



SREE NARAYANA COLLEGE KOLLAM

**CERTIFICATE COURSE ON TINKERCAD
CONDUCTED BY DEPARTMENT OF PHYSICS**

Tinkercad Circuits is a popular digital and analog electronics simulator for hobbyists, students, and makers. Tinkercad Circuits offers an intuitive interface that lets users drag and drop components into their virtual electronic design. Besides creating Arduino-based designs, it's also possible to simulate other analog and digital circuits that don't use a microcontroller (MCU) or development board.

Starts on 10/10/2020

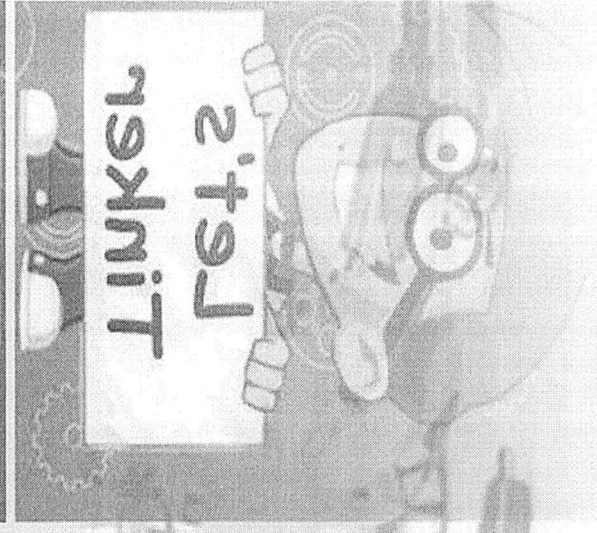
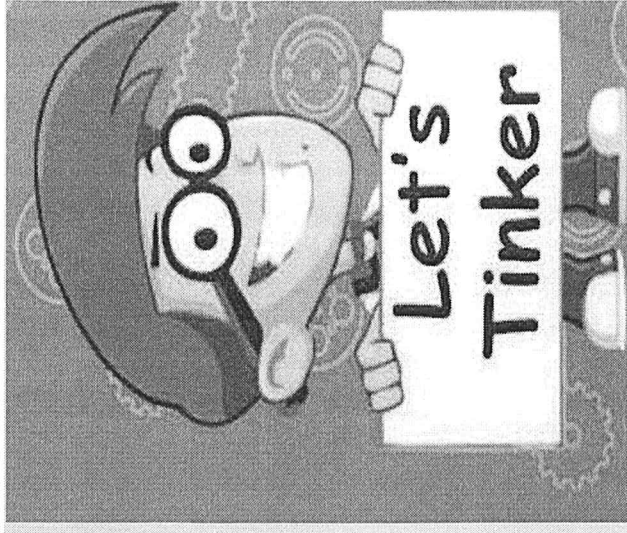
Ends on 10/12/2020

Available Seats: 25

Admission starts on 02/10/2020.

For more Information, contact ASITHA L.R (Coordinator)

Ph. No: 9995213881



DEPARTMENT OF PHYSICS

CERTIFICATE COURSE- TINKERCAD

SYLLABUS- 30 Hrs

Module 1: Learning Basic Circuits (5 Hrs)

Focus on fundamentals, such as breadboard wiring, Ohm's law, and series and parallel circuits.

Module 2: Exploring Circuits (7 Hrs)

Introduce electronics (LEDs, batteries, hobby motors, resistors, and switches), Basic circuit connections: Controlling LEDs and DC motors, Understand the switches, pushbuttons, and battery connections.

Module 3: Arduino in Tinkercad (7 Hrs)

Introduction to Arduino and Robotics, Control multiple motors with Arduino using scratch programming, Connect the IR sensor and photo-resistor to make an obstacle avoider robot, Use the Ultrasonic sensor to make a robot and home security system, Use servo motors to make robotics Arms.

Module 4: Teaching Circuits with Tinkercad (6 Hrs)

Simple project discussion using the integration of multiple sensors.

