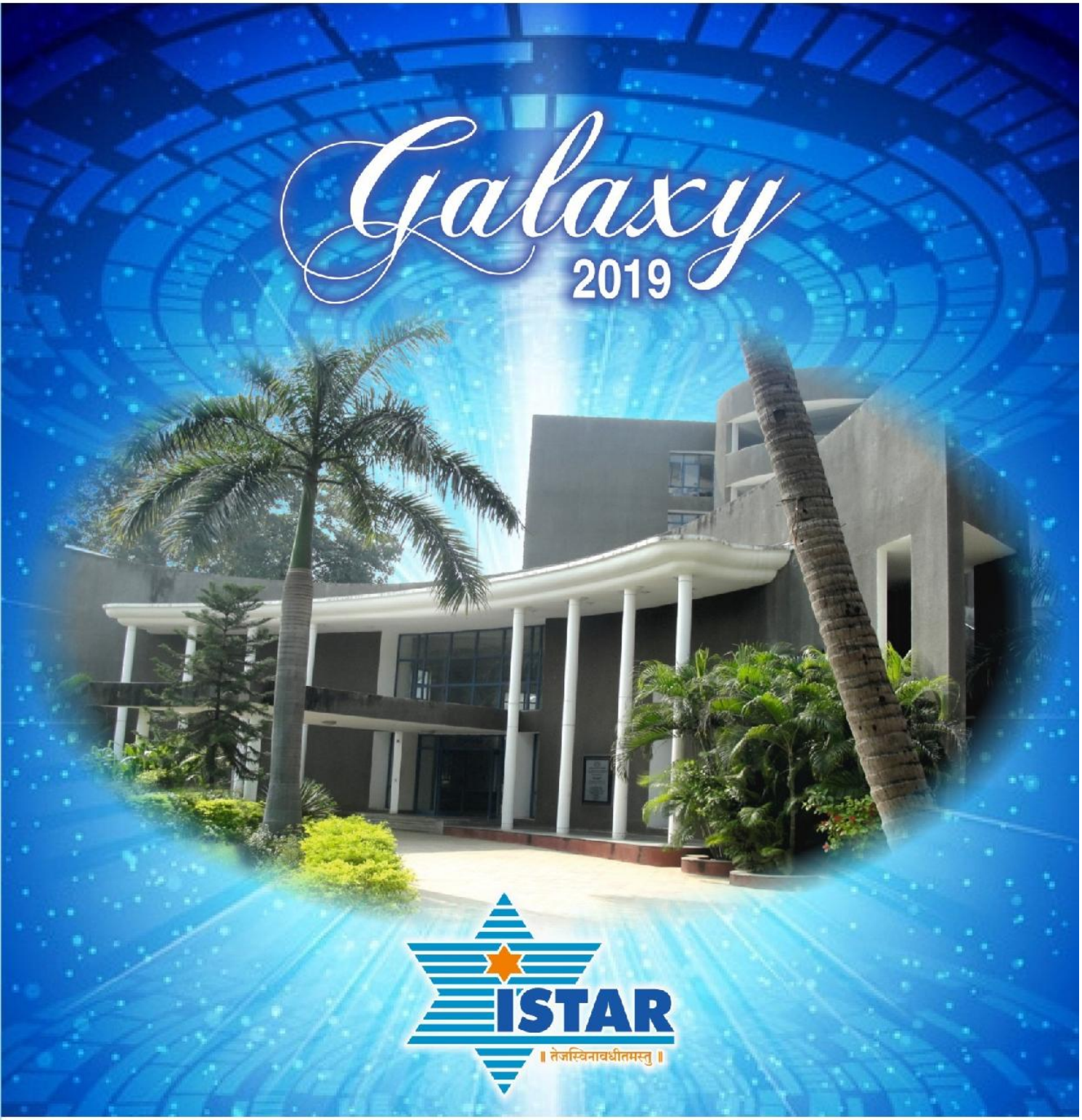
Galaxy 2019



ISTAR

॥ तेजस्विनावधीतमस्तु ॥

CHARUTAR VIDYA MANDAL'S

INSTITUTE OF SCIENCE & TECHNOLOGY FOR ADVANCED STUDIES & RESEARCH

Accredited "A" Grade by NAAC

Sardar Patel Centre for Science &Technology, Vallabh Vidyanagar – 388 120


INSTITUTE OF SCIENCE & TECHNOLOGY
FOR ADVANCED STUDIES & RESEARCH
19TH ANNUAL DAY CELEBRATIONS

Galaxy 2019

ANNUAL MAGAZINE

OF

ISTAR
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राष्ट्रीय मूल्यांकन एवं प्रत्यायन परिषद

विश्वविद्यालय अनुदान आयोग का स्वायत्त संस्थान

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

An Autonomous Institution of the University Grants Commission

Certificate of Accreditation

The Executive Committee of the
National Assessment and Accreditation Council
on the recommendation of the duly appointed
Peer Team is pleased to declare the
Institute of Science & Technology for
Advanced Studies & Research (ISTAR)
Vallabh Vidyanagar, Dist. Anand, affiliated to Sardar Patel University, Gujarat as
Accredited
with CGPA of 3.10 on four point scale
at A grade
valid up to September 23, 2019

Date : September 24, 2014

Director

EC(SC)/03/A&A/04

Er. Bhikhubhai B. Patel
Chairman,
Charutar Vidya Mandal

Chairman's Message

It gives me immense pleasure to learn that Institute of Science & Technology for Advanced Studies & Research (ISTAR)(managed by Charutar Vidyamandal), Vallabh Vidyanagar is publishing its college magazine "GALAXY"which is to be published on its 20th Annual day celebrations. ISTAR was established in 1999 and since then it has continued not only in providing good opportunities through offering novel programs at PG level in Science and Technology, but also caters to the present need of the industries and R & D sectors. I feel our students of ISTAR must imbibe the spirit of searching mind, critical thinking and innovative ideas. Faculty members of ISTAR shall emphasize on conducting research because it is a great source of knowledge and teaching.

I congratulate Principal, Staff, Students and ISTAR Students council who have contributed their painstaking efforts for publishing this magazine "GALAXY 2019".

I CONVEY MY BEST WISHES TO EVERYONE IN THEIR ENDEAVOR.

Prof. Dr. Nirmal Kumar, J.I.

From the Desk of Principal

The Galaxy-2019 magazine is a milestone that marks our growth, unfolds our imaginations, and gives life to our thoughts and aspirations. It unleashes a wide spectrum of creative skills, student activities, medals, honours, games and sports, success and achievement of its pursuits. ISTAR is not only strives to train the students to become excellent industrialists, scientists, technologists, thinkers or leaders of the society, but also helps to mould themselves into better human beings and future citizens of India. ISTAR provides a platform for students to get prepared to face the challenges of the corporate world, pursue academic excellence in Science and Technology education through high standards of quality programs in teaching, research, on-site industrial training and services. Experienced, technical and expertized faculties are playing active role in imparting quality education and excellent training to the students inculcating in their future of leadership in various professions, industries and other field of development.

Imparting professional education combined with fostering innovative thinking, character building, application of skilled knowledge, consciousness to social responsibilities, and inculcating professional principles are integral part of education at ISTAR. I believe that the GALAXY – 2019 is envisaging various activities, achievements & competitions of ISTAR family.

I congratulate the entire editorial team for their hard work and dedication in making this dream come true. I am confident with the support of enlightened management of Charutar Vidya Mandal under the patronage of Er. Bhikhubhai B. Patel Sir, ISTAR will certainly attain higher horizons in the era of knowledge economy in the globalized world. I compliment faculty members and students who have contributed in publishing magazine of ISTAR "Galaxy-2019".

Vision

To add significantly to our enduring civilizational tradition of pioneering excellence in learning, knowledge, enlightenment and self-realization, in a Universally relevant context.

Mission

We dedicate ourselves to the perpetuation of our Founders' Vision of providing the infrastructure, facilities, operating conditions and overall environment conducive to the Education of young scholars, along with the desired physical, mental and character building inputs; we firmly renew our commitment to providing value added, globally relevant Education with an emphasis on the Techno Management domain, to ensure that our scholars fruitfully exercise their knowledge, skills and values in the global economy.

Objectives

- To create and nourish a stimulating learning environment that ensures a globally relevant Education based on Eternal human valuers;
- To forge and reward excellence in the curricular as well as the non-curricular sectors so as to ensure the scholars' global competitiveness;
- To tap, nurture and unleash the innovative entrepreneurial abilities of scholars and thereby ensure life-long socio-economic, value addition;
- To evoke and embellish the finest traits of human excellence that go on to dovetail into a sustainable career growth curve;
- To affiliate, associate, liaise or otherwise synergize with any institution, body, entity, ethno cultural diaspora and the overall global fraternity in any form whatsoever, in support of the above;
- To initiate, consolidate and extrapolate any objectives, functions and activities in support of the above.

CONTENT

From the Editor's Desk

It is a matter of immense honour to be the members of editorial board of 'GALAXY 2019' to be released on the occasion of 20th Annual day. Galaxy describes academic and extra curricular achievements of students.

The magazine provides a meaningful platform for students to show their technical skills and novel ideas. The matter presented here gives an idea about academic and holistic development of students of ISTAR, through wide and varied exposure and comprehensive training in the conducive environment of the Institute.

It is our privilege and pride in compiling and editing write-ups and articles for publication of Galaxy 2019.

Galaxy Editorial Board

Prof. Nirmal kumar J.I.

Dr. Rohit H. Dave
Mr. Umang Patel
Mr. Krunal Shuthar
Dr. Suchita Patel
Dr. Niky K. Jain
Mr. Abhishek Raval

Ms. Yukti Sharma

STUDENTS COUNCIL 2018-19

President : Prof. Nirmal kumar J.I.

Vice President: Er. Rupesh T. Shah

Sports Advisors	Dr Mandar Karve	**General Secretary**	Abhishek Raval
Cultural Advisors	Dr. Dhruti Patel (coordinator)	**Ladies Representative**	Yukti Sharma
	Dr. Niky Jain	**Sports Secretary**	Shubham Panchal, Satpal Baria
	Ms. Unnati Patel	**Cultural Secretary**	Kirtan Bhatt, Yugen Dave
NSS Coordinator	Dr. Mayank Patel		Ranison Jadav
		NSS Representatives	Kiran Bhamblani, Jayduttsinh Jadeja, Utsav Patel

CLASS REPRESENTATIVES (2018-19)

Sr. No.	Class	Name of Class Representative
1.	M.Sc. (I C) 1st year	Harikrushna A. Bhatt
2.	M.Sc. (I C) 2nd year	Abhishek J. Raval
3.	M.Sc. (SCT) 1st year	Jayduttsinh J. Jadeja
4.	M.Sc. (SCT) 2nd year	Shubham Y. Panchal
5.	M.Sc. (PST) 1st year	Rudresh M. Trivedi
6.	M.Sc. (PST) 2nd year	Harshit Y. Prajapati
7.	M.Sc. (OC) 1st year	Jigar G. Lad
8.	M.Sc. (OC) 2nd year	Meet Premjibhai Chaudhari
9.	M.Sc. (IT) 1st year	Ranison K. Jadav
10.	M.Sc. (EST) 1st year	Riya Shah

Sr. No.	Class	Name of Class Representative
11.	M.Sc. (EST) 2nd year	Yukti Sharma
12.	M.Sc. (INSTRU) 1st year	Keyur Rana
13.	M.Sc. (INSTRU) 2nd year	Kirtan Bhatt
14.	M.Sc. IHS 1st Year	Dhaval Bhadja
15.	M.Sc. IHS 2nd Year	Tapan Joshi
16.	M.Sc. Valuation 1st Year	Rushabh R. Shah
17.	M.Sc. Valuation 2nd Year	Sahil Vamja
18.	M.Sc. (Geo Informatics) 1st Year	Kiran Bhamblani
19.	M.Sc. (Geo Informatics) 2nd Year	Utsav Patel

S. P. UNIVERSITY EXAM RESULTS FOR THE ACADEMIC YEAR (2017-18)

Sr. No.	Course	Result %
1	M.Sc. Industrial Chemistry	98
2	M.Sc. Surface Coating Technology	100
3	M.Sc. Organic Chemistry	86
4	M.Sc. Environmental Science & Technology	100
5	M.Sc. Polymer Science & Technology	100
6	M.Sc. Instrumentation & Control	100
7	M.Sc. Information Technology	100
8	M.Sc. Industrial Hygiene and Safety	100
9	M.Sc. Real Estate Valuation	100
10	M.Sc. Plant & Machinery Valuation	100
11	M.Sc. Geoinfomatics	100

STARS OF ISTAR WHO WON GOLD MEDAL IN 2018 UNIVERSITY EXAMINATION

Sr. No.	Department	Name of Awardees	Name of the Gold Medal	Photo
1	Industrial Chemistry	Ms. Simrankaur Jasbirsingh Sandhu	Charutar Vidyamandals Dr. R. P. Patel gold medal	
2	Surface Coating Technology	Parassinh Rathod	1. O C Shah Usha Paints Gold Plated Medal 2. Soujanya Enterprise Gold Medal	
3	Environmental Science & Technology	Sumer Pankaj	S. P. University Gold Medal	
4	Polymer Science & Technology	Deepak Viroja	Yashodharaben Ambalal Patel CVM Gold medal	
5	Instrumentation & Control	Ms. Bhumi Patel	1. Smt. Vimalaben G. Patel & Shri Gunvantbhai C. Patel Gold Medal 2. Prof. L. M. Anjaria Charutar Vidya Mandal Gold Medal	
6	Industrial Hygiene and Safety	Dhaval P Patel	CVM Gold medal	
7	M.Sc. (Real Estate Valuation)	(1) Priyal Pranay Mehta (2) Geet Prashant Shah	Smt. Vasantben Chunilal Shah Gold Medal	 
8	M.Sc. (Plant & Machinery Valuation)	Kristal Kantibhai Gondaliya	Shri. Pragji Dharashi Budhbhatti Gold Medal	

ISTAR IN NEWS

આઇસ્ટાર કોલેજમાં નેતૃત્વ કૌશલ્ય વિશે નાટકીય રૂપાંતર યોજાયું

આણંદ | ચારૂતર વિદ્યામંડળ સંચાલિત આઈસ્ટાર કોલેજ ખાતે તાજેતરમાં નેતૃત્વ કૌશલ્ય વિષય ઉપર નાટકીય રૂપાંતરણ યોજાયું હતું. જેમાં મુખ્ય મહેમાનપદે સીવીએમના સહમંત્રી મયુરભાઈ પટેલ ઉપસ્થિત રહ્યા હતા. કાર્યક્રમની શરૂઆતમાં આઈસ્ટાર કોલેજના આચાર્ય પ્રોફે. નિર્મલકુમારે વિદ્યાર્થીઓને નેતૃત્વની ગુણવત્તા અને નેતાના સદગુણો વિશે માહિતી આપી હતી.

