


# NAGARJUNA GOVT. COLLEGE (A)

## IIT BOMBAY SPOKEN TUTORIAL

### ACADEMIC YEAR: 2020-21

**Organized by**



**NODAL**  
**TELANGANA SKILLS & KNOWLEDGE CENTRE**  
TS KC

CREATING OPPORTUNITIES

DEVELOPING SKILLS

UNLEASHING POTENTIAL

**NAGARJUNA GOVERNMENT COLLEGE (A)**

Re-Accredited by NAAC with 'A' Grade  
Affiliated to Mahatma Gandhi University

**NALGONDA**

SUCCESS

FUTURE

UNIVERSITY OF GUJARAT

TELANGANA GOVT. COLLEGE (A)



**CERTIFICATE**

**COURSE**

## About the Spoken Tutorial project

- Self explanatory - uses simple language
- Audio-video - uses multisensory approach
- Small duration - has better retention
- Learner-centered - learn at your own pace
- Learning by doing - learn and practice
- Simultaneous empowerment - learn a new FLOSS

## Target Audience

- Students
- Teachers and teacher educators
- Researchers to explore various branches of mathematics.

## Workshop

The Spoken Tutorial Project Team conducts workshops on GeoGebra and other FLOSS using spoken tutorials and gives certificates to those who pass an online test.

For more details, please write to [contact@spoken-tutorial.org](mailto:contact@spoken-tutorial.org)

The Spoken Tutorial Project is funded by the National Mission on Education through Information and Communication Technology, Ministry of Human Resource Development, Government of India.

### Contact US:

Email: [contact@spoken-tutorial.org](mailto:contact@spoken-tutorial.org)  
Website: <https://spoken-tutorial.org>



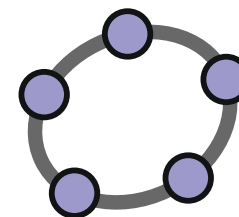
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# Spoken Tutorial

<https://spoken-tutorial.org>



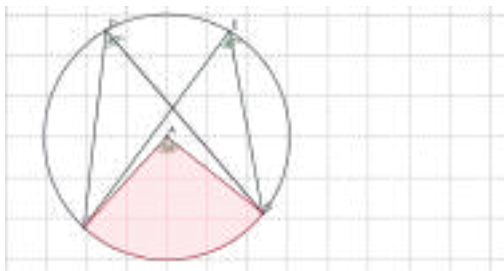
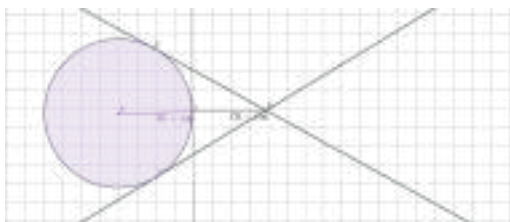
# GeoGebra

National Mission on Education through Information and Communication Technology (NMEICT)  
[www.sakshat.ac.in](http://www.sakshat.ac.in)

Funded by MHRD, Government of India.

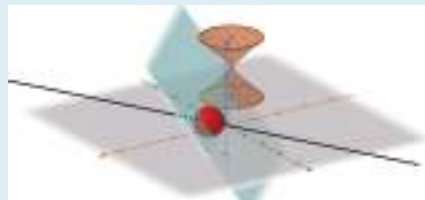
## Introduction

- GeoGebra is a dynamic and interactive Mathematics for Everyone.
- It brings together Geometry, Algebra, Calculus, spreadsheets, graphing, statistics and probability applications in a single package.
- GeoGebra is available for Windows, Mac OS and Linux.  
GeoGebra has tablet apps for Android, iPad and Windows.  
Its web app is based on HTML5 technology.  
<http://www.geogebra.org>
- Download and Installation  
It is freely available for download at <http://www.geogebra.org>.



## Features

- In GeoGebra, Geometry, Algebra and Spreadsheet are connected and fully dynamic
- It has easy to use interface with powerful features
- Constructions can be made with points, vectors, segments, lines, polygons.
- Figures can be drawn using conic sections, inequalities, implicit polynomials and functions.
- Figures and constructions can be changed dynamically.
- Equations and coordinates can be entered and modified directly on the screen or through Input bar.
- It has the ability to use variables for numbers, vectors and points.
- Finds derivatives and integrals of functions using the input bar
- GeoGebra has the ability to use variables for numbers, vectors and points, find derivatives and integrals of functions and has a full complement of commands like Root or Extremum.
- It has a CAS view and 3D Graphics view



## Benefits

- It allows interactive explorations by dragging objects and changing parameters.
- Interactive explorations can be done using the tools in 2D and 3D Graphics modes
- Authoring tool to create interactive learning resources like web pages
- The GeoGebra software is written in the Java programming environment.  
It is available in all the operating systems.  
Open source software, freely available from [www.geogebra.org](http://www.geogebra.org)
- GeoGebra is a tool for teachers to create interactive worksheets and learning materials.

## Uses

- GeoGebra is simple and flexible in all its features.
- It provides free learning materials.
- Tools in GeoGebra are helpful in various constructions and calculations
- Teachers and students can use GeoGebra to make conjectures and to understand how to prove geometric theorems.
- GeoGebra is a very useful tool to learn and teach different branches of mathematics.

**NAGARJUNA GOVT. COLLEGE (A) NALGONDA**  
**TELANGANA SKILL & KNOWLEDGE CENTRE**

# **GeoGebra 5.04 Certificate Course**

**in collaboration with**

**IIT Bombay Spoken Tutorial**

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## **Report:**

Telangana Skill & Knowledge Centre (TSKC) conducted a certificate course on GeoGebra 5.04 from 15-01-2021. In this course 3 students from MCIC final year were enrolled and successfully completed their course.

## **Course outcome:**

GeoGebra brings together Geometry, Algebra, Calculus, spreadsheets, graphing, statistics and probability applications in a single package. GeoGebra provides different views for various mathematical objects. An object in GeoGebra is displayed in different representations (e.g. algebraic and graphical). These representations are linked dynamically. Equations and coordinates can be entered and modified directly on the screen or through the Input bar. GeoGebra Classic's user interface provides a variety of dialog boxes. It has different accessibility features. The keyboard shortcuts allow us to access many features of GeoGebra conveniently. Using this course student can understand mathematics easily and understand how to prove geometric theorems.



# NAGARJUNA GOVT. COLLEGE (A) NALGONDA TELANGANA SKILLS & KNOWLEDGE CENTRE

Date: 03-01-2021


## NOTICE

All the B.Sc, B.Com & B.A students are hereby informed that, TSKC begins IIT Bombay Spoken tutorial registration from 03-01-2021 for the Academic Year 2020-21. Last date for registration is 09-01-2021. Interested students should register in IIT Bombay Spoken Tutorial by scanning the QR Code or by clicking the link which was sent in Telegram Group.



Note:

1. It is a free of cost & remote learning training
2. After completion of course you will get a certificate from IIT Bombay Spoken Tutorial
3. Course will be allotted and will intimate on 12-01-2021
4. Already registered student no need to register again

  
TSKC Co-Ordinator (Nodal)  
N.G. College (A), NALGONDA

**NAGARJUNA GOVT. COLLEGE(A) NALGONDA**

**TELANGANA SKILL & KNOWLEDGE CENTRE**

**IIT BOMBAY SPOKEN TUTORIAL- COURSE ALLOTMENT**

**GeoGebra 5.04-Student Enrollment**

<b>Sl.No</b>	<b>Name</b>	<b>Roll Number</b>	<b>Group</b>	<b>Year</b>	<b>Email</b>	<b>Gender</b>
1	PREMA LATHA	18044028574035	MCIC	III Year	premareddy816@gmail.com	Female
2	MEDABOINA KRISHNA	18044028574036	MCIC	III Year	medaboinakrishna36@gmail.com	Male
3	MEGHANA NARRA	18044028574038	MCIC	III Year	meghanareddynarra@gmail.com	Female

# NAGARJUNA GOVT. COLLEGE (A) NALGONDA TELANGANA SKILLS & KNOWLEDGE CENTRE


Date: 13-01-2021

## NOTICE

All the below mentioned groups of IIT Bombay Spoken Tutorial registered students are hereby informed that, TSKC allotted your course for the Academic year 2020-21 shown below. In this regard instructed that completed your course before 28-02-2021.

Sl.No	Group	Year	Software Course
1	MPCS	III Year	Python - Python 3.4.3
2	MSCS	III Year	
3	BCOM	III Year	Accounting and Finance - FrontAccounting-2.4.7
4	BZCA	III Year	C and Cpp
5	MPCS	II Year	
6	MSCS	II Year	
7	MCIC	III Year	GeoGebra 5.04
8	MPC	III Year	LibreOffice Suite Calc
9	MPG	III Year	
10	BBC	III Year	
11	BA	III Year	LibreOffice Suite Impress
12	BCOM General	III Year	LibreOffice Suite Writer
13	BCOM	II Year	

Note: Any doubts contact @ TSKC Lab, NG College(A) Nalgonda

  
TSKC Co-Ordinator (Nodal)  
N.G. College (A), NALGONDA





## 1 Online / Offline content

1. The online content of Spoken Tutorials can be accessed from :  
<http://spoken-tutorial.org/tutorial-search/>
2. You can also download the Spoken Tutorials for offline learning from :  
<http://spoken-tutorial.org/cdcontent/>
3. From this link download the FOSS categories in the language you wish to learn.
4. The Spoken Tutorial content will be downloaded as a zip file on your machine.
5. Extract the contents of the zip file & access them.

## 2 The procedure to practise

1. You have been given a set of spoken tutorials and files.
2. You will typically do one tutorial at a time.
3. You may listen to a spoken tutorial and practise by reproducing all the steps shown in the video by Side-by-Side learning.
4. If you find it difficult to do the above, you may consider listening to the whole tutorial once and then practise during the second hearing.

## 3 GeoGebra 5.04

1. Click on "Select FOSS" or "All FOSS Categories" drop-down and choose "GeoGebra 5.04".
2. Click on "Select Language" or "All Languages" drop-down and choose the language (English, Hindi, ...) in which you wish to learn.
3. Click on "Submit" button.
4. You will see a list of tutorials based on your selection.
5. Start with the first tutorial in the displayed list.

## 4 First tutorial: Introduction to GeoGebra

1. Locate the topic "Introduction to GeoGebra" and click on it.
2. To view the tutorial, click on the Play icon which is located in the player.
3. The **Pre-requisite** will be visible below the player (only for Online contents).
4. **Outline, Assignments, Code Files and Slides** are available below the player.
5. Adjust the size of the browser in such a way that you are able to practise side-by-side.
6. To open GeoGebra application in Ubuntu Linux OS, click on **Dash Home**, in the search bar that appears type **geogebra**. GeoGebra icon appears.
7. Double-click on the icon to open the GeoGebra application.
8. To open GeoGebra application in Windows 10 OS, in the **Search the web and Windows** box, type **geogebra**.
9. GeoGebra appears in the list. Click on it to open the GeoGebra application.
10. From 0:40 min to 1:15 min the tutorial shows how to open **Geogebra** in Ubuntu Linux OS and Windows 10.
11. You can to open GeoGebra, using the Terminal.
12. Press CTRL, ALT and T keys simultaneously to open the Terminal
13. On the Terminal, type **geogebra** and press Enter. This will open GeoGebra.
14. Please follow the tutorial and reproduce all the activities as shown in the tutorial.
15. When you finish this topic, click on the next topic **Basics of Triangles**.

### 4.1 Common Instructions to practise

1. Create a folder on the "Desktop" with your "Name-RollNo-Component".  
(Eg. "madhuri-5.04-geogebra").
2. Give a unique name to the files you save, so as to recognize it next time.  
(Eg. "Practice-1-madhuri").

3. Remember to save all your work in your folder.
4. This will ensure that your files don't get overwritten by someone else.
5. Save your work from time to time, instead of saving it at the end of the task.

#### **4.2 Common instructions for Assignments**

1. Attempt the **Assignments** as instructed in the tutorial.
2. Save your work in your folder.

#### **4.3 Common instructions to use Code files**

1. Click on the link "Code files" located below the player and save it in your folder.
2. Extract the downloaded zip file.
3. You will see all the code/source files used in the particular tutorial.
4. Use these files as per the instructions given in the particular tutorial.
5. Play-pause-practise the whole tutorial.
6. Once the tutorial is complete, choose the next tutorial from the playlist which is located on the right side or below the player.
7. Follow all the above instructions, till you complete all the tutorials in the series.



Spoken Tutorial  
Project at  
IIT Bombay

# Certificate of Participation

This is to certify that **PREMA LATHA** participated in the **GeoGebra 5.04** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2021** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **GeoGebra 5.04** were covered in the training.

March 2nd 2021

**Prof. Kannan M Moudgalya**  
IIT Bombay



Spoken Tutorial  
Project at  
IIT Bombay

# Certificate of Participation

This is to certify that **MEDABOINA KRISHNA** participated in the **GeoGebra 5.04** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2021** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **GeoGebra 5.04** were covered in the training.

March 2nd 2021

**Prof. Kannan M Moudgalya**  
IIT Bombay



Spoken Tutorial  
Project at  
IIT Bombay

# Certificate of Participation

This is to certify that **MEGHANA NARRA** participated in the **GeoGebra 5.04** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2021** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **GeoGebra 5.04** were covered in the training.

March 2nd 2021

**Prof. Kannan M Moudgalya**  
IIT Bombay