

BEST PRACTICE-I

1. Title of the Practice:

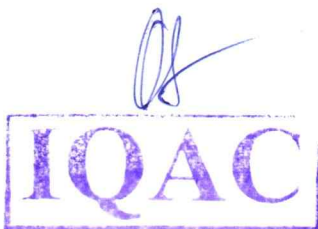
Bodana-Sadhana-Nipuna-Programme (BSNP)

2. Objective:

Narasaraopeta Engineering College believes in giving students every opportunity to go beyond the regular curriculum, broaden their learning experiences and expand their future options. Within the four-year graduation programme, the institution offers all students an additional learning opportunity to develop their practical laboratory abilities. It encourages students to pursue careers in research and development. They learn to use their knowledge and talents to identify and address societal and industrial problems. They are attempting to incubate the ideas and later turn those into prototypes further moulding them into commercial models that will lead to the development of entrepreneurship.

3. The context:

Innovation and creativity are critical characteristics for the creation of cutting-edge technologies which can tackle the difficulties of globalization. The transformation of Science, Engineering, and Technology has shifted the focus of a student's success from theoretical to applied knowledge. These factors encourage technical institutes to broaden their teaching and learning processes to include more practical courses and activities. It is critical to encourage engineering graduates to pursue careers in research and development in order to boost the country's economic development. It is necessary to place a greater emphasis on project-based and situation-based learning, because it allows them to think out of the box and use their imagination to its full potential. Project and model making begins with the selection of a topic from a field of interest and continues with the development of creative solutions to numerous project-related problems and other technical hurdles. Project and model making constantly improves the existing system, allowing graduates to think socially while maintaining technical altitude and ideas.



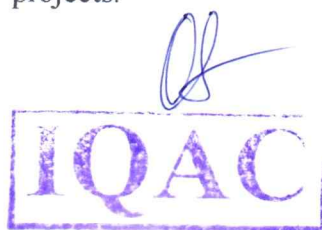

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4. The Practice:

The Institute provides a robust infrastructure across its campus for creating high-quality Models that are up to date. For skill development programmes among teachers and students, the college has MOUs with many reputed national and international organisations such as AWS Academy, Microchip academic programme, Blueprism University, Celonis, Juniper Networks, Paloalto Cyber Security academy, Cloud and Automation academy through EduSkills, Microsoft and Redhat Academy, Dassault Systems- 3D Experience, Applied Robotic Control Lab in association with European Centre for Mechatronics-Germany, Embedded Systems and Robotics Lab under E-Yantra initiative by IIT Bombay . The institute maintains a partnership with Bennet University through APSSDC to provide students with additional training and internship opportunities. Many training programmes for faculty are conducted by the ICT Academy in partnership with the institute. Students are offered mini projects from the second year onwards to build or fabricate unique technological models and this is done under the able guidance of the senior academicians. The college hosts idea-churning sessions with industry professionals (Global Business Incubator) and alumni entrepreneurs. Students are encouraged to attend summer projects / internships in the industries/prestigious academic institutions to acquire practical knowledge.

Faculty encourages students to go beyond the syllabus in every laboratory course including Virtual Labs. Students are guided to identify day to day problems encountered by society and are motivated to find enabling solutions through their projects. The instructors and students work together to enhance their knowledge and skills and it is one of the most remarkable aspects of this technique. The professors assist and guide students in developing unique models. The students are encouraged to work in collaboration with the faculty and publish their research work in reputed journals and international conferences. The institute encourages students to join professional student chapters such as IETE, ISTE, IEEE, IEI(I), and CSI. Various events are held under the auspices of these organizations.

The departmental research groups assist students in undertaking mini/major projects to develop working models. College incubation center is established with the necessary facilities. Financially viable Projects are supported for fabrication and testing. There is a provision in the budget proposal for financial support for model making, and the college reimburses 50% of the model cost. A team of faculty members reviews all the completed projects.




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5. Evidences

Students and faculty are oriented to solve and provide feasible solutions for the society's real time problems. Mechanical Engineering students fabricated Go Kart Vehicle and this project is funded by the college with Rs. 80000. Different laboratory Apparatus are designed and fabricated in collaboration with the faculty. 3D printing models and mini robots are built by the students. As a green initiative, Solar powered vehicle is designed and fabricated by students.

The students are participating in industry driven National / Global level student Competitions like TCS – CODEVITA, Hackathons etc., and getting rewards and job opportunities. During the COVID pandemic period, students have built automatic sanitizer dispenser. Student's passion continues in the implementation of Sensor Controlled Street Lamps and automatic water level controller. Hybrid solar and wind power generation, Solar powered tricycle, Electronic Display Notice Board, Smart Dust bin, Spin Broom, Coconut DE husking machine are a few live examples of student's thirst quenching activities in exhibiting their skills.

Students got involved in soil testing, water quality testing and concrete testing and surveying activities of Govt. of Andhra Pradesh agencies like R&B and Panchayat Raj, bringing their class room learning in real time situations.

Various health monitoring apps like Brain Tumor prediction and Heart disease prediction are developed by the students. Students developed Hill Festival App which is much appreciated by the Govt. of AP.

6. Problems Encountered

Learning styles and retention differ widely among students, posing a challenge to classroom deliverables within the given limited time. In advanced fields, there is a lack of expertise. Better departmental collaboration is required, which will lead to the development of interdisciplinary models.

Resources Required

It is necessary to obtain more modern tools and equipment. More training for both faculty and students by Industry experts is required. Industry interaction has to be improved. Paid Internships are to be enhanced. Industry Live Projects are to be exposed to the students. While revising the curriculum, a full semester may be allotted for project/training at the onsite industry.




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DESIGN AND FABRICATION OF AIR PURIFIER BY USING HEPA AIR FILTER

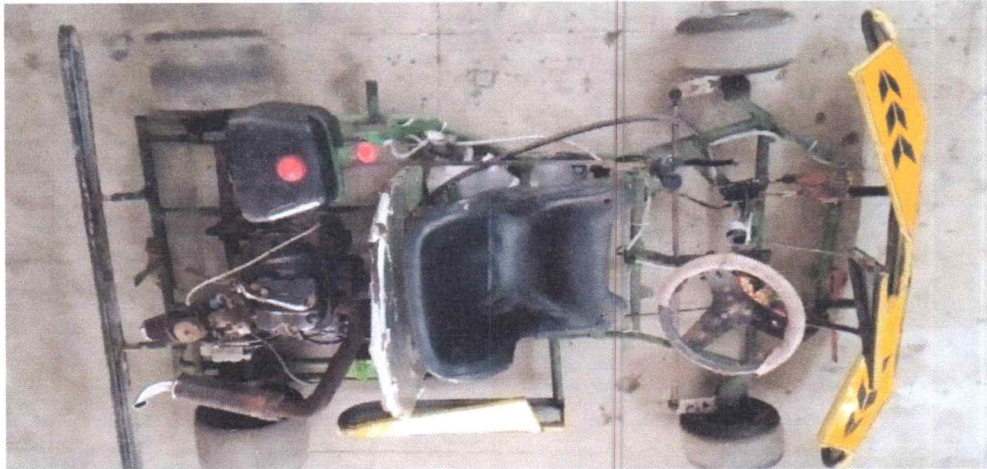


There are many different kinds of air purifier available in the market with different technologies. Some may have HEPA, carbon, ionizing, UV technology and many more. Some purifiers also contain more than one technology for advanced functioning and better results. Thus, choose the best one matching your requirement and budget. The main function of HEPA Filter is to remove contaminated viruses from the air and provide clean and pure air. Thus, HEPA Filter is a crucial purchase element for the one suffering from dust or pollen allergy. Strict standards have been set for the filters to be classified as HEPA. A HEPA Filter should be able to remove 99.97% particles being small as 0.03 microns




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DESIGN AND MODELING OF GO-KART VEHICLE



The drafting and design work of a Go Kart vehicle is carried out as the theme of the project. The initial drawings are prepared and are converted into CAD models and are analysed for stresses and other results of modal analysis. After ensuring the modal analysis the fabrication work is carried out. The fabrication of chassis and other accessories were made. The engine and other engine controls are fitted to the chassis. The kart is made compact by little adjustments where ever is possible. The Kart rule book was used to ensure the correct dimensions to fit for a racing vehicle. The engine attached is Honda Shine 125 CC. The total system has been tested for traction, braking, wheel alignment and suspension. The kart is tested with trail runs and was successful in showing the desired features

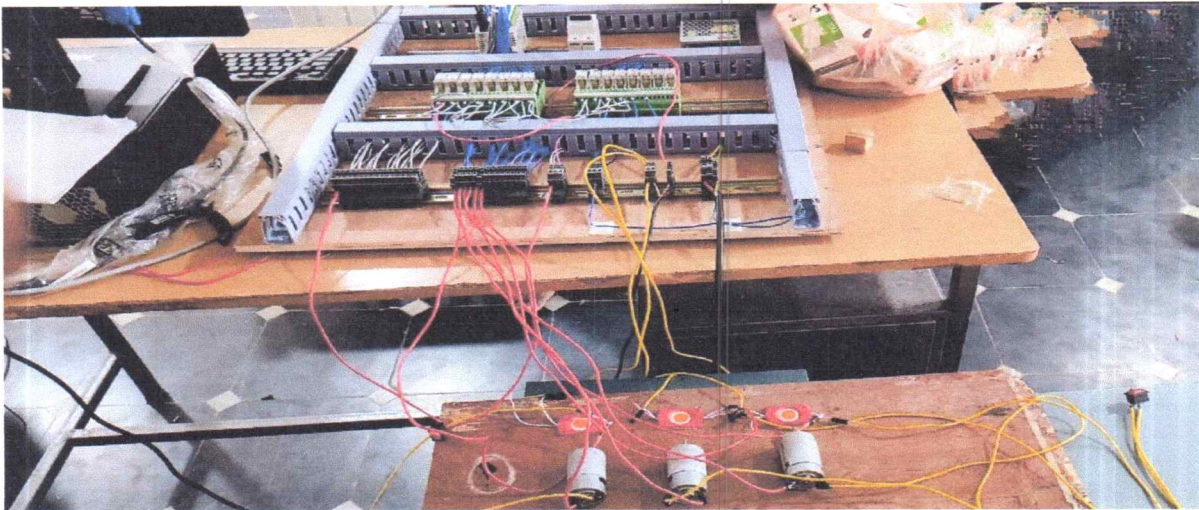
DESIGN AND FABRICATION OF INVERSIONS OF SLIDER CRANK MECHANISM BY USING 3D PRINTING

The additive manufacturing is the advanced product manufacturing process of producing 3-dimensional objects from a computer file. 3D printing is overall method of manufacturing parts directly from digital model by layer- by -layer material built-up approach. 3D printing is called as desktop fabrication. In this project design and fabrication of slider crank mechanism with the help of CATIA software and fabrication by using 3D printer. Ultimaker Cura software and polymers and fabrication of the components

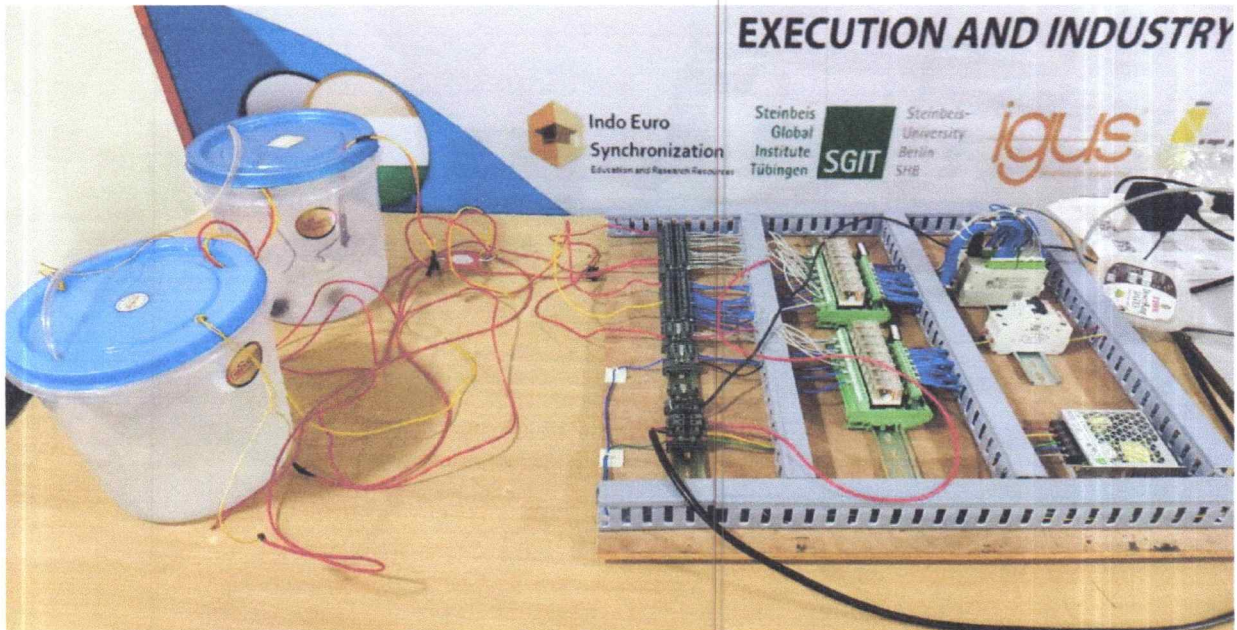


M. S. S.
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DESIGN AND FABRICATION OF INDUSTRIAL TIME CONTROLLER BY USING PLC




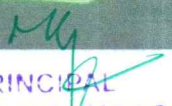
PLC BASED WATER LEVEL INDICATOR & CONTROLLING SYSTEM



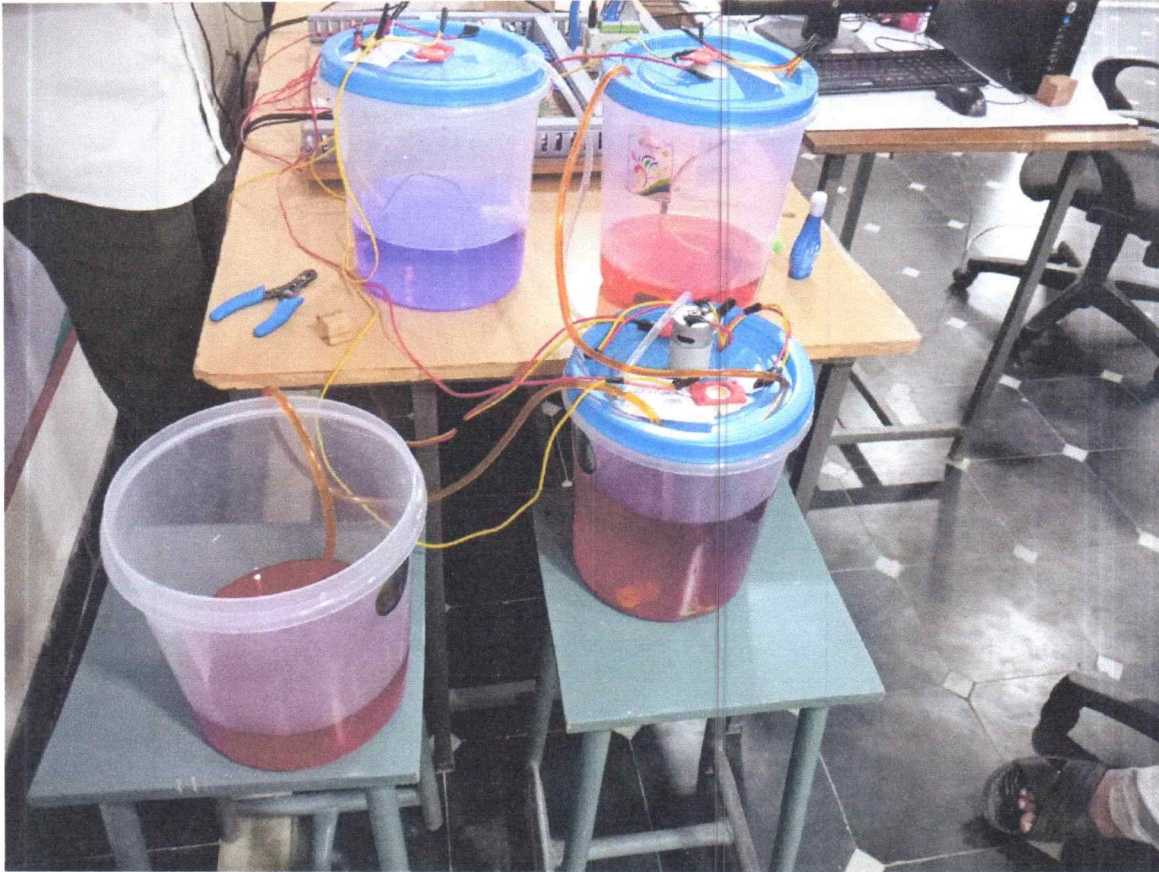
DESIGN AND FABRICATION OF 3D PRINTED SWIVELLING VISE




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PLC BASED AUTOMATIC LIQUID FILLING AND MIXING SYSTEM

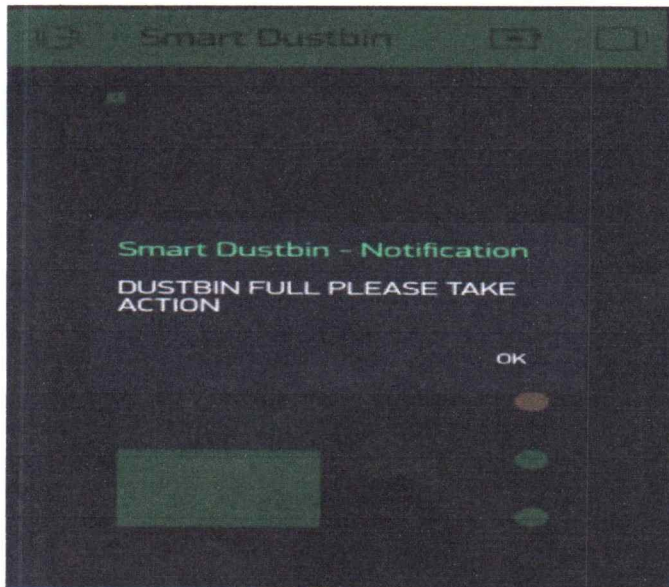
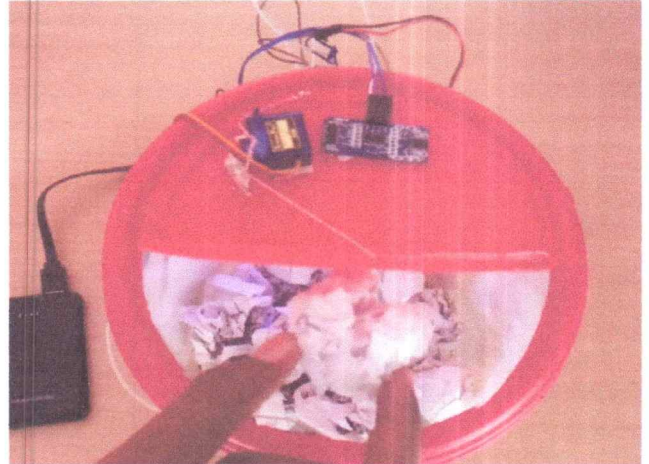
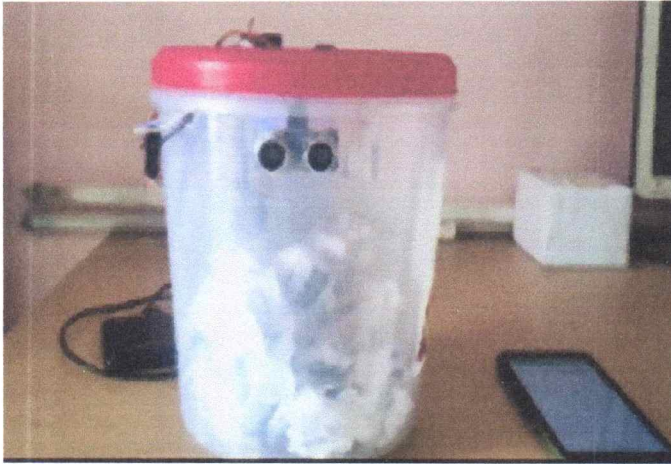


his aim of this project is to describe the methods for filling more than one bottle at a time. In a conveyor system, stepper motor is used for its efficiency. It includes the user defined volume selection at the desired level. Our system includes less number of sensors, so it is less expensive. Filling is controlled by PLC (Programmable Logic Controller) using ladder logic method. In the bottle filling system the PLC gets the sensor feedback and controls the solenoid valve timing as well as controls the conveyer belt. By programming the PLC, the entire system is being controlled. Sensor stands as the most important part for bottle filling. Normally in all automation industries, PLC is considered as the heart of any system. The entire system is made more flexible, time saving and user friendly. Every result leads to the conclusion that the operation of PLC in is very inspiring

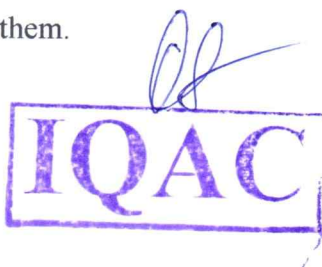
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SMART DUSTBIN WITH ALERT SYSTEM

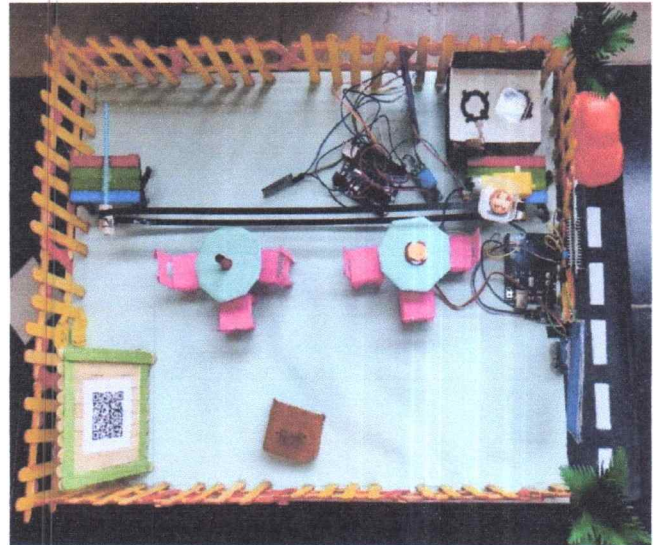


In this Smart Dustbin project, we are designed a prototype where the lid of the dustbin is opened, on detection of human hand and waste, and the level of waste available inside the dustbin is sent as a notification in the form of a text message. The main components we used in making this prototype are NODEMCU, Servo Motor, and Ultrasonic Sensors. The software component is the application name Blynk which is used to get a notification. This dustbin can be a start to a Smart Waste Management System where the officials can clean or empty the dustbin depending on the notification received by them and not waiting for a call from a person of a society who informs the garbage trucks to come and take the waste from them.




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SMART RESTAURANT

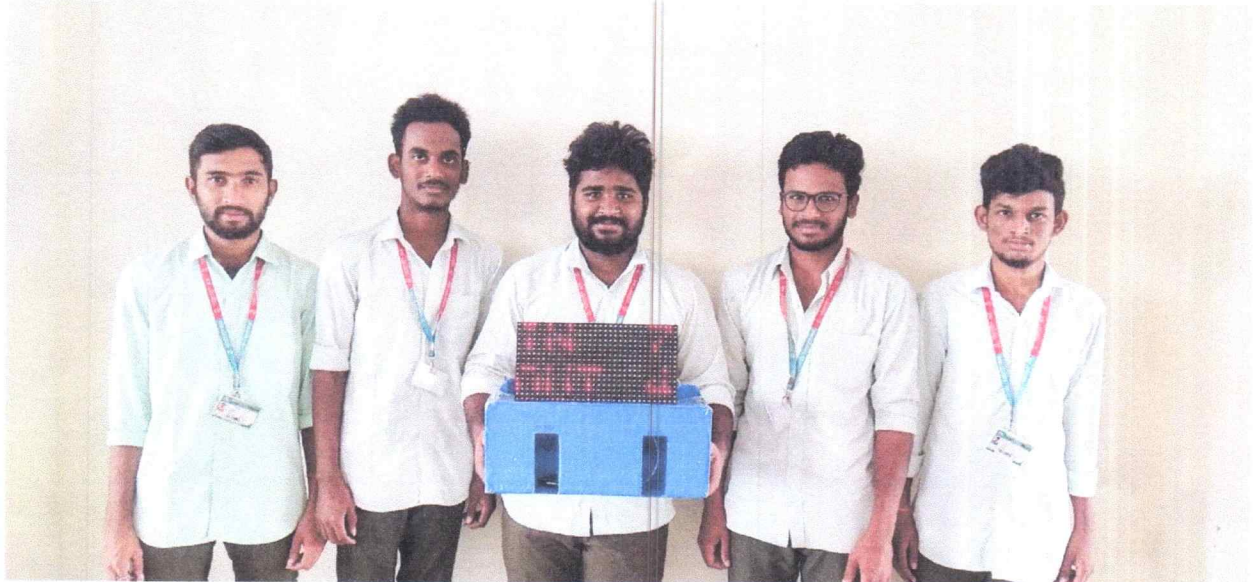
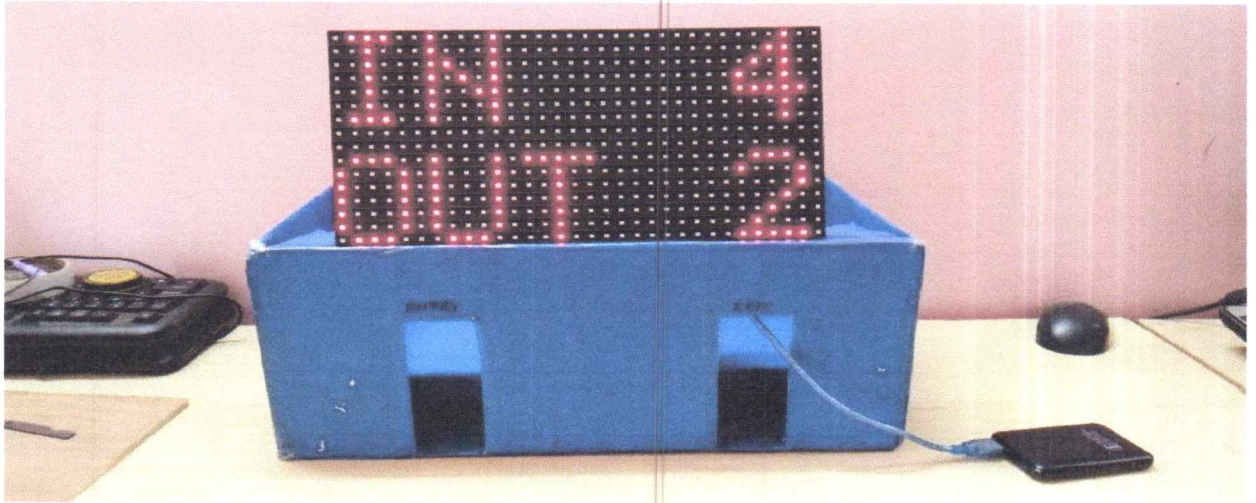


Customers play a vital role in the contemporary food industry when determining the quality of the restaurant and its food. Restaurants give considerable attention to customer's feedback about their service, since the reputation of the business depends on it. Long waiting times and serving the wrong order is a common mistake that happens in every restaurant that eventually leads to customer dissatisfaction. Through this Smart Restaurant we can avoid the mismatching problem regarding the orders of respective customers. Therefore, we proposed to implement this technology for the restaurant. When vehicle comes the IR sensor senses the vehicle and the door opens automatically. Welcome message is displayed on the LCD. By using android mobile one has to scan the QR code and install the app. After installation of the app, the restaurant's menu displayed. They have to choose their favorite item from the list mentioned in the app. The selected item is highlighted at the kitchen. By observing it the chef prepares the item and sends it on the conveyor belt.

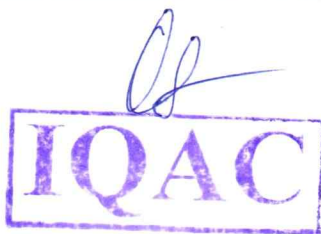



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BIDIRECTIONAL VISITOR COUNTER



This project Microcontroller based Bidirectional Visitor counter for human being and animals is designed and presented in order to count the visitors of an auditorium, hall, offices, malls, sports venue, farm yard etc. The system counts both the entering and exiting visitor of the auditorium or hall or other place, where it is placed and also animals that is entering and leaving the cage. This system can be economically implemented in all the places where the visitors or animals have to be counted and controlled. This project is the most common and interesting to start with. The application is counting the number of persons entering in and exiting out like in zoo, farm yard, stations, Industries, offices, lift, car parking, and many more. The main intention is to design a system wherein the number of persons entering or leaving a room is displayed on a screen. Our objective is to count the objects (persons or animals) entering and exiting the room so we need some sensors to detect the objects and a control unit which calculates the object. Motion sensor sensing mechanism is used to sense the presence of visitors and the whole counting operation is done by a microcontroller. So it's convenient and useful in many places for security.




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BEST PRACTICE - II

1. Title of the Practice:

Ekalavya Programme (Encouraging students for self- learning)


2. Objectives of the Practice:

NEC believes in giving its students every opportunity to advance beyond the traditional curriculum, enhancing their learning experiences and expanding their career options. The graduate will have certain skills and competencies upon completion. The objective behind this practice is to provide an additional learning opportunity to all the students within the four-year graduation programme. Students also get remote access to simulation-based labs in a variety of science and engineering areas. Through remote experimentation, they will be able to acquire fundamental and sophisticated concepts. As a result, the institution strives to live up to its ultimate aim of "Promoting Collaborative and Self-Learning."

3. The Context:

After completing the degree, all engineering students expect to secure a dream career. However, curriculum alone may not be sufficient to achieve the desired outcome. In this context, the university has taken steps to give extra certification or training courses, as well as to prepare students to be industry-ready and equipped with the necessary engineering skills. For the implementation of skill upgrading and certification programmes, NEC has entered into agreements with organisations, enterprises, and academic institutions sponsored by the federal and state governments. The university has a partnership with certain related programmes that are open to students from all disciplines. As a result, students have the option to increase their awareness and pursue multidisciplinary programmes. Students can save time because many of the programmes are available online. The students can save time as many of the programmes are fast-paced. In the case of online programmes, students can pursue the courses at their own pace.




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4. The Practice:

The institute encourages online learning. NEC has NPTEL local Chapter in association with IITM – Chennai. The institution had a tie up with L4G Solutions. This initiative has given an opportunity to both students and faculty to pursue many **Coursera** online courses. Also, the institution has AP CM Skill Excellence center sponsored by APSSDC. Spoken tutorials offered by IIT Bombay are arranged for students. Dassault systems 3D experience lab is set up to enhance the modelling and analysis skills of students on advanced software. Students are motivated to do online certification courses offered by Sololearn, Udemy, AWS, Great learning. Institute has an MoU with ICT academy through which students are given basic training and allowed to practice on their own and further exposed to National and International level competitions on cutting edge technologies.

5. Evidence of Success:


The efforts to promote additional certification courses or internships have proven to be highly fruitful. NPTEL courses benefited and expanded the knowledge of around 462 students and faculty. More than 199 Sololearn credentials, 524 MTA certifications, A large number of students enrolled in MOOCS certification courses.

Students who have completed the courses will undoubtedly have an advantage in their interviews, particularly in the technical rounds. Later, they used this information to improve their performance in domain areas at work. The institute has heeded the government's appeal to educate India's youth in cutting-edge technology that will help them advance their careers and expand their horizons. The institute also grabs the initiative of the Ministry of Education, Government of India i.e. virtual labs, and effectively implemented Virtual labs in the curriculum to habituate students towards remote experimentations.

6. Problems Encountered and Resources Required:

1. Additional certification programmes may intimidate students. The completion of these online courses is required of all students. The additional course work may be tough for students to handle.
2. The academic calendar is usually set in stone. The examination timetable is rescheduled in the event of unforeseen circumstances. The NPTEL programme timetable may conflict with examination schedules in certain instances.

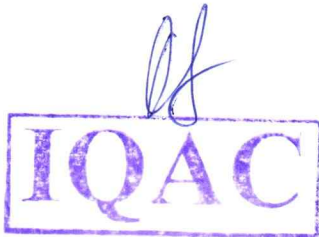



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3. Students can pursue additional online courses from the comfort of their own homes. Some students, however, may not have access to the internet or sufficient bandwidth to complete the courses at home.

Resources Required

As a motivational gesture, students who received a gold certificate may be paid for their examination fee. Computer labs may be kept open beyond college hours to help students with internet Band problems they are having at home. Because the institute is autonomous, conflicts between end-of-semester exams and the NPTEL final test may be handled by postponing end-of-semester exams for the students' convenience..




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Roll No: NPTEL22CE39S23453498

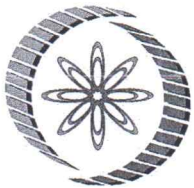
To
THIRUMALASETTY CHANDRA NAGA AKHIL
FLAT NO.106, ANJANA TOWERS
BC COLONY ROAD,SATTENAPALLI ROAD.
NARASARAOPET
ANDHRA PRADESH - 522601
PH. NO :7032112789

Score	Type of Certificate
>=90	Elite+Gold
75-89	Elite+Silver
>=60	Elite
40-59	Successfully Completed
<40	No Certificate



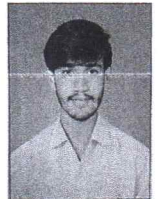
No. of credits recommended by NPTEL:2

An additional 1 credit may be awarded if the University deems it fit, based on the actual student effort involved.



NPTEL Online Certification

(Funded by the MoE, Govt. of India)



This certificate is awarded to

THIRUMALASETTY CHANDRA NAGA AKHIL

for successfully completing the course

Safety in Construction

with a consolidated score of **57** %

	Online Assignments	12.83/25	Proctored Exam	43.72/75
	Total number of candidates certified in this course: 1898			

Devendra Jalihal

Prof. Devendra Jalihal
Chairman
Centre for Continuing Education, IITM

Feb-Apr 2022
(8 week course)

M. S. Thangaraj
PRINCIPAL
NARASARAOPETA ENGINEERING COLLEGE
(AUTONOMOUS)
NARASARAOPET - 522 601
Guntur (Dist.), A.P.

Prof. Andrew Thangaraj
NPTEL, Coordinator
IIT Madras



Indian Institute of Technology Madras



Roll No:NPTEL22CE39S23453498

To validate and check scores: <https://npTEL.ac.in/noc>

This certificate is computer generated and can be verified by scanning the QR code given below.

Roll No: NPTEL22CE40S33450346

To
THADIMALLA SUBRAHMANYAM
DHARMAVARAM, DURGI
DHARMAVARAM, DURGI
MACHERLA
ANDHRA PRADESH - 522612
PH. NO :8374520689



Score	Type of Certificate
>=90	Elite+Gold
75-89	Elite+Silver
>=60	Elite
40-59	Successfully Completed
<40	No Certificate

No. of credits recommended by NPTEL:3

An additional 1 credit may be awarded if the University deems it fit, based on the actual student effort involved.



NPTEL Online Certification

(Funded by the MoE, Govt. of India)



This certificate is awarded to

THADIMALLA SUBRAHMANYAM

for successfully completing the course

Basic Construction Materials

with a consolidated score of **54** %



Online Assignments	24.35/25	Proctored Exam	30/75
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Total number of candidates certified in this course: **975**

Devendra Jalihal

Prof. Devendra Jalihal
Chairman
Centre for Continuing Education, IITM

Jan-Apr 2022
(12 week course)

Principal
PRINCIPAL

NARASARAOPETA ENGINEERING COLLEGE
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NARASARAOPET - 522 601
Guntur (Dist.), A.P.

Prof. Andrew Thangaraj
NPTEL, Coordinator
IIT Madras



Indian Institute of Technology Madras

Roll No: NPTEL22CE40S33450346

To validate and check scores: <https://nptel.ac.in/noc>





Microsoft Technology Associate

GUDDENTI NITEESH SAI


has successfully completed the requirements to be recognized as a Microsoft Technology Associate for

Introduction to Programming using Python



Date of achievement: June 24, 2022
verify.certipoint.com w96xJ-FaXo


Satya Nadella
Chief Executive Officer


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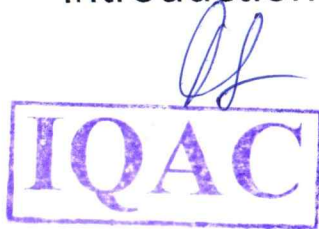


Microsoft Technology Associate

Swarna Bethapudi

has successfully completed the requirements to be recognized as a Microsoft Technology Associate for

Introduction to Programming using Python



Date of achievement: June 24, 2022
verify.certipoint.com w63eo-48CC

N. Satya Nadella
Satya Nadella
Chief Executive Officer

M. B.
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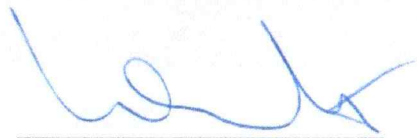
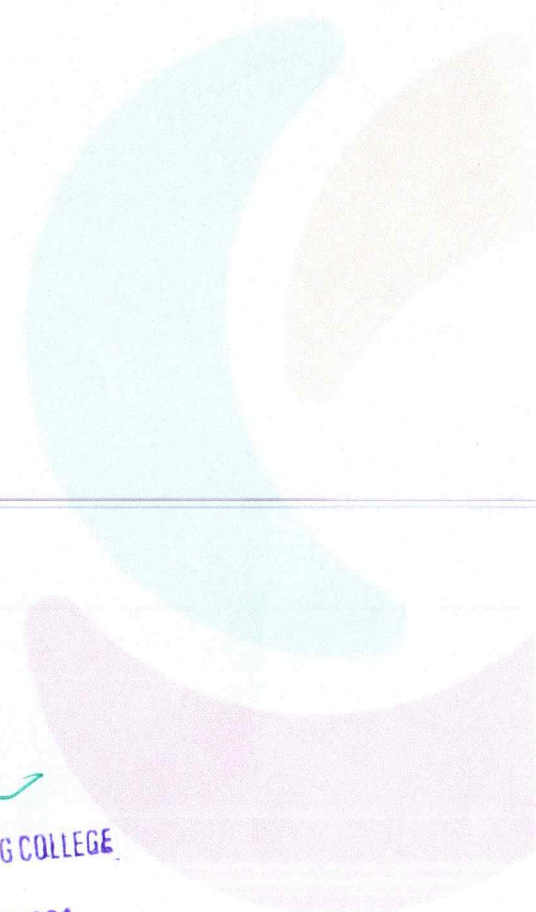


CERTIFICATE

This is to certify that

**21471A0506 B V D
SAMPI**

has successfully completed the
C course



Yeva Hyusyan
Chief Executive Officer



**PRINCIPAL
NARASARAOPETA ENGINEERING COLLEGE
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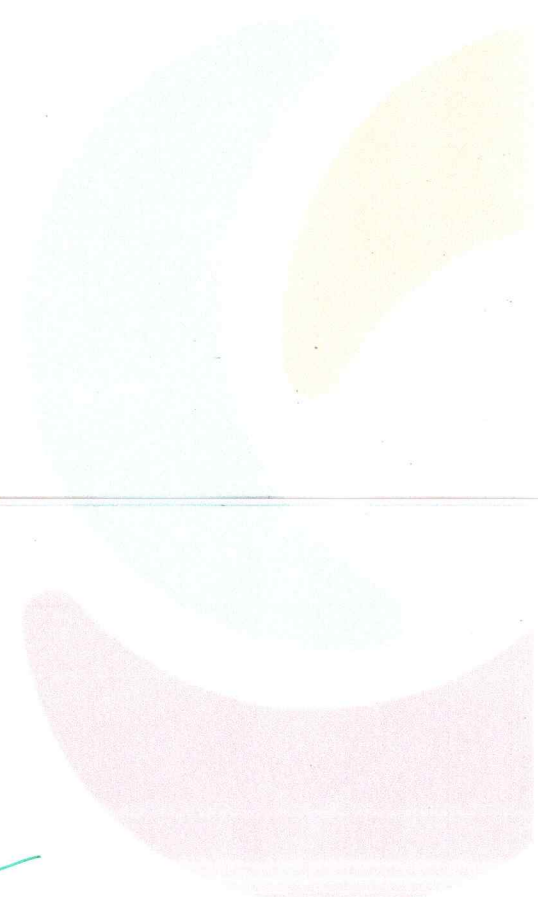
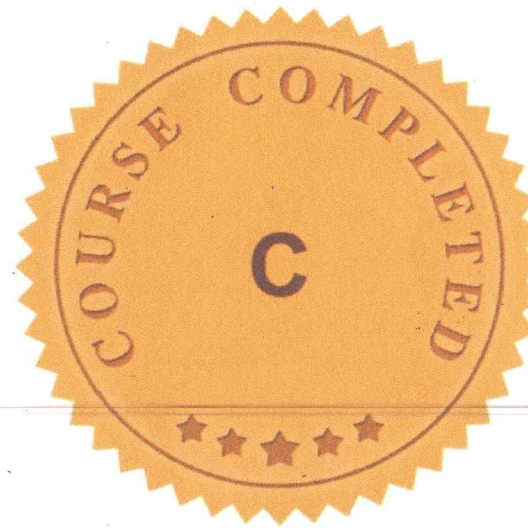
CERTIFICATE

This is to certify that


B.V.siva Rama Krishna
21471A0507

has successfully completed the

C course



Yeva Hyusyan
Chief Executive Officer



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