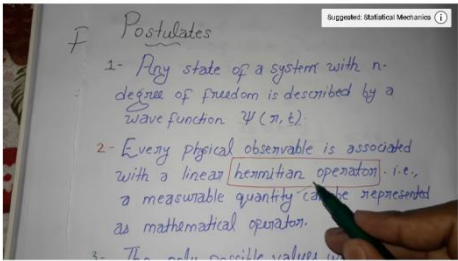
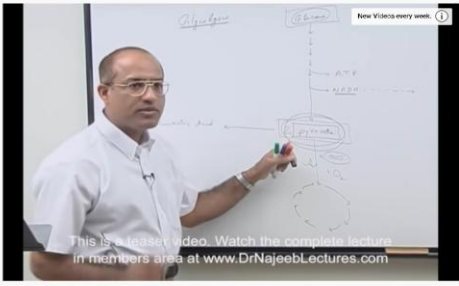
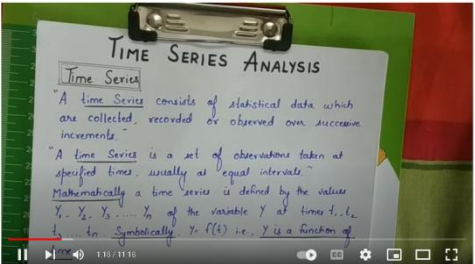






2.3.2 Teachers use ICT enabled tools for effective teaching-learning process.

Link for LMS (Pradnya)	<a href="https://pgcollege.kces.in/Department/biotechnology_lms">https://pgcollege.kces.in/Department/biotechnology_lms</a>
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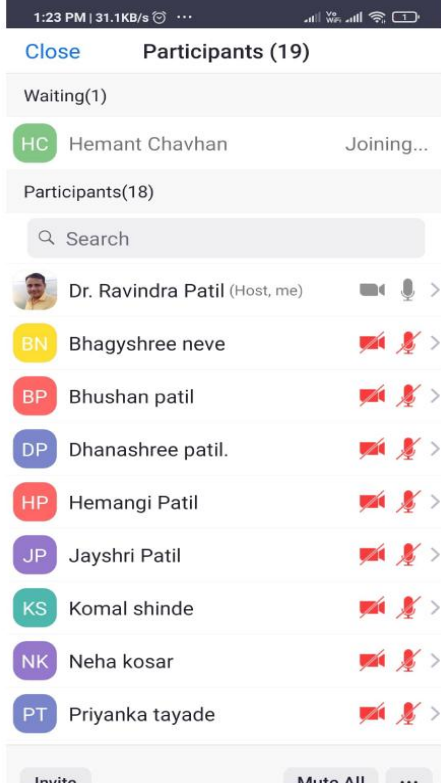
E-resources(Links and their screenshots)

 <p>Postulates</p> <ol style="list-style-type: none"> <li>1- Any state of a system with <math>n</math>-degree of freedom is described by a wave function <math>\Psi(x, t)</math>.</li> <li>2- Every physical observable is associated with a linear hermitian operator. i.e., a measurable quantity can be represented as mathematical operator.</li> </ol> <p>Quantum Mechanics (Hindi) postulates of quantum mechanics in hindi</p>	 <p>Glycolysis - Metabolism</p> <p>This is a faster video. Watch the complete lecture in members area at <a href="http://www.DrNajeebLectures.com">www.DrNajeebLectures.com</a></p> <p>Glycolysis - Metabolism 254,864 views • Sep 16, 2018</p>
<p><a href="https://www.youtube.com/watch?v=0YrCpkqJ6W4">https://www.youtube.com/watch?v=0YrCpkqJ6W4</a></p> <p><b>CHEMISTRY</b></p>	<p><a href="https://www.youtube.com/watch?v=Y6z1FRtV3Q">https://www.youtube.com/watch?v=Y6z1FRtV3Q</a></p>
 <p>TIME SERIES ANALYSIS</p> <p>Time Series</p> <p>"A time Series consists of statistical data which are collected, recorded or observed over successive increments."</p> <p>"A time Series is a set of observations taken at specified times, usually at equal intervals."</p> <p>Mathematically a time series is defined by the values <math>X_1, X_2, X_3, \dots, X_n</math> of the variable <math>Y</math> at times <math>t_1, t_2, t_3, \dots, t_n</math>. Symbolically <math>Y(t)</math> i.e. <math>Y</math> is a function of <math>t</math>.</p> <p>Time series analysis- introduction, significance, components of time series and decomposition</p>	 <p>Simple linear regression analysis</p> <p>which are obtained from the model, and they are called as fitted values, so I can write</p> <p>Estimation Of Parameters In Simple Linear Regression Model</p>
<p><a href="https://www.youtube.com/watch?v=3QCedEo3Ekg">https://www.youtube.com/watch?v=3QCedEo3Ekg</a></p> <p><b>Statistics</b></p>	<p><a href="https://www.youtube.com/watch?v=bo8K7YGnug">https://www.youtube.com/watch?v=bo8K7YGnug</a></p> <p><b>Statistics</b></p>
 <p>Nucleus</p> <p>In most human cells there is a structure called the nucleus.</p> <p>3D animations From DNA to protein - 3D</p>	 <p>VALUE @ Amrita</p> <p>MOLECULAR BIOLOGY VIRTUAL LAB I</p> <p>Virtual Labs Home &gt; Molecular Biology &gt; Virtual Lab I</p> <p>Molecular Biology Virtual Lab I</p> <p>LIST OF EXPERIMENTS</p> <p>List of experiments</p> <ul style="list-style-type: none"> <li>Aspirate Cell Electroporation (ACE)</li> <li>Restriction Digestion</li> <li>Transformation of the Host Cells</li> <li>Extraction of DNA from aspirate cell</li> <li>Maintenance and Storage of E.coli cells</li> <li>Extraction of DNA from E.coli cells</li> <li>Plasmid Isolation (Mini prep)</li> <li>Preparation of Competent Cell (Calcium Chloride Treatment)</li> </ul>
<p><a href="https://www.youtube.com/watch?v=gG7uCskUOrA">https://www.youtube.com/watch?v=gG7uCskUOrA</a></p> <p><b>Microbiology</b></p>	<p><a href="http://mbvi-au.vlabs.ac.in/">http://mbvi-au.vlabs.ac.in/</a></p> <p><b>Microbiology</b></p>

### 2.3.2 Teachers use ICT enabled tools for effective teaching-learning process.

	
<p><a href="https://vlab.amrita.edu/index.php?sub=3&amp;brch=275">https://vlab.amrita.edu/index.php?sub=3&amp;brch=275</a> <b>Biotechnology</b></p>	<p><a href="https://www.youtube.com/watch?v=TORRxwbz7aY">https://www.youtube.com/watch?v=TORRxwbz7aY</a> <b>Biotechnology</b></p>

### Screenshots of online teachings; Chemistry



1:23 PM | 31.1KB/s

Close Participants (19)

Waiting(1)

HC Hemant Chavhan Joining...

Participants(18)

Search

Dr. Ravindra Patil (Host, me)

BN Bhagyshree neve

BP Bhushan patil

DP Dhanashree patil.

HP Hemangi Patil

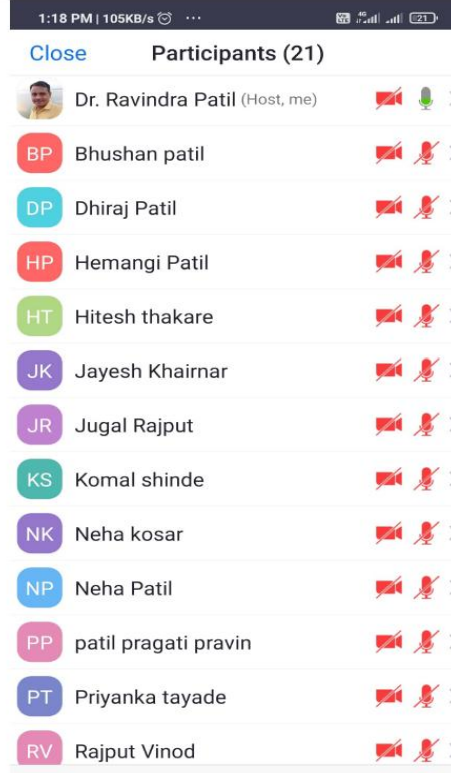
JP Jayshri Patil

KS Komal shinde

NK Neha kosar

PT Priyanka tayade

Invite Mute All



1:18 PM | 105KB/s

Close Participants (21)

Dr. Ravindra Patil (Host, me)

BP Bhushan patil

DP Dhiraj Patil

HP Hemangi Patil

HT Hitesh thakare

JK Jayesh Khairnar

JR Jugal Rajput

KS Komal shinde

NK Neha kosar

NP Neha Patil

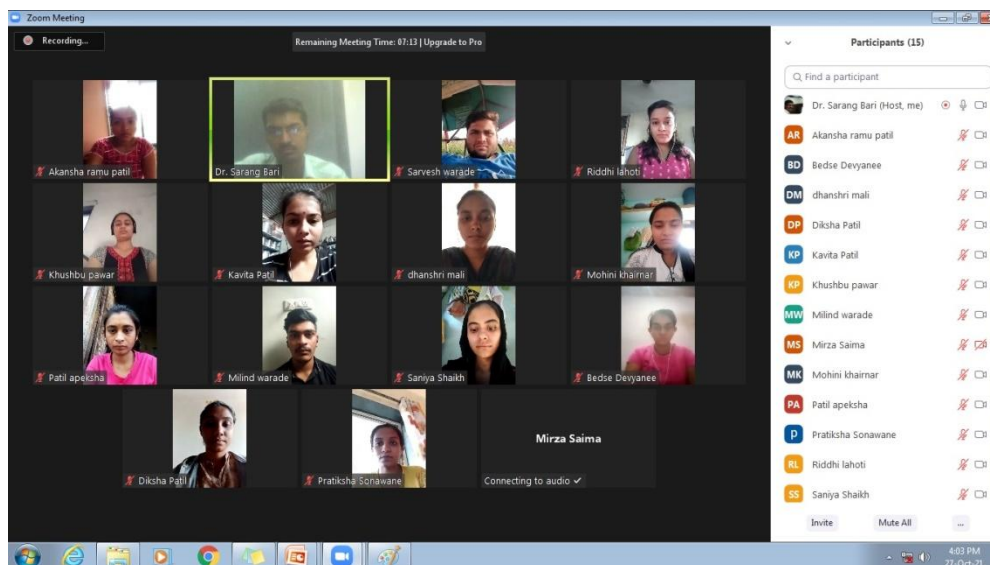
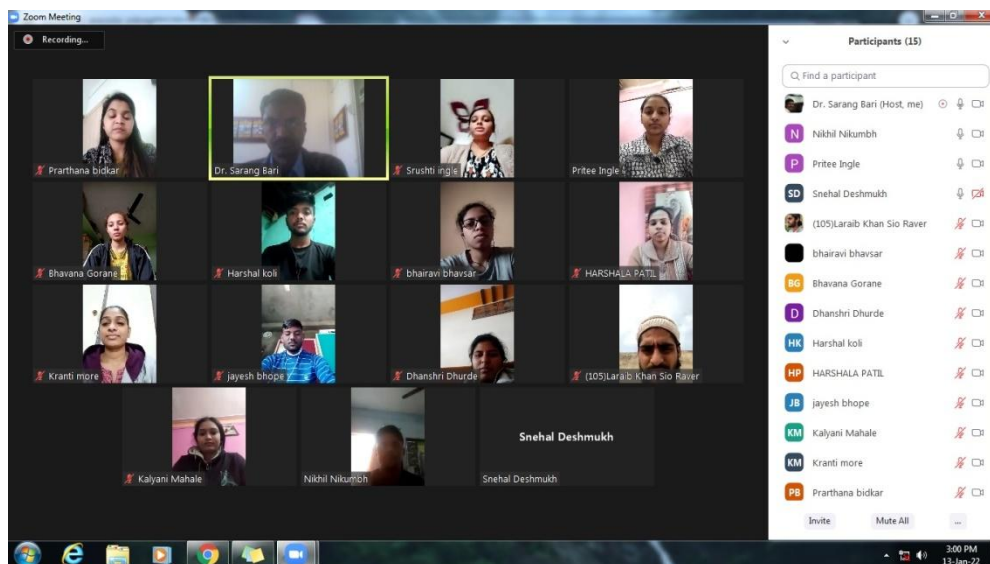
PP patil pragati pravin

PT Priyanka tayade

RV Rajput Vinod

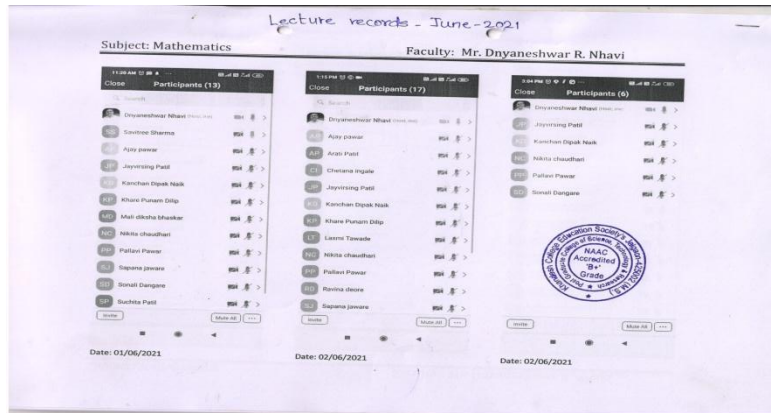
### 2.3.2 Teachers use ICT enabled tools for effective teaching-learning process.

#### Screenshots of online teachings; Biotechnology

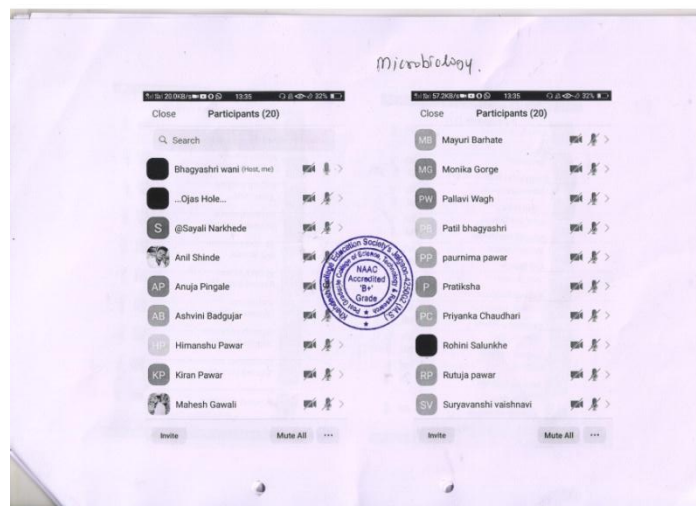


2.3.2 Teachers use ICT enabled tools for effective teaching-learning process.

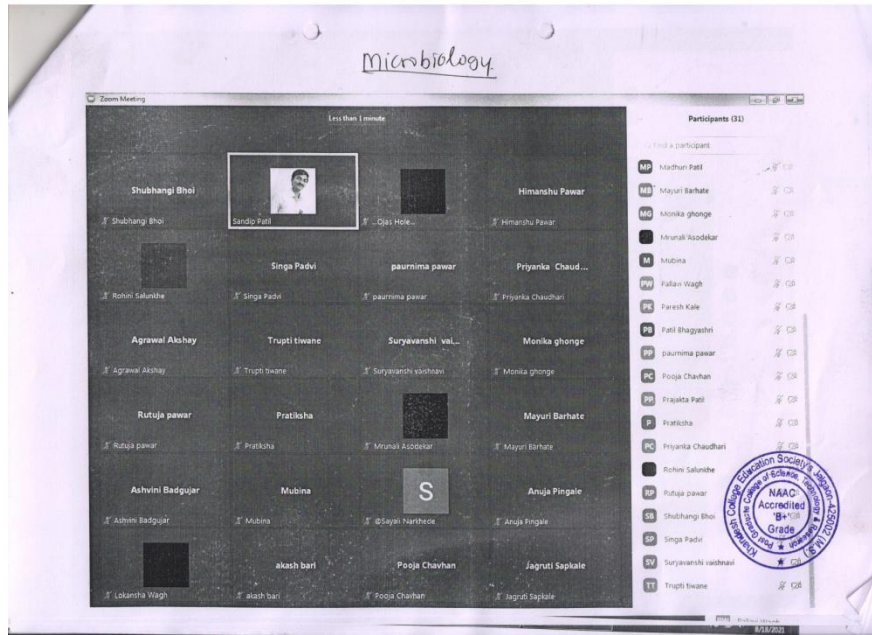
Screenshots of online teachings; Mathematics



