

Report

"BASIC ROBOTICS TRAINING WORKSHOP AND CERTIFICATE PROGRAM"

UNDER "TEERTH" SCHEME

(21-25 MARCH-2022) ✓

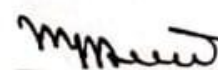
Submitted to

**Knowledge Consortium of Gujarat
(KCG)**

By

**Government Science College
Gandhinagar**




Principal,
Government Science College,
Gandhinagar.
(GES Class-I)



ISTEM
Collective Foundation

**BASIC ROBOTICS TRAINING WORKSHOP AND
CERTIFICATE PROGRAM UNDER "TEERTH" SCHEME**

ORGANIZED BY

KNOWLEDGE CONSORTIUM OF GUJARAT

DEPARTMENT OF EDUCATION

GOVERNMENT OF GUJARAT

AND

GOVERNMENT SCIENCE COLLEGE GANDHINAGAR

IN COLLABORATION WITH ISTEM COLLECTIVE FOUNDATION

DURING

21-25 MARCH 2022

AT

**GOVERNMENT SCIENCE COLLEGE
GANDHINAGAR**



**Government Science College
Gandhinagar**

Report

“Basic Robotics Training Workshop and Certificate Program”

Topic of Workshop: Basic Robotics Training Workshop and Certificate Program

Dates: 21st- 25th March 2022

Time/Duration for Workshop: 30 Hours of Training (Total 5 Days - 6hrs/Day)

Organizers: Knowledge Consortium of Gujarat (KCG), Department of Education, Government of Gujarat in Collaboration Government Science College, Gandhinagar.

Funded by: Funded by Knowledge Consortium of Gujarat (KCG), Department of Education, Government of Gujarat Under “TEERTH” Scheme.

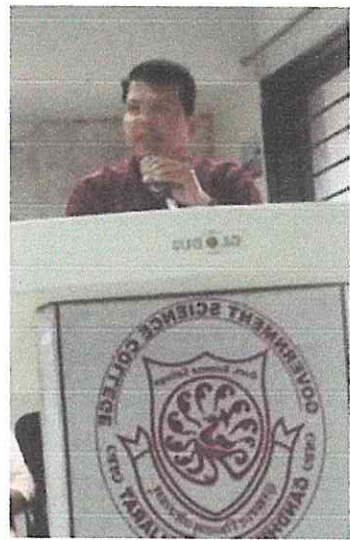
Amount of Funds: Rs. 42000.

Trainer: ISTEM Collective Foundation

Number of Participants: 53 (BSc Physics Students of Final Semester)

Total Number Of Participants: 53		Male:38		
		Female:15		
Category Wise Bifurcation Of Beneficiaries				
Open	SC	ST	SEBC	EWS
12	05	02	30	4





Inaugural session of Basic Robotics Training workshop and certificate program dated 21st March 2022 at Government Science College, Gandhinagar.



Workshop sessions were bifurcated in three main parts:

- Designing the structure
- Electronic circuitry
- Programming for interfacing hardware with Software

Designing:

The session initiated with explanation of designing concepts which covered the use of tools like 3D-printing which is latest technology for designing structures and Use of Tinker-CAD App for 3D design, electronics and Coding. Participants were given hands on session of 3D pen to make different structures using which they prepared various models.

Day-2

At second day of the training, participants were introduced with mechanical kits with hands - on with designing of STEM kits, which enhanced the creativity and skills of participants while designing different structures.



Structure designing using 3D painting and assembling STEM kits



Further the session was followed by explaining mechanism of drone designing and programming.



