



Department of Electronics & Communication Engineering

GOVERNMENT POLYTECHNIC FOR GIRLS, SURAT

APRIL 2024 Vol.-01

EC TRENDS

E-Newsletter



Vision:

Be an excellent department for girls to empower them in the field of Electronics and Communication engineering to excel in industry and serve society.

Mission:

- To prepare professionally competent students and staff through academic excellence.
- To create a conducive environment in the department for exchange of ideas and knowledge.
- To provide opportunities in the department for skill development and innovation.
- To provide resources and infrastructure for best learning experience in the department.

Message from Head of Department



Mrs. KUNDAN. N. VAGHELA

Hello students!

We are thrilled to announce that we have reached a significant milestone – the publication of our of the EC department E-Newsletter!

Over the past few years, we've been on a journey of sharing news, celebrating achievements, and fostering a sense of community through our e-newsletter. Each volume has been a collaborative effort, and we're proud to have reached this 13th edition. Your contributions have been the heartbeat of our e-newsletter, and we look forward to more in the future!

The journey doesn't stop here. We are committed to bringing you more exciting news, achievements, and engaging content in the upcoming volumes.

Thank you, for your continued support, readership, and engagement. We invite you to share your thoughts, feedback, and suggestions as we embark on the next phase of our e-newsletter journey.

Thank You.

Nidhi Agarwal have published a document in electronics4u on “**Sustainable Battery Material for Electric Cars**” @ 22 January 2024. Here we have taken this document so that all can be aware of latest trends in electronics/technology.

SUSTAINABLE BATTERY MATERIAL FOR ELECTRIC CARS

By Nidhi Agarwal

MIT researchers have created eco-friendly batteries for electric cars, matching cobalt-based batteries in cost-effectiveness with the potential for lithium replacement. Numerous electric vehicles rely on batteries containing cobalt, a metal associated with significant financial, environmental, and social burdens.

MIT researchers have created a sustainable battery material for electric cars using an organic cathode instead of cobalt or nickel. It matches cobalt-based batteries in conductivity and capacity and charges faster at a lower cost.

Alternatives to cobalt

The team aims to develop an organic battery suitable for powering electric vehicles. While exploring porous materials combining organic and inorganic elements, they unexpectedly discovered a fully organic material with promising conductivity characteristics. This substance comprises numerous layers of TAQ, an organic molecule featuring three fused hexagonal rings, which can extend in multiple directions, resembling a graphite-like structure. Within these molecules, Quinone's act as electron reservoirs, while amines facilitate the formation of robust hydrogen bonds. These hydrogen bonds contribute to the material's high stability and remarkable insolubility, a crucial trait preventing it from dissolving into the battery's electrolyte, thus extending its lifespan, unlike other organic battery materials.

Strong performance

Tests of this material have demonstrated that its conductivity and storage capacity are on par with conventional cobalt-based batteries, and batteries featuring a TAQ cathode exhibit faster charging and discharging rates, potentially accelerating the charging process for electric vehicles. Researchers introduced filler materials like cellulose and rubber to enhance the stability and adhesion of the organic material to the battery's copper or aluminium current collector.

These fillers constitute less than a tenth of the overall cathode composite, thus having negligible impacts on the battery's storage capacity. Additionally, these fillers extend the cathode's lifespan by preventing it from cracking as lithium ions flow in during charging. The key components required for manufacturing such cathodes—Quinone and amine precursors—are readily available as commercial products produced in substantial quantities as commodity chemicals. Researchers estimate that the material cost of assembling these organic batteries could be roughly one-third to one-half the cost of cobalt batteries.

The researchers aim to explore replacing lithium with more affordable and abundant sodium or magnesium in future battery materials.

Reference:

<https://www.electronicsforu.com/news/sustainable-battery-material-for-electric-cars>

EVENTS

A wide and diversified range of extracurricular activities exists on GGP, SURAT campuses. Students become involved in extracurricular activities not only for entertainment, social, and enjoyment purposes, but most important, to gain and improve skills and offer many social opportunities while also promoting service.

EC/ICT Department

A Expert Lecture on **"Journey of Life: Know Thyself"** which aims to promote universal human values with a focus on mental, spiritual, and social well-being among our 6th Semester students was held on 19-01-2024, Friday: Time: 3:00 P.M @ V.K. Hall, GPG, Surat.



Visit at **"SRITA SAGAR SPORTS SANCUL"** for 1st semester EC & ICT Students was organized on 13-10-2023.



Visit of 1st semester ICT for **"Start-up Conclave 2023"** at Gandhinagar on 10/12/2023 was organized. By visiting such industrialist students got motivated and also gained ideas for entrepreneurship and major projects.



Visit of “**Vibrant Gujarat 2023**” for final year students was organized on 13/01/2024.



An Awareness Talk was organized as a part of woman’s day celebration on “**Lifestyle Diseases**” by Dr. Sanjay G. Shah, Medical officer of SVNIT, Surat at V.K. Hall on 07.03.2024.



Expert Session By Miss Pruthvi Patel Organic Farmer, Art Of Living Foundation On “**Know Your Food Grow Your Food**” Under Mission Life Event Organized By Mission Life Committee members of G.P.G., Surat On 29.02.2024@ V. K. Hall ,G.P.G.Surat.



Seminar on “**A way to placement success**” by Mr. Bhavesh B. Rana, G.P.G., Surat On 20.01.2024 @ V. K. Hall, G.P.G., Surat.



Short Term Training Program
“AI in Academics” is
 organized from **19-02-2024 TO**
23-02-2024 at Venue
 Government Polytechnic for
 Girls, Surat. Total 30 faculties
 from different institute and
 program of Gujrat Technical
 Education, Gujarat state,
 Gandhinagar. Have attended
 the training which is jointly



organized by Computer Department and IT Department. 03 staff of Electronics and communication Department has attended the above mention training.

17.2.2024 IQAC meeting at 11:00 A.M. @ V. K. Hall , GPG Surat.



Inauguration with expert Talk of **ISTE Student Chapter** By chief guest Dr. S. R. Joshi , Principal And Expert “ Mr. Rajesh Pradhan “ on 01.03.2024 at 3:00 P.M. @ V. K. Hall, GPG Surat.



Live Telecast of Laying Foundation Stone Programme Of “Three Semiconductor Facilities “at Dholera, Sanand Gujarat. Addressed by The Prime Minister, Shri Narendra Modi on 13.03.2024 at 10:30 A.M. @ V. K. Hall., S.P. HALL, GIRLS HOSTEL HALL G.P.G.SURAT.



Gymkhana Activities

“Navratri Celebration”

Garaba organized on 27th October, 2023 under the GYMKHANA Committee. Function was started 3.00 PM at GGP, SURAT ground.



Garaba began with pleasing MAA AMBE by an auspicious aarti, done by Shri JOSHI SIR (PRINCIPAL), Head of all the Departments and organizing team of staff and students. Function lasted for 3 hours and called off around 6 PM. Overall, great fun filled time was witnessed by students and staff of GGP, SURAT at its fullest.

“Sports Week Celebration”

Sports week was celebrated from 26th MARCH, 2024 to 30th MARCH, 2024 in GPG, Surat, campus only. During this week many sports events and competitions were organized. Students from all the classes participated in various indoor and outdoor games of their choice with so much enthusiasm, these include individual as well as team activities. Those who were the winners, got rewards for their achievement on the last day of the event. The students were very much excited after all this was the time to enjoy beyond the studies. Whole institute participated in it in one or another possible way. Below are the glimpse of sports events



Online broadcasting "Vision for VIKSIT BHARAT@2047" addressed by The Prime Minister, Shri Narendra Modi on 11.12.2023 at 10:00 A.M. @ V. K. Hall.



Online broadcasting awareness to "NEW MATDATA" addressed by The Prime Minister, Shri Narendra Modi on 25.01.2024 at 10:00 A.M. @ V. K. Hall, GPG Surat.



NCC/NSS Activities



NSS Day
Celebration at
GPG SURAT
@ 06-10-2023



SWACHAATA
ABHIYAN
Celebration at
GPG SURAT @
07-10-2023



SWACHAATA
ABHIYAN
Celebration at EC
Department,
GPG,SURAT @
03-11-2023



Cleanliness
awareness
at the fort
of Surat @
02.03.2024

75th Republic Day Celebration Dt.: 26/01/2024

We have celebrated 75th Republic Day on January 26, 2024 at GPG Surat. The day holds importance because the Constitution of India came into force and India became a sovereign state on January 26, 1950. While India gained independence from the British Raj in 1947, it was this day that India became a republic. The staff and students of GPG Surat Campus gathered with great enthusiasm. The flag hoisting took place at 9:30 am followed by the singing of the national anthem.



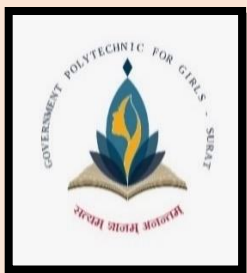
17.2.2024
“DENTAL
CAMP” by
lions club at
2:30 P.M. @
Ground Floor,
Girls Hostel,
GPG Surat.



28.02.2024 “Thalassemia Test Drive” for 2nd Semester students @ GIRLS
HOSTEL HALL by Red Cross Society.



★ STUDENT'S ACHIEVEMENTS ★



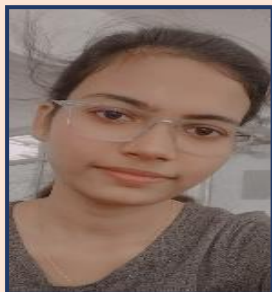
**GOVERNMENT POLYTECHNIC FOR GIRLS,
SURAT**
*Electronics & Communication Engineering
Department*



Wishing all of you a heartfelt congratulation for putting up such an extraordinary performance in your exam.

DEPARTMENT TOPPERS OF GTU EXAM TERM 231

3rd YEAR SEM-05 EC TOPPERS



RANK : 1ST SPI – 8.96

SAHANI PRABHA P.
(216150311016)



RANK 2nd SPI – 8.57

YADAV SHUBHAM R.
(216150311007)



RANK 3rd SPI – 8.13

SHUKAL MAITRY H.
(216150311001)

2nd YEAR SEM-03 EC TOPPERS



RANK 1ST SPI – 8.6

PANCHAL RIYA K.
(226150311012)



RANK 2nd SPI – 7.55

HIRPARA HIYA
(226150311006)



RANK 2ND SPI – 7.3

PATEL PRAGNIKA D.
(226150311014)

★STUDENT'S ACHIEVEMENTS★



GOVERNMENT POLYTECHNIC FOR GIRLS, SURAT *Information & Communication Technology Department*



Wishing all of you a heartfelt congratulation for putting up such an extraordinary performance in your exam.

DEPARTMENT TOPPERS OF GTU EXAM TERM 231

2nd YEAR SEM-03 ICT TOPPERS



1 ST RANK SPI – 9.35
SHUKLA RASHI
OMPRAKASH
(226150332064)



RANK 2 ND SPI – 9.20
SAHANI NANDA PRAHLAD
(226150332058)



3 RD RANK SPI – LOHAR
PRIYA MAHENDRABHAI
(226150332025)

DEPARTMENT TOPPERS OF GTU EXAM TERM 231

1st YEAR SEM-01 ICT TOPPERS



1 ST RANK SPI – 8.95
DALAL ANJALI SUNIL
(236150332013)



2 ND RANK SPI – 8.79
VARSAIDIYA PALAK
RAJENDRAKUMAR
(236150332075)



3 RD RANK SPI – 8.63
CHAMRIYA KHUSHILA
UMEDBHAI
(236150332008)

★STUDENT'S ACHIEVEMENTS★

Electronics and communication department students won the gold in “CARROM - SHAURYA – 2024” sports event at Government Polytechnic for Girls, Surat. The players were:

- Ms. Rajput Somyasingh B. (236150311021)
- Ms. Kalpana Latwal (236150311006)



The Information and Communication Technology (ICT) department finished as the runner-up in the Cricket Tournament, demonstrating commendable performance and resilience in their journey to the final. Final Match: ICT vs ELE held on Date: 30/03/2024 at 4:00 PM Onwards @ GPG, Surat, Campus. The ICT team put up a spirited fight until the very end, their efforts were laudable, earning them the recognition and respect of all Cricket Team of ICT.

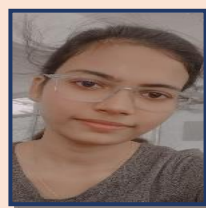
- Happy Patel V (226150332040)
- Pandya Manshi M (226150332036)
- Patel Yashvi R. (226150332048)
- Soni Shushmita R. (226150332067)
- Patil Sakshi S (226150332053)
- Patel Vidikhsa B. (226150332047)
- Patel Vedika G. (236150332048)
- Pawar Harshini A. (236150332058)
- Khabhati Aayushi K. (236150332025)



★ STUDENT'S PLACEMENT ★

Congratulations to the following students of the final year students of EC Department for being selected in campus placement at "Micron Semiconductor Technology India Private Limited" @sanand, Ahmedabad, Gujarat with good salary package 276000 per year.

1. SAHANI PRABHA P.
2. YADAV SHUBHAM R.
3. PANDEY PRATISTHA L.



SAHANI PRABHA P.
(216150311016)



YADAV SHUBHAM R.
(216150311007)



PANDEY PRATISTHA L.
(216150311004)

STAFF ACHIEVEMENT

- Mrs. Kundan N. Vaghela (HOD E.C.), Kum. Kalpana R. Chaudhari and Mr. Divyeshkumar U. Patel has completed the training on "AI in Academics" @ Government Polytechnic for Girls, Surat, during 19-02-2024 TO 23-02-2024.



- Mr A.D Dobariya & Mr. N.N Gamit has completed the training on "C Programming and Assembly Language" @ IIT Madras (Online MOOC Swayam Portal) during 21/08/2023 to 15/09/2023.

- Mr. M V Desai has completed the training on "Introduction To Machine Learning" @ IIT Kharagpur (Online Nptel MOOC Swayam Portal-) during 24/07/2023 to 15/09/2023.



- Mrs H. R. Mehta has completed the training on "Stress Management" @ IIT Kharagpur (Online Nptel MOOC Swayam Portal) during 21/8/2023 To 15/09/2023.

- Mr. D.Y Vankawala & Mr. R.P.Hun has completed the training on "Semiconductor Technology & Manufacturing (With Hands on Training)" @ IIT, Bombay during 06/11/2023 to 10/11/2023.