આંતર કોલેજ ટેબલ ટેનિસ સ્પર્ધામાં આઇસ્ટાર કોલેજ ચેમ્પિયન બની

આણંદ | સરદાર પટેલ યુનિવર્સિટી આયોજિત વર્ષ 2018-19 માટેની આંતર કોલેજ ટેબલ ટેનિસ સ્પર્ધામાં બોયઝ વિભાગની ફાઈનલ મેચમાં ચારૂતર વિદ્યામંડળ સંચાલિત આઈસ્ટાર કોલેજે પી. જ. ડીપાર્ટમેન્ટ ઓફ એસપીયુ સામે વિજય મેળવી ચેમ્પિયનશીપ મેળવી હતી. આ વિજય બદલ સીવીએમના ચેરમેન ભીખુભાઈ પટેલે ટીમના ખેલાડીઓ જૈમિન, ઋષભ, હર્ષિત, હર્ષ અને સર્જનને હાર્દિક અભિનંદન આપીને બિરદાવ્યા હતા. તેમજ આઈસ્ટારના ઈન્ચાર્જ પ્રિન્સિપાલ પ્રો. નિર્મલકુમાર ટીમ શુભેચ્છા પાઠવી હતી.

આઇસ્ટાર ખાતે એન્ટરપ્રિન્યલ ઉપર ટોકનું આયોજન

આણંદ, તા. ૧૪

ચારૂતર વિદ્યામંડળ સંચાલિત આઈસ્ટાર કોલેજના ઈન્ડસ્ટ્રિયલ કેમેસ્ટ્રી ડિપાર્ટમેન્ટ ખાતે મોટીવેશનલ ટોકનું આયોજન કરવામાં આવ્યું હતું. આ પ્રસંગે સરદાર પટેલ યુનિવર્સિટીના એમ.બી.એ. ડિપાર્ટમેન્ટ ના પ્રોફેસર ડો. રાજુભાઈ રાઠોડે 'એન્ટરપ્રિન્યલ ઓપોચ્યુનીટી અને પોસીબીલીટી' વિષય ઉપર પોતાનું વ્યાખ્યાન રજૂ કર્યું હતું. આ વ્યાખ્યાન અંતર્ગત તેમણે વિદ્યાર્થીઓને પોતાના ભવિષ્યને પોતાના બળે કંડારવા પ્રોત્સાહિત કર્યા હતા. જીવનમાં આગળ વધવા અને ધ્યેય પ્રાપ્ત કરવા સખત પુરૂષાર્થ કરવા પ્રેરણા આપી હતી. વિદ્યાર્થીઓ એન્ટરપ્રિન્યલ ઓપોચ્યુનીટી વિષે માહિતગાર થયા હતા. ત્યારબાદ ડિપાર્ટમેન્ટના વડા ડો. જીગર પટેલે, ડો. રાજુભાઈને આવકાર્યા હતા અને અંતમાં ડો. મંદાર દવેએ સ્મૃતિચિન્હ આપી આભાર વ્યક્ત કર્યો હતો.

ઈન્ડસ્ટ્રીયલ કેમેસ્ટ્રી વિભાગ, આઇસ્ટારમાં રીલાયન્સ ઈન્ડસ્ટ્રીઝનો મેગા પ્લેસમેન્ટ ડ્રાઇવ

આણંદ, તા. ૫

વિશ્વ કક્ષાએ અગ્રીમ એવી રીલાયન્સ ઈન્ડસ્ટ્રીઝ લિમિટેડ, જામનગર તથા એમ.સી. ઈન્ડસ્ટ્રીયલ કેમેસ્ટ્રી (આઈસી) વિભાગ, આઈસ્ટારના સંયુક્ત ઉપક્રમે એમ.સી. (એમ.એસસી)ના ૪થા સેમેસ્ટરના વિદ્યાર્થીઓ માટે 'કેમ્પસ પ્લેસમેન્ટ ડ્રાઈવ'નું સફળ આયોજન કરવામાં આવ્યું હતું. આ પ્લેસમેન્ટ ડ્રાઈવમાં રીલાયન્સના જગવિખ્યાત રીફાઈનરી કોમ્પ્લેક્ષ, જામનગર માટે 'ફિલ્ડ ઓફિસર'ની નિમણૂકની પ્રક્રિયા હાથ ધરાઈ હતી.

આ પ્રક્રિયામાં આઈસ્ટાર કોલેજના ઈન્ડસ્ટ્રીયલ કેમેસ્ટ્રી ઓર્ગેનીક કેમેસ્ટ્રી ઉપરાંત આણંદ અને વડોદરાની વિવિધ કોલેજોના ૨૦૦ ઉપરાંત વિદ્યાર્થી ભાઈ-બહેનો જોડાયા હતા. પસંદ થયેલાને વાર્ષિક ૩.૦ લાખનું પેકેજ આપવામાં આવશે.

સમગ્ર પ્રક્રિયાનું કો-ઓર્ડિનેશન રીલાયન્સ ઈન્ડ.લી. ના એચ.આર. મેનેજર કુલીન ત્રીવેદી તથા આઈ.સી. વિભાગ આઈસ્ટારના ડો. રોહિત દવે તથા સ્ટાફે કર્યું હતું. પ્રિન્સિપાલ પ્રો. નિર્મલ કુમારે સમગ્ર વ્યવસ્થા પૂરી પાડી હતી.

PRIZE WINNERS IN VARIOUS COMPETITIONS (2018-19) (Extra curriculum Activities)

Sr.No	Department	Event Name	Name of the Studen	Prize
1	Industrial Chemistry	Best Industrial Visit Report writing	Vidhi Patel, Sem-4	1st
			Kalpin Patel, Sem-4	2nd
		Best Industrial Visit Report writing	Smit Jariwala, Sem-2	1st
			Jayani Patel, Sem-2	2nd
		Best costume male , Ratri Before Navratri	Harshit Ganatra	1st
		Best Action Male, Ratri Before Navratri	Jitesh Karangiya	1st
2	Organic Chemistry	Kite Flying	Jigar Lad, Krunal Patel, Nikhil Suthar, Nilay Jeeyani, Arthav Pandya, Yogshakti Solanki, Akshay Patel, Jaman Kachchatiya, Rahul Koriya, Meet Patel	2nd
3		Best costume female, Ratri Before Navratri	Disha Ajudiya	1st
4	Instrumentation & Control	Patriotic Song	Mr. Arpit Patel	1st
5	Organic Chemistry	Poster Making Competition on Teacher's Day	Ruchir Pandya	1st
6	Organic Chemistry	Best Good Looking in Garba	Disha Ashvinbhai Ajiudiya	1st
7	Organic Chemistry	Rangoli Competition	Mansiben Bhikhabhai Patel & Disha Ashvinbhai Ajiudiya	2nd
8	Organic Chemistry	Banner Making Competition on "Swach Bharat Abhiyan"	Desai Ustav - Sem-III, Jigarkumar G. Lad -Sem-I, and Roshni Soloman - Sem-I	1st
9	Organic Chemistry	Classical Vocal Solo at Inter Collegiate Youth Festival 2018-19.	Mr. Kedar Vyas (M.Sc. Sem-I)	2nd
10	Organic Chemistry	Classical Instrumental Solo (Percussion) at Inter-Collegiate Youth Festival 2018-2019.	Mr. Harnish Patel (M.Sc. Sem-I)	1st
11	Information Technology	Rangoli Competition (WDC)	Badal Patel, Pranay Rawat	1st
		Best out of Waste Competition (WDC)	Kesha Parekh, Mansi Modha	1st
		Best out of Waste Competition (WDC)	Ranison Jadav, Urvi Patel	2nd
		Best Action (Female) Navratri Competitions	Urvi Patel	1st
		Women & Environment Symposium organized by CVM-WDC & VNC, V.V.Nagar	Kesha Parekh & Group	1st
		Web Programming – TechnoKhoj'19	Chirag Parmar	2nd
		Baloon Game – TechnoKhoj '19	Alvina Gamit	2nd
12	Surface Coating Technology	Patriotic Song Competition	Karanveer, Jaypal, Diksha	2nd
13	Environmental Science & Technology	Best costume male, Ratri Before Navratri	Meet Sharma,Sem. IV	1st
14	Geoinformatics	Best costume female, Ratri Before Navratri	Jinal Patel	2nd

PRIZE WINNERS IN VARIOUS COMPETITIONS (2018-19) (Extra curriculum activities)

Sr. No.	Department	Event Name	Name of the Student	Prize
15	Industrial Chemistry	Slogan Writing Competition on Teachers' Day	Abhishek Raval	2nd
		Elocution Competition	Hemant Mali	2nd
16	Organic Chemistry	Kite Cutting Competition	Jigar Lad	2nd
17	Information Technology	Best out of Waste Competition (WDC)	Kesha Parekh, Mansi Modha	1st
		Best out of Waste Competition (WDC)	Ranison Jadav, Urvi Patel	2nd
18	Environmental Science & Technology	Poster Making Competition on Teachers' Day	Arpita Mishra	2nd
		Rangoli Competition (WDC)	Rathod Mansi	2nd
		Kite Decoration Competition	Hetal Patel, Shalini M.	2nd
		Elocution Competition	Bhavik	1st
19	Geoinformatics	Best action female, Ratri Before Navratri	Dharti Sevak	2nd
		Kite Decoration Competition	Rati Singh, Sudeshana Badyakar, Mitali Yadav	1st
20	Valuation	Rangoli Competition (WDC)	Rudra Bhatt	2nd
21	Polymer Science Technology	Kite Decoration Competition	Mitali	1st
22	Instrumentation & Control	Patriotic Song	Mr. Arpit Patel	1st
23	Surface Coating Technology	Patriotic Song Competition	Karanveer, Jaypal, Diksha	1st
		Slogan Writing Competition on Teachers' Day	Suketu Patel	1st
		Kite Cutting Competition	Ramesh Purohit	1st

ACTIVITIES ORGANIZED (2018-19)

