



# DNA BIT



2018-19  
Volume 6



College of Agricultural Information Technology  
AAU, Anand - 388110





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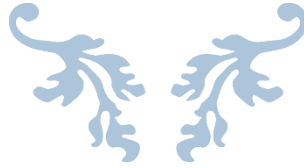
# DNABIT

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**A College Magazine**

**(2018-2019)**

**Volume 6**



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**COLLEGE OF AGRICULTURAL INFORMATION TECHNOLOGY**

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**ANAND – 388 110, GUJARAT, INDIA**

**Phone: 02692-263123/24**

**Email: [deanait@aaui.in](mailto:deanait@aaui.in)**

**Website: <http://www.aau.in>**

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## Creative Corner

### Today and Tomorrow

Divya Rathod  
Student of 4<sup>th</sup> year,  
College of Agricultural Information  
Technology, AAU, Anand

Neither in frames, nor in idols,  
God is here in my heart

Watching my deeds, fulfilling my needs  
God is dear to my heart.

Strengthening all day, to hard work always  
God is near in my heart.

To overcome the sorrow, Today and tomorrow  
God is always here in my heart.

### પાઘડી

Mihir Lakum  
Student of 2<sup>nd</sup> year,  
College of Agricultural Information  
Technology, AAU, Anand

પાઘડી ના નમે, ના નમે જેનો વટ  
એ રાજપુત, એ નો રાજ રે વટ  
જુંદગી ઘટે, ના ઘટે જેની રટ  
એ રાજપુત, એ નો રાજ રેવટ  
સોળ કળા ખીલેને, ખીલે કોઇ એક  
એ રાજપુત, એ નો રાજ રે વટ  
જય હિંદ, જય સોમનાથ

### क्या जरूरी है जीत या हार ?

Lokhil Tushar  
Student of 2<sup>nd</sup> year,  
College of Agricultural Information  
Technology, AAU, Anand

अगर मिलती हर किसी को जीत  
तो जीत का भी न होता कोई मोल,  
हार खुद हार कर देती है आपको जीत  
इसीलिए जीत से बढ़ कर हार है अनमोल,  
सुना है बहोत की  
हार के जीतने वाले को बाज़ीगर कहते हैं,  
सच है मेरे यार

एक बार अपनों से हारकर देखलो,  
हार का गम भी खुशी से कुछ कम ना होगा,  
नहीं है कोई जरूरी ना जीत या ना हार  
बस आखिर जिंदगी में बढ़ना चाहिए प्यार,  
हर किसीको ये पता होगा की  
प्यार से हार कर कोई अफ़सोस नहीं होता  
इसीलिए कहताहु हर बारकी जित का कोई मोल  
ना होगा.



## From the Desk of Principal & Dean

Promulgation of resolute agricultural information precisely and on time to the farming fraternity and other allied people makes the Information technology, an asset to the agriculture domain.

The College of Agricultural Information Technology (CAIT) was established in the year 2009-10 and it is one of the prominent institute of Anand Agricultural University, which has taken a breakthrough in disseminating eminent technical education in the field of Agricultural Information Technology. The aim of the college is to spread advance knowledge and educate students in the field of Agricultural Information Technology, and other allied sector of research that shall best serve the nation.



The inspiring environment of the CAIT for knowledge aggregation, production and dispersion along with a sense of social responsibility, human values and concern for social commitment has sculpted a metier for itself in midst of the best institutes. Moreover the discipline and ethics, which are non-negotiable factors of a student's life. A peculiar and creative way of imparting knowledge is opted. In the CAIT, it is believed and practiced that the price of success is hard work, dedication to the job at hand, and the determination that whether we win or lose, we have applied the best of ourselves to the task at hand.

My solicitous ambition is to see the College of Agricultural Information Technology stand gallant with other premier institutes as I believe in the principle that Embrace your personal victories and combat your challenges head-on.

As the Principal & Dean of the CAIT, I am pleased to unveil 6<sup>th</sup> edition of the college magazine. I appreciate the untiring efforts put in by the editorial board to bring out the college magazine.

**JAY HIND**

**Dr. Dhaval R. Kathiriya**



## MEET THE TEAM



DR. M. P. RAJ



Vikram Dharajiya



Jay Gohil



Shradhdha Patel



Hemangi Chhaya



Ishika Rana



Vishal Kotadiya



Divya Rathod



Varsha Maheshwari

INNOVATION INFORMATION TRANSFORMATION



**Dear Readers,**

Writing is an act of reacting to the environment around you. An expression is a basic instinct of thoughtful mind and the act of writing is one of the fountain head of ideas that springs into poem or article. The writing comes to life when it meets its reader. Students are most enthusiastic budding creative expressionist who just need a platform to throw their ideas and emotions on the paper. A college magazine is there to capitulate all those expressions for the tasteful readers. “DNABIT” is one of the most eagerly awaited moment for students, staff and all those associated with AIT family. The college magazine which showcases the literary expressions, social awareness and recognition to all the achievers in the academic and extracurricular activities, strengthens the internal bonding amongst the AITIAN(s) as one family.

As we know DNA and BIT both are inception point of living organisms and IT domain respectively and thus its aggregation reflects main objective of the College. DNABIT is quick flashback of all events and programs associated with our college. DNABIT also contains Alumni Speaks to motivate the young and newly enrolled students to make their vision and motive as clear as possible. SRC activities were also cherished during the entire year which include technical, sports and as well as literary events. DNABIT reflects various activities like workshops, expert lectures, training and campus placement of college’s placement cell. It highlights various achievements of the college and students during the year. There are few snapshots on “College Round-up” dealing with Extra and Co-curricular Activities and eminent flashbacks of important events.

We feel honoured in bestowing the 6<sup>th</sup> edition of the College Magazine. We would like to thank our Dean and Principal Dr. D. R. Kathiriya for his unconditional support and guidance. We would like to thank students for helping us pull this through. We express our considerable appreciation to all the authors of the articles in this magazine. These contributions have required a generous amount of time and effort. It is this willingness to share knowledge, concerns and special insights with fellow beings that has made this magazine possible. Lastly, let us all remember that we are meant for great things. Keep the faith.

**Dr. Mayur P. Raj & Team**



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## 1. Introduction

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**Anand Agricultural University**, a premiere institute in the field of agriculture in Gujarat has been providing support to the farming community for more than seventy years. It is a prestigious institute of higher learning producing meritorious student with excellent career growth and universal recognition. The students get the best of opportunities in the form of highly advanced courses, eminent faculty members, well-equipped laboratories, library, hostel and other facilities to excel in education and research.

**College of Agricultural Information Technology** was established in the year 2009 under the aegis of Anand Agricultural University. The CAIT offers **4-yr B.Tech (AIT)** program. The postgraduate master degree program is not offered anywhere else which generates young workforce skilled with knowhow of future ready Information and Communication Technology and imparting the same in Agricultural sector. The college has trained teaching faculty with a balanced blend of well-experienced seniors and energetic youth focused towards teaching and research. The College building is surrounded by lush green natural environment with enough resources such as well-ventilated lecture halls with audio visual facility, computer labs, scientific equipments, Wi-Fi Internet access, library, NCC/NSS, sports, project and placement cell etc.

The curriculum of B.Tech. (AIT) is a blend of Agricultural Science and Information and Communication Technology (ICT) to harvest the potential of both the sectors. We care looking forward to introduce innovative practices of automation and information by means of ICT in the sparsely charted agriculture and allied sectors to bridge the gap between the skills of the technocrat and the farmer.

### Mandates

- ✓ To conduct four year undergraduate degree program B.Tech. (AIT) and two years postgraduate master program M.Tech. (AIT) in Agricultural Information Technology.
- ✓ To conduct various training programs related to Agricultural Information Technology for developing competence.
- ✓ To help scientists and academicians of the University in AGRESKO. To bring out various programming and networking projects of Agricultural Information Technology.

### Departments in the College

**To oversee the academic and other activities of the college, the faculty is divided into two following departments:**

- Department of Agricultural Information Technology
- Department of Agricultural Sciences



- Well-equipped computer, networking, multimedia, agricultural, basic instrumentation laboratories are available for students to perform practices and projects development.
- College elevates library facility with English and Gujarati daily newspaper, within college premises gymnasium and sports facility is also available.
- Smart classrooms with online video lecture attending facilities has also strengthened college.

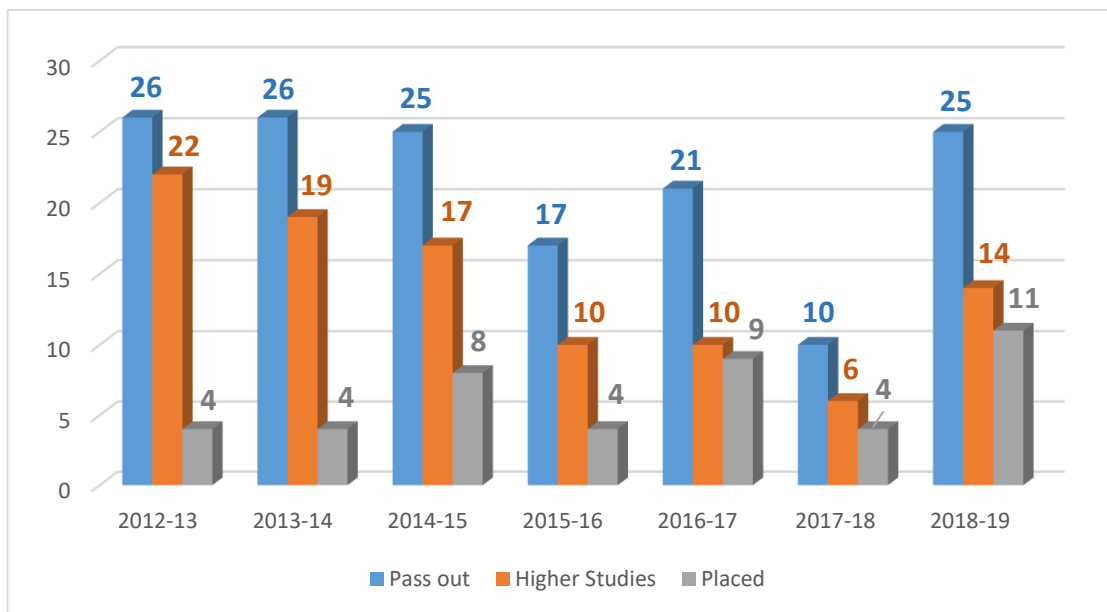
## 2. Faculties and Supporting Staff

#.	Name	Designation	Qualification
1	Dr. D. R. Kathiriya	Principal & Dean	Ph.D. (Computer Science)
2	Dr. Y. R. Ghodasara	Professor (P)	Ph.D. (Computer Science)
3	Dr. R. S. Parmar	Professor (P)	Ph.D. (Agri. Stat)
4	Dr. V. B. Darji	Professor (P)	Ph.D. (Agri. Stat)
5	Dr. M. P. Raj	Assistant Professor	Ph.D. (Computer Science)
6	Mr. K. P. Patel	Assistant Professor	M.C.A.
7	Dr. D. K. Parmar	Assistant Professor	Ph.D. (Computer Eng.)
8	Mr. N. M. Vegad	Assistant Professor	M.Sc. (Agri.)
9	Dr. J. V. Suthar	Assistant Professor	Ph.D. (Agri. Agron.)
10	Dr. G. B. Chaudhari	Assistant Professor	Ph.D. (Agri. Met.)
11	Prof. V. I. Mehara	Assistant Professor	M.Tech (Process Control)
12	Mr. U. S. Rathod	Programmer	M.C.A.
13	Mr. R. N. Borishaniya	Junior Clerk	B.Com.



### 3. Training and Placement Cell

**YEAR WISE PLACEMENT RECORD OF STUDENTS 2012-13 TO 2018-19**



**% UG Students got Placement**

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Pass out</b>	26	26	25	17	21	10	25
<b>Placed</b>	4	4	8	4	9	4	11
<b>Percentage</b>	15.38%	15.38%	32.00%	23.53%	42.86%	40.00%	40.00%
<b>Private Sector</b>	4	4	8	4	8	4	11
<b>Govt Sector</b>	0	0	0	0	1	0	0
<b>Higher Studies</b>	22	19	17	10	10	6	14

## Placement Detail till May 2019 for Batch 2015

Name	Company
Patel Shainee	Reigns Technologies
Solanki Ankita	PixSpa Media Tech, Ahmedabad
Parmar Urmila	PixSpa Media Tech, Ahmedabad
Parmar Bharat	Vrundavan cold storage, Anand
Chavada Jayesh	Vrundavan cold storage, Anand
Ahir Bharati	Surya Infotech
Momin Taufik	Deepak Foundation, Vadodara
Vaghamshi Ravi	IT Center AAU
Vala Krishna	Kaushalam Digiital Pvt. Ahmedabad
Rupavatiya Mital	Kaushalam Digiital Pvt. Ahmedabad
Mohapatra Mitul	Brain Wire Infotech, Ahmedabad

## Performance in Competitive Exams

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
<b>GATE</b>	1	1	1	3	1	1	-
<b>CAT</b>	1	-	-	1	-	-	1

Year	No. of Awareness Programmes	No. of Job fairs	No. of Hackathons	No. of erudition lectures
<b>2014-15</b>	0	2	0	0
<b>2015-16</b>	0	1	0	13
<b>2016-17</b>	0	1	1	8
<b>2017-18</b>	1	0	2	18
<b>2018-19</b>	1	1	2	23

## Campus Interview "Jain Irrigation"



**Industrial training**

#.	Name	Institute/company
1	Ahir Bharati	Surya Infotech, Surat
2	Banshi Lal	Deepak Foundation, Vadodara
3	Charmi Patel	Exemplar Technology, Vadodara
4	Chavada Jayesh	Vrundavan cold storage, Anand
5	Rajpurohit Deepak	Indian Institute of Remote Sensing, Dehradun
6	Emanuel Evangeline	National Remote Sensing Centre, Hyderabad
7	Gujarati Ashish	Teqto Infotech, Rajkot
8	Mohapatra Mitul	Deepak Foundation, Vadodara
9	Momin Taufik	Deepak Foundation, Vadodara
10	Parmar Bharat	Vrundavan cold storage, Anand
11	Parmar Kuldeep	Deepak Foundation, Vadodara
12	Parmar Urmila	PixSpa Media Tech, Ahmedabad
13	Patel Chirag	IT center, AAU, Anand
14	Patel Dhara	Nesterz Webtech, Ahmedabad
15	Patel Mansi	SAC, ISRO, Ahmedabad
16	Patel Shainee	Reigns Technology, Ahmedabad
17	Rupavatiya Mital	Centre Of Excellence For Mango, Junagadh
18	Solanki Ankita	PixSpa Media Tech, Ahmedabad
19	Undhad Sanket	Indian Institute of Remote Sensing, Dehradun
20	Vaghela Urmila	Center of Excellence for Mango
21	Vala Krishna	Adri IT Solutions, Vadodara
22	Yadav Arzoo	JDM IT Solutions, Vadodