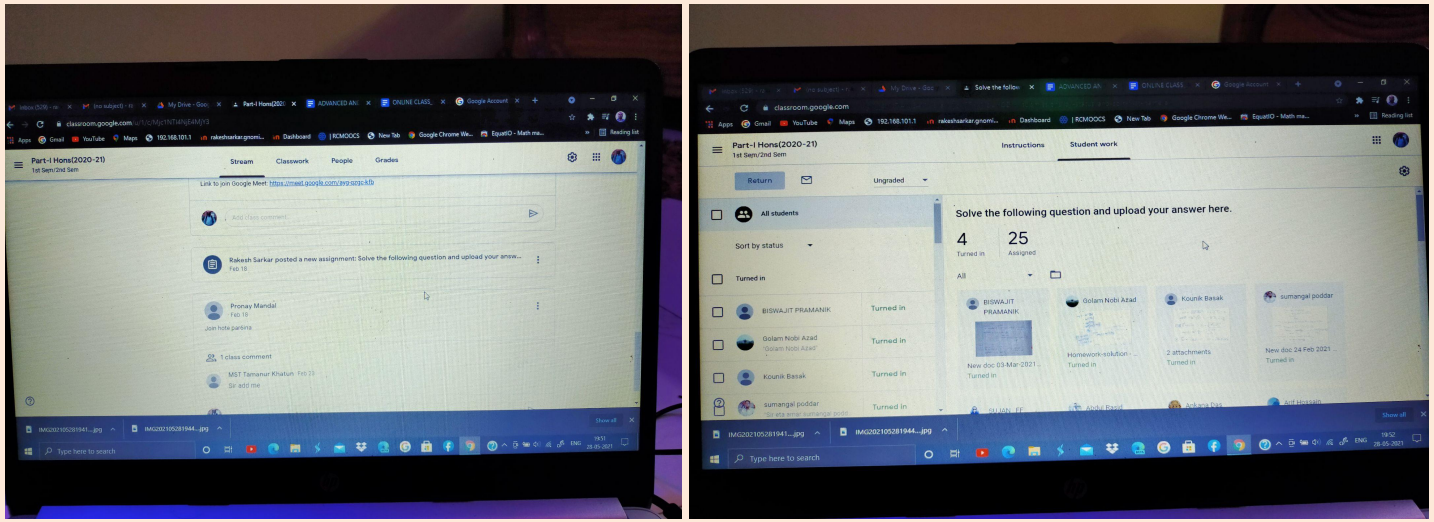
OFFLINE AND ONLINE CLASS DOCUMENTS

SESSION:2020-21

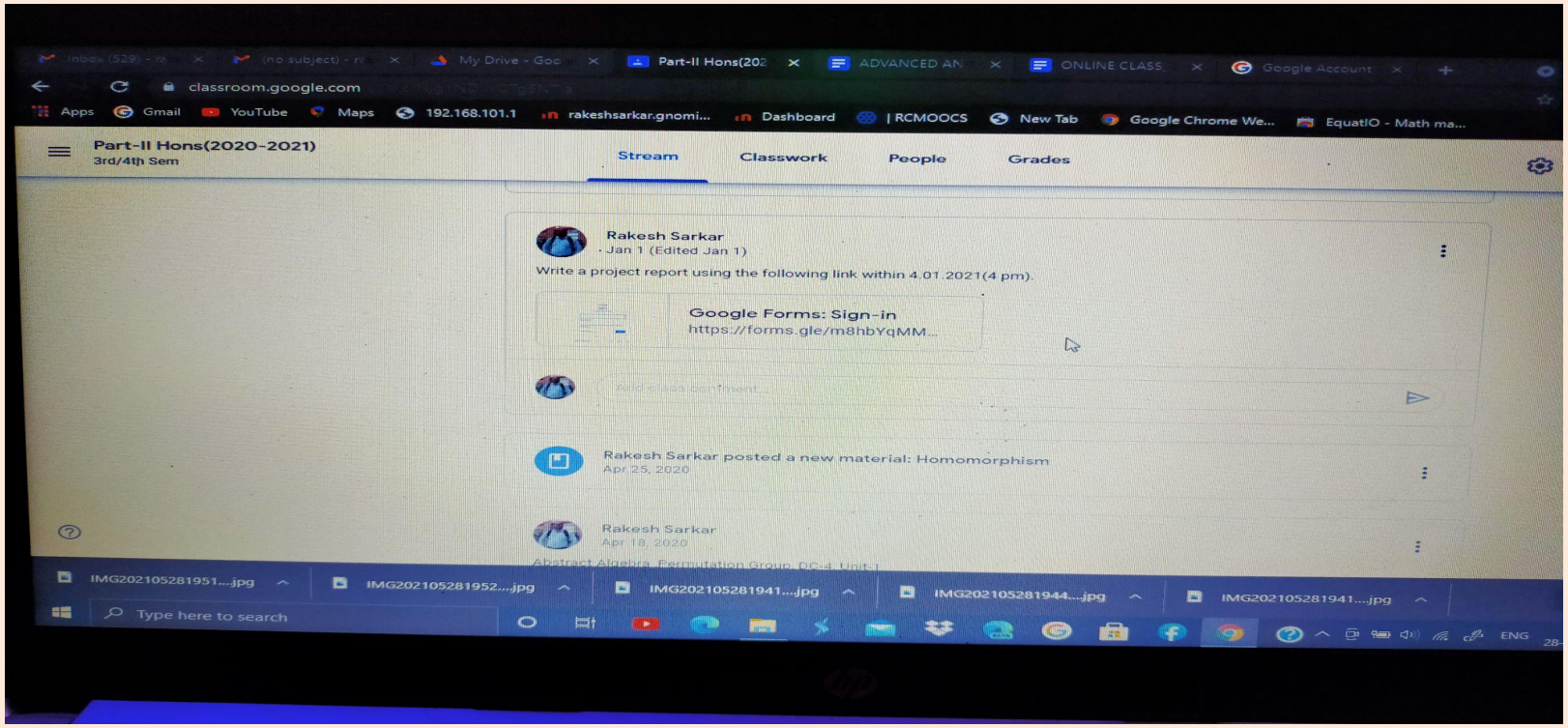




Rakesh Sarkar posted study material through Google Classroom and took the assignment on 18.03.2020

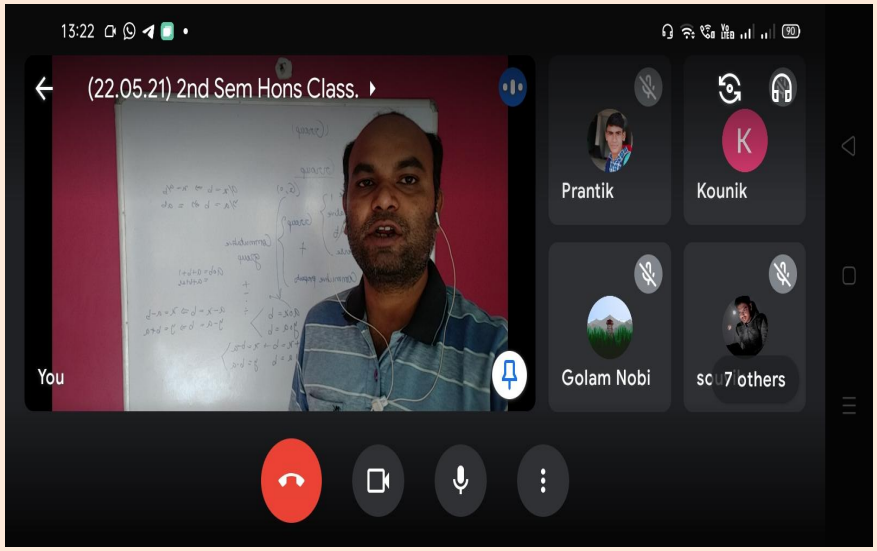


Rakesh Sarkar posted study material through Google Classroom and took the assignment on 18.02.2020



Rakesh Sarkar collected project report using Google form through Google Classroom on 01.01.2021

12:21
(21.05.21) 4th Sem Hons Class
Abhishek
Ankita
You
Gobinda
13 others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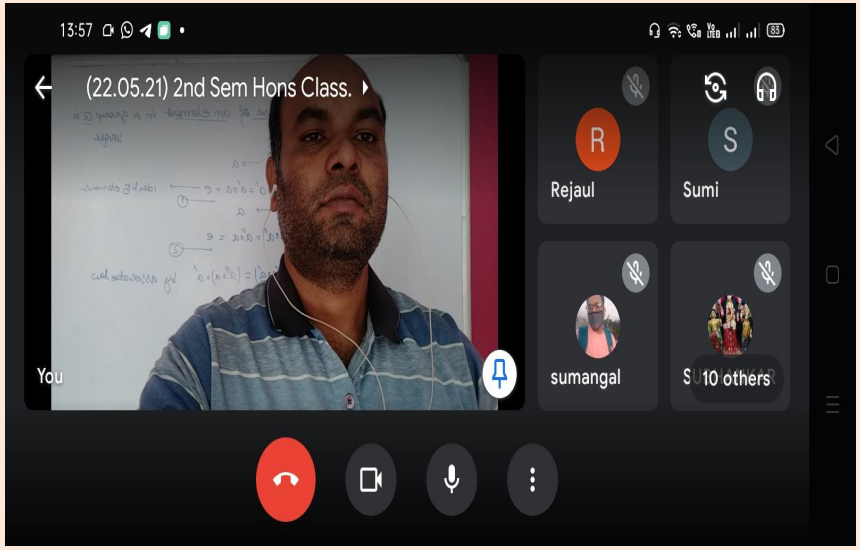
(22.05.21) 2nd Sem Hons Class.
Prantik
K
Kounik
You
Golam Nobi
7 others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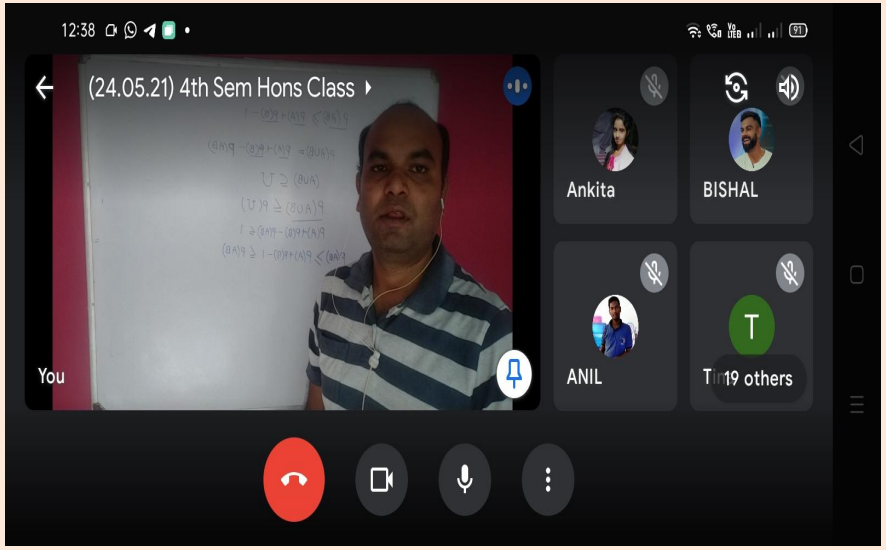
R
Rejaul
S
Sumi
You
sumangal
10 others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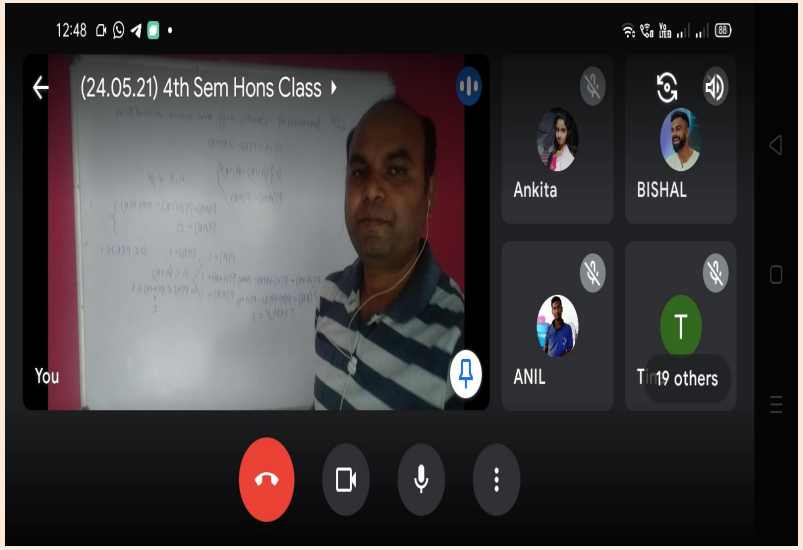
(24.05.21) 4th Sem Hons Class
Ankita
BISHAL
You
ANIL
T
19 others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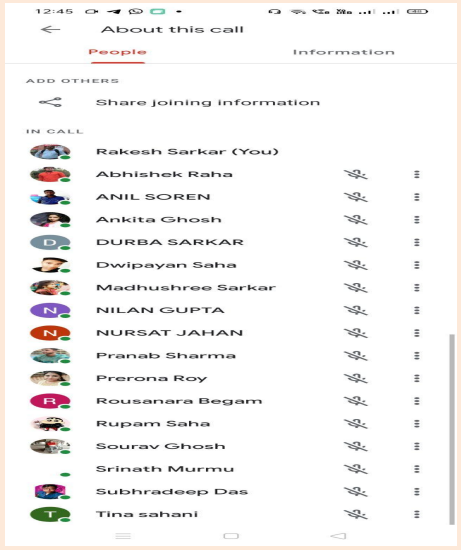
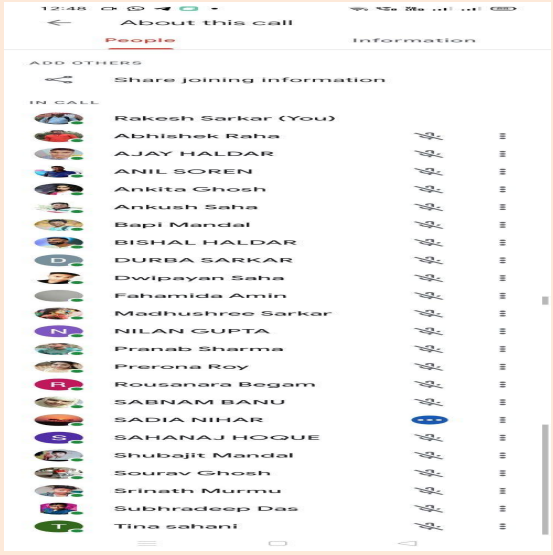
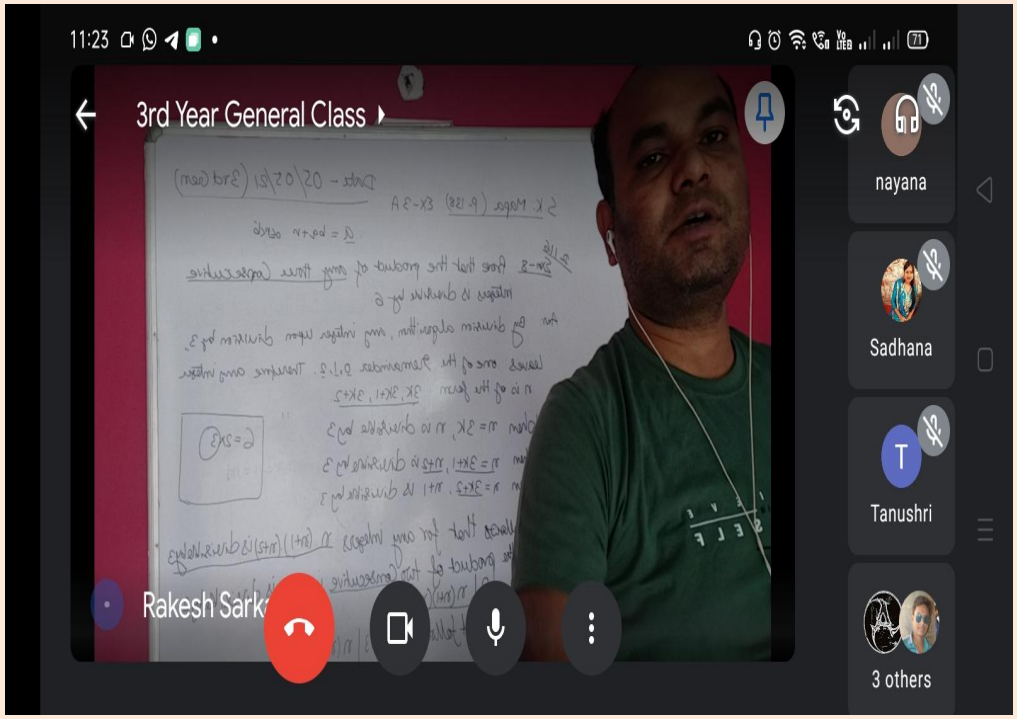
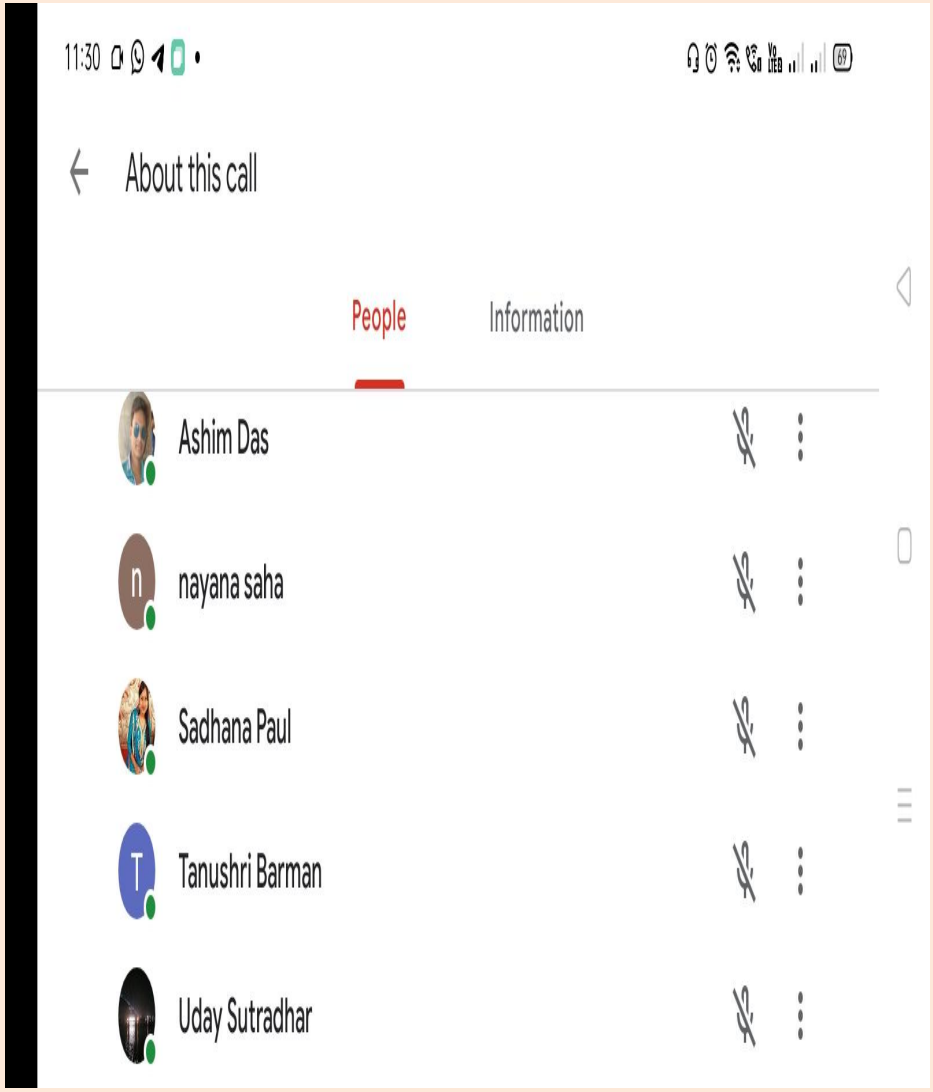
(24.05.21) 4th Sem Hons Class
You
Ankita
BISHAL
ANIL
19 others

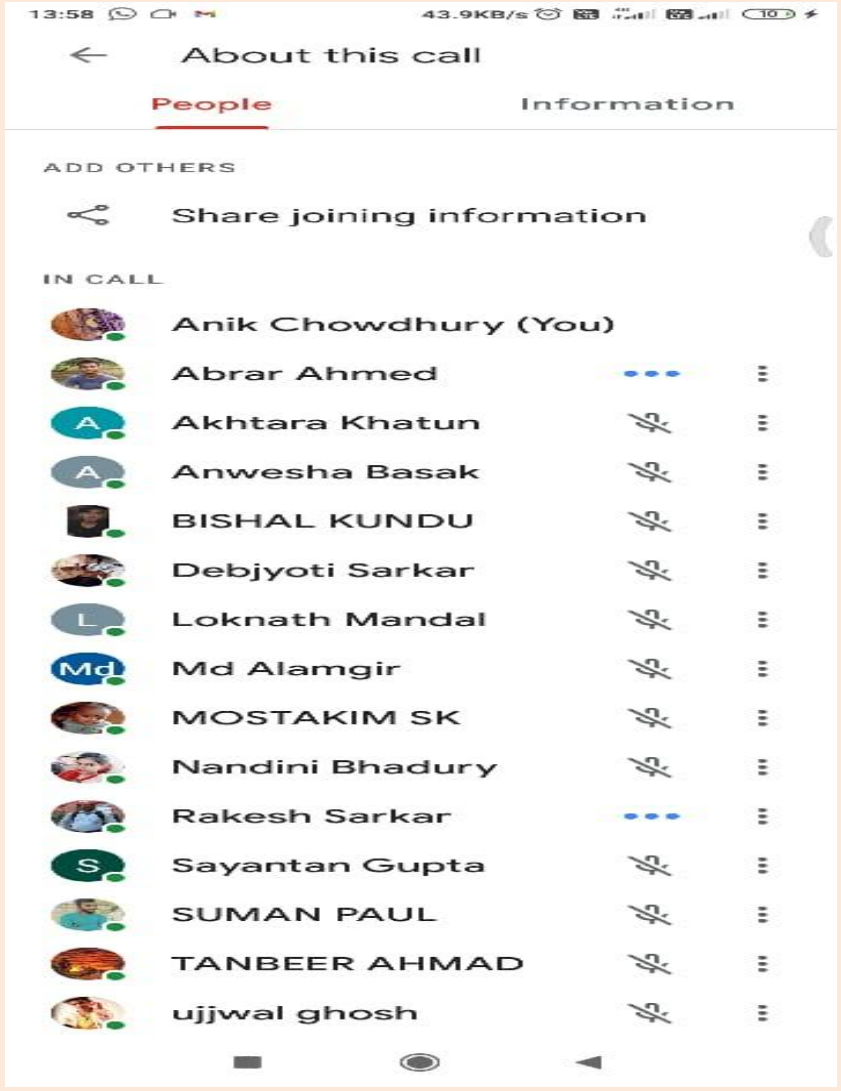

12:45
About this call
People
Information
ADD OTHERS
Share joining information
IN CALL
Rakesh Sarkar (You)
Abhishek Raha
ANIL SOREN
Ankita Ghosh
DURBA SARKAR
Dwipayan Saha
Madhushree Sarkar
NILAN GUPTA
NURSAT JAHAN
Pranab Sharma
Prerona Roy
Rousanara Begam
Rupam Saha
Sourav Ghosh
Srinath Murmu
Subhradeep Das
Tina sahani


About this call
People
Information
ADD OTHERS
Share joining information
IN CALL
Rakesh Sarkar (You)
Abhishek Raha
AJAY HALDAR
ANIL SOREN
Ankita Ghosh
Ankush Saha
Bapi Mandal
BISHAL HALDAR
DURBA SARKAR
Dwipayan Saha
Fahamida Amin
Madhushree Sarkar
NILAN GUPTA
Pranab Sharma
Prerona Roy
Rousanara Begam
SABNAM BANU
SADIA NIHAR
SAHANAJ HOQUE
Shubajit Mandal
Sourav Ghosh
Srinath Murmu
Subhradeep Das
Tina sahani

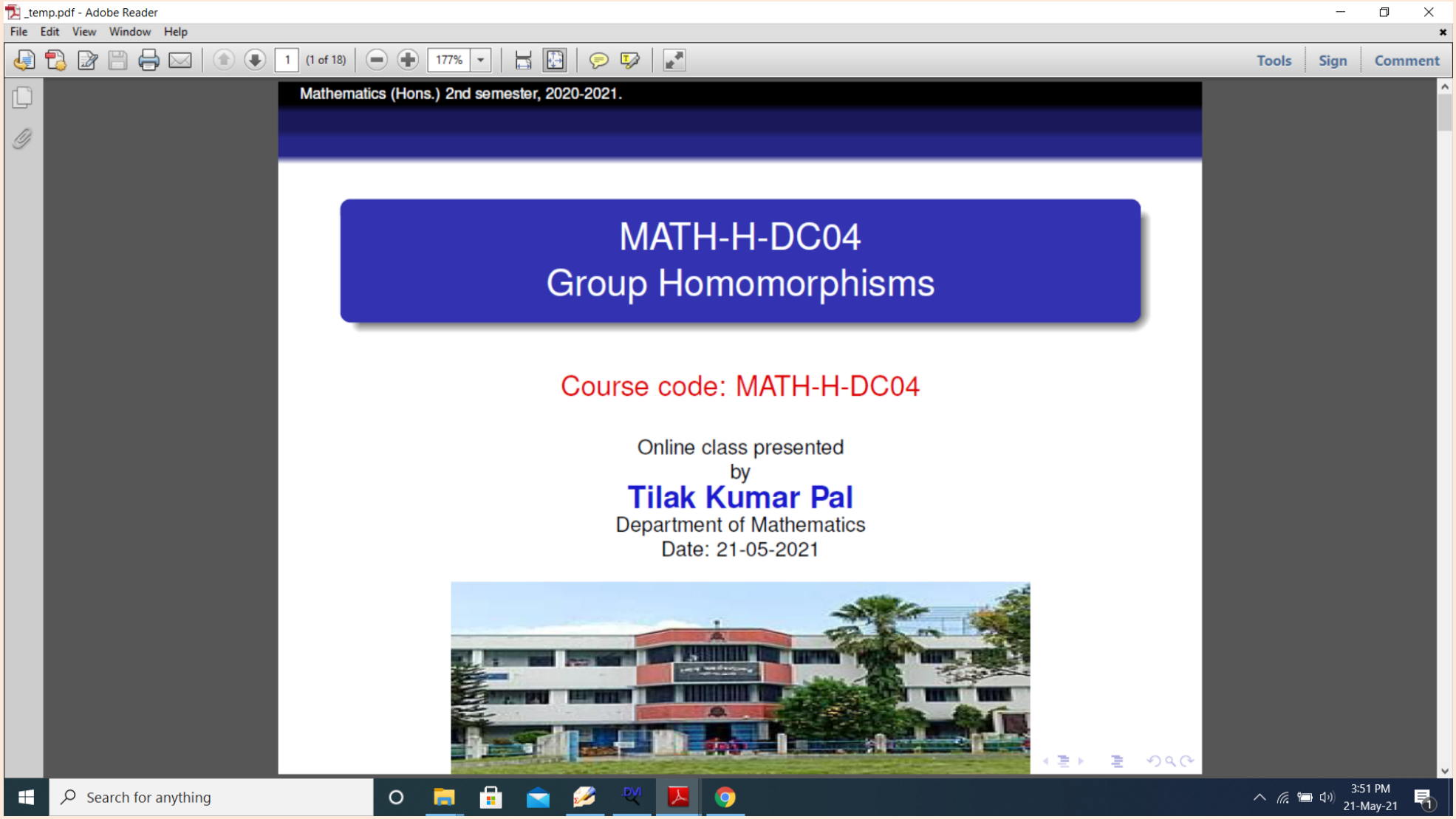
13:43
2nd Sem General Class
MOSTAKIM
SUMAN
You
TANBEER
8 others


11:23
3rd Year General Class
nayana
Sadhana
T
Tanushri
3 others

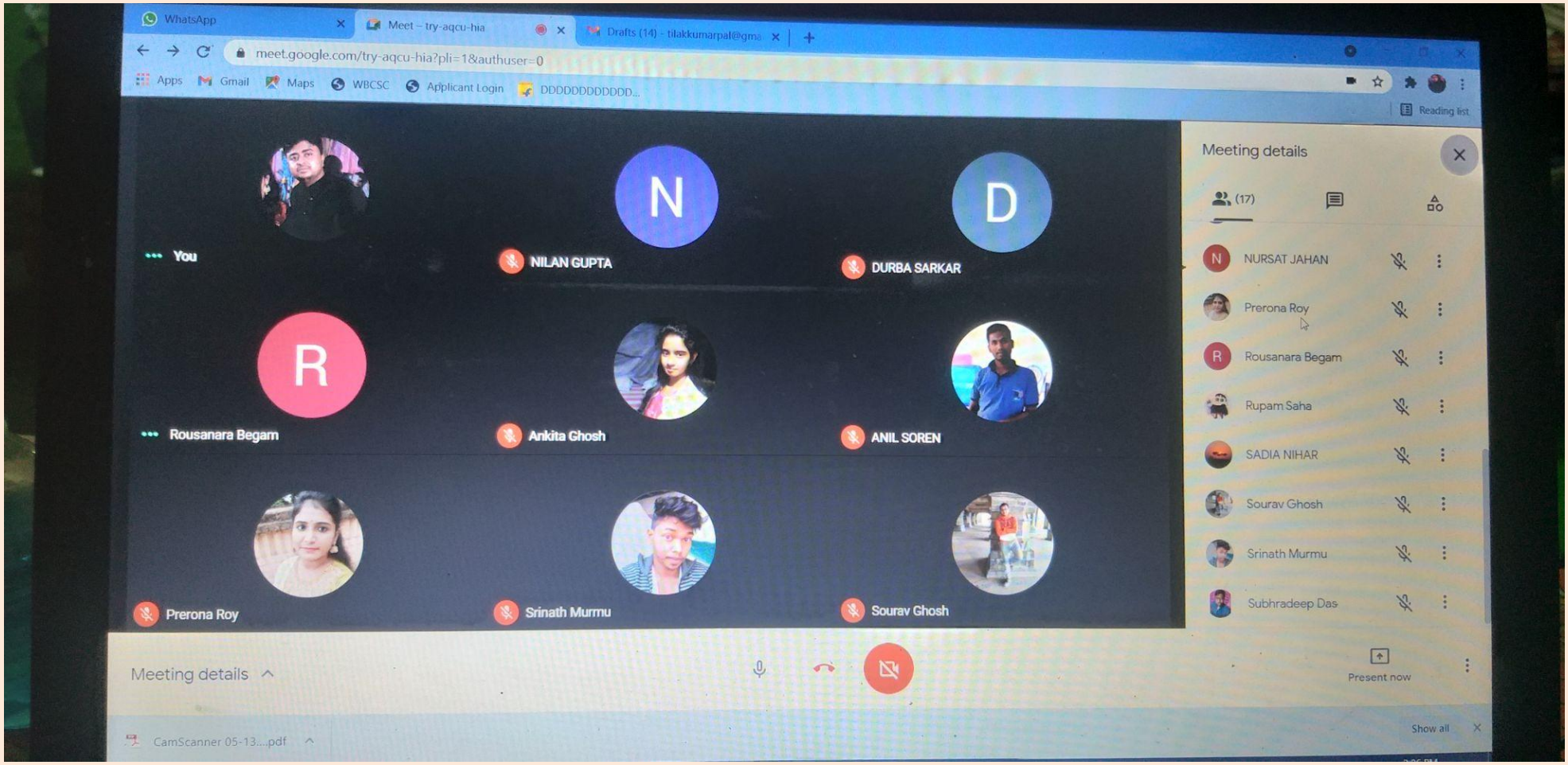




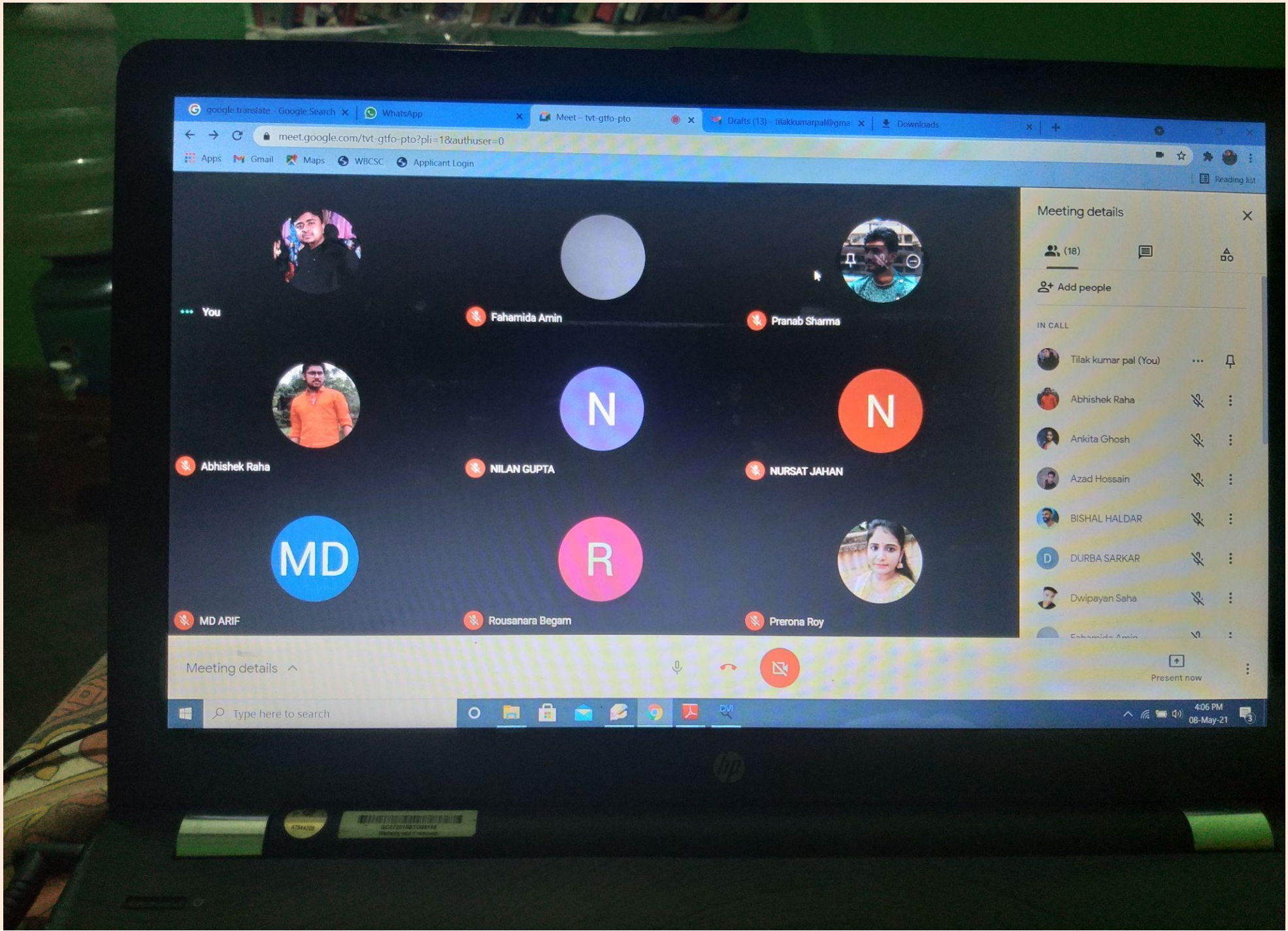
Rakesh Sarkar took the online classes through Google Meet as recorded in the picture.



Tilak Kumar Pal taken class through Google meet on 21-5-2021.



Tilak Kumar Pal took class through Google meet on 05-04-2021.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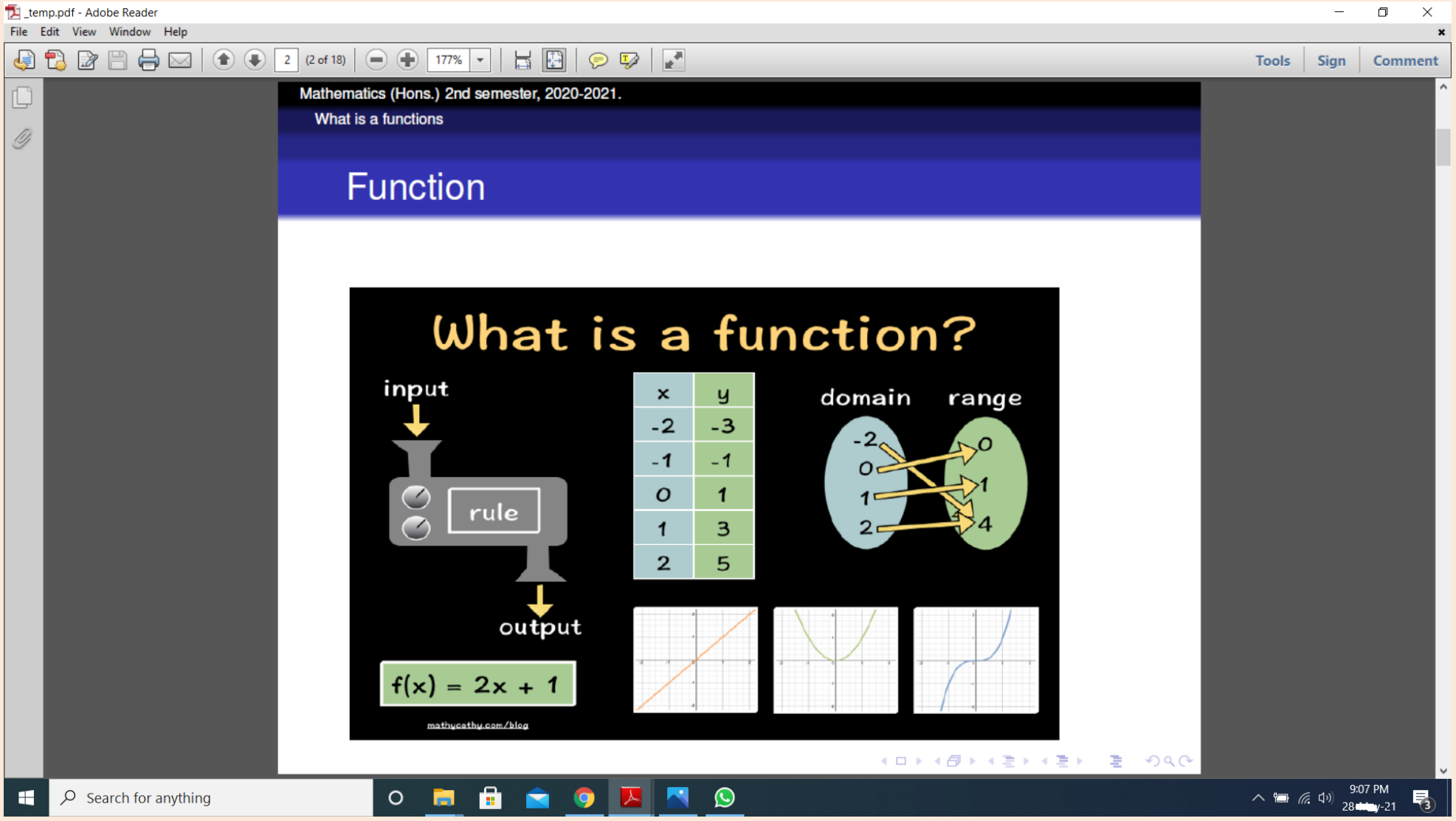
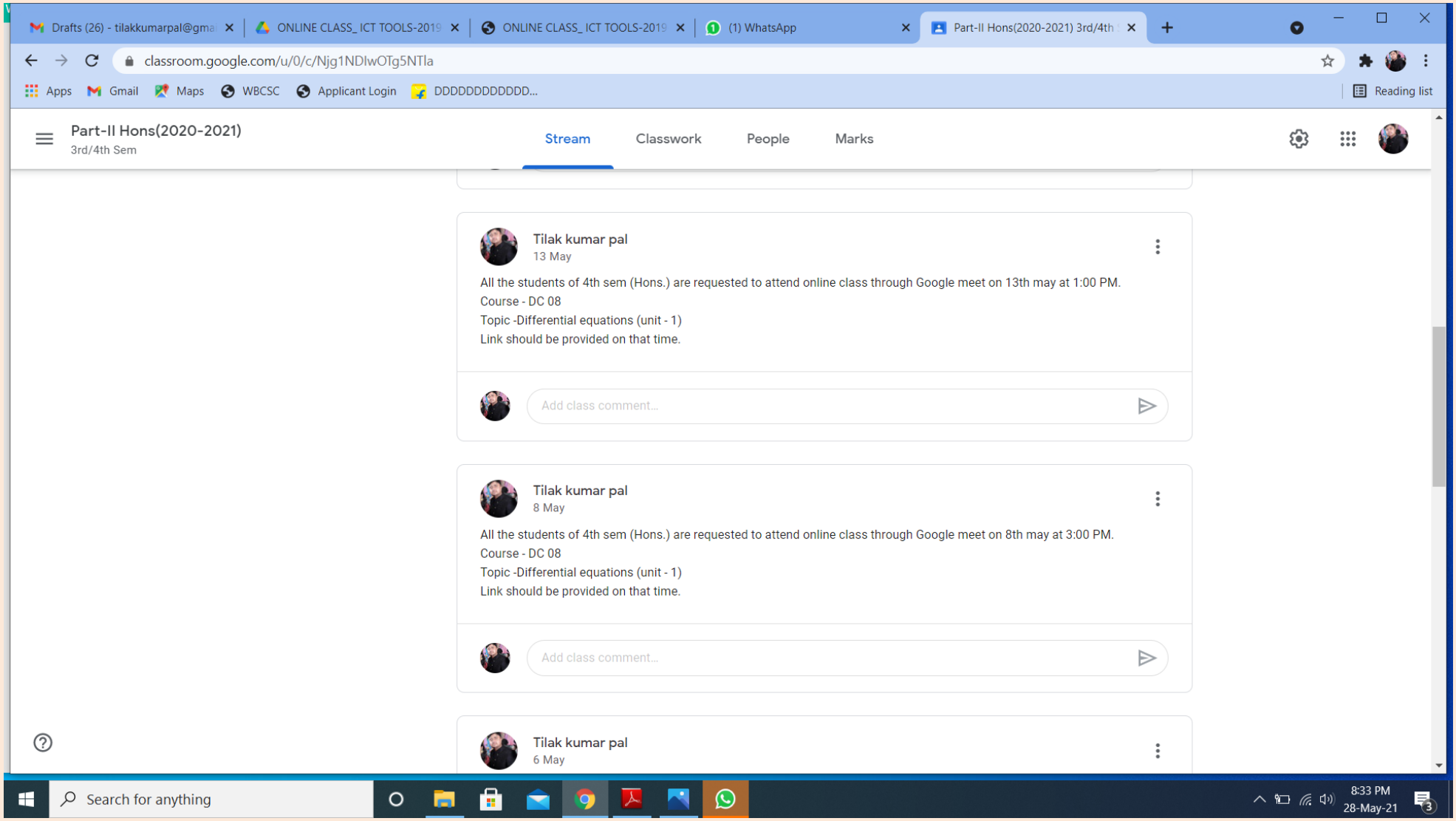
WhatsApp
Meet – tvt-gtfo-pto
Drafts (13) - tilakkumarpal@gma
Downloads
meet.google.com/tvt-gtfo-pto?pli=1&authuser=0
Apps
Gmail
Maps
WBCSC
Applicant Login
Reading list
You
Fahamida Amin
Pranab Sharma
Abhishek Raha
NILAN GUPTA
NURSAT JAHAN
MD ARIF
Rousanara Begam
Prerona Roy
Meeting details
(18)
Add people
IN CALL
Tilak kumar pal (You)
Abhishek Raha
Ankita Ghosh
Azad Hossain
BISHAL HALDAR
DURBA SARKAR
Dwipayan Saha
Meeting details
Present now
Type here to search
4:06 PM
08-May-21

Tilak Kumar Pal taken class through Google meet on 06-05-2021



Tilak Kumar Pal took class through Google Meet on 02-03-2021.



Tilak Kumar Pal, Announcement for class through Google Meet on 08-05-2021.

7:33 PM

internal dc 01 2021n.pdf

Gour Mahavidyalaya

Department of mathematics

Internal examination

Time : 1 hour **Paper : DC 01** **FM 20**

Group A **1×10=10**

(1) Given $7x \le f(x) \le 3x^2+2$ for all x, then limit f(x) at 2

(a) 0 (b)7 (c) 14 (d) 21.

(2) For what value of x , $f(x) = 3x^4-4x^2$ is continuous?

(a) (-1,1) (b) (0,∞) (c) (-∞,0) (d) (-∞,∞).

(3) Inflection points and interval of concave upward of $f(x)=2x^3-12x^2+4x-27$ are respectively

(a) 2 and (2,∞) (b) 2 and (-∞,2) (c) 3 and (3,∞) (d) 3 and (-∞,3).

(4) $\Gamma(1/2)$ = (a) π (b) √π (c) √2π (d) 2π .

(5) limit of x/tanx as x approaches 0 is (a) 0 (b) 1 (c) 2 (d) 4

(6)If under rotation $ax^2 + 2hxy + by^2 + 2gx + 2fy + c$ takes the form $a'x'^2 + 2h'x'y' + b'y'^2 + 2g'x' + 2f'y' + c'$ then (a) a+b=a'+b (b)a=a' (c) $ab-h^2 = a'b'-h'^2$ (d) h=h'.

(7) $x^2+kxy-2y^2+3y-1=0$ represents a pair of straight lines , value of k is

(a) 0 (b)±1 (c)±2 (d) ±3.

(8) Polar form of the equation $x^2+y^2-2ax=0$ is

(a) r=acosθ (b) r= acoa2θ (c) r=2acosθ (d) r =2acos2θ.

(9) $9x^2-6xy+y^2-14x-2y+12=0$ represents

(a) parabola (b) ellipse (c) pair of straight lines (d) hyperbola.

(10) centre and radius of the sphere $x^2+y^2+z^2+2x-4y-6z+5=0$ are respectively

(a) (-1,2,3) , 2 units (b) (-1,2,3) , 3 units (c) (1,-2,3) ,2 units (d) (1,-2,3) , 3 units

Group B

(Answer any two) **5×2=10**

7:33 PM

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Group B

(Answer any two) **5×2=10**

(1) If $I_n = \int \tan^n x\,dx$ then show that $I_n+I_{n-2}=\tan^{n-1}x/(n-1)$

(2) $y=e^{ax}\sin(ax+b)$ then find the value of y_n.

(3) (a) the origin shifted to the the (3,-1) and co-ordinate axes are then rotated through an angle $\tan^{-1}3/4$ .find the coordinates of the point (5,-2) in the new co-ordinate system.

(b) Find the equation of the plane passing through (-2,3,10) and through z-axis.

(4) If one of the straight lines $ax^2 + 2hxy + by^2 =0$ coincides with one of the straight lines $a'x'^2 + 2h'x'y' + b'y'^2=0$ and remaining two straight lines are at right angle so that h(1/b - 1/a)= h'(1/b' - 1/a').

2/2

7:33 PM

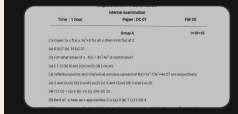
Instructions Student work

Internal examination

20 points

Submit hard copy of your answer script.

Attachments



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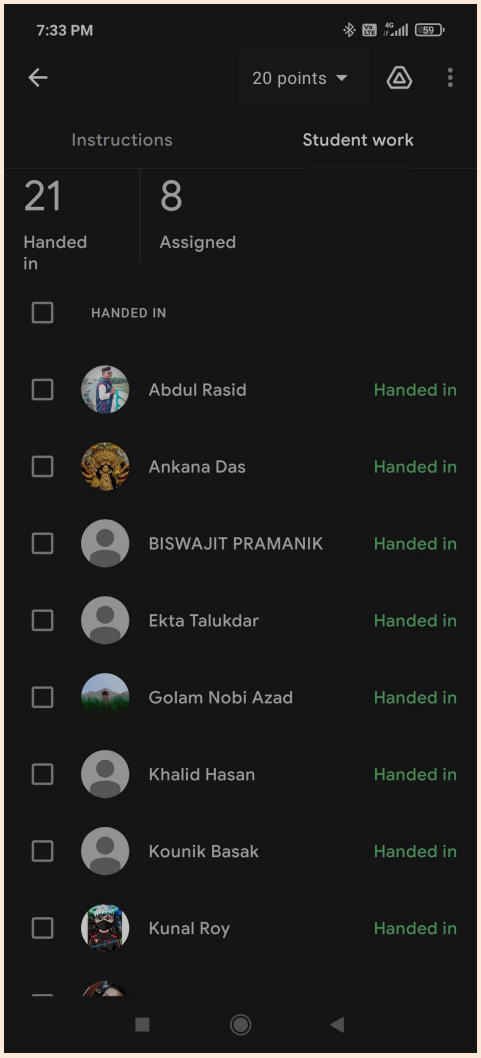
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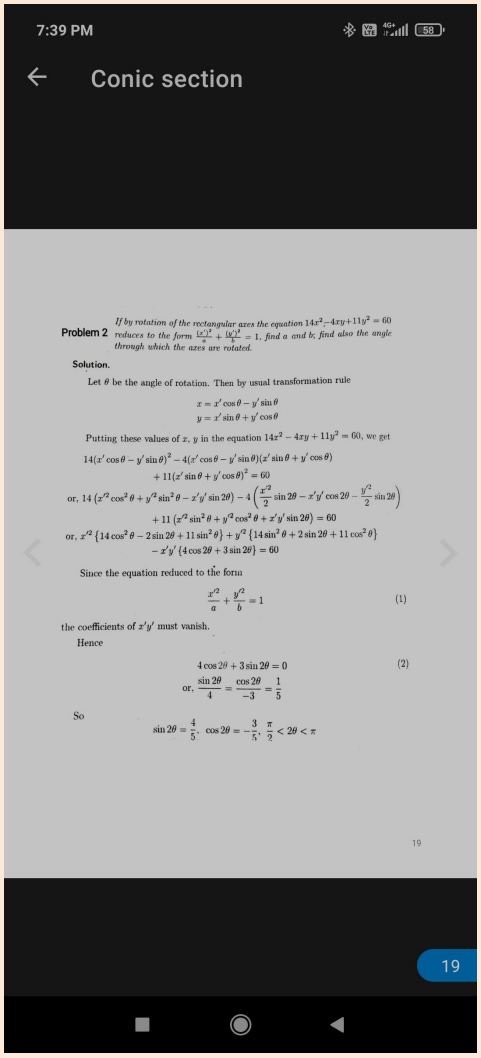
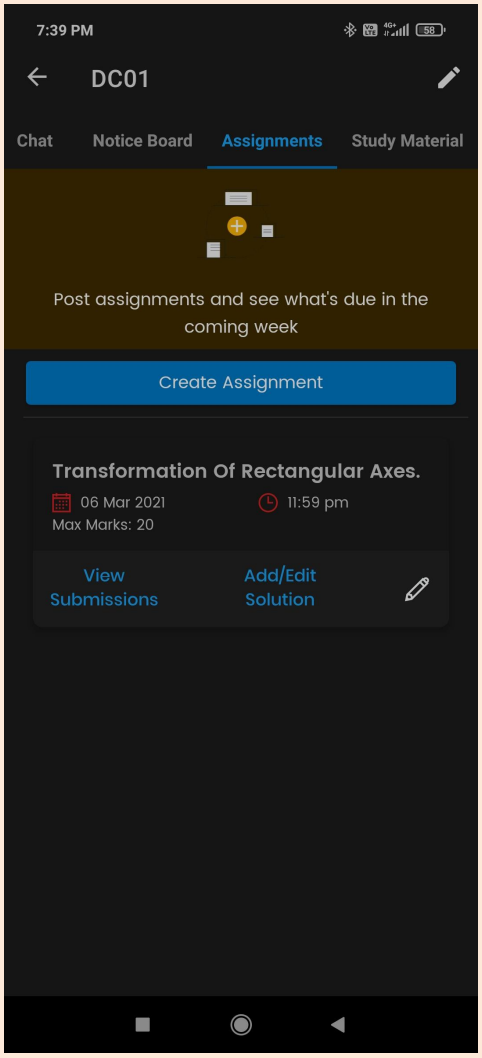
20 points
Instructions
Student work
21
Handed in
8
Assigned
HANDED IN
Abdul Rasid
Handed in
Ankana Das
Handed in
BISWAJIT PRAMANIK
Handed in
Ekta Talukdar
Handed in
Golam Nobi Azad
Handed in
Khalid Hasan
Handed in
Kounik Basak
Handed in
Kunal Roy
Handed in


7:39 PM
Conic section
Problem 2 If by rotation of the rectangular axes the equation $14x^2-4xy+11y^2=60$ reduces to the form $\frac{(x')^2}{a^2}+\frac{(y')^2}{b^2}=1$, find a and b; find also the angle through which the axes are rotated.
Solution.
Let θ be the angle of rotation. Then by usual transformation rule
$x = x'\cos\theta - y'\sin\theta$
$y = x'\sin\theta + y'\cos\theta$
Putting these values of x, y in the equation $14x^2 - 4xy + 11y^2 = 60$, we get
$14(x'\cos\theta - y'\sin\theta)^2 - 4(x'\cos\theta - y'\sin\theta)(x'\sin\theta + y'\cos\theta)$
$+ 11(x'\sin\theta + y'\cos\theta)^2 = 60$
or, $14\left(x'^2\cos^2\theta + y'^2\sin^2\theta - x'y'\sin 2\theta\right) - 4\left(\frac{x'^2}{2}\sin 2\theta - x'y'\cos 2\theta - \frac{y'^2}{2}\sin 2\theta\right)$
$+ 11\left(x'^2\sin^2\theta + y'^2\cos^2\theta + x'y'\sin 2\theta\right) = 60$
or, $x'^2\{14\cos^2\theta - 2\sin 2\theta + 11\sin^2\theta\} + y'^2\{14\sin^2\theta + 2\sin 2\theta + 11\cos^2\theta\}$
$- x'y'\{4\cos 2\theta + 3\sin 2\theta\} = 60$
Since the equation reduced to the form
$\frac{x'^2}{a} + \frac{y'^2}{b} = 1$ (1)
the coefficients of $x'y'$ must vanish.
Hence
$4\cos 2\theta + 3\sin 2\theta = 0$ (2)
or, $\frac{\sin 2\theta}{4} = \frac{\cos 2\theta}{-3} = \frac{1}{5}$
So
$\sin 2\theta = \frac{4}{5}, \cos 2\theta = -\frac{3}{5}, \frac{\pi}{2} < 2\theta < \pi$
19
19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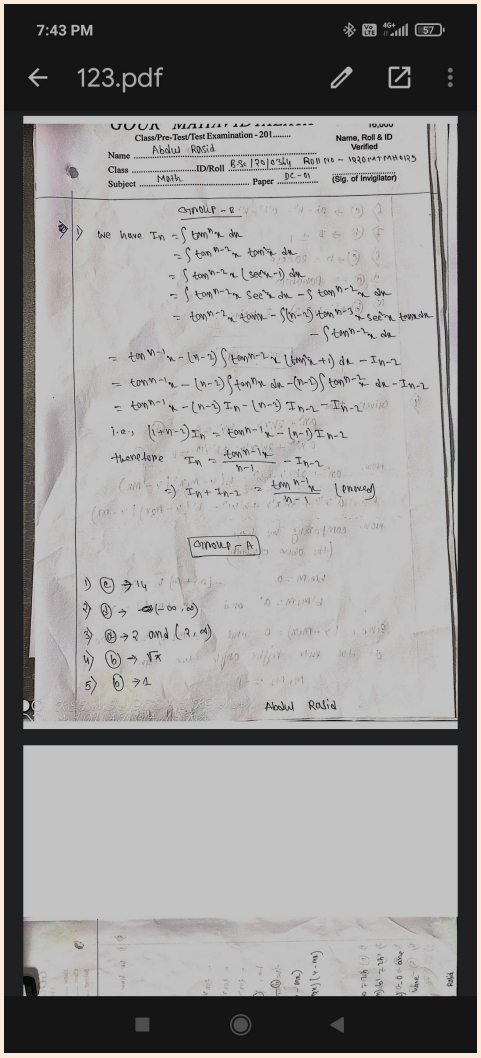
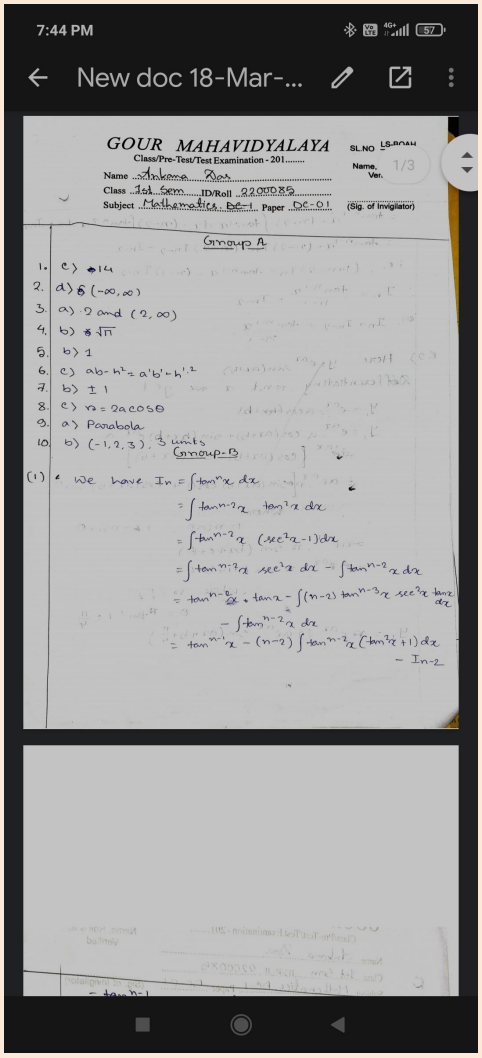
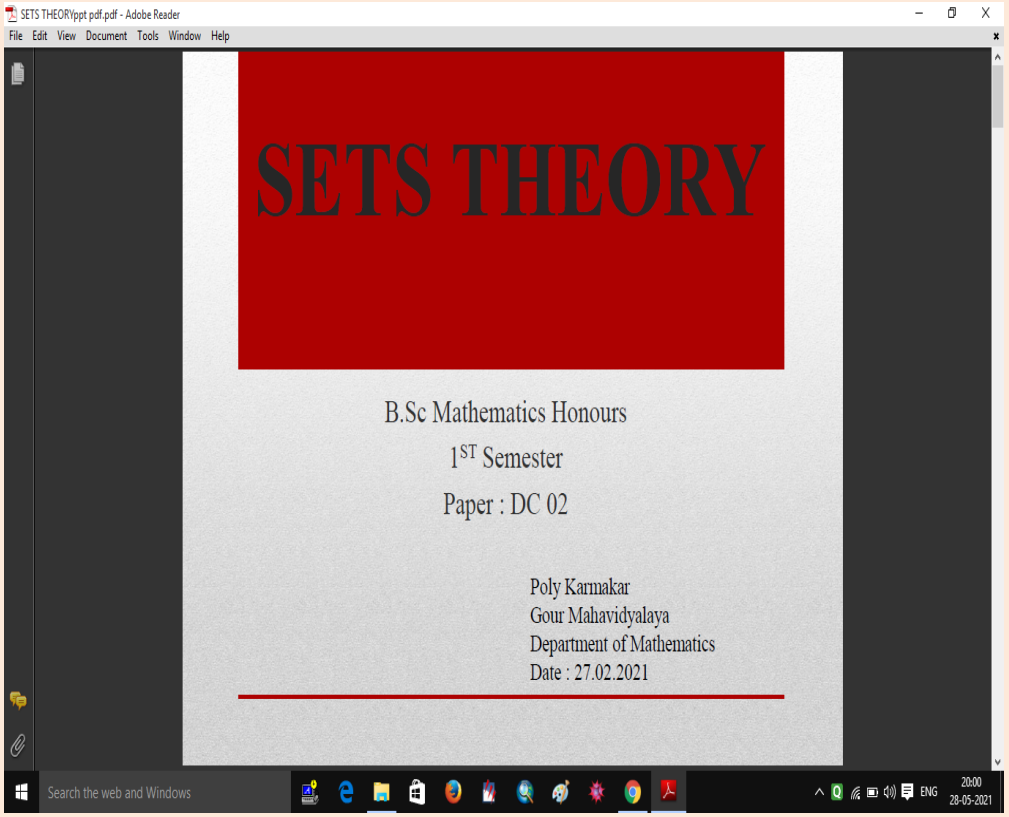
DC01
Chat
Notice Board
Assignments
Study Material
Post assignments and see what's due in the coming week
Create Assignment
Transformation Of Rectangular Axes.
06 Mar 2021
11:59 pm
Max Marks: 20
View Submissions
Add/Edit Solution

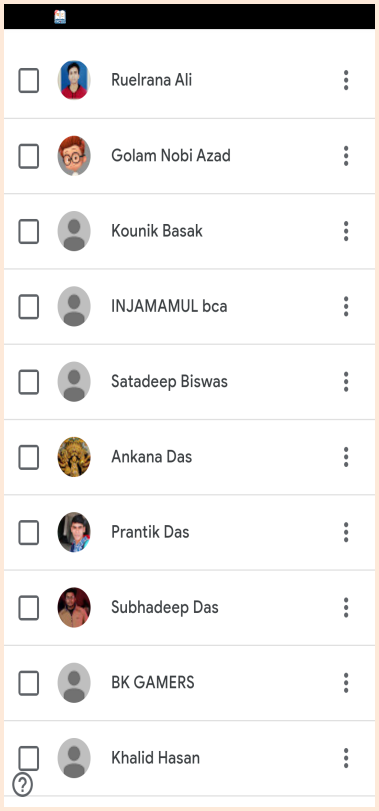
Md Sahid Alam took class on teachemint app on 06.03.2021

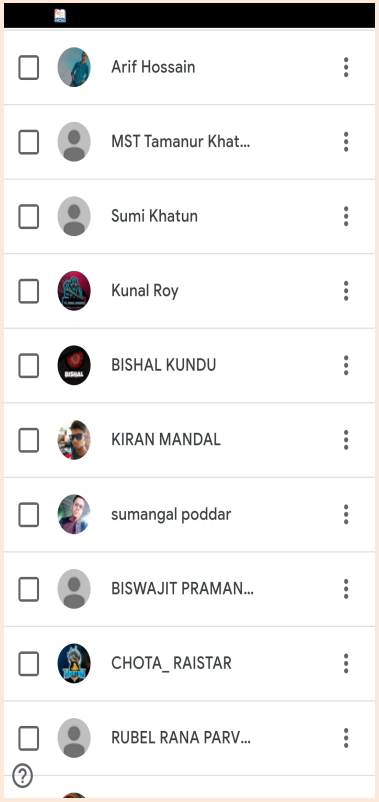




Students submitted answer scripts through google classroom.







Poly Karmakar took class through Google Meet on 27.02.2021.

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Mathematics (Hons.) 2nd Sem, 2020-2021.

DC 03
Limits

Online class presented
by

Poly Karmakar
Department of Mathematics
Gour Mahavidyalaya
Date : 12.05.2021

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ENG 20:47 28-05-2021

Comment

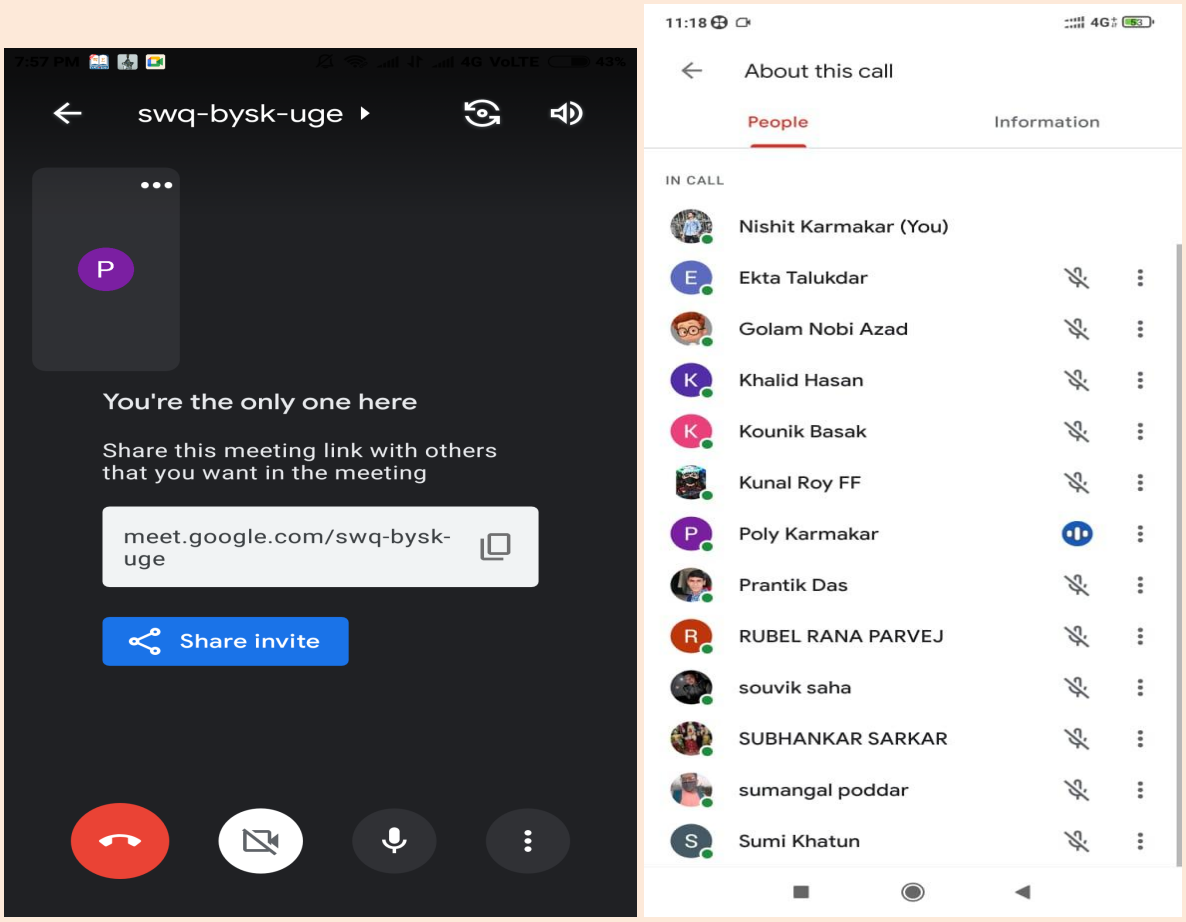
Mathematics (Hons.) 2nd Sem, 2020-2021.
Limits

Example

4. Prove that $\lim_{x\to 0} f(x)$ does not exist where $f(x) = \sin\frac{1}{x}, x \neq 0$.

Here the domain D of f is $\mathbb{R} - \{0\}$. 0 is a limit point of D.
Let us consider the sequence $\{x_n\}$ in D defined by $x_n = \frac{1}{(4n-3)\pi}, n \in N$. The sequence is $\{\frac{2}{\pi}, \frac{2}{5\pi}, \frac{2}{9\pi}, \cdots\}$ and this converges to 0.
The sequence $\{f(x_n)\}$ is $\{\sin\frac{\pi}{2}, \sin\frac{5\pi}{2}, \sin\frac{9\pi}{2}, \cdots\}$, i.e., $\{1, 1, 1, \ldots\}$ and this converges to 1.
Let us consider the sequence $\{y_n\}$ in D defined by $y_n = \frac{1}{n\pi}, n \in N$.
The sequence is $\{\frac{1}{\pi}, \frac{1}{2\pi}, \frac{1}{3\pi}, \cdots\}$ and this converges to 0.

11



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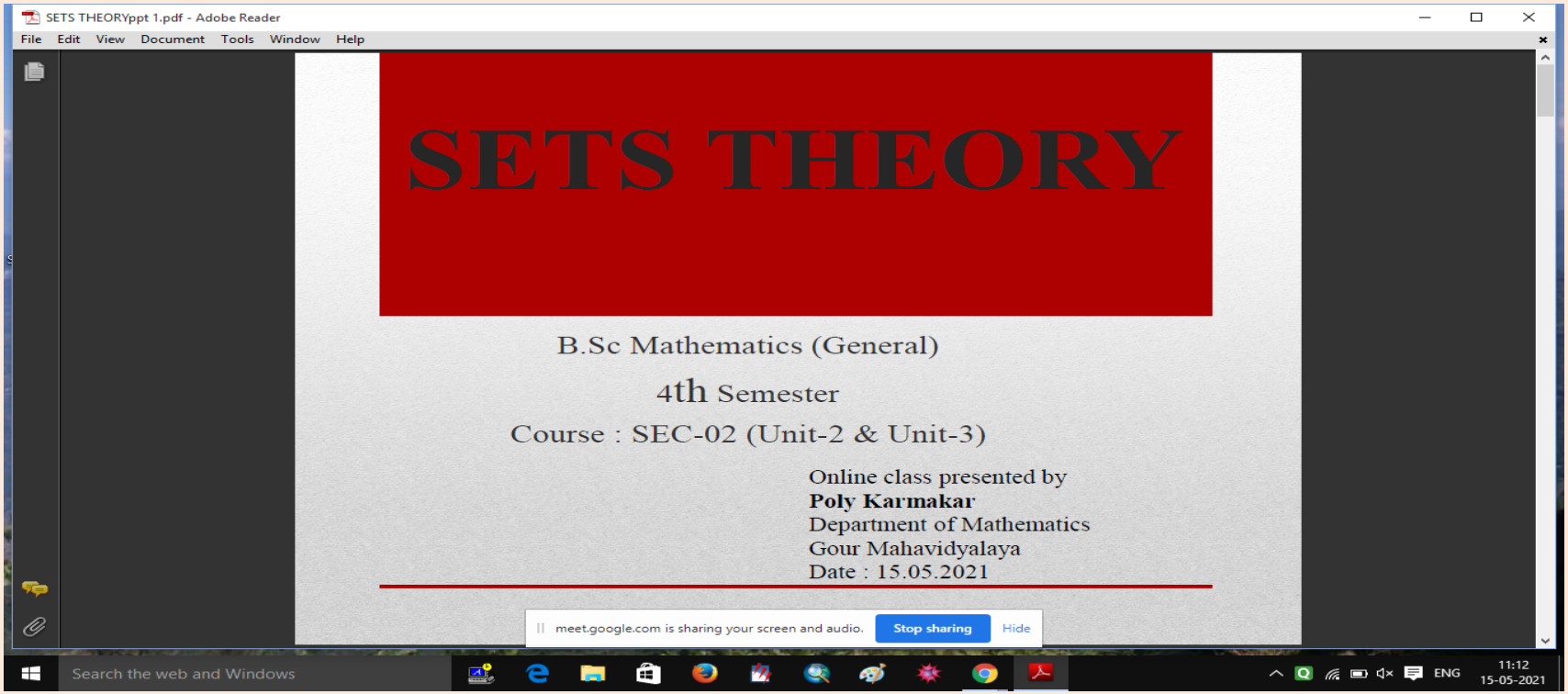
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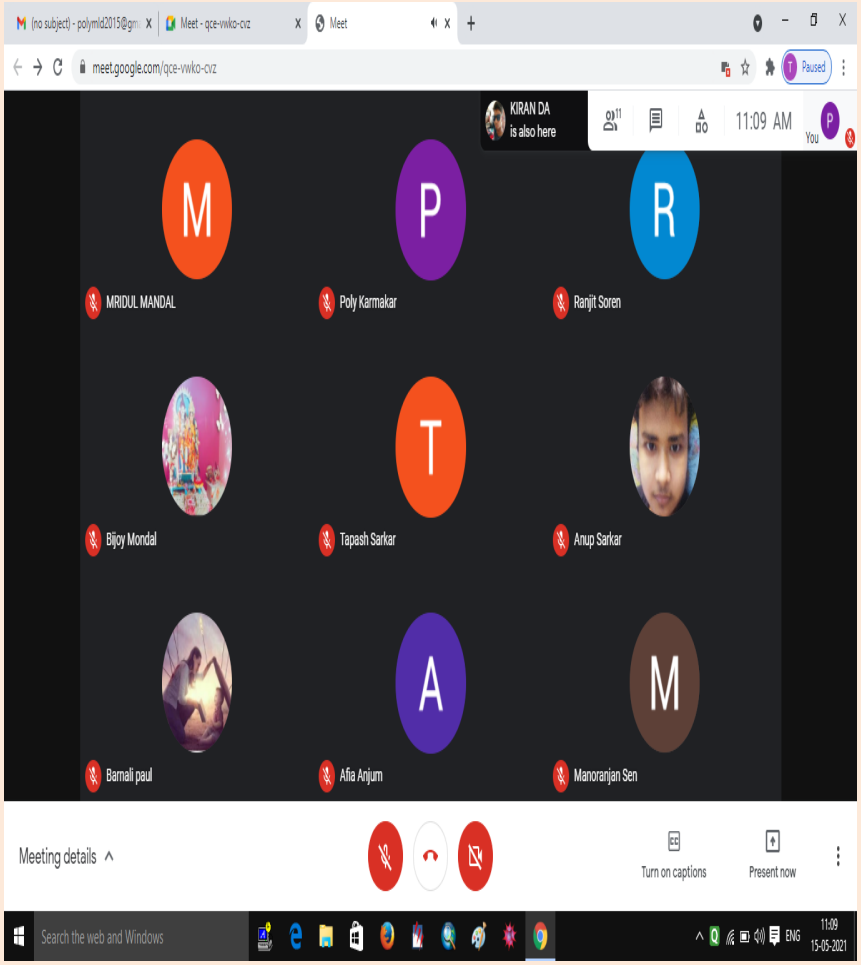
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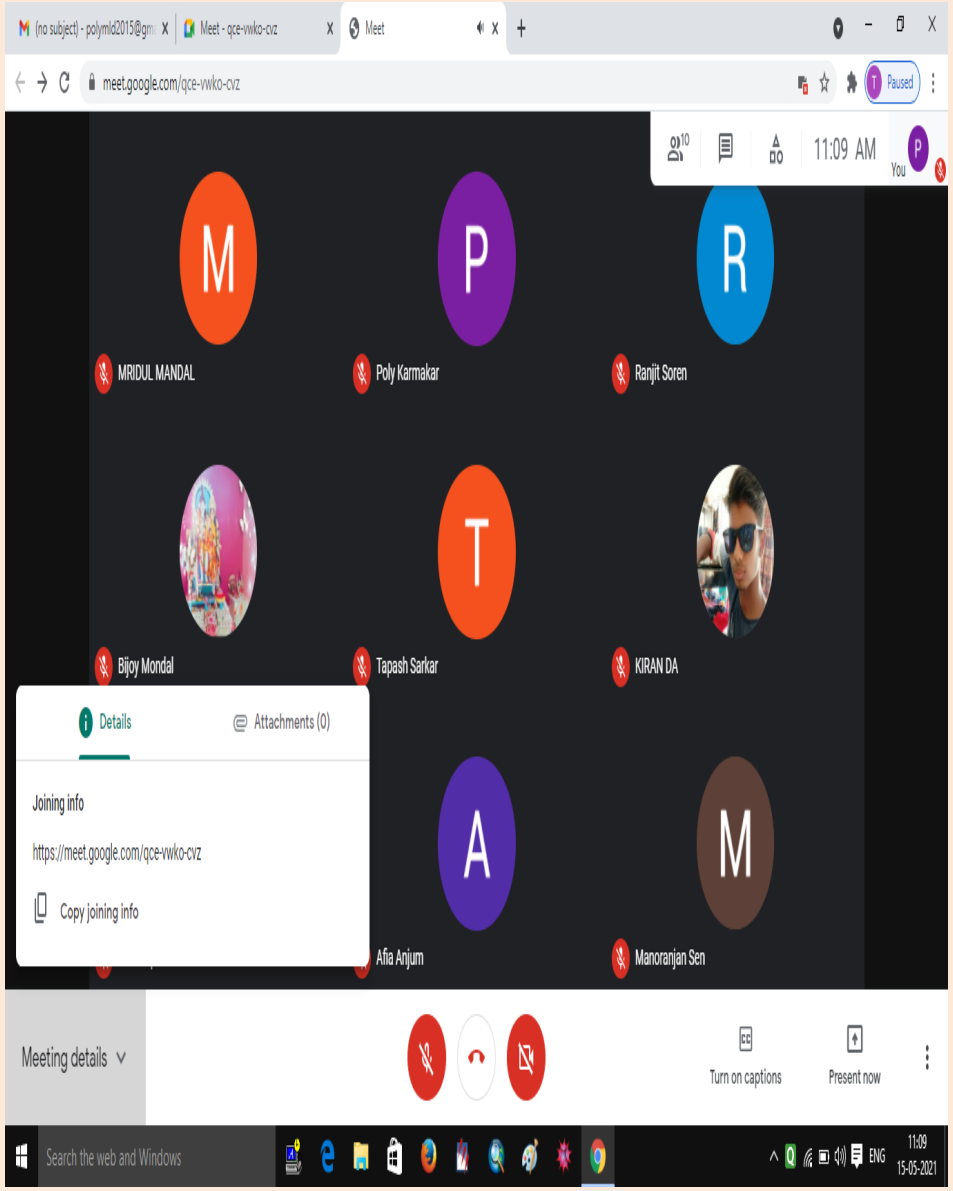
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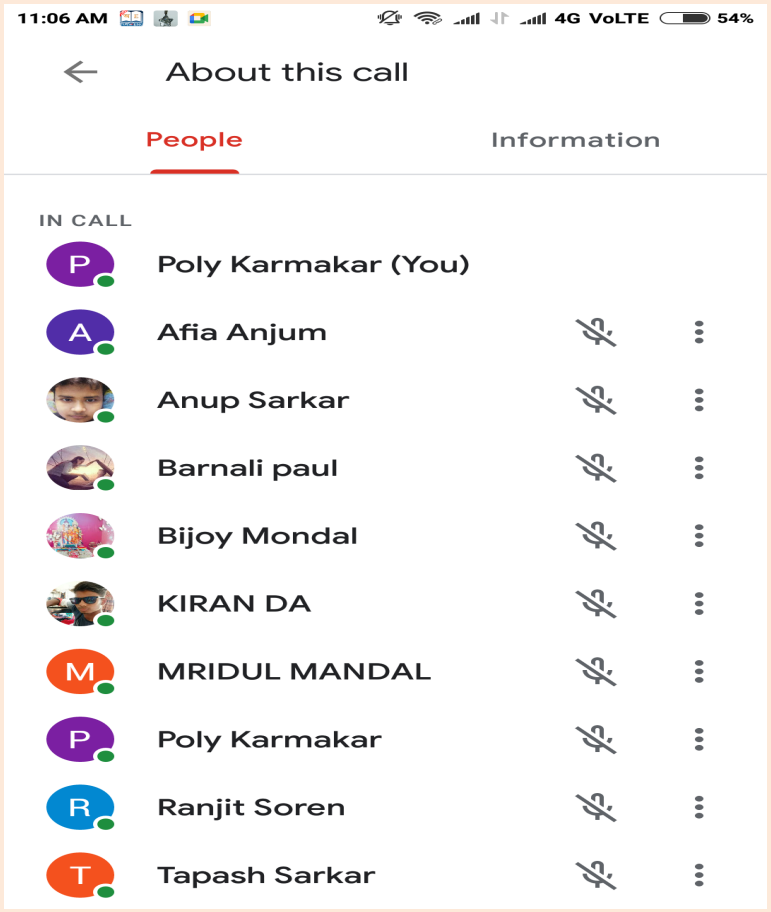

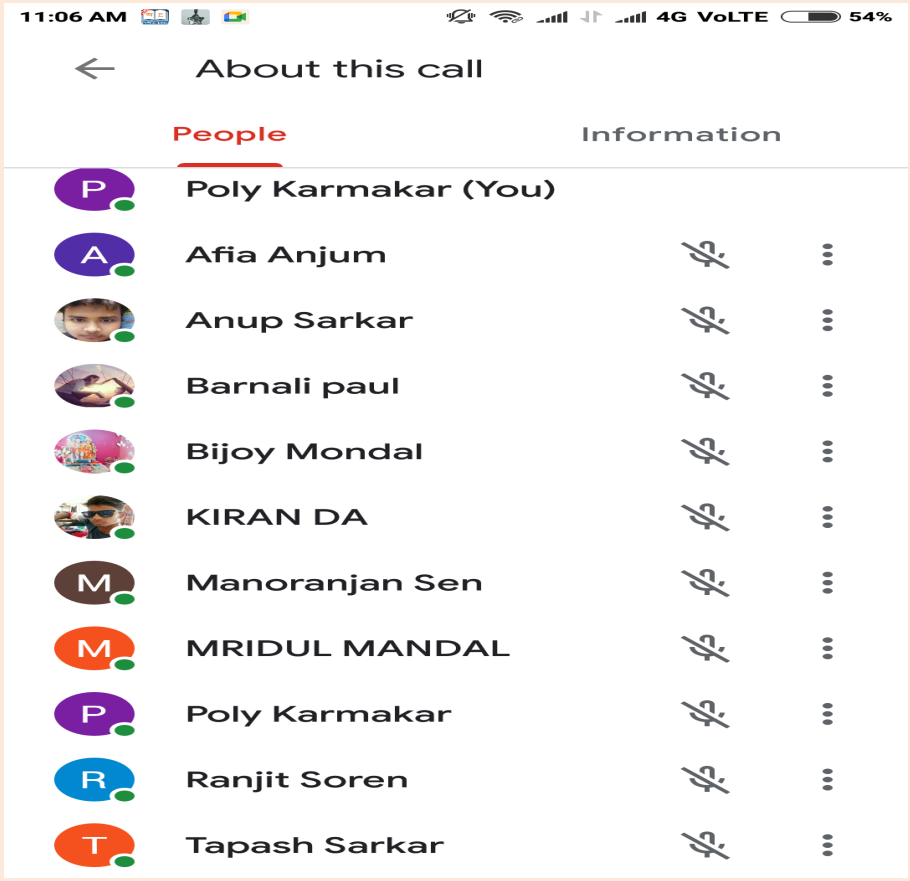

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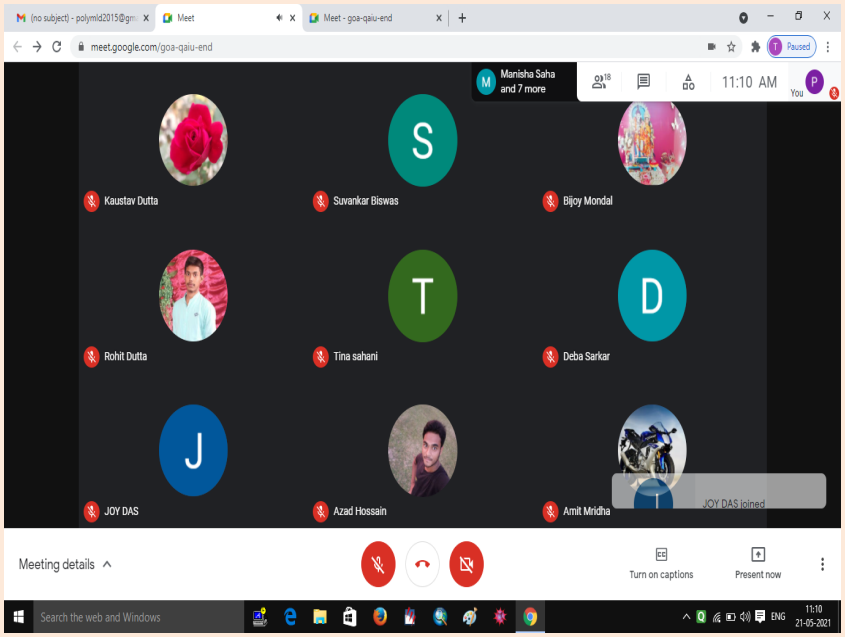
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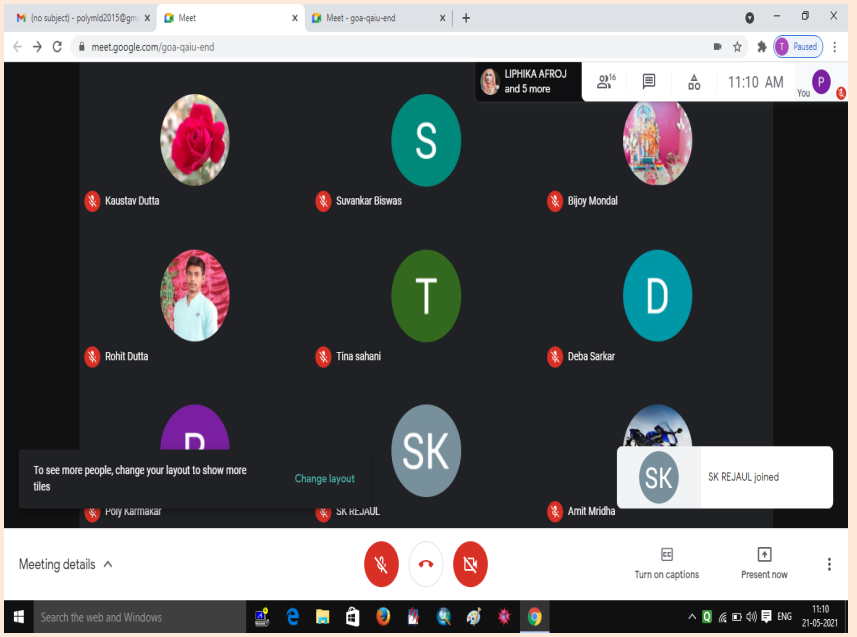
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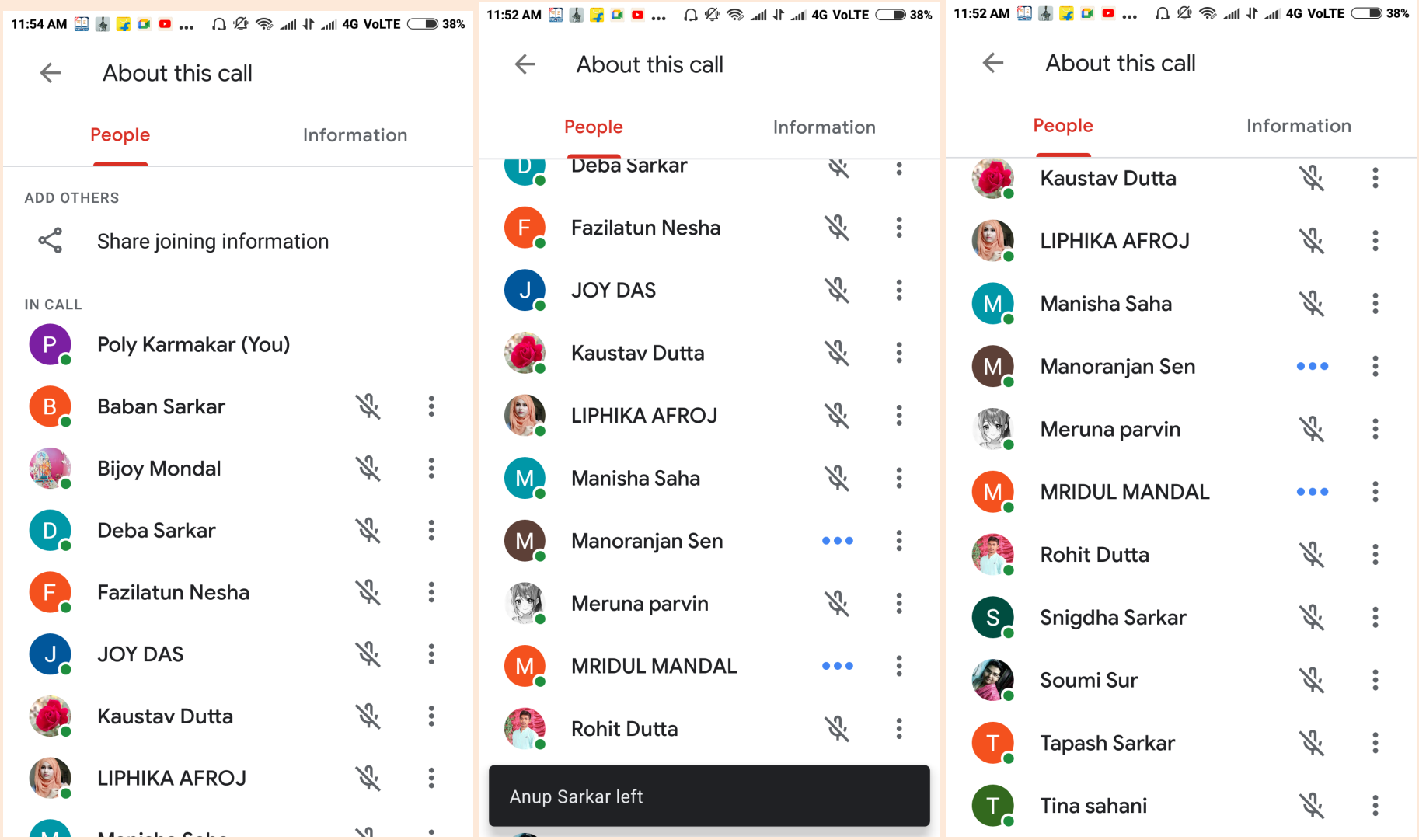

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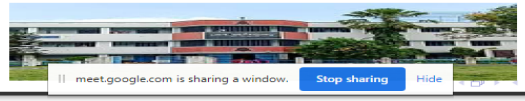

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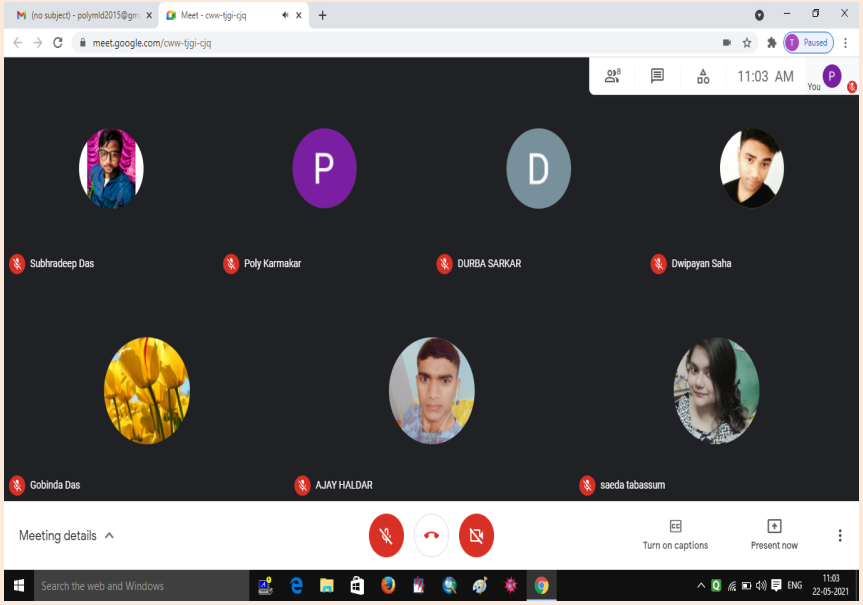
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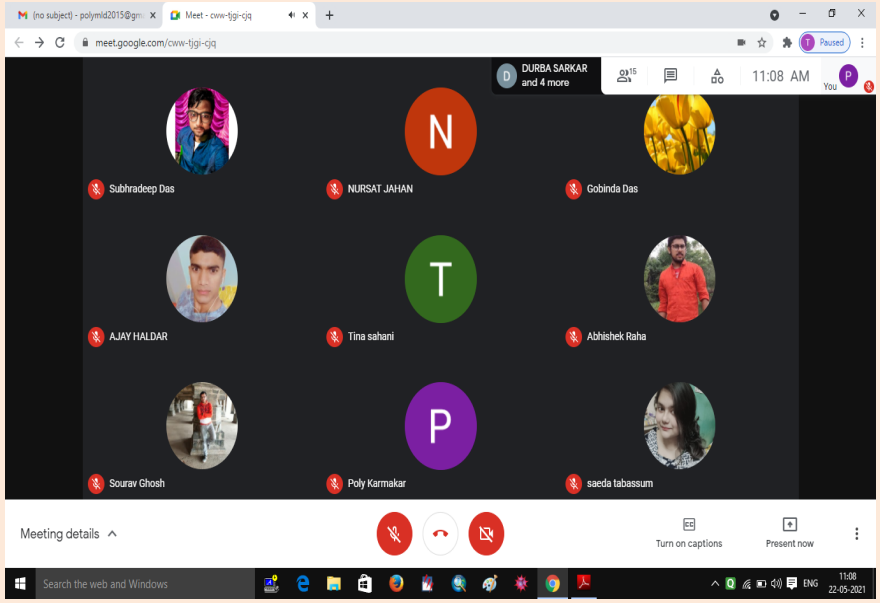
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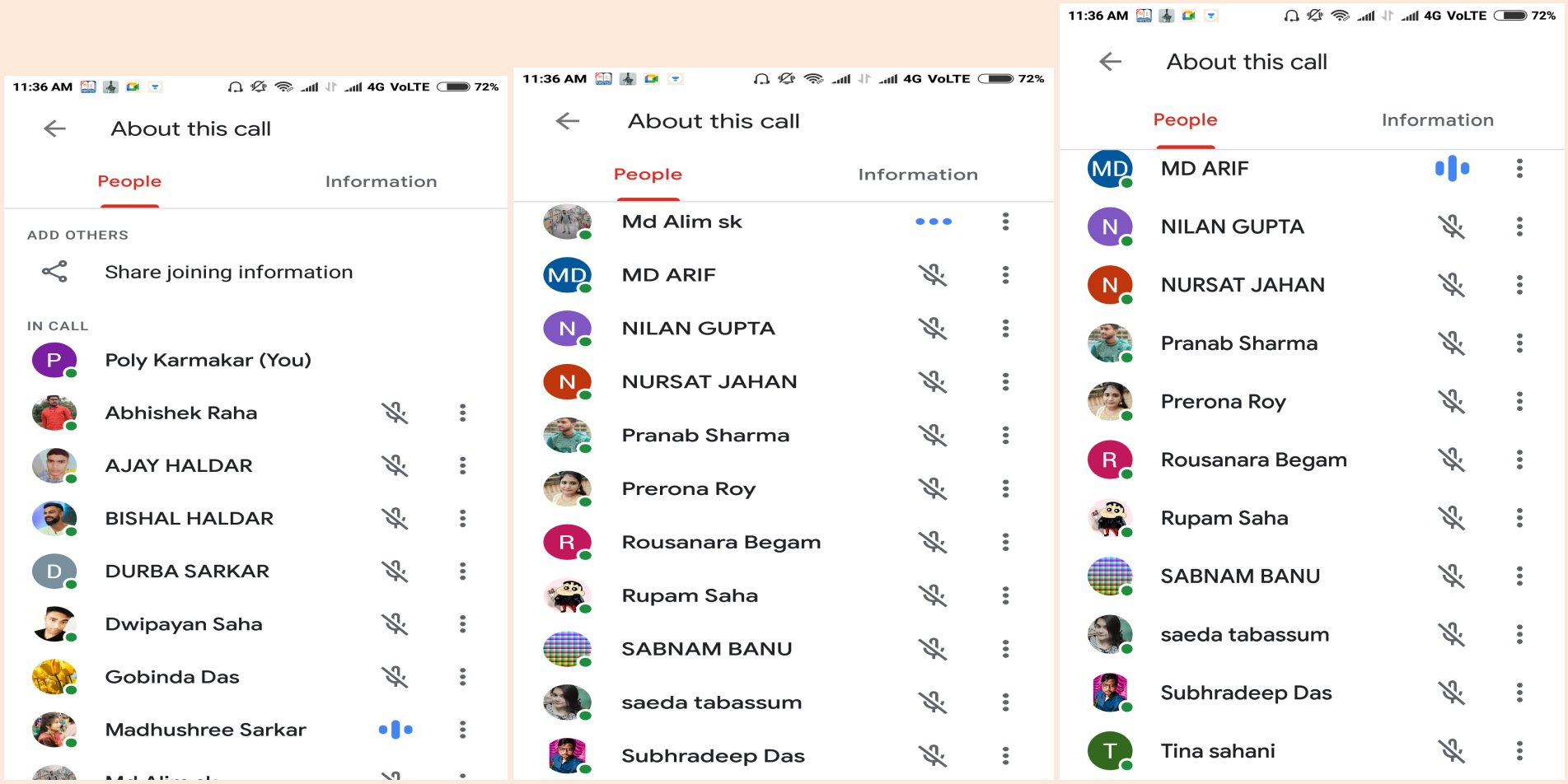

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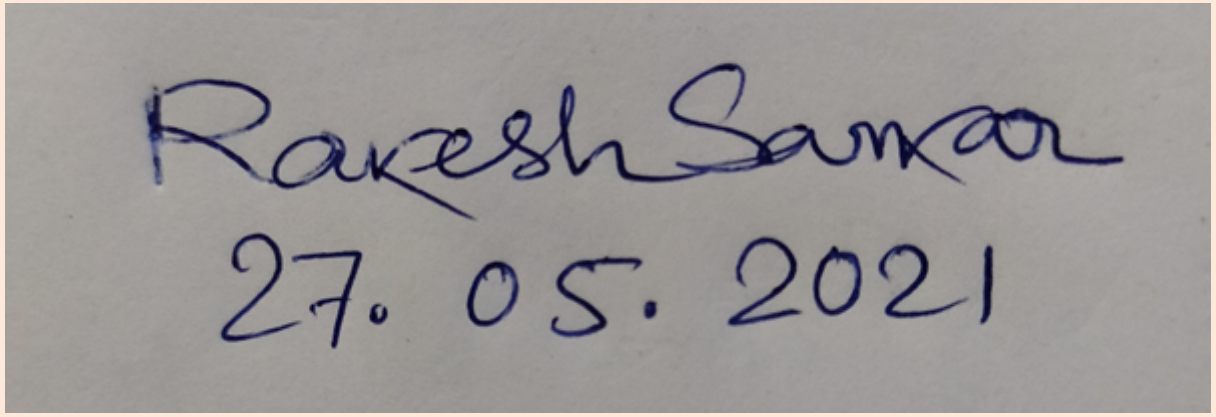
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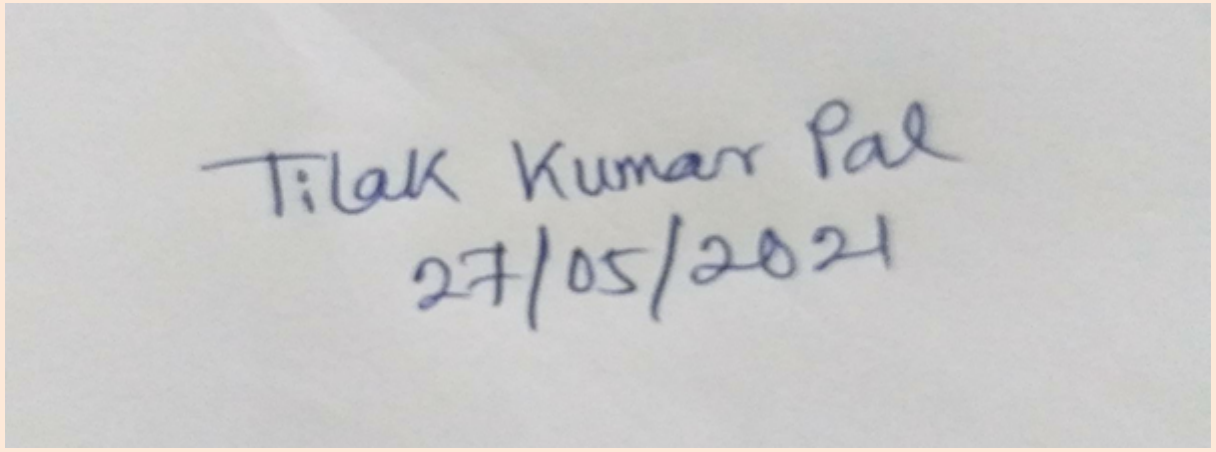
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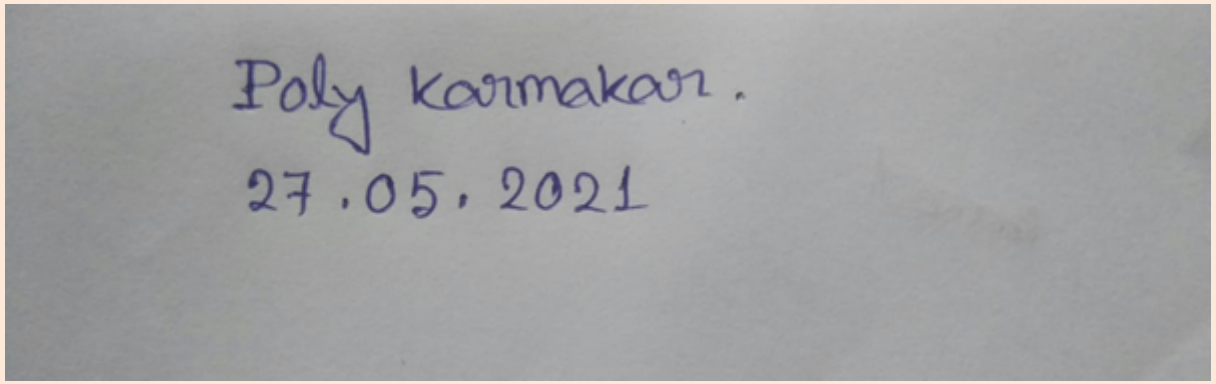
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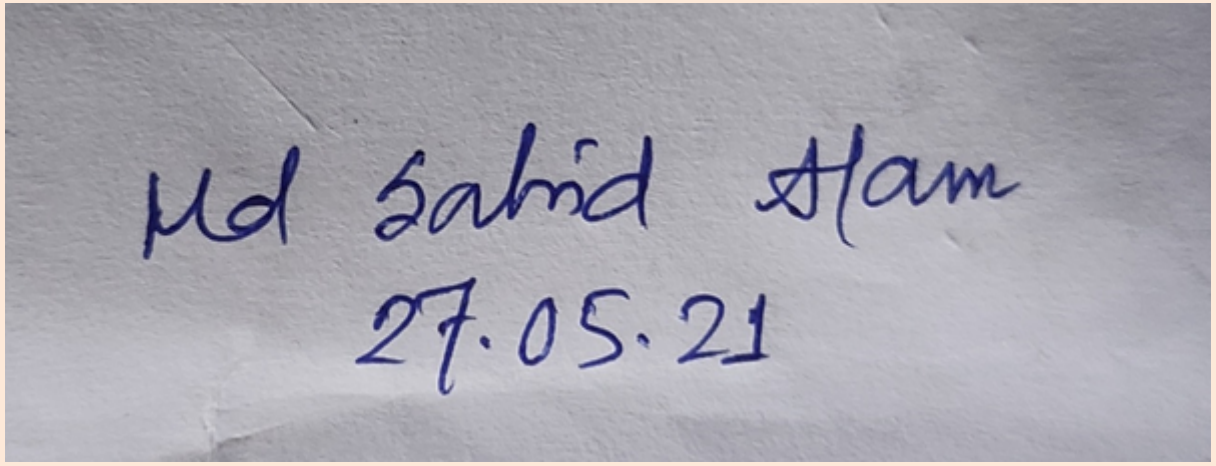
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