Sr. No.	Activity organized
1	Saraswati Pooja & Welcome to Fresher to mark the beginning of the new academic year on 2nd July, 2018 by Industrial Chemistry Department.
2	Ganpati Sthapana by Industrial Chemistry Department on 13th September 2018.
3	Open house 2018-Parents-Teacher Meet, About 200 Parents of 90 students have visited the department on 6th October, 2018 by Industrial Chemistry Department.
4	Zydus Cadila imparted training to 10 students Zydus Cadila organized a one day workshop at its Ankleshwar location for our students on 10th December, 2018 by Industrial Chemistry Department.s
5	Lupin Limited imparted industrial training to the 10 students of Industrial Chemistry Department (2018-19)
6	Counselling of TY B.Sc. Students of Gujarat Science College, Ahmedabad by Industrial Chemistry Department, and Participated by more than 40 Students on 16th February, 2019.
7	Surface Coating Department is actively engaged in Third party analysis of different coating systems and engaged in Industrial Projects which provides ample of opportunity to the student to interact with industry people and helps them to be handsomely placed in campus interview. In the academic year 2018-2019 the SCT Department has done 3rd party testing of different coating systems worth approximately Rs. 3,00,000/-.
8	Testing of Industrial Paint materials contract no. 7700011383 it. 25.04.2017 was extended to 30.06.2019 for GNFC, Narmadanagar, Bharuch, Gujarat by Surface Coating Department
9	Counselling of TY B.Sc. Students of VPScience College & NVPAS College, V V Nagar by Surface Coating Technology Department, Participated by more than 250 Students on 9th, 14th and 19th February, 2019.
10	Counselling of TY B.Sc. Students of Gujarat Science College, Ahmedabad by Surface Coating Technology Department, and Participated by more than 40 Students on 16th February, 2019.
11	Teacher's Day celebration at the Department of Organic Chemistry on 5th Sept. 2018.
12	Arrange three days Training for Sem-4 students of Organic chemistry at SICART on "FT-NMR, HPLC & GC/GC-MS" Instruments from 07-01-2019 to 09-01-2019.
13	On-hand Instrumentation Training at SICART-GC, ICPAES, HPLC and Ambient Air Monitoring Van, Attended by 40 Students of 4th Semester at SICART, on 17,19,20 April, 2018 of Environmental Science & Technology Department.
14	MoU with Gujarat Cleaner Production Centre (GCPC), Estd. by Department of Industries & Mines, Government of Gujarat, Gandhinagar on 17.9.19 by Environmental Science & Technology Department.
15	Open House (Parents-Teachers Meet) on 6.10.18 by Environmental Science & Technology Department.
16	Counselling of TYBSc Students of Environmental Science, Microbiology, Biotechnology, Genetics, Bioinformatics of NVPAS, VV Nagar, Participated by 168 Students on 22, 24 January, 2019 and 2.2.19, by Prof. Dr. Nirmal Kumar, J.I. (Environmental Science & Technology Department.)
17	Counselling of T. Y. B.Sc. Students of Microbiology, Botany, Zoology of VP Science College, VV Nagar, Participated by 78 Students on 23.1.19, by Prof. Dr. Nirmal Kumar, J.I. (Environmental Science & Technology Department.)
18	Counselling of T. Y. B. Sc. Students, Gujarat Science College, Ahmedabad, Participated by 28 Students of Zoology on 16.2.19, by Dr. Hiren B. Soni (Environmental Science & Technology Department.)
19	Counseling of TY B.Sc. Students of NVPAS, VP & RPTP Science Collage, VV Nagar by Polymer Science & Technology Department at ISTAR, Participated by 60 Students in each collage 13th & 15th February, 2019.
20	Orientation program for fresher was organized on 16th July, 2018 by Instrumentation & Control Department.
21	Farewell was given to faculty Ms. Radhika Shah on 31st July 2018 by Instrumentation & Control Department.
22	Open House for parents teacher meet was arranged on 6th October, 2018 by Instrumentation & Control Department.
23	Technokhoj '19 organized by M.Sc. (Information Technology) department on 10th January, 2019 with participation of more than 85 students from computer science streams by Information Technology Department.
24	MoU Signed by M.Sc. (Information Technology) department with Red Hat India Pvt. Ltd., for Students Training, Project Work, Campus Interview, Joint Seminars/Workshops.
25	Conducted one week bridge course from 3rd July to 6th July, 2018 and organized different type of activities like Expert talks on latest technology, Group discussions, IT Quiz etc. by Information Technology Department.
26	Sarshwati Pooja and welcome party organized by M.Sc. (Information Technology) department for fresher students on 7th July, 2018.
27	Guru Purnima celebrated by M.Sc. (Information Technology) students on 27th July, 2018.
28	Counseling of T. Y. B.Sc. students of NVPAS by the faculty of Industrial Hygiene and Safety Dept.
29	Counseling of TYBSc students of VP Science college by the faculty of Industrial Hygiene and Safety Dept.
30	Explain the importance of PPE to the workers of Foundry by the students and faculty of Industrial Hygiene and Safety Dept.
31	Guest lecture of Dr. Ashok Nain – senior valuer from Kolkata was organized in July 2018.
32	Guest lecture of Dr. Shashikantkumar, Professor, APIED Vidyanagar was held on 7th February 2019 on the topic of New General Development Control Regulations of Gujarat.
33	Six students of ISTAR performed a skit on leadership qualities on Wednesday, 1st August 2018 by Students Council.
34	Students Council held a 'Patriotic Song Competition' on Monday, 13th August 2018.
35	On the spot poster-making competition and Slogan writing competition were held on Teachers' Day, 5th September 2018 by Students Council.
36	'Matki Fod' was organized on 5th September, 2018 on the occasion of Janmashtami By Students Council
37	"Ratri Before Navratri" – 'RAMZAT 2018' a Garba event was held on Monday, 8th October 2018.
38	ISTAR Kite Festival was held on 11th January 2019.
39	Various sports activities – Interclass tournaments of Cricket, Football, Badminton, Chess and Table Tennis were organised during the year.
40	Orientation Program & Welcome to freshers is organized on 16th July, 2018 by Geoinformatics

NATIONAL SERVICE SCHEME (NSS) ACTIVITIES

NSS Activities for Academic Year 2018-19

- Conducted 3 days 'YOGA TRAINING PROGRAM' on19th to 21st June, 2018 association with Art of Living Organization, Anand Chapter, 55 staff members participated.
- NSS Orientation Program for First Year Students of 2018 conducted on 2nd August, 2018, by Dr. Jagruti Suvera (SPU), Dr. Yogesh Patel (Coordinator, NAF, CVM), 200 students were participated.
- Thalassemia & Blood Donation Awareness Session conducted by Dr. Isha Desai, NVPAS on 6th September, 2018, 250 students were participated.
- Organized a Blood donation camp in association with Indian Red Cross Society and Lioness Club of Anand on 7th September 2018, 82 units of bloods collected.
- Organized a Thalassamia check-up camp with support from CVM and association with Indian Red Cross Society and Lioness Club of Anand on 7th September 2018. 174 sample collected for Thalassamia check-up.
- Celebrated Swachta Abhiyan Pakhvadiu in college campus from 15 september to 2nd October 2018. Various activities carried out under this programme were
  - Banner making competition on theme of 'Swachta Abhiyan' on NSS day i.e. on 24th September 2018.
  - Expert talk on Swachta Abhiyan on NSS day i.e. on 24th September 2018 by Dr. M. G. Mansoori, Head Psychology Department, Nalini–Arvind & T. V. Patel Arts College.
  - Various Department cleaning and beautification carried out by NSS Volunteers of ISTAR and students of respective department.
  - Elocution on 'Swachta Abhiyan' on 1st October 2018.
  - Celebrated Gandhi Jayanti on 2nd October 2018. As a part of these celebrations, a historic Dandi Yatra real footage shown, followed by skit "Environmental Protection" by students.
  - Adopted Lambhvel village for 3 years on 03/12/2018.
  - 7 days special NSS camp organised from 19/01/2019 to 25/01/2019 at Lambhvel. Various activities carried out under this camp were
  - 33 NSS volunteers, along with five NSS Program Officers moved to Lambhvel village by Walking on 19/01/2019.
  - On 20/01/2019 volunteers visited different parts of the village and invited villagers to attend the inaugural function.
  - 33 Students, 8 Faculties and 35 Villagers attended inaugural function on that day.
  - Lecture by Gynecologist (Dr. Nimesh Patel, OB. & GYN., Himalaya Hospital, Anand) on 20/01/2019.
  - Cleanliness of Old age home done by NSS volunteers on 20/01/2019.
  - Every day early in the morning Yoga session carried out by Ketul Bhatt from Patanjali, Anand Region.
  - Cleaning of Bus Stand and Nearby Area done by NSS volunteers on 21/01/2019.
  - Lecture on Food and Nutrition by Ms. Minal Chauhan, Food & Nutrition Department, S.M.Patel College of Home Science, V.V.Nagar. to villagers.
  - Farmers Visit to Khetiwadi, Anand Agriculture University on 21/01/2109
  - Eye Check-up Camp of 80 Kids by RMI Hospital Chikhodara with Lions Club, Anand.
  - Cleanliness of Crematorium -1&2.
  - 23/01/2019 Eye checkup camp for villagers by RMI Hospital Chikhodara with Lions Club, Anand. 201 villagers reported on that day.
  - Homeopathic Camp organised in afternoon and 32 villagers reported for that camp.
  - Distribution of Free Spectacles in Old Age Home.
  - On 24/01/2019 free Ayurvedic Camp of G.J.Patel Ayurveda College, New Vidyanagar.
  - Valedictory function 25/01/2019, chief guest Dr. M.D Patel, Ex N.S.S Programme Co-ordinator, S.P.U

INDUSTRIAL VISITS (2018-19)

Sr. No.	Department	Organization
1	Industrial Chemistry	1. Arti Industries, Vapi GIDC, 23rd August, 2018. 2. C J Giletin Ltd.., Mandideep, Bhopal, 13th August, 2018.
2	Surface Coating Technology	Industrial Visit at Kansai Nerolac Paint Ltd., Sayakha Industrial Estate, Ta; Vagra, Dist: Bharuch on 24/08/2018 & 25/08/2018
3	Environmental Science & Technology	1. Visit to Meteorological Department and Vermi Compost Unit at AAU, Anand, on 23/1/2019. 2. Visit to Tobacco Processing Unit at Borsad, Visited on 5/2/2019. 3. Visit to SPRERI Open House, Attended on 16/2/2019.
4	Organic Chemistry	1. Piramal Discovery Solutions, PHARMSEZ, Matoda, Ahmedabad, 1st Sept. 2018. 2. APN Sulphur WDG, Mehsana from 24th Dec. 2018.
5	Polymer Science & Technology	1. Crest Composites & Plastics, Kheda, Dt. 27/12/2018 2. Agro Tech, V.U. Nagar Dt. 5/1/2019
6	Instrumentation & Control	1. Amitron Foundation, Waghodiya, 1st December 2018. 2. Prolific Systems & Technologies, Vadodara, 1st December, 2018
7	Information Technology	1. Streebo Solutions Pvt, Ltd. 2. Tops Technology, Ahmedabad on 5th October, 2018.
8	Industrial Hygiene and Safety	1. L M Wind Power Ltd Vadodara 2. Ice Cream Cone factory 3. ADIT Workshop 4. Shree Vallabh Casting Pvt Ltd-V V Nagar 5. Ravi Kiran Ceramics Ltd.Kanjari 6. Suresh Tobacco -Borsad
9	Geoinformatics	1. Institute of Seismological Research, Gandhinagar (18th September 2018) 2. Space Application Center, ISRO, Ahmedabad(4th October 2018)
10	M.Sc. (Plant & Machinery Valuation)	Workshop visit of GCET

Industrial Visits

SEMINAR / WORKSHOP / TRAINING PROGRAMS / EXPERT TALKS ORGANIZED BY DEPARTMENTS (2018-19)

Sr.	Name of the Department	Nature of Activities
1	Industrial Chemistry	Talk on 'Chemical Engineering-An Extra Edge for an Industrial Chemist' by Dr. Tejal Patel, Asso. Prof., G H Patel College of Engineering & Technology, Vallabh Vidyanagar on 23rd July, 2018. Talk on 'Process Development in Chemical Industries' by Dr. Hemendra Pancholi, General Manager, M/s. Deepak Nitrite Ltd., Nandesari on 4th August, 2018. Talk on "Destiny by Desire or Default" Dr.Rajubhai Rathod, Professor, MBA Department,S.P. University, V V Nagar on 14th August, 2018. Talk on "Entrepreneurship Opportunities and Possibilities" Dr. Rajubhai Rathod, Professor, MBA Department, S. P. University, V V Nagar on 17th September, 2018. Talk on "Opportunities in Clinical Research Industries" for Industrial Chemistry Students By Dr. Manoj Vyas, CEO, CBCC - USA Ahmedabad, Gandhinagar on 14th December, 2018.
2	Surface Coating Technology	Talk on "Recent Trends in Surface Coating Industries" by Dr. Chintan J. Patel. Lead Chemist-Resin Development, BASF India Ltd., Mangalore on 02nd August, 2018. Talk on "Basics of Paint Formulation" by Mr. Shankar Narayanan, Paint Consultant, on 27th September, 2018. Talk on "Changing Trends in Coating Industries: Environmentally Friendly" by Shree Ashwin V. Parikh. (*Technical Speaker & Technocrat and Director: International Business Development*) on 18th December, 2018.
3	Environmental Science & Technology	Talk by Prof. Vyas on Industrial Safety, IPCL, Baroda, Attended by 40 Students of EST and MIHS, on Dt. 7/8/2018 Talk on "Biodiversity & Conservation in Arid Ecosystem" by Dr. Pankaj N. Joshi, Executive Director, Sahjeevan, Bhuj, Attended by 27 Students of MSc EST (Sem-4), on Dt. 3/12/2018. Talk on Cleaner Technology by Abhi Patel, EHS Engineer, Gujarat Cleaner Production Centre (GCPC), Estd. by Department of Industries & Mines, Govt. of Gujarat, Gandhinagar on Dt. 5/1/2019. Talk by Dr. Illis Feitshans, Director, American Public Health Association (APHA), D.C., USA, on "Legal Aspects of NIOSH", Attended by 45 Students of M.Sc. EST and 15 Students of MIHS, on Dt. 10/1/2019.
4	Organic Chemistry	Talk on "Instrumentation of UV, IR, XRD" by Dr. Mitesh Patel on 20/12/2018 No of students participated: 60
5	Polymer Science & Technology	Dr. Nitin Bhathe, Head, Chem.Eng., M. S. University of Baroda, Vadodara, Delivered Lecture on Technical Application of Polymers, Dt. 25/9/2019 Mr. Amit Rathod, Production In Charge, delivered lecture on PVC Cables, Dt. 4/1/2019
6	Instrumentation & Control	Talk on Linear Control Systems & its Applications by Mr. Sanjeev Gupta, Asso. Prof. Electrical Dept. MSU, 8th August 2018. Talk on "Electromagnetic Flow Meter" by Mr. Kaushal Chokshi, Kflow Instruments on 4th January, 2019. State Level Seminar on Frontiers in Instrumentation on 2nd February 2019. Talk on "Interview Skills", Dhyey Career Academy, 16th February 2019. Python Programming workshop, 10th -11th August 2018.
7	Information Technology	Talk on "Mind Mastery" - motivational speech by Mr. Jignesh Tanna on 3rd July, 2018. Talk on "Introduction about Linux Operating System" by Mr. Parag Patel on 24th July, 2018. Talk on "Python Programming" by Mr. Niral Modi on 5th Oct, 2018. One day Webinar on "Build apps faster with a serverless architecture" on 20th Dec, 2018 Conducted 02 days' workshop on "Microsoft Office 2010" for all class-III employees of ISTAR on 30th Nov – 1st Dec, 2018. 30 hours short-term certification course on "Python Programming and Machine Learning" from 15th Dec, 2018 to 23rd Feb, 2019. One day Seminar on "Website development using Word press" by Mr. Adarsh Patel on 4th Feb, 2019.
8	MIHS	Dr. Illse Freithans lecture on ILO Convention and integration with IH in future Mr. Dhruvit Mehta on the subject of IH in pharmaceutical Industries Mr. Jitu Dangar on IH and its future in IT industries
9	M.Sc.(Real Estate Valuation)	CVSRTA – an association of alumni of ISTAR Valuation students conducted a conference on Paradigm Shift in Valuation profession on 17th February 2018 at Elecon Hall, Vitthal Udyognagar
10	M.Sc.(Plant & Machinery Valuation)	

PARTICIPATION OF STUDENTS IN SEMINARS / CONFERENCES / WORKSHOPS (2018-19)

Sr. No	Participants	Name of the Departme	Event
1	17 students of 2nd semester and 16 students of 4th semester	Industrial Chemistry	"Medicinal Chemistry at the interface 21st Century: An Indian perspective" organized by V.P. & R.P.T.P. Science college on 28th January 2019 participated in poster and oral presentation.
2	8 students of 4th semester	Industrial Chemistry	SCIENCE MANTHAN 2019 organized by CHARUSAT on 5th January participated in poster presentation.
3	Jagrat Sevak, Sem-4	Industrial chemistry	Youth Parliament, 24th January, 2018
4	02 Students	Industrial chemistry	Science Meet – 2019, organized by Gujarat Science Academy (VVN Chapter) & A. N. Patel PG Inst. Of Sci. & Res., Anand on 6th January, 2019.
5	Jagrat Sevak, Sem-4	Industrial chemistry	Research paper presented on "Diversity in Business" at Regional Conference (west) on " Constructive Leadership and Institutional Capacity Building: The way Forward"
6	34 Students, Sem. 4	Industrial chemistry	Workshop on "HPLC & GC/GC-MS" for Two Days at SICART, Vallabh Vidyanagar on 16-17 July, 2018.
7	8 students	Industrial chemistry	One day Extramural Seminar on "Workplace Safety, Health and Hygiene" organized by Dept. of Chem. Eng., G H. Patel College of Eng. & Tech., Vallabh Vidyanagar on 20th September, 2018.
8	42 students	Industrial chemistry	One day Workshop on QA and Safety Practices in Pharmaceutical Companies organized by Zydus Cadila Healthcare Ltd., Ankleshwar on 10th December, 2018.
9	All Students of M.Sc. 2nd & 4th Semester	Surface Coating Technology	Paintindia-2018 International Exhibition & Conference 8 to 10th, March 2018
10	Ravi Virdiya, Sarthak Saradva	Organic Chemistry	Science Manthan 2019, Organized by CHARUSAT in association with GUJCOST, in Poster Presentation on 5th Jan. 2019.
11	Mr. Kunal Verma	Polymer Science & Technology	Poster Presentation at Young Scientist Conclave organized by C.U Shah Science Collage on15th December, 2018
12	Mr. Smit Patel	Polymer Science & Technology	1. Poster Presentation at Young Scientist Conclave organized by C.U Shah Science Collage on15th December, 2018 2. Poster Presentation at Meditional Chemistry at the interface of 21st Century: An Indian Prospectiveby VP & RPTP Science Collage on 28th January, 2019.
13	Mr. Jay Mehta	Polymer Science & Technology	1. Poster Presentation at Young Scientist Conclave organized by C.U Shah Science Collage on15th December, 2018 2. Poster Presentation at Meditional Chemistry at the interface of 21st Century: An Indian Prospectiveby VP & RPTP Science Collage on 28th January, 2019.
14	Dipa Lalwani	Environmental Science & Technology	Attended a National Seminar on "New Technology for Non-target Analysis of Perfluorinated Substances (PFASs) in Ambient Air using Cryogenic Air Sampler (CAS)", 17th July, 2018 at National Institute of Advanced Industrial Science and Technology (AIST), Japan
15	Pooja Thaker	Environmental Science & Technology	Attended a National Seminar on Significant Residue of PFASs in Rice *(Oryza sativa subsp. japonica)*, 17th July, 2018 at National Institute of Advanced Industrial Science and Technology (AIST), Japan.

16	Sagar Sheikh	Environmental Science & Technology	Presented a Paper on Association between Plants and Birds in Dangs Forest at Science Excel on 20 September, 2018
17	MSc 3rd Sem Students	Environmental Science & Technology	Attended State Level Seminar on Work Place & Industrial Hygiene Safety at GCET College, on 20th September, 2018.
18	Vishal Ramanuj Fenil Patel	Environmental Science & Technology	Attended National Level Expo on Occupational Safety and Health Hazard on 10-11 October, 2018
19	Sagar Sheikh Yukti Sharma	Environmental Science & Technology	Attended 5 Days Workshop on Wetland Monitoring, Training and Methodologies at Khijadiya Bird Sanctuary, organized by GEER Foundation, Gandhinagar, from 15-19 January, 2019
20	Students of INS	Instrumentation & Control	Online–workshop on "Geospatial Technologies and Sendai Framework for Disaster Risk Reduction by IIRS, Dehradun, 10th July 2018.
21	20 students of semester 2 & 4	Instrumentation & Control	State level seminar on Frontiers in Instrumentation organized jointly by Instrumentation department , ISTAR & V. P. Science college, 2nd February 2019. 20 students presented poster.
22	22 Students	Information Technology	One day Seminar on "Website development using WordPress" by Mr. Adarsh Patel on 4th Feb, 2019.
23	25 Students	Industrial Hygiene & Safety	One Day Extramural Seminar on Workplace Health and Hygiene GCET – Dt. 20/09/18
24	25 Students	Industrial Hygiene & Safety	International Hygiene Conference Ahmedabad-7-9 CIHA,ISTAR January-2019
25	Students from Dept.	M.Sc. Valuation	Attended One Day Conference Organized by: CVSRTA on 17th February 2018

PARTICIPATION OF STUDENTS IN SEMINARS / CONFERENCES / WORKSHOPS (2018-19)

Sr. No.	Participants	Name of the Department	Event
26	6 students of Sem 4	Geoinformatics	GeoConnect 2018 (Short Term Training Programme) organized by Indian Institute of Space Science and Technology (IISST), Kerala during June 11-14, 2018. Participation
27	Kiran Bhamblani & Divya Patel of Sem 2	Geoinformatics	Analysis of Planetary science data sets from Chandrayaan 1 and Mars Orbiter Mission (MOM) missions organized by ISRO, Ahmedabad during 13th Nov, to 16th Nov, 2018. Participation
28	Kiran Bhamblani	Geoinformatics	Women and Environment Symposium organized by CVM WDC on 5th October 2018. Poster Presentation
29	Jaini Poker, Kiran Bhamblani & Divya Patel	Geoinformatics	State level seminar on Frontier in Instrumentation 2019 organized by Instrumentation & Control Dept. of ISTAR on 2nd Feb 2019. Poster Presentation








Faculty Members of ISTAR

Industrial Chemistry, Sem-4

Industrial Chemistry, Sem-2

Information Technology, Sem.-2

Master of Valuation

S. P. University Sport Team of ISTAR

Master of Industrial Hygiene & Safety, Sem.-2

Organic Chemistry ,Sem-2

Organic Chemistry, Sem-4

Surface Coating Technology, Sem 2

Surface Coating Technology, Sem 4

Polymer Science & Technology, Sem 4

Polymer Science & Technology, Sem 2

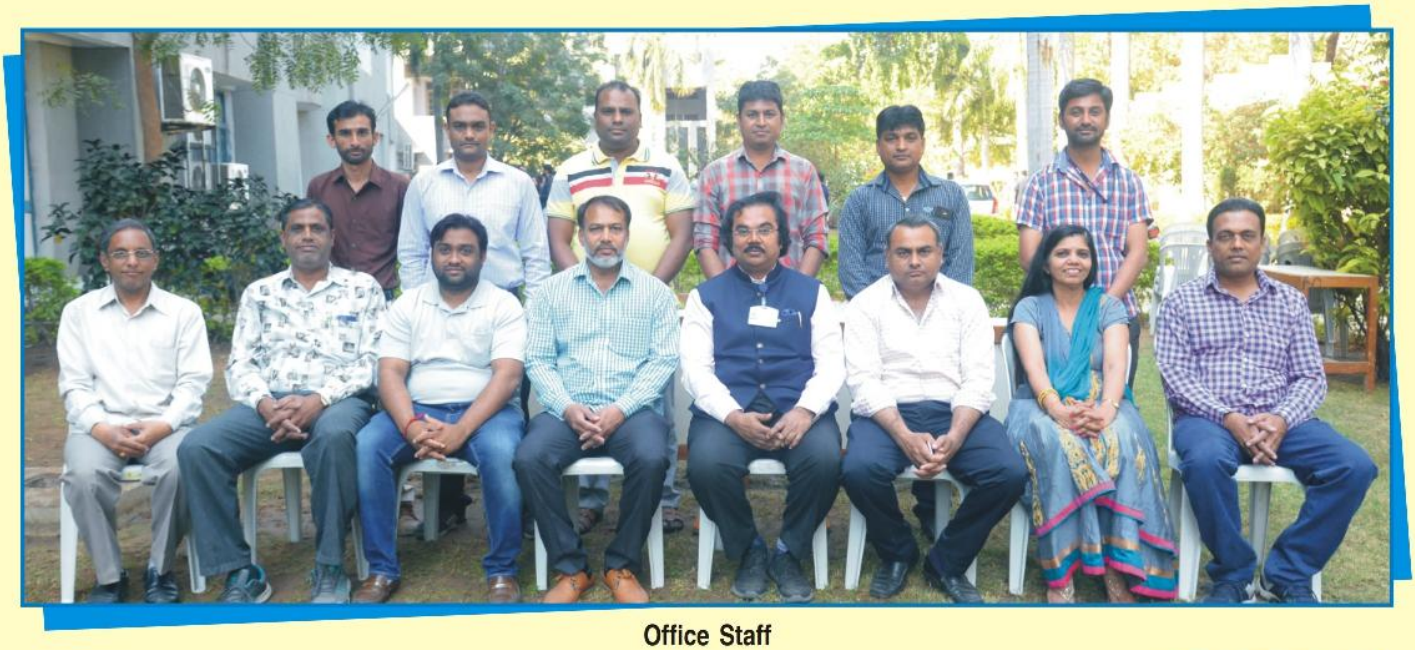
Environmental Science & Technology, Sem 2

Environmental Science & Technology, Sem 4

Instrumentation & Control, Sem 2

Instrumentation & Control, Sem 4

Geoinformatics, Sem 2



Office Staff

Distinguished Alumni of ISTAR

M.Sc. (RE Valuation), Sem.-4

SCHOLARSHIPS AWARDED BY ORGANIZATION (2018-19)

Sr.No.	Name	Department	Scholarship Amount (Rs)	Scholarship detail
1	Bhavesh Modi	Industrial Chemistry	30,000	Lupin Scholarship
2	Kartik Patel		20,000	MISA Scholarship
3	Homi Sachivekumar Mody	Surface Coating Technology	51,800	Asian Paints Charitable Trust, Mumbai Scholarship awarded by Asian Paints, Mumbai
4	Vaibhav Bharatbhai Rabadiya		51,800	
5	Rameshchandra M Purohit		51,800	
6	Anand Mineshbhai Adeshara		51,800	
7	Tusharkumar Pravinbhai Patel		51,800	
8	Dipa Lalwani, Pooja Thaker	Environmental Science & Technology	Approx. 5,00,000	Scholarship awarded to carry out research work at AIST, Tsukuba, Japan, for Two Years (2018-2019).
9	Sagar Joshi	Polymer Science & Technology	3,50,000	DST Inspire Fellowship Program
10	Ravikumar Savaliya		3,50,000	DST Inspire Fellowship Program

STUDENT'S ACHIEVEMENTS (2018-19)

Sr. No.	Name of the Department	Name of the Student	Details
1	Industrial Chemistry	Jagrat Sevek, Devendra Jadav, Sem.-4	1st Prize in Poster presentation at Science Manthan- 2019 on 5th January, 2019.
2	Industrial Chemistry	Hemant Mali and Dvijendra Rathod, Sem.-4	2nd position in poster presentation competition at "Medicinal Chemistry at the interface 21st Century: An Indian perspective" on 28th January 2019.
3	Organic Chemistry	Dipti Bhaveshkumar Upadhyay	Obtained 1st Rank in External Theory Examination of Sem-1 and Sem-2
4	Organic Chemistry	Dipti Bhaveshkumar Upadhyay	Obtained 1st Rank in Organic Chemistry Department, ISTAR, in External Theory Examination of Sem-1/Sem-2
5	Instrumentation & Control	Mr. Dwij Oza	State Level Seminar on "Frontiers in Instrumentation" Poster Presentation 1st Prize
6	Instrumentation & Control	Mr. Rahul Suthar	State Level Seminar on "Frontiers in Instrumentation" Poster Presentation 2nd Prize
7	Geoinformatics	Kiran Bhamblani	Got 1st Prize in Poster presentation at Women and Environment Symposium organized by CVM WDC.