Screenshots of online teachings; Microbiology

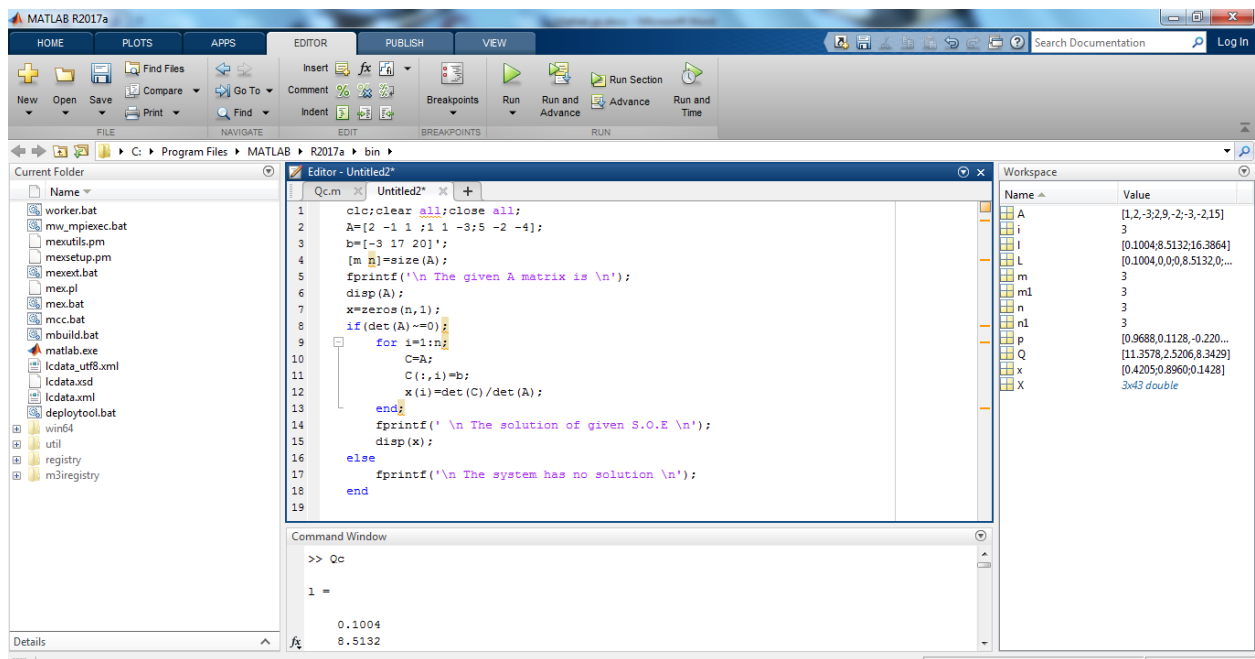
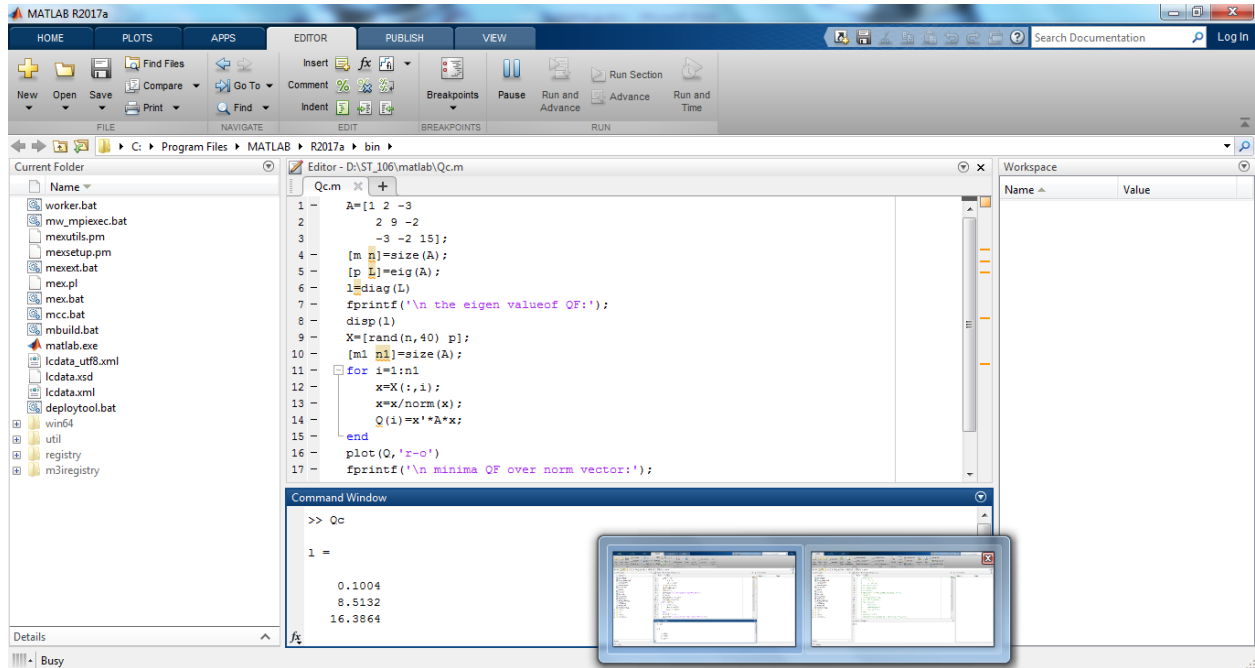


**2.3.2 Teachers use ICT enabled tools for effective teaching-learning process.**



## 2.3.2 Teachers use ICT enabled tools for effective teaching-learning process.

### MATLAB Software



### Use of Minitab

The screenshot shows the Minitab software interface. The Session window displays the command 'MTB > Describe 'Sample'.' and the following descriptive statistics for the 'Sample' variable:

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3
Sample	100	0	7.170	0.196	1.959	3.000	6.000	7.000	9.000

Additional statistics shown are:

Variable	Maximum
Sample	12.000

The Worksheet window shows a data table with columns C1 to C11. The 'Sample' variable is entered in column C1, with values: 5, 8, 10, 8, 6, 12, 9, 6, 9.

A 'Display Descriptive Statistics' dialog box is open, showing 'C1 Sample' in the 'Variables' list and 'Sample' in the 'By variables (optional):' list. The 'OK' button is highlighted.

### Use of C++ Software

```
File Edit Search Run Compile Debug Project Options Window Help
ARRAYFUN.CPP
#include<conio.h>
#include<iostream.h>
void output(int a[],int n)
{
    cout<<"\n\n";
    int i;
    for(i=0;i<n;i++)
    {
        cout<<"\n"<<a[i];
    }
}
void main()
{
    int i,n,a[100];
    clrscr();
    cout<<"\n enter n";
    cin>>n;
    for(i=0;i<n;i++)
    {
        cin>>a[i];
    }
}
```

6:12

F1 Help F2 Save F3 Open Alt-F9 Compile F9 Make F10 Menu

### 2.3.2 Teachers use ICT enabled tools for effective teaching-learning process.

```
File Edit Search Run Compile Debug Project Options Window Help
MULTIPLI.CPP
//write a program to find multiplication of m*n matrix
#include<conio.h>
#include<iostream.h>
void main()
{
    int a[10][10],b[10][10],c[10][10],i,j,k,m,n,p;
    clrscr();
    cout<<"\n enter m\t";
    cin>>m;
    cout<<"\n enter the n\t";
    cin>>n;
    cout<<"\n enter the matrix a\n";
    for(i=0;i<m;i++)
    {
        for(j=0;j<n;j++)
        {
            cin>>a[i][j]; //enter the matrix a of order m*n
        }
    }
    cout<<"\n enter p\t";
    cin>>p;
}
1:1
F1 Help F2 Save F3 Open Alt-F9 Compile F9 Make F10 Menu
```

### Use of TORA Software

TORA C:\Users\user\Desktop\Statistics\Que1.txt

SIMULTANEOUS LINEAR EQUATIONS

TORA Optimization System: Windows-version 2.02  
Copyright © 2000-2007 Hamdy A. Taha. All Rights Reserved.  
Thursday, November 25, 2010 16:02

Title: Q1

SOLUTION OF SIMULTANEOUS EQUATIONS

Next Iteration All Iterations Write to Printer

ORIGINAL EQUATIONS:			
	x 1	x 2	R.H.S
eq 1	4.00	2.00	1.00
eq 2	2.00	-1.00	5.00
INVERSE: Determinant = -8.00			
	col 1	col 2	
row 1	0.13	0.25	
row 2	0.25	-0.50	
SOLUTION:			
x1 =	1.38		
x2 =	-2.25		

View/Modify Input Data MAIN Menu Exit TORA



### 2.3.2 Teachers use ICT enabled tools for effective teaching-learning process.

TORA C:\Users\user\Desktop\Statistics\Q2.txt

LINEAR PROGRAMMING

TORA Optimization System: Windows-version 2.03  
Copyright © 2000-2007 Hansi A. Tora. All Rights Reserved.  
Thursday, November 26, 2015 16:05

SIMPLEX TABLEAU - (Dual Simplex Method)

**Title: Que2 (Minimize)**  
Steps for generating NEXT tableau from CURRENT one:  
1. ENTERING variable: Click a NONBASIC variable (if correct, column turns green)  
2. LEAVING variable: Click a BASIC variable (if correct, row turns red)  
3. Click command button NEXT ITERATION (or ALL ITERATIONS) – This step may be executed without Steps 1 and/or 2.

Next Iteration    All Iterations    Write to Printer

Iteration 1	x1	x2	xx3	xx4	Sx5	Solution
Basic						
Z (min)	-2.00	-3.00	0.00	0.00	0.00	0.00
Sx3	2.00	-1.00	1.00	0.00	0.00	1.00
Sx4	3.00	4.00	0.00	1.00	0.00	7.00
Sx5	1.00	-2.00	0.00	0.00	1.00	-2.00
Lower Bound	0.00	0.00				
Upper Bound	infinity	infinity				
Unrest'd (p/h)?	n	n				

View/Modify Input Data    MAIN Menu    Exit TORA

### Use of Chemdraw

ChemDraw Ultra [ChemDraw Ultra]

ChemNMR H-1 Estimation

Estimation Quality: Blue = good, magenta = medium, red = rough

Protocol of the H-1 NMR Predictions:

Node	DBLE?	Base + Isac	Chemset	ppm (del. to TMS)
CE	9.87	9.80	CHO	
CE	7.81	7.24	1-benzenes	
CE	7.45	6.95	1-COO	
CE	7.45	7.28	1-benzenes	
CE	7.34	7.28	1-benzenes	
CE	7.45	6.95	1-COO	
CE	7.45	7.28	1-benzenes	
CE	7.45	6.95	1-COO	
CE	7.45	7.28	1-benzenes	
CE	7.45	6.95	1-COO	

ChemDraw Ultra [ChemDraw Ultra]

**On Water Reaction:**  
e.g. Diels Alder Reaction

(81%)

(86-98%)

[R = C<sub>6</sub>H<sub>5</sub>, Ac, C<sub>6</sub>H<sub>13</sub>, 4-NO<sub>2</sub>C<sub>6</sub>H<sub>4</sub>, etc.]

### 2.3.2 Teachers use ICT enabled tools for effective teaching-learning process.

