



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 10/10/2018

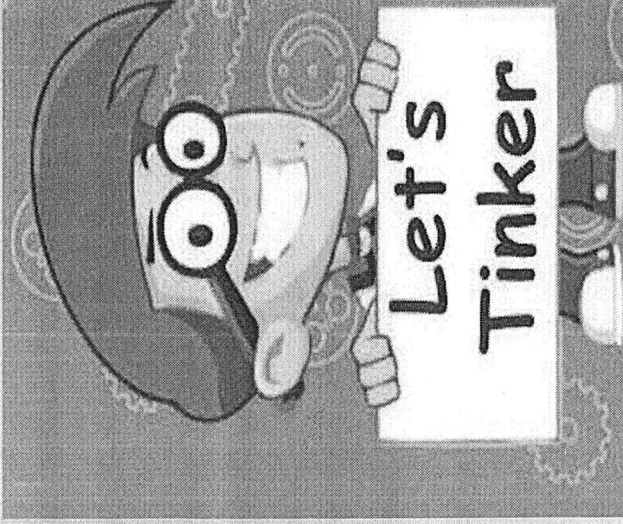
Ends on 10/12/2018

Available Seats: 25

Admission starts on 02/10/2018.

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

Ph. No: 9995213881



Department of
Physics
Sree Narayana College
Kollam
100169

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

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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 2018-19.

	Name	Designation
1	Dr. Anitha Sankar	Principal, Associate Professor, Department of English, 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



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Parthasarathy
Principal
Sree Narayana College
Kollam



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DEPARTMENT OF PHYSICS

Minutes of the Meeting

The minutes of the meeting of the BoS of Certificate courses was held on 12th August, 2018 in the Department of Physics, Sree Narayana College, Kollam at 10.00 a.m. The following members were present for the meeting.

- 1 Dr. Anitha Sankar
- 2 Dr. Sankar S
- 3 Smt. Asitha L R
- 4 Sri. Srijith S
- 5 Sri. Baiju V
- 6 Dr. Roxy M S
- 7 Dr. Dedhila Devadathan
- 8 Dr. Vidya S
- 9 Smt. Rehna R
- 10 Dr. Sajeev Kumar G
- 11 Sri. Vipin Kumar C

The following points were discussed in the meeting.

- The BoS has decided to initiate the following courses in the academic year 2018-19.

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.
- The Classes will start on September 10 2018 and ends on Dec 10 2018.
- While running the course there are some expenditures such remuneration for the trainers, stationery and miscellaneous. Therefore, the minimum affordable fees should be charged.

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- The committee has suggested to appoint the trainers for the above courses.
- The minimum attendance for the successful completion of the course is decided to be 75%.
- The minimum marks required for the qualification is decided to be 50 marks for Theory and 25 marks for Practicals.
- The submission of the assignment is compulsory for the successful completion of the course.
- The board has decided to initiate the certificate courses as per the demand of the stakeholders and approval of I.Q.A.C.

Sri. Srijith S proposed vote of thanks and the meeting was ended.



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The following faculties are selected as trainers for Certificate courses (Microprocessor and Microcontrollers, Python Programming) Conducted by Department of Physics, Sree Narayana College, Kollam in the academic year 2018-19.

List of Teachers - TINKERCAD				
	Name	College	Mobile no:	mail id
1	Dr.Dedhila Devadathan	SNCK	9446454083	dedhila@gmail.com
2	Sri. Srijith S	SNCK	9633500425	srijithkeanu@gmail.com
3	Smt.Asitha L.R	SNCK	9995213881	asitha85@gmail.com
4	Sri. Baiju V	SNCK	8281856366	baijuvkollam@gmail.com
5	Smt Rehna R	SNCK	8281328303	rehnaraju@gmail.com



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CERTIFICATE COURSE TIME TABLE

Name: TINKERCAD (TC)

Duration: 30 Hrs

Start Date: SEPT 10 2018

End Date: DEC 10 2018

Day /08:15:30 am to 09:15 am	Handled by
Monday	Dr.Sajeevkumar G
Tuesday	Practical Hours (Rehna R and Dedhila)
Wednesday	Asitha L.R
Thursday	Srijith S
Friday	Baiju V



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REPORT ON CERTIFICATE COURSE IN MICROPROCESSOR AND MICROCONTROLLER AND PYTHON PROGRAMMING

DEPARTMENT OF PHYSICS

ACADEMIC YEAR 2018-19

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.

The BoS has decided to initiate the following courses in the academic year 2018-19.

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- The Classes will start on September 10 2018 and ends on Dec 10 2018.
- 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.
- The minimum attendance for the successful completion of the course is decided to be 75%.
- The minimum marks required for the qualification is decided to be 50 marks for Theory and 25 marks for Practicals.
- The submission of the assignment is compulsory for the successful completion of the course.
- The board has decided to initiate the certificate courses as per the demand of the stakeholders and approval of I.Q.A.C.

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Duration: 05 hrs Project and 25 hrs theory

The students have completed 30 sessions including theory and practical during the period
September 2018- December 2018.

Total Students Successfully Completed: 20



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