ARTIFICIAL INTELLIGENCE IN MEDICINE

Mihin Prajapati (18IC36), M.Sc. Industrial Chemistry Dept.

Artificial intelligence is defined as a field of science and engineering concerned with the computational understanding of what is commonly called intelligent behavior. Application of AI technology in the field of surgery was first successively investigated by Gunn in 1976, when he explored the possibility of diagnosing acute abdominal pain with computer analysis.

Modern medicine is faced with the challenge of acquiring, analyzing and applying the large amount of knowledge necessary to solve complex clinical problems. The development of medical artificial intelligence has been related to the development of AI programs intended to help the clinician in the formulation of a diagnosis.

Artificial neural networks

ANN is the most popular AI technique in medicine. ANNs are inspired by the biological nervous system. Their ability to learn from historical examples, analyse non-liner data, handle imprecise information and generalize enabling application of the model to independent data has made them a very attractive analytical tool in the field of medicine. ANNs have already found a wide variety of application in the real world. As we realize that diagnosis, treatment and predicting outcome in many clinical situations is dependent on a complex interaction of many clinical, biological and pathological variables there is a growing need for analytical tools like ANNs.

ANNs have been used in the clinical diagnosis, image analysis in radiology and histopathology, data interpretation in intensive setting and waveform analysis. Breast, gastric, thyroid, oral epithelial cells, urothelial cells, pleural and peritoneal effusion cytology have all been subjected to anaylsis by neural networks with varying degree of success.

Conclusions

There are many different AI technology available which are capable of solving a variety of clinical problems. One reason for this is the attitude of the clinicians towards technology being used in the decision – making process. Paradoxically, there is no qualm in accepting the biochemical results generated from an auto-analyser.

There is compelling evidence that medical AI can play a vital role in assisting the clinician to deliver health care efficiently in 21st century. There is little doubt that these techniques will serve to enhance and complement the 'medical intelligence' of the future clinician.

GRAPHENE NANOTUBES ARE ON DUTY PROTECTING STORAGE TANKS

Surbhi S Patel (17SCT67), Sandhya M Patel (17SCT63)

Around 10% of all accidents involving storage tanks that occur in industrial facilities are caused by the electrostatic charge that is generated when two dissimilar materials are in relative motion to each other. Product movement during filling develops a static charge between the liquid surface and the tank shell. The accumulated electrostatic charge can produce an incendiary spark that can lead to terrible accidents. Dissipation of this static charge is the role of anti-static fillers that are added to the body of the storage tank or to the lining coating, and the choice of additive is of critical importance.

Until recently, using standard ***anti-static filler – such as conductive mica or carbon black*** – always involved a compromise that resulted in anti-static properties that were not stable over time and that were affected by weather conditions. Now, however, innovative technologies have enabled graphene nanotubes, also known as ***single wall carbon nanotubes***, to totally reshape the perception of conductive fillers for fiberglass plastics and their coatings.

Graphene nanotubes provide ESD protection by dissipating electrostatic charge inside and outside a storage tank. The conductive additive, carbon black, required a loading of 15% but this has now been replaced with just 0.5% of a pre-dispersed concentrate of graphene nanotubes. Permanent and stable volume resistivity of less than 10^6 Ω·cm has been achieved, without "hot spots" and independent of humidity. Moreover, the product colour range has been expanded.

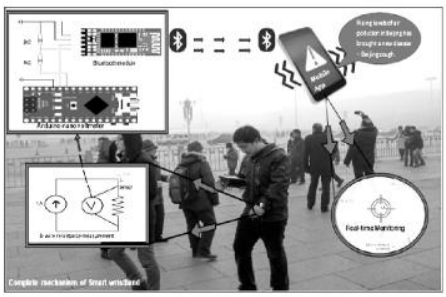
Graphene nanotubes -based lining coating system with an electrostatic dissipation function that is specially designed for storage tanks for highly flammable substances. This can replaced 30% of conductive mica, in an epoxy system, with just 0.3% of Graphene nanotubes concentrate. The result is a stable level of volume resistivity of between 10^6 and 10^7 Ω·cm. The prospect of cost cuts resulting from such significant reductions in the overall additive loading is also of great interest to **coatings manufacturers**.

The application of graphene nanotube concentrates simplifies nanotube handling and makes it a standard and clean manufacturing process without the powder or dust usually associated with the utilization of carbon black. The extraordinary properties of graphene nanotubes have opened the door for **storage tank and coatings manufacturers** to gain competitively and advanced solutions in terms of sustainable safety.

SMART WRISTBAND EMBEDDED WITH NANO SENSOR FOR DETECTION OF TOXIC GASES

Ravi Viradiya, Sarthak Saradva, Organic Chemistry Department [M.Sc. Sem-IV]

The past several decades have witnessed a tremendous development of chemical sensors in many fields. Detecting harmful gases is playing an increasingly important role in environmental protection, industrial manufacture, medical diagnosis and national defense. Nano materials, such as carbon Nano tubes, metal-oxide Nano particles, and graphenes are widely used in gas sensing for their excellent responsive characteristics. Hence a feasible, smart Nano sensor wristband is proposed here which is cheap, reusable and can provide real time monitoring of toxic gases in the vicinity.



Toxic gases cause a change in resistance which in turn cause a change in voltage measured by Arduino-Nano voltmeter. This data is relayed to the Bluetooth module. The wristband and cell phone are connected via Bluetooth and data packets are sent constantly to an App that will record lethal places. Hence real time monitoring is done. The App also provides occasional facts about pollutants.

SOCIAL IMPACT :

It is smart and affordable sensor which can be used over and over again.

The real time monitoring of pollutants, marking places using GPS so that the user can avoid travelling through such regions. It calculates the exposure and its potential effects if the user stays in the region for longer duration.

People with asthma are at a higher risk and long term exposure can affect mortality. This smart wristband would prove very helpful for people sensitive to pollution.

Government can identify pollution struck places via detection and target them for reducing pollutant concentration.

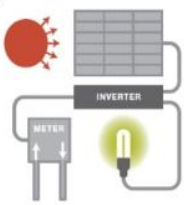
TO GENERATE YOUR OWN ENERGY

Prashant Sathvara, EST, [Sem 2]

Solar photovoltaics (SPV)

Solar PV systems use cells to convert sunlight into electricity.

PV will work in any weather as long as there is daylight. The greater the intensity of the sunlight, the more electricity is generated. The power can be used on site or fed back into the power grid

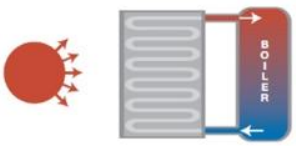


An average domestic system could generate up to half of the electricity needed over the year – providing it is used efficiently and the home has a big enough south facing roof.

Solar water heating systems

Solar water heating systems use heat from the sun to pre-heat water for your hot water or space heating needs.Like solar PV systems they are very straightforward to install in your home.

A solar thermal system acts as a collector of sunlight. As fluid is pumped through the collectors, it heats up. This heat is then transferred into a hot water cylinder, and your boiler or immersion heater can top up this heat to the required temperature.



Solar hot water systems can provide you with up to a third of your hot water needs.

Microwind turbines

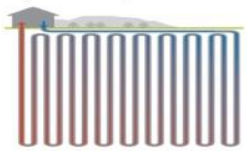
Microwind turbines work by using the kinetic energy of the wind to turn the blades, which rotate a generator in the shaft to generate electricity.

The greater the wind speed, the more power is produced. Wind speed increases with height, so a microwind turbine is usually sited on a mast, or on the roof of a house.

Ground Source Heat pumps

At just 10 metres underneath the earth's surface, the temperature is constant (around 10 to 14 degrees centigrade) all year round. Ground source heat pumps make use of the ground's constant temperature by converting and transferring this heat into a house or building, usually via radiators or under floor heating.

To use ground source heat pumps you need a big enough outside area or garden in which to lay the ground loop required to capture the heat.

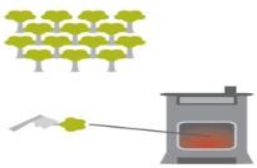


3– 4 times more efficient than a condensing boiler.

Biomass fuel comes from organic matter of recent origin, unlike fossil fuels which take millions of years to form. It is still considered renewable because it can be replaced at the same rate as which it is used. Biomass falls into two broad categories: woody (forest residues and energy crops like willow) and non-woody biomass (animal waste and high energy crops like rapeseed). In houses there are two main ways to use biomass:

A stand alone stove that will heat a room space, which can have a back boiler to provide hot water

A boiler feeding the central heating and hot water system



Saves 6–7 tonnes a year of CO2 (for typical 15kW pellet boiler system in non-gas households.)

NANO COMPOSITE

Jay Maheta, Smit Patl & Parth Patel, Polymer Science & Technology Department

Acomposite material (also called a composition material or shortened to composite) is a material made from two or more constituent materials with significantly different physical or chemical properties that, when combined, produce a material with characteristics different from the individual components. The new material may be preferred for many reasons: common examples include materials which are stronger, lighter, or less expensive when compared to traditional materials.

Nano composites considered to belong the groups called nanomaterials, where a Nano-object (particle) is distributed into a matrix. Generally, Nano composite is a multiphase dense material in which at least one of its phase has either one, two or three measurements lower than 100 nm. The Nano composites exhibit unique characteristics and comparably better properties than conventional or traditional composites such as glass fibre reinforced composites Nowadays, a great deal of research and study are in progress towards various fillers to form a huge variety of Nano composites. The Nano filler in Nano composite material are the main components and can be constituted of inorganic/inorganic, inorganic/organic, or organic/organic sources. Polymer Nano composites are polymers (thermoplastics, thermosets, or elastomers) that have been reinforced with small quantities (less than 5% by weight) of Nano-sized particles having high aspect ratios (L/h> 300). The reinforcement of polymeric matrix materials (thermoplastics or thermosets) with Nano-sized, such as Nano-sized particles, carbon Nano-tubes or intercalated layers to forms Nano composites are considered as an attractive and active area of research. Polymer/layered Nano composites, in general, can be classified into three different types, namely (i) Intercalated Nano composites, (ii) flocculated Nano composites, and (iii) exfoliated Nano composites.Considerably larger interfacial matrix material surface (interphase) are presented by Nano composites, depicting properties quite dissimilar from the bulk polymer caused by high specific surface area of the Nano filler .Thus, when the dimensions of polymer fibre materials are shrunken or reduced from micrometres to sub-microns or nanometres, numerous unique characteristics, such as flexibility in surface functionalities, greater surface area to volume ratio (this ratio for a nanofiber can be as large as 103 times of that of a micro-fibre), and superior mechanical performance (such as stiffness and tensile strength) tend toappear, compared with any other form of the material.Recognizing the morphological andmechanical benefits of Nano fillers, many researchers produced Nano composites by using different polymeric matrix and reinforcing by a wide variety of clays, which exhibited improved and better properties.

Bio-Nano composites are regarded as an emerging and attractive groups of nanostructured materials that brings the expansion of the conception of bio composites. The two following ways used for defining the term bio-Nano composites are (i) the Nano composites materials developed from renewable and sustainable nanoparticles (e.g., cellulose whiskers and MFC) and petroleum-derived polymers like PP, PE, and epoxies, (ii) Nano composites derived from biopolymers (e.g., PLA and PHA) and synthetic or inorganic nanofibers (e.g., carbon nanotubes and Nano clay), also come under bio-Nano composites..

IMAGE SENSING TECHNOLOGY

Dwij Oza, Instrumentation and Control, [Sem 2]

Image sensing technology is most widely used in consumer appliances as well in automation application. The evolution of image sensing techniques has changed gradually and effectively as semiconductor advantages. The poster shows evolutionary variation in image sensing techniques and its advantages or disadvantages.

It started with pin hole cameras and paintings since a long ago. Then we shifted to the 35mm analog film. Till that there was no option for industrial usage of image sensing.

Steven Sasson, an engineer at Eastman Kodak, invented and built the first self-contained electronic camera that used a charge-coupled device image sensor in 1975. Early uses were mainly military and scientific; followed by medical and news application. This changed whole industrial experience, as things started to change accordingly and people started using image sensors for safety and hygiene purposes. This digital sensor works on the basic principle as shown below,

- Light to charge conversion
- Charge accumulation
- Transfer
- Charge to voltage conversion
- Amplification

Types of digital image sensors

- CCD (charge coupled device): This works on vertical and horizontal pixels which are converted one after one using shift registers. It has very high dynamic range, high power consumption with larger sensor size. It also has high noise and low speed characteristics. It also has blooming effect which sometimes gives bad distortions. It is widely used in space research applications purpose.
- CMOS (complementary metal oxide semiconductor): It is fabricated on chip pixel technology. Thus, it is very small and compact and uses less power compared to CCD. It also has low noise and dynamic range. Major drawback is rolling shutter effect. It is widely used industrial applications.

Image sensors are widely used throughout industrial plants and industrial processes, to maintain the quality of products and to check that operational efficiency is being achieved. Barcodes, blot/stain detection, sizing and alignment, and many other characteristics can be determined without any contact taking place. Below we look at a few specific ways in which image sensors are used in engineering and scientific processes.

With image sensors, power-full processors are must for data transfer to computing system.

FLEXIBLE DISPLAY

Mr. Sachin Patel, M.Sc. (Information Technology) [Sem-2]

Flexible electronic paper (e-paper) based displays were the first flexible displays conceptualized and prototyped. Though this form of flexible displays has a long history and was attempted by many companies, it is only recently that this technology began to see commercial implementations slated for mass production to be used in consumer electronic devices.

Fig.1: Flexible Electronic Paper Display

IT Company develops and manufactures monochrome plastic flexible displays in various sizes based on its proprietary organic thin film transistor (OTFT) technology. They have also demonstrated their ability to produce colour displays with this technology; however they are currently not capable of manufacturing them on a large scale.

LIST OF RESEARCHING COMPANIES

- Sony
- ASU
- Samsung
- Xiaomi
- LG

Cons

- Flexibility
- Light-weighted
- Tough

Pros

- Limited color graphics
- Slow Frame Rate
- Tendency of wear and tear

CURRENT ACHIEVEMENT ON FLEXIBLE DISPLAY

Asu e-paper -The flexible electronic paper display announced by AUO is unique as it is the only solar powered variant. A separate rechargeable battery is also attached when solar charging is unavailable Specifications

- 6-inch diagonal display size
- radius of curvature can reach 100mm
- 9:1 high contrast ratio
- reflectance of 33%
- 16 gray levels
- solar powered
- "unbreakable"

LG e-paper -

Specifications

- 6-inch diagonal display size
- 1024x768 (XGA) resolution
- 4:3 aspect ratio
- TFT based electronic display
- "allows bending at a range of 40 degrees from the center of the screen"
- 0.7mm thickness from the side
- 14g weight
- can drop from 1.5m above ground with no resultant damage
- "unbreakable" (from tests with a small urethane hammer)

Samsung -

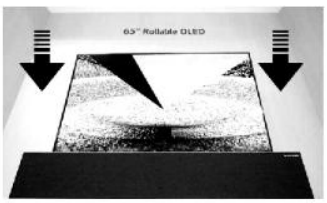
Specifications

- 4.5-inch diagonal display size
- 1280x720 WXGA and WQXGA (2560×1600) resolutions
- AMOLED display technology
- "unbreakable"

Future of Display:

➢ Foldable smartphone

➢ Foldable tv



➢ Flexible Laptop

PERSONAL AIR SAMPLING

Parth Patel, Jatin Patel, Shivam Pandya, Savan Bambharoliya, M.sc Industrial Hygiene & Safety

A grouping of major occupational disorders in India according to the etiological factors includes – occupational injuries: ergonomics related; chemical occupational factors: dust, gases, acid, alkali, metals etc.; physical occupational factors: noise, heat, radiation etc.; biological occupational factors; behavioural occupational factors; and social occupational factors.

Many Industrial and Construction sites have the potential to expose their workers to harmful dust or vapours and gases. Inhalation is usually the most significant route of entry into the body and so monitoring the air they breathe is vitally important.

Personal Air sampling is the process of collecting samples of air in breathing zone to determine the concentration of contaminants in the workplace.

Worker exposure is determined by collection of contaminants by personal air sampling.

Airborne hazards from gases, vapours, dusts and fibres can all cause potentially life threatening illnesses affecting the lungs, kidneys and liver.

Air sampling is relevant to almost every industry, from flour dust exposure in a bakery to chemical vapour exposure in a factory.

Size Selective Sampling (Dust Particles)

Particle Size-selective Sampling:

- **Inhalable** (100 µm 50% cut-point) :- hazardous when deposited anywhere in the respiratory tract.

  Sampling media (filters) are placed inside the head and clipped onto clothing in the breathing zone. A controlled rate of air via a personal sampling pump is drawn through the filter which has been pre-weighed. The filter is weighed after sampling to determine the amount of dust collected. All particle sizes will be collected.

- **Thoracic** (10 µm 50% cut-point) :- hazardous when deposited anywhere in the lung airways and the gas exchange regions. Air Sampling done for the collection of the thoracic dust is similar to the Inhalable dust.

- **Respirable** (4 µm 50% cut-point) :- hazardous when deposited in the gas exchange regions of the lungs.

  Respirable fraction the sampling heads are specifically designed to separate out the smaller dust fractions which travel further into the human airways and are generally more harmful to the body. The collection efficiency curve meets the ACGIH/ISO/CEN standards for a respirable curve with a median 50% cut point of 4micron.

  Various particle size-selective devices are available , which is differing mainly based on the designs and related sampling cut-points and flow rates.

  The cut-point refers to the particle size or diameter of the particles that cyclones and other size-selective devices collect with 50% sampling efficiency. The Dorr-Oliver Cyclone has a 50% cut-point of 4.0microns.

  Size-selective devices with a higher cut-point will collect more particulate. It is important to note that a cyclone with a cut-point of 4.0micron will collect more particulate mass than a cyclone with a cut-point of 3.5micron.

Cyclone Type	Specific Flow Rate (l/min)	50% Cut-Point (m)
Dorr-Oliver	1.7	4.0
Higgins-Dewell	2.2	5.0
Aluminum	2.5	5.0

- **Benefits of Air Sampling**

Examine the work environment.
It helps identify high-hazard units, facilities, or departments and problem areas so that extra effort can be made in those areas.
It ensure that workplace air is meeting with regulatory standard and to help occupation hygiene and health & safety.
We can evaluate the exposure concentration of chemical at workplace.
It helps in measuring the effectiveness of individual countermeasures and determining whether specific programs are doing the job that they were designed to do.
It can helpful to collect respirable dust from workplace.
Reduce chronic disease by evaluating chemical exposure.
To identify measure air pollutants.
To identify source of pollutant.

RECENT DEVELOPMENTS IN REAL ESTATE SECTOR-RERA

Rushabh Shah, Sandeep Walke, Krishna Attal, Ajay Kokane, M.Sc.(Real Estate Valuation) [Sem. II]

Introduction:

RERA as popularly known stands for Real Estate (Regulation & Development) Act, 2016. It is an Act to regulate Real Estate Industry in India. The key objectives of RERA are:

- Promote efficient and transparent Real Estate transactions and for consumer protection.
- Establishment of Regulator (Real Estate Regulatory Authority) for regulation and promotion of Real Estate Sector and
- Establish a Real Estate Appellate Tribunal for speedy adjudication of disputes between promoters and allottees.

Salient features:

- The law ensures that realty project is completed in time. If delayed, then the developer will have to pay interest on the amount paid by the buyer.
- It is compulsory for a state to establish a State Real Estate Regulatory Authority as per the new Act. Buyers could approach this body for redressal of their grievances.
- As per the new act, every phase of apartment will be considered a standalone real estate project, and separate registration needs to be obtained for each project.
- The property will have to be sold to buyers based on carpet area and not on super built-up area which will become illegal under the new law.
- As per the new law, the developer will have to place 70% of the money collected from buyers in a separate escrow account to meet the construction cost of the project.
- The law has a provision of imprisonment for a maximum period of three years with or without a fine, for a developer who violates the order of the appellate tribunal of the RERA.
- In addition to promoters and allottees, the Act also brings real estate brokers/ agents who facilitates sale and purchase of units in projects within its ambit. Each agent will have to obtain registration under the Act before acting as an agent of real estate.

Conclusion:

The Real Estate Act, 2016 is one robust step towards regulating the highly unregulated real estate sector and bringing more transparency to real estate transactions. It was a long due measure which has now finally been implemented.
The Act will benefit both promoters as well as buyers. It is an initiative to protect the interest of consumers, to promote fair play in real estate transactions and to ensure timely execution of projects. With a clear intention of protecting the interests of buyers, the Act helps the consumers to safeguard themselves from any foul play or exploitation by promoters.

NOISE REDUCTION COATING SYSTEMS

Siddharth. H. Patel (17SCT66), Jaimik Patel (17SCT30), Aakash Shah (17SCT02)

Noise is one of the most pervasive forms of environmental pollution. It is everywhere and affects our lives at home, work and play. By definition, noise is any unwanted or excessive sound. It is an unwanted by-product of our modern way of life. While noise emanates from many different sources, transportation noise is one of the most difficult sources to avoid in society today. Highway traffic noise is a major contributor to transportation noise.

Noise Reduction Materials

The contribution to roadway noise created by tire-pavement interaction on the road surface, pavement smoothness, and pavement texture is at issue here. In this subsection, pavement noise reducing materials are defined as aggregate and other materials that are applied to the surface as a part of the roadway design. As examples, these materials include asphalt surfaces, Portland cement concrete, sand and gravel.

Rubberized pavement, asphalt-rubber, and rubberized asphalt are often used synonymously to describe a blend of asphalt cement, reclaimed tire rubber and certain additives. The rubber component in this blend is at least 15% by weight of the total blend and has reacted in the hot asphalt cement sufficiently to cause swelling of the rubber. Interestingly, this non-proprietary, non-patented public process was developed in the 1960's by a City of Phoenix engineer and has been routinely used in the U.S. by transportation agencies in Arizona, California, Texas and Florida. The blend also has been used on five continents. The higher binder content (between 8 to 10%) allows for more coating on the aggregate and produces a longer lasting pavement. Smoother ride and noise reduction are two major benefits of asphalt-rubber hot mix pavements.

How To Apply Coat

The secret to soundproof paint performance is in the layering of two resilient, sound reducing coats. Both coats are applied with standard airless equipment. The Base Layer forms the main sound reducing membrane and is applied in two separate coats. Each with a desired wet film thickness of 17 Mils. The Top Layer adds additional sound reduction properties and prepares the surface for the desired final wall treatment of paint or wall covering. Spray applies with standard airless spray equipment.

How It's Work

Coat of soundproof paint brings a two coat system that can virtually be spray applied on existing sealed wall or ceiling surface.

As simple as applying a typical latex paint with a spray gun while yielding a high degree of sound reduction, isolation, and absorption.

Ease Of Application

1. Simple two-step process
2. Paint on any existing wall
3. One person project can apply with Spray technique
4. Apply 47 to 50 mils wet
5. Airless commercial sprayer with equal at 2,400 to 2,800 psi recommended

ENVIRONMENTAL, HEALTH AND SAFETY

Prashant Sathvara EST, [Sem 2]

Environmental, health and safety (EHS) departments, also called **SHE or HSE** departments, are entities commonly found within companies that consider environmental protection, occupational health and safety at work as important as providing quality products, and which therefore have managers and departments responsible for these issues. EHS management has two general objectives: prevention of incidents or accidents that might result from abnormal operating conditions on the one hand and reduction of adverse effects that result from normal operating conditions on the other hand.

Safety is the state of being "safe" (from Frech *sauf*), the condition of being protected against physical, social, spiritual, financial, political, emotional, occupational, psychological, educational or other types or consequences of failure, damage, error, accident, harm or any other event which could be considered non-desirable. Safety can also be defined to be the control of recognized hazards to achieve an acceptable level of risk. This can take the form of being protected from the event or from exposure to something that causes health or economical losses. It can include protection of people or of possessions.

Safety can be limited in relation to some guarantee or a standard of insurance to the quality and un harmful function of an object or organization. It is used in order to ensure that the object or organization will do only what it is meant to do.

It is important to realize that safety is relative. Eliminating all risk, if even possible, would be extremely difficult and very expensive. A safe situation is one where risks of injury or property damage are low and manageable.

History of the EHS profession?

The corporate EHS function, which oversees environmental, health and safety compliance began to merge at the management level around 1990.

The first area is environmental management, which emerged as a profession in the 1970s, following the creation of the U.S. Environmental Protection Agency (EPA) and other state-level regulatory systems. As companies began limiting waste to prevent pollution, they needed engineers to adapt scrubbers, filters, and other process changes to existing manufacturing systems. Workplace safety and occupational health also grew in importance during this time, with the passage of legislation such as the Occupational Safety and Health Act of 1970.

Over time, companies developed systematic way of complying with environmental, health and safety regulations. Corporations began tracking key measures and looking for ways to improve their performance. Then, in the 1990s, improvements in data technology management made it easier for an organization to analyze its operations. Around that time, corporations began to merge oversight for environmental, health and safety programs through a new management role called EHS. The newly appointed leaders, who began their careers in one of the three sub-disciplines, started to create systems to drive EHS progress across all operations.

Today, with the advent of sustainability, EHS professionals are leading corporate efforts toward sustainability. Building on their decades of experience, EHS leaders are striving to meet this challenge, creating systems to reduce energy use, conserve water, and better communicate with stakeholders.

EHS relate to sustainability?

With the advent of sustainability, our members' skills and experience are more important than ever. EHS leaders are increasingly responsible for designing and implementing strategies to take companies beyond compliance.

These initiatives involve tasks such as:

- Developing and leading a formal sustainability program
- Creating successful internal partnerships to integrate EHS values and practices across the business
- Communicating enterprise risks associated with environmental, health, or safety failures
- Establishing global corporate EHS standards and practices
- Publicly reporting progress on a full spectrum of EHS and sustainability initiatives
- Responding to stakeholder inquires about their company's EHS and sustainability performance
- Working with supply chain
- Global auditing

Ensuring safe and healthy workplaces around the worker.

BIOPLASTICS FROM STARCH

Mitali Yadav & Rudresh Trivedi, Polymer Science & Technology Department

All bioplastics begin with a plant's naturally-occurring sugars or starches, and sugar cane or corn starches are often the preferred feedstocks. But potatoes, which can contain from 13% to as much as 23 percent dry matter (starch) depending on their water content, may be ideal for some plastics. "Potatoes are starch factories," according to Dr. Qiang Liu, who headed the bioplastics research team of the BioPotato Network, funded by Agriculture and Agri-Food Canada's .

Currently, scientists are trying to come out with a solution to get the biodegradable plastic from different vegetables. ***Recently a 24 years student made an eco-friendly plastic from the potatoes. Ordinary plastics do not end even in thousands of years, while potatoes turn into a plastic cradle after stirring in just two months.*** Its inventor said that plastic is a major problem of the fast food industry that comes in soft drinks, packing, spoon, and straw. If this industry uses plastic potatoes, it can be very beneficial.

Potato Plastic is produced by combining potato starch and water. Then, the two are warmed up until the liquid thickens. After that, the mixture is poured into moulds and exposed to heat until it becomes a compact and dry piece. Depending on the liquid quantity poured into the moulds, the materials can be thick, hard or a slim film. "It is a thermoplastic material, which means that it can be modelled when it is exposed to heat and humidity. This opens up many design possibilities, from the shape to the appearance of the surfaces. An extreme heat is not necessary. Therefore, moulds can be made out of plastics. This extremely reduces the costs compared to using metal-made moulds".

The most commonly used additive is propan-1, 2, 3-triol is acting as a plasticizer.Plasticisers are used in commercial products to change the properties of the polymer, just as you have used the propan-1,2,3-triol to change the properties of the potato plastic. The propan-1,2,3-triol gets in between the polymer chains and prevents them from lining up in rows to form a crystalline structure. When the polymer becomes crystalline, it also becomes brittle and inflexible. You can think of the plasticiser as a small molecule that gets between the polymer chains and helps them to slide easily over each other so that the polymer behaves like a plastic.

PROPERTIES

- It is a kind of thermoplastic that makes it hard at high temperature but soft at low temperature. In this it can be turned into favorite shape.
- Soluble in water and other solvent
- GET in any shape and size very easily
- Good property of degradability

APPLICATION

- Food Industry
- Medical field
- Packaging

MY EXPERIENCE OF BIRD-WATCHING

Sagar Sheikh, Ph.D. Scholar (Environmental Science)

My interaction with winged creatures has been almost entirely limited to sparrows, crows, peacocks, and pigeons before I joined my degree in Forestry. It gave me a lifelong experience as I came close to the world of ornithology. I always use to wonder about birds their colors, their habitats, and their social life. My hunger was pleased, when I did my masters dissertation work on avian ecology and tree biodiversity in Dangs Forest of Gujarat. I was all around birds. I got the chance to feel their demeanor and homology with the surroundings. Personally, it was not less than a meditative experience for me as Robert Lynd said "*in order to see birds it is necessary to become part of the silence*". Birds teach a life lesson of being unique, while being united. As Dr. A.P.J. Kalam said "*The bird is powered by its own life and its motivation*". So I decided to join Ph.D. in EST, ISTAR. I was so fortunate to get my research topic in the field of avian ecology under an able guidance of my research supervisor Dr. Hiren. B. Soni. He lifted my horizon and cleared my tangential vision on a broader prospect while birding.

Interest in Birding and Wildlife has taken me all over Gujarat and India. I have being to major wildlife sanctuaries and national parks, and explored different habitats and ecosystems, which harbor different Endemic and Migratory Bird Species. Birding gave me a chance to meet like-minded people, who are now lifelong friends. Active birdwatching Groups and Communities regularly organize events and provide an excellent excuse for me to get outdoors with other people and share my Research and Knowledge with them.

As a student of Environmental Science and Technology (EST), I have experienced that Birds are outstanding indicators of the health of the overall environment. They are readily affected by physical and chemical impacts on their ecosystems, whether these are caused by natural or man-made influences. When communities of birds change this is usually the result of an ecological change. Because many species of birds have become specialized to occupy certain niches, and together they inhabit almost every conceivable habitat. They are responsive to a wide variety of environmental changes, and can reflect diversity and trends in other animals and plants with which they coexist. The popularity of bird watching continues to rise and is definitely something worthwhile pursuing, even if you have the smallest hint of interest. It's inexpensive, interesting, and good for your health, so why not give it a go?

CHEMICAL HAZARDS EVALUATION AND SAFETY

Yugen Dave, Bhavesh Rohit, Bhavik Chaniyara, Pruthvi Patel - M.Sc. Industrial Hygiene And Safety

Harmful chemical compounds in the form of solids, liquids, gases, mists, dusts, fumes, and vapors exert toxic effects by inhalation (breathing), absorption (through direct contact with the skin), or ingestion (eating or drinking). Airborne chemical hazards exist as concentrations of mists, vapors, gases, fumes, or solids. Some are toxic through inhalation and some of them irritate the skin on contact, some can be toxic by absorption through the skin or through ingestion, and some are corrosive to living tissue.

Chemicals be hazardous to health:

Chemicals can cause many different types of harm, ranging from mild skin irritation to cancer.

Definition of Hazardous chemical is given in Gujarat Factories Rules,1963 in 68-J and The Manufacture, Storage and Import of Hazardous Chemical Rules,1989, it is defined as,

I. any chemical which contains any of the criteria laid down in part I of Schedule I and is listed in column (2) of part II of said Schedule, or;

II. any chemical listed in column 2 of Schedule 2, or;

III. any chemical listed in column 2 of Schedule 3.

Effects of hazardous chemicals may be seen as:

1. Chronic : Immediately after contact (e.g. chemical burn) or many years after the exposure (e.g. lung cancer following exposure to asbestos).
2. Acute : Following a single short exposure (e.g. infrequent use of a chemical) or longer-term exposures (e.g. daily use of a chemical in the workplace).

The degree of worker risk from exposure to any given substance depends on the nature and potency of the toxic effects and the magnitude and duration of exposure. Information on the risk to workers from chemical hazards can be obtained from the Material Safety Data Sheet (MSDS) that supplied by the manufacturer or importer to the purchaser of all hazardous materials.

Some of the pictures of Hazardous Communication is given below:

EVALUATION:

Once you have identified a hazardous chemical, the next step is to assess specifically how the chemical may cause a health or safety hazard in your workplace.

The product label and MSDS gives you information to evaluate hazardous chemicals against the following criteria:

- The routes of entry of a hazardous chemical helps determine the health hazards.
- The physical form and concentration of the hazardous chemical is also important. Some substances are dangerous in one form, such as powder which can be easily inhaled, but not in another state, such as a solid. Some chemicals are categorised as safe at certain concentrations but dangerous at others. Knowing in which states and at which concentrations a chemical may be safe are important factors in determining the overall risk profile of the substance across transport, handling, usage and disposal processes.

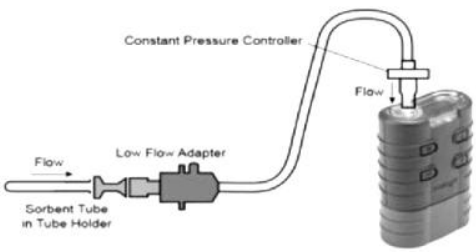
SAMPLING FOR DUSTS AND FUMES:-

Dust is particles of solid material around 1µm to 1mm diameter. Larger particles are too heavy to remain airborne. Fumes are smaller than dust. They are solid particles formed by condensation froma gas and the particle size is typically <1µm.

SAMPLING FOR SOLVENTS AND VAPOURS:-

Solvents, gases and vapours are sampled actively in a similar way to particulates but instead of filter and head, a sorbent tube is used or sometimes a bubbler / Impinger.

As per The Factory Act, 1948, **"THE SECOND SCHEDULE"** the permissible exposure levels of certain chemicals substances in work environment id listed .



CONTROL :

Once you have assessed i.e evaluated the risk associated with the use of your chemicals, you then need to decide. what control measures are required to keep you, your employees and your workplace safe.

At this stage you should also consider any current control measures that are in place, such as:

1. Type of engineering controls e.g. enclosures and ventilation – are they effective and maintained regularly?
2. Current work practices or procedures.

Pictorial Representation of Hierarchy of Controls

3. Training provided to employees.
4. Hygiene arrangements e.g. separate meal and wash facilities.
5. Storage arrangements.
6. Level of housekeeping.
7. Disposal of waste.
8. Emergency procedures e.g. eyewash, emergency shower.
9. Personal Protective and Safety Equipment.

Seminar / Workshop / Training Program / Expert Talks organized by Department (2018-19)

11	Geoinformatics	One Day Online Workshop on Crowd Sourcing and Participatory GIS on 21st Dec, 2018 Hyperspectral remote sensing and its Applications, 41 IIRS outreach program during 21st Jan. to 1stFeb, 2019 RS & GIS Applications, 40 IIRS outreach program during 03rd Dec, to 07th Dec, 2018 RS & GIS Applications, 39 IIRS outreach program during 29th Oct, to 31st Nov, 2018 Geographical Information System, 38 IIRS outreach program during 1st Oct, to 19th Oct, 2018 **Open House 2018 on** 6th Oct, 2018 On field training **for Application of Total Station & GPS in surveying during** 27th to 29th Sept, 2018 Expert lecture on **ISRO : VEDAS & MOSDAC PROJECTS - APPLICATION INFORMATION by** ISRO Scientist : SG: HIren Bhatt on 19th Sept, 2018 Global Navigation Satellite System and Geographical Information System Module-1, 37 IIRS Outreach program during 17th to 26th Sept, 2018 Expert Talk on Web GIS – Geo Server by Ms. Koyel Sur (Research Fellow, AAU) on 12th Sept, 2018 **Remote Sensing & Digital Image Analysis,** 36 IIRS Outreach program during 04th - 24th Sept, 2018 Two days workshop on Python Programming during 10th - 11th Aug, 2018 **Advanced Geospatial Modelling tools and techniques,** 35 IIRS Outreach program during 06th to 10th Aug, 2018 **Geospatial Inputs for AMRUT Program,** 34 IIRS Outreach program during 23rd to 27th July, 2018 Expert talk on **Geographical Information System by** Ms. Koyel Sur (Research Fellow, AAU) **on** 27th July, 2018 Expert Talk on **water scenario in India & Gujarat by** D.E.E Mr. Mehul patel, (WALMI) on 16th July, 2018 One day online workshop on **Geo Spatial Technologies and Sendaiframework for Disaster RiskReduction on** 10th July, 2018 Experts talk on **Utility Management in water shade analysis by Prof. J. H. Patel** **Advanced Image Analysis,** 33rd IIRS Outreach Program during 4th June to 15th June, 2018 **Geospatial Modelling for Watershed Management,** 32th IIRS Outreach Program during 1st May to 7th May, 2018 **RS & GIS applications in Water Resources,** 31th IIRS Outreach Program, during 16th April to 27th April, 2018 **Hyperspectral Remote Sensing and Its Applications,** 30th IIRS Outreach Program during 30th IIRS Outreach Program

DETAILS OF DISTINGUISHED ALUMNI TO BE FELICITATED ON ANNUAL DAY

Sr. No	Name of the Departmen	Name of the Alumni	Year of Passing	Organization
1	Industrial Chemistry	Mr. Dakshesh Mankad	1996	Vice President, Global Supply chain, Arista Life Sciences, Vadodara
2	Surface Coating Technology	Mr. Krunal Salat	2002-2004	Senior Manager – Operations Kansai Nerolac Paint
3	Organic chemistry	Mr. Daxesh Patel	April-2015	Executive QA/QC, Hindustan Speciality Chemicals Ltd
4	Environmental Science & Technology	Ms. Priyanka Joshi	2015	ENVIS Officer, Gujarat Cleaner Production Centre (GCPC), Govt. of Gujarat, Gandhinagar
5	Polymer Science & Technology	Amit Rathod	2004	Production Manager, Polycab Wires &Cables,
6	Instrumentation & Control	MR. Jaydeepsinh N. Zala	2013	Executive engineer, Astral Steritech Pvt. Ltd. , Vadodara
7	Industrial Hygiene and Safety	Shrenik M Ranpura	2003	Senor Expt (H&S), India, Japan, Koria, Asian countries, General Electric,
8	M.Sc.(Real Estate Valuation)	Sundeep Bikhchandani	1999	Registered Valuers
9	M.Sc.(Plant & Machinery Valuation)	Mitali Shah	2000	Valuer and Advisory Practiceat at RBSA.
10	Information Technology	Pranav Desai	2014	Oprica Investment
11	Geoinformatics	Henil P Upadhyay	2018	GIS Engineer, Mascon MSC Pvt. Ltd.

PLACEMENT DETAILS (2018-19)

Department: M.Sc. Industrial Chemistry

Sr.No.	No. of Students selected	Designation	Name of the Company
1	6	Production Officer	Lupin Ltd., Ankleshwar
2	1	QC Officer	Lupin Ltd., Ankleshwar
3	5	Production Officer	Lupin Ltd., Dabhasa
4	2	QC Officer	Lupin Ltd., Dabhasa
5	3	Production Officer	Lupin Ltd., Bhopal
6	6	Production Officer	Zydus Cadila Health Care - Ankleshwar
7	1	Production Officer	Zydus Cadila Health Care - Ankleshwar
8	3	Plant Supervisor	Royal Castor Products Ltd, Siddhapur
9	2	QA - QC	CBCC Global Research, Ahmedabad
10	4	Clinical Operation	CBCC Global Research, Ahmedabad
11	1	Clinical Pharmacology	CBCC Global Research, Ahmedabad
12	1	Chemical Assistant	Aarav Enterprises, Mumbai
13	1	Production Officer	CTX Life sciences, Surat
14	3	QA Officer	Cliantha Research Ltd., Ahmedabad
15	6	Bioanalytical Officer	Cliantha Research Ltd., Ahmedabad
16	10	Field Officer	Reliance Industries Ltd., Jamnagar
17	3	QC Officer	PI Industries, Ltd., Panoli
18	2	Production Officer	Indofils Industries Ltd., Dahej
19	3	QC Officer	Bharuch Enviro Infrastructure Ltd., Ankleshwar.

Department: M.Sc. Surface Coating Technology

Sr. No.	No. of Students selected	Designation	Name of the Company
1	02	Graduate Engineer Trainee	Kansai Nerolac Paints, Bawal
2	08	Graduate Engineer Trainee	Kansai Nerolac Paints, Sayakha
3	06	Production Officer-1	Asian Paints, Ankleshwar
4	02	Production Officer-1	Asian Paints, Taloja
5	01	Paint Chemist-Support	Axalta Coating Systems India Pvt. Ltd., Savli GIDC, Vadodara
6	06	QA/ QC Officer Production Officer R & D Chemist	Grand Polycoat Co. Pvt.Ltd., Padra
7	01	R & D / QC Chemist	Prism Paints, VUNagar

Department: Organic Chemistry

Sr. No.	No. of Students selected	Designation	Name of the Company
1	04 03	Chemist - R & D Chemist-ADL	Piramal Enterprises Limited- Discovery Solutions
2	02	Chemist - R & D	Oxygen Healthcare Research Pvt. Ltd.
3	11	Field Officer	Relince Industries Ltd., Jamnagar

Department: M.Sc. Geoinformatics

Sr. No.	No. of Students selected	Designation	Name of the Company
1	1	GIS Executive	Naksha Solution, Baroda
2	1	GIS Engineer	Design Point Consultant Pvt. Ltd, Surat
3	2	GIS Developer	FES, Anand
4	1	GIS Developer	Theodesh Consultants, Baroda

Department: Polymer Science & Technology (PST)

Sr. No.	No. of Students selected	Designation	Name of the Company
1	03	R&D	Admark Polycoats Ltd., Vadodara
2	02	QC & Production	EPP Composites Pvt. Ltd., Rajkot
3	03	R & D, QC & Production	Chembond Chemicals Ltd., Vadodara
4	01	Technical Sales Services	Cheminox Enterprise, Vadodara
5	01	R&D	Vijai polyproducts Pvt. Ltd., Vadodara
6	01	QC	IDMC Ltd., V. U. Nagar
7	03	Production	Reliance Industries Ltd., Jamnagar
8	02	QC & Production	Jolly Container, Daman
9	01	Technical Sales Services	Miku Traders, Vadodara
10	01	Technical Sales Services	Toyo Ink India Ltd., Dahej
11	02	QC & Compounding	Gharada Chemicals Ltd., Panoli, Ankleswar
12	01	Production	Suprim Industries, Halol

Department: Environmental Science & Technology (EST)

Sr. No.	No. of Students selected	Designation	Name of the Company
1	1	Jr. Fire Officer	IOCL, Chennai
2	2	Env. Trainee	VECL, Dhanora, Baroda
3	1	Chemist	Analytical & Env. Services, 350-Makarpura GIDC
4	1	Asst. Safety Auditor	RBMS, Adajan, Surat
5	1	Chemist	Paramount, Gotri, Baroda
6	1	Lab Technician	Yuva Enviro Consultancy, Bodakdev, Ahmedabad
7	1	Asst. Manager	HSE, Baroda Equipment & Vessels Pvt. Ltd, Padra, Baroda
8	1	Env. Trainee	Envisafe, Ahmedabad
9	1	Env. Trainee	Zydus, Baroda
10	1	EHS Traineer	Sustainable EHS, Vasna, Baroda

Department: Industrial Hygiene and Safety (MIHS)

Sr. No.	No. of Students selected	Designation	Name of the Company
1	1	Industrial Hygienist	TATA STEEL,Jamshedpur
2	1	Safety Officer	Coastal Gujarat Power Ltd,Mundra
3	3	Industrial Hygienist	Sustainable EHS,Vadodara
4	2	OHS Executive	Venus Remedies Ltd, Mumbai
5	1	Technical Executive	I HS Vadodara
6	1	Safety Officer	ASK Automotive ,Mehsana
7	1	Safety Officer	Anchor Panasonic,Valsad
8	1	Safety Officer	Glenmark Pharmaceuticals
9	1	Industrial Hygienist	Environmental Consulting ECOH
10	1	Safety Officer	Nawanshahar Power Pvt. Ltd
11	1	Safety Officer	Ascent fine chem. Pvt. Ltd

Department: Instrumentation & Control (INC)

Sr. No.	No. of Students selected	Designation	Name of the Company
1	1	Trainee Engineer (R & D)	Leon's Integration
2	2	Jr. Service Engineer	Tempu Validation Services
3	1	Sales & Service Engineer	Aplab Engichem Pvt. Ltd.
4	1	Jr. Executive Engineer	Shiva Pharmachem

SPORTS ACTIVITIES (2018-19)

Inter Class Tournament of Students (2018-19)

Sr. No.	Event	Winner	Runner's up
1	Badminton (Singles Boys)	Aadil Vohra SCT 4th	Karan Solanki PST 2nd
2	Badminton (Singles Girls)	Bansari Patel OC 4th	Nisha Pal OC 4th
2	Badminton (Doubles-Boys)	Rushi Makati IC 4th & Karan Solanki PST 2nd	Jeimin Joshi IC 2nd & Aadil Vohra SCT 4th
3	Badminton (Mix-Doubles)	Bansari Patel OC 4th & Aadil Vohra SCT 4th	Sweta Chauhan IC 2nd & Rushi Makati IC 4th
4	Volley ball (Boys)	M.Sc. (Org) Sem-2	M.Sc. (EST) Sem-2
5	Table Tennis (Singles)	Jeimin Joshi IC 2nd	Rushabh Shah VAL 2nd
6	Table Tennis (Doubles)	Jeimin Joshi IC 2nd & Harsh Patel IC 2nd	Harshit Ganatra IC 4th & Rushabh Shah VAL 2nd
7	Cricket	M.Sc. (SCT) 2nd	M.Sc. (IC) 4th
8	Football	M.Sc. (SCT) 4th	M.Sc. (OC) 2nd
9	Chess (Boys)	Harshit Ganatra IC	Pranay Rawat IT 2nd
10	Chess (Girls)	Shivangini Patel EST 2nd	Bansari Patel OC 4th

- Players selected in S.P. University Team for Inter University Tournament

1. Kashyap Goswami represented Sardar Patel University under 90 kg category in All India University Judo Championship at Amritsar, Punjab.
2. Rushabh Shah represented Sardar Patel University in interuniversity west zone Table tennis tournament at Nanded, Maharashtra.
3. Satpal Baria (S.S.) and Shivrajsinh Solanki were represented Sardar Patel University in interuniversity west zone Kho-kho tournament at Mumbai, Maharashtra.
4. Chess team (Boys) of ISTAR secured **3rd position** in the intercollegiate SPU tournament.
5. Kho-Kho (Boys) team of ISTAR secured **3rd position** in the intercollegiate SPU tournament.
6. Sweta Chauhan & team won the **Championship** in Kabaddi in **Khelmahakumbh 2018** from **Anand District**.
7. Sweta Chauhan & team won the **Championship** in Senior state Kabaddi tournament, **Khelmahakumbh,** all Gujarat State Invitation Kabaddi tournament during 2018-19 at **state level.**
8. Shivrajsinh Solanki (C), Satpal Baria, Maulikkumar Patel, Satyajeetsinh Raj, Karankumar Solanki, Divyang Patel won the **Championship** in Kho-Kho in **Khelmahakumbh 2018** from Lunawada at taluka level and secured **2nd Position** in Kho-Kho in **Khelmahakumbh 2018** from Lunawada at district level.

ISTAR's Achievements in Inter-Collegiate Tournaments, Organized by Sardar Patel University

Sr. No.	Department	Event Name	Name of the Student	Prize
1	MIHS 4th Semester	Judo (90kg) category	Kashyap Goswami	1st position
2	IC 2nd & 4th semester, Valuation 2nd semester	Table Tennis team	Jeimin Joshi (C) Rushabh Shah Harshit Ganatra Harsh Patel Sarjan Rathva	1st position
3.	IC 2nd semester	Triple Jump (58th Intercollegiate Athletics Championship 2018-19)	Mohammadanis Yusufmiya Malek	3rd position


SARDAR PATEL UNIVERSITY
INTER COLLEGIATE TABLE TENNIS TOURNAMENT
2018-19

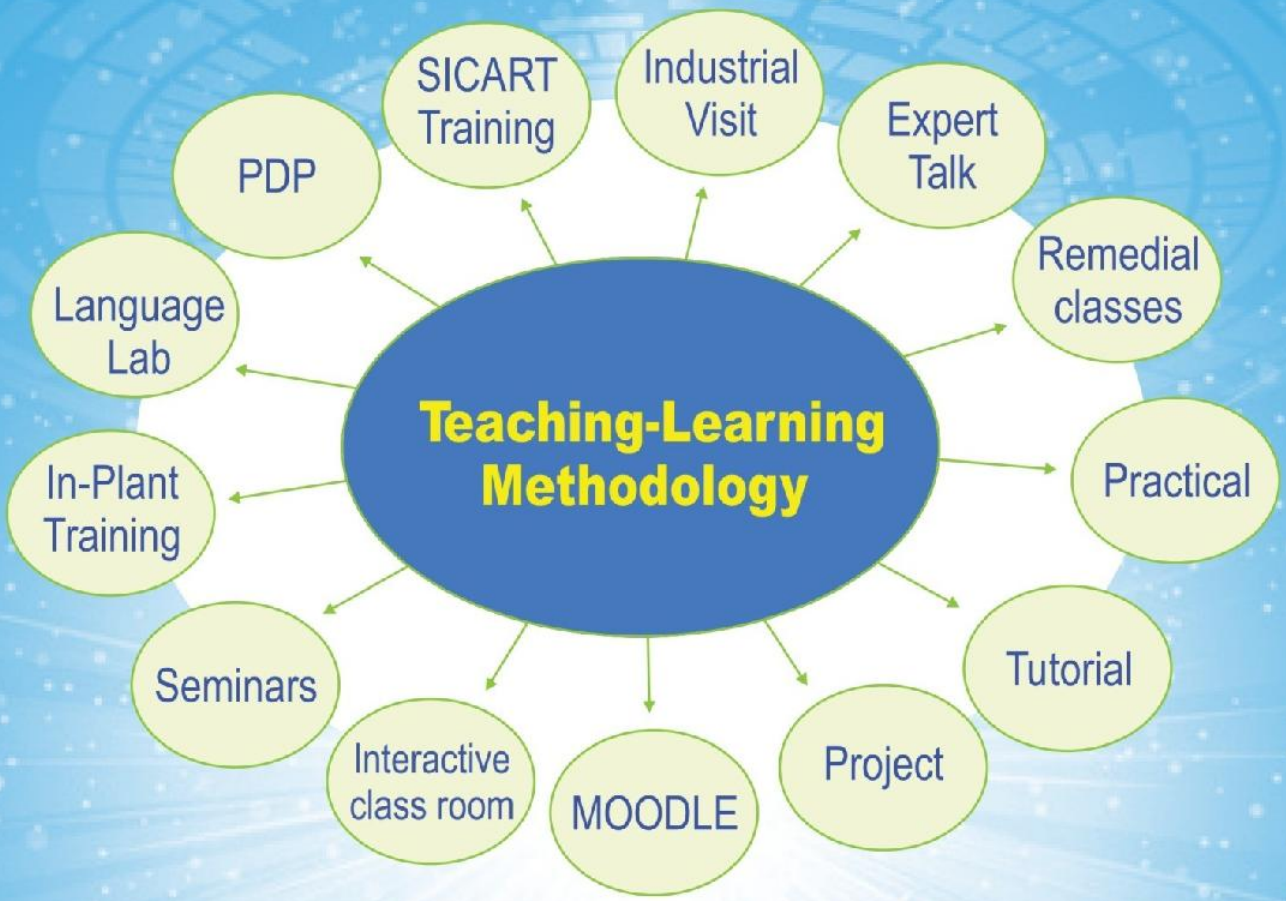

Guru Nanak Dev University, Amritsar
All India Inter-University Judo (Men) Championship
27-29 December 2018


SARDAR PATEL UNIVERSITY
INTER COLLEGIATE
CRICKET TOURNAMENT


CVM
MONSOON
SPORTS
FESTIVAL


SARDAR PATEL UNIVERSITY


INSTITUTE OF SCIENCE & TECHNOLOGY
FOR ADVANCED STUDIES & RESEARCH
Accredited 'A' Grade by NAAC & KCG
(ISTAR)
19 TH ANNUAL DAY CELEBRATIONS



CHARUTAR VIDYA MANDAL'S
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