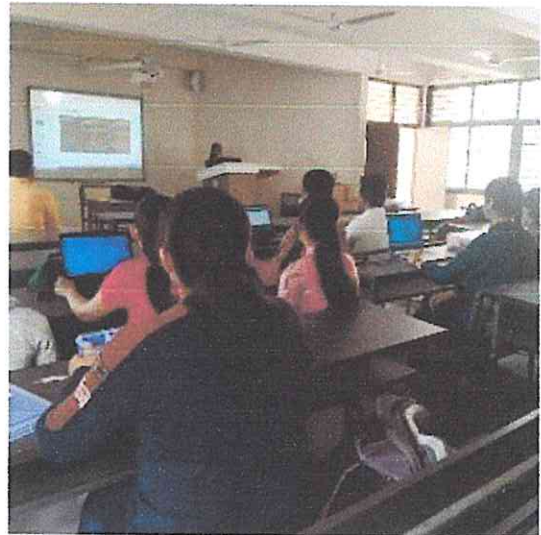
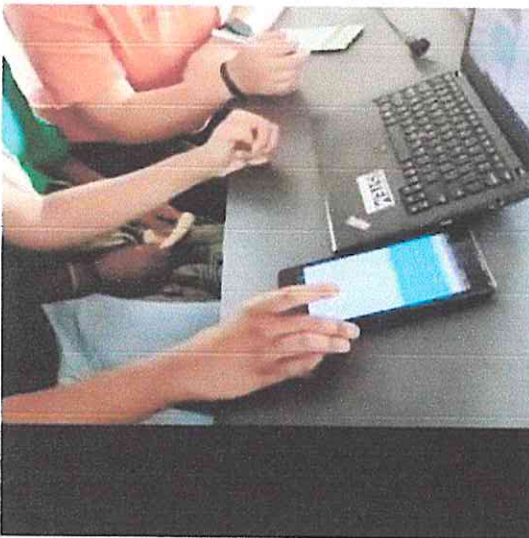
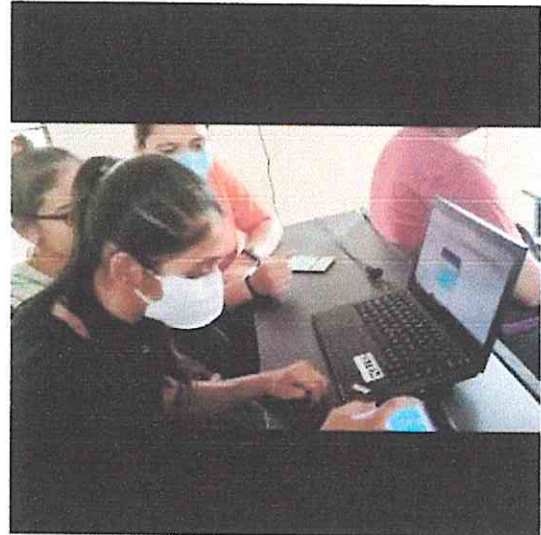
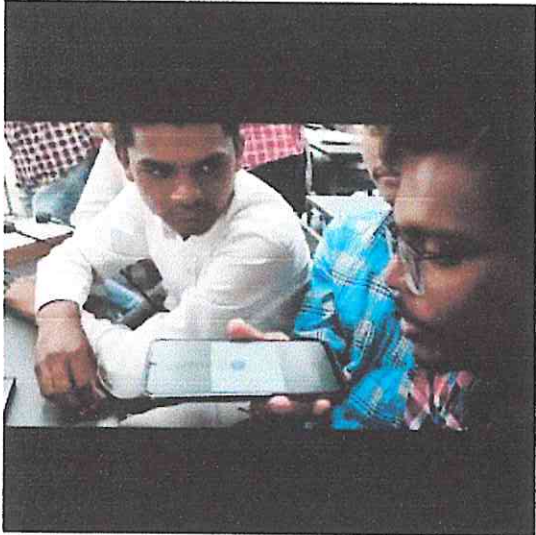
Drone Flying Session



Day-3

Electronics and Programming (Interfacing of hardware and software):

Third day of workshop was the session with Introduction to computer programming to create application software(apps) for operating systems like android and iOS using MIT app Inventor web Application. Using this, participants created Apps like Voice assistant, calculator and attendance system.

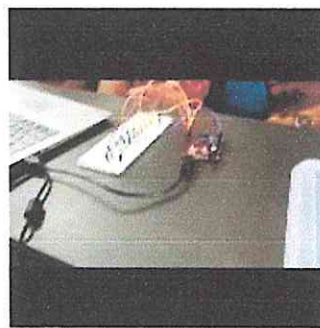
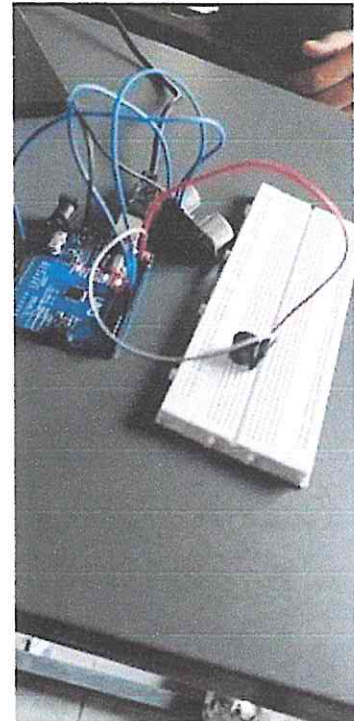


Creating Apps using MIT App Inventor



Day-4

On fourth Day of workshop Participants were given hands-on with various Electronics components like Sensors, microcontrollers to make automation based projects. Various projects using Temperature sensor, Humidity sensors, Gas sensor, IR sensor and Ultrasonic sensors were made by participants using Arduino interfacing

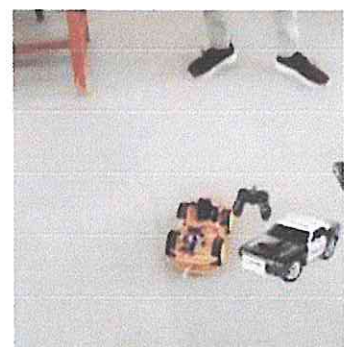
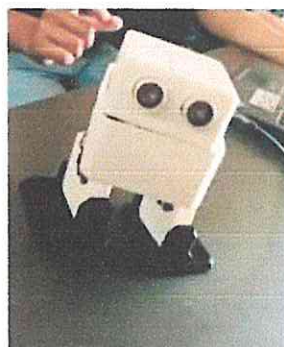


Sensors based projects like Distance sensor, Gas Sensors, Humidity Sensors and Wi-Fi operated electrical appliances, using Arduino



Day-5

On Fifth day of the workshop participants made Otto bot using 3D printed Otto bot body, sensors like ultrasonic sensor for distance sensing as the eye of Otto bot, servo motors for controlled motion of Otto bot and programmed it for various tasks by coding apps. Similarly, Bluetooth operated car was also made the participants which can be controlled by mobile interfaced with car.



Bluetooth controlled car and OTTO Bot



Valedictory Session:

The session was concluded with distribution of certificates to the successful participants in esteemed presence of Honourable Principal of the Institute Dr. M.G. Bhatt and Respected Chief guests of the Event Dr. Yogesh Yadav and Dr. Ekta Patel. Coordination of the Event was Done by Dr. Kashmira Tank and Vote of thanks was proposed by Dr. Pooja sharma.



Valedictory session and certificate distribution of Basic Robotics Training workshop and certificate program dated 25th March 2022 at Government Science College, Gandhinagar.



Outcome of the workshop:

After successful completion of the workshop participants have shown below given outcomes;

- Develop mechanical structure/prototyping using 3D printing and slicing software. (Basics of structure, Gears and Automobiles).
- Understanding of Electronic Circuits, Sensors and microcontrollers.
- Computational Thinking.
- Programming and hence Interfacing Motors with microcontrollers.
- Drone designing, Mobile Bluetooth operated Cars, Wi-Fi enabled controlled Devices, Developing mobile based apps.

Future scope:

- ❖ Widespread of Robotics training workshop to all HEIs will render the participants well equipped with knowledge and skill in the field of robotics which will help them to execute their ideas to reality rendering innovation in their respective fields.
- ❖ such trainings will be helpful in inculcating the concept of Innovation and startup in the participants.

Acknowledgement:

Government Science College, Gandhinagar is thankful to Knowledge consortium of Gujarat (KCG), Department of Education, Government of Gujarat for providing financial assistance to organize the "Basic Robotics Training Workshop and certificate program" at premises of Government Science college, Gandhinagar.



Local Organizing committee:

Sr. No.	Name	Designation
1	Dr. G. R. Patel	Chairman
2	Dr. P. U. Sharma	Convener
3	Dr. K. B. Zankat	Seniour member
4	Dr. C. K. Chauhan	Seniour member
5	Dr. K. P. Tank	Member
6	Mr. P.D. Chaudhary	Member
7	Dr. M. Y. Barot	Member
8	Mr. H. M. Patel	Member (Account)



“Basic Robotics training Workshop and Certificate Program” under “TEERTH” Scheme

Organized by

Government Science College Gandhinagar &
Knowledge Consortium of Gujarat (K.C.G), Ahmedabad

21-25 March 2022

Sr. No.	Name
1.	ACHARYA DILIPKUMAR GOVINDBHAI
2.	BARODAWALA AFIFAHMED SIDDIQAHMED
3.	CHAUDHARI HIRAL JASUBHAI
4.	CHAUHAN ASTHA RAKESH KUMAR
5.	CHAUHAN JANAKSINH SUMERSINH
6.	CHAUHAN JIGNESHSINH JAGATSINH
7.	CHAUHAN PREMKUMAR RAJESHBHAI
8.	CHAVADA SURENDRASINH JAGATSINH
9.	CHAVDA YUVRAJSINH MAHENDRASINH
10.	DARJI GOPI HASMUKHBHAI
11.	DARJI NEHULKUMAR BABUBHAI
12.	DESAI KINJALBEN BALDEVBHAI
13.	DEVMURARI UMANG VINODBHAI
14.	DODIYA JASPAL MANSINGBHAI
15.	DODIYA RAJ NATHABHAI
16.	GOR PURVANGI NITINKUMAR
17.	JAYSINH RATHOD
18.	KABARIYA DHRUVIK MAYURBHAI
19.	KAG AMARATBHAI VELAJI
20.	KARMUR RAHUL KESHURBHAI
21.	KHASIYA MANISHA BABUBHAI
22.	KHUSHI JAYSWAL
23.	LIMBACHIYA SIDDHARTHKUMAR SANJAYBHAI
24.	MAKWANA NIKUNJ SURESHBHAI
25.	MISTRY PARTH VIPULKUMAR
26.	MODI KUSH PANKAJBHAI
27.	PAREKH TIRTH ASHOKKUMAR
28.	PARMAR GIRISH BABABHAI
29.	PARMAR JIGARKUMAR BHARATBHAI
30.	PARMAR SVAJITSINH
31.	PARMAR URVASHIBEN KANTIBHAI
32.	PATEL KHUSHIBEN PANKAJKUMAR
33.	PATEL KUSHAGRA JAYESHKUMAR
34.	PAVRA BHAVESHBHAI GANESHBHAI
35.	PRAJAPATI HEMANGINIBEN ASHOKKUNAR
36.	PRAJAPATI RACHNABEN SURESHBHAI
37.	PRAJAPATI VAIBHAV MAHESHBHAI
38.	RABARI BHAVIK AMARATBHAI



13/16

“Basic Robotics training Workshop and Certificate Program” under “TEERTH” Scheme

Organized by

Government Science College Gandhinagar &
Knowledge Consortium of Gujarat (K.C.G), Ahmedabad
21-25 March 2022

39.	RAJPUT BHARATBHAI DHENGAJI
40.	RAJPUT SANTOSH MANJIBHAI
41.	RAKHOLIYA CHINTAN BHAVESHBHAI
42.	RANA NEEL CHANDRESH
43.	ROSHAN MISHRA
44.	SISODIYA DHARMRAJSINH GAJENDRASINH
45.	SODHA NARENDRASINH MOHANSINH
46.	SOLANKI JATIN RAGHUBHAI
47.	SOLANKI JINITARAJ VIJENDRASINH
48.	SUTHAR ASHOKBHAI PRABHUBHAI
49.	SUVAN ANKUR KUMAR RATANSINH
50.	TAMALIYA JYOTI JIVANBHAI
51.	VAGHELA NIRALI DASHARATHSINH
52.	VASAVA BHUMIKABEN CHHATRASINGBHAI
53.	YASH JITENDRAKUMAR PARMAR



No. KCG/TEERTH/08/2022/01
Date : 25/03/2022



KNOWLEDGE CONSORTIUM OF GUJARAT
EDUCATION DEPARTMENT, GOVERNMENT OF GUJARAT



&
GOVERNMENT SCIENCE COLLEGE, GANDHINAGAR, GUJARAT

EMERGING TECHNOLOGIES SKILLS ORIENTED TRAINING UNDER TEERTH SCHEME


Certificate of Participation





This is to certify that

ACHARYA DILIPKUMAR GOVINDBHAI

*has successfully participated and completed 5 Day's (30 hours) professional certificate programme under
TEERTH (Training for Excellence, Efficiency and Research Towards Higher Education) initiative of
KCG on STEAM Based Training for the Skill Enhancement "STEAM Robotics Masters Training and Certificate Program"
at Government Science College, Gandhinagar between 21st March 2022 to 25th March 2022.*


Dr. Mahendra G. Bhatt
Principal
Government Science College
Gandhinagar


Dr. Yogesh Yadav
Officer on Special Duty - TEERTH
Knowledge Consortium of Gujarat
Ahmedabad


Shri M. Nagarajan, IAS
Chief Executive Officer
Knowledge Consortium of Gujarat
Ahmedabad

સરકારી વિજ્ઞાન કોલેજ ખાતે પ્રોફેશનલ સર્ટીફિકેટ પ્રોગ્રામનો શુભારંભ



ગાંધીનગર, તા.૨૨

સરકારી વિજ્ઞાન કોલેજ, સેક્ટર-૧૫, ગાંધીનગર ખાતે નોલેજ કોન્સોર્ટિયમ ઓફ ગુજરાત (કેસીસી), સરકારી વિજ્ઞાન કોલેજ-ગાંધીનગર તેમજ ISTEM ફ્લેક્ટિવ કાર્ટીનેસનલ સંયુક્ત ઉપકરમે કોલેજના વિદ્યાર્થીઓ માટે આયોજિત પાંચ દિવસીય પ્રોફેશનલ સર્ટીફિકેટ પ્રોગ્રામ 'સ્ટીમ બેલડ ટ્રેનીંગ કોર્સ ય સ્ટીટ એનોસમેન્ટ'નો શુભારંભ કરવામાં આવ્યો છે.

સરકારી વિજ્ઞાન કોલેજમાં પ્રોફેશનલ સર્ટીફિકેટ કાર્યક્રમ



સેક્ટર-૧૫ ખાતે આવેલી સરકારી વિજ્ઞાન કોલેજમાં અભ્યાસ કરતાં વિદ્યાર્થીઓ માટે પ્રોફેશનલ સર્ટીફિકેટ પ્રોગ્રામનો પ્રારંભ કરવામાં આવ્યો છે. જેમાં અલગ અલગ તાલીમ અપાઈ રહી છે



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and Gujarat Samachar News paper cutting