Module 5: PROJECTS (5 Hrs)

1. Arduino--Getting-started-with-Tinkercad-Simulation: how to build circuits, code
2. TinkerCad-Traffic-Light-Simulation: create own traffic light system.
3. Using Loops in programming the Arduino using Tinkercad: learn how to use for Loops
4. TinkerCad-Knight-Rider-Simulation: create iconic strobe effect with sound
5. TinkerCad-Parking-Sensor-Simulation with flashing LEDs and sounds and distance sensor
6. Tinkercad Night Light Simulation with LDR and push switch.
7. Tinkercad Electronic Dice with Push button
8. Tinkercad Creating and displaying characters using an LCD

Dept. of Physics
Sree Narayana College
Kollam-691 001



SREE NARAYANA COLLEGE, KOLLAM

DEPARTMENT OF PHYSICS

Certificate Courses

Members of the Board Studies

The following faculties are selected as Members of Board of studies for Certificate course TINKERCAD (TC) Conducted by Department of Physics, Sree Narayana College, Kollam in the academic year 2020-21.

	Name	Designation
1	Dr. R. Sunilkumar	Principal, Associate Professor, Department of Malayalam, Sree Narayana College, Kollam.
2	Dr. G. Sajeevkumar	Associate Professor, Department of Physics, Sree Narayana College, Kollam
3	Sri. Srijith S	Assistant Professor, Department of Physics, Sree Narayana College, Kollam
4	Smt. Asitha L.R	Assistant Professor, Department of Physics, Sree Narayana College, Kollam
5	Sri. Baiju V	Assistant Professor, Department of Physics, Sree Narayana College, Kollam
6	Dr. Dedhila Devadathan	Assistant Professor, Department of Physics, Sree Narayana College, Kollam
7	Dr. Sankar S	Assistant Professor, Department of Physics, Sree Narayana College, Kollam
8	Dr. Roxy M S	Assistant Professor, Department of Physics, Sree Narayana College, Kollam
9	Dr. Vidya S	Assistant Professor, Department of Physics, Sree Narayana College, Kollam
10	Smt. Rehna R	Assistant Professor, Department of Physics, Sree Narayana College, Kollam



Dept. of Physics
Sree Narayana College
Kollam-591 001

SREE NARAYANA COLLEGE, KOLLAM

DEPARTMENT OF PHYSICS

CERTIFICATE COURSE TIME TABLE

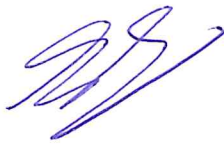
Name: TINKERCAD (TC)

Duration: 30 Hrs

Start Date: SEPT 10 2020

End Date: DEC 10 2021

DAY /08:15 AM TO 09:15 AM	HANDLED BY
MONDAY	DEDHILA DEVADATHAN
TUESDAY	SRIJITH S
WEDNESDAY	ASITHA L R
THURSDAY	PRACTICAL HOURS (Dr. ROXY M S/ BAIJU V)
FRIDAY	REHNA R



Dept. of Physics
Sree Narayana College
Kollam-691 001

SREE NARAYANA COLLEGE ,KOLLAM
DEPARTMENT OF PHYSICS

CERTIFICATE COURSE

Name : TINKERCAD (TC)

Duration : 30 Hrs

Start Date: SEPT 10 2022

End Date:DEC 10 2022

LIST OF STUDENTS

Sl. No.	Name of the student	Gender	Email ID	Class	Mobile No:	Year of Admission
1	ARYA S G	F	aryaanju2001@gmail.com	B.Sc. Physics	7560891962	2020
2	GANESH S KUMAR	M	ganeshskumar07@gmail.com	B.Sc. Physics	9995893974	2020
3	GOWRI PRADEEP	F	gowripradeep98@gmail.com	B.Sc. Physics	6282846716	2020
4	GOWTHAM BABU	M	gowthambabu2297@gmail.com	B.Sc. Physics	9526095254	2020
5	JEEVAN J	M	nijijayachandran@gmail.com	B.Sc. Physics	6238915339	2020
6	JITHIN J K	M	Jithinjk67@gmail.com	B.Sc. Physics	8075710496	2020
7	KARTHIKSIVAN	M	appunnisc@gmail.com	B.Sc. Physics	7306533280	2020
8	KRIPASON V P	M	kripasonvpindia@gmail.com	B.Sc. Physics	9496210090	2020
9	KRISHNA MANIKANDAN	M	krishnamanikandan048@gmail.com	B.Sc. Physics	9645956919	2020
10	LEKSHMI. R	F	rlekshmi248@gmail.com	B.Sc. Physics	8075913539	2020
11	MADHAV S	M	madhavsujith542002@gmail.com	B.Sc. Physics	9349038889	2020
12	P H HARIDARSHANA	F		M.Sc. Physics		2021
13	JOSNA GEORGE	F		M.Sc. Physics		2021
14	ADITHYA S	F		M.Sc. Physics		2021
15	REMYA R KRISHNAN	F		M.Sc. Physics		2021
16	ANASWARA S T	F		M.Sc. Physics		2021
17	SALINI VYASAN	F		M.Sc. Physics		2021
18	GAYATHRI P S	F		M.Sc. Physics		2021
19	AKHILA.A.L	F		M.Sc. Physics		2021
20	SNEHA R P	F		M.Sc. Physics		2021
21	ASWAJITH A	F		M.Sc. Physics		2021
22	ARYA CHANDRAN S	F		M.Sc. Physics		2021
23	ARDRA R KURUP	F		M.Sc. Physics		2021
24						



Dept. of Physics
Sree Narayana College
Kollam-691 007

DEPARTMENT OF PHYSICS

CERTIFICATE COURSE

Name : TINKERCAD (TC)

Duration : 30 Hrs

Start Date: SEPT 10 2022

End Date: DEC 10 2022

ATTENDENCE STATEMENT			
SI No	Name of the Student	Register No:	% of Attendance
1	ARYA S G	TC01	91
2	GANESH S KUMAR	TC02	92
3	GOWRI PRADEEP	TC03	90
4	GOWTHAM BABU	TC04	91
5	JEEVAN J	TC05	90
6	JITHIN J K	TC06	88
7	KARTHIKSIVAN	TC07	87
8	KRIPASON V P	TC08	88
9	KRISHNA MANIKANDAN	TC09	89
10	LEKSHMI. R	TC10	90
11	MADHAV S	TC11	90
12	P H HARIDARSHANA	TC12	91
13	JOSNA GEORGE	TC13	91
14	ADITHYA S	TC14	82
15	REMYA R KRISHNAN	TC15	80
16	ANASWARA S T	TC16	82
17	SALINI VYASAN	TC17	90
18	GAYATHRI P S	TC18	87
19	AKHILA.A.L	TC19	88
20	SNEHA R P	TC20	89
21	ASWAJITH A	TC21	90
22	ARYA CHANDRAN S	TC22	91
23	ARDRA R KURUP	TC23	85
24			
25			
26			
27			
28			
29			
30			
31			
32			
33			
34			
35			
36			
37			

Arya
 Ganesh
 Gowri
 Gowtham
 Jeevan
 Jithin
 Karthik
 Kripason
 Krishna
 Lekshmi
 Madhav
 P.H.
 Josna
 Adithya
 Remya
 Anaswara
 Salini
 Gayathri
 Akhila
 Sneha
 Aswajith
 Arya
 Ardra

Dept. of Physics
 Sree Narayana College
 Kollam-691 001



(Handwritten signature)

REPORT ON CERTIFICATE COURSE IN MICROPROCESSOR AND MICROCONTROLLER AND PYTHON PROGRAMMING

DEPARTMENT OF PHYSICS

ACADEMIC YEAR 2020-21

Tinkercad circuits is a fully functional Arduino+ Circuit simulator that runs in a web browser Tinkercad provides a "breadboard view" with graphics that look like the physical circuit parts you would use in real life, which is a much more beginner-friendly approach. The ability to simulate an Arduino and run code directly in the web browser is an added bonus. While simulations are never a complete replacement for real hardware, they're certainly better than nothing if students don't have any other options. Thankfully, we were able to distribute physical Arduino kits for students to use at home during the COVID-19 pandemic. However, we found that Teachers and students had a very difficult time debugging circuits over google meet. It's hard to hold a breadboard up to a webcam and see what's going on. We had students rebuild their circuits in Tinkercad and then screen share in google meet. This makes it much easier to see all the connections and help debug. So, Tinkercad can be a good supplement even if students have hardware kits available for the class.

The BoS has decided to initiate the following courses in the academic year 2020-21.

1. TINKERCAD (TC)

- The syllabus for the above courses was designed by the committee by considering the global needs and demand of the market.
- It was decided to conduct the above courses for more than 30 hours.
- The committee has framed the time- table apart from the academic hours.
- While running the course there are some expenditures such remuneration for the trainers, stationery and miscellaneous. Therefore, the minimum affordable fees should be charged.
- The committee has suggested to appoint the trainers for the above courses.

*Dept. of Physics
St. Paul's College
Kottam-691 001*

- The board has decided to initiate the certificate courses as per the demand of the stakeholders and approval of I.Q.A.C.

Duration: 05 hrs Project and 25 hrs theory

The students have completed 30 sessions including theory and practical during the period September 2020- December 2020.

Total Students Successfully Completed: 24



Dept. of ...
Sree Narayana College
Kollam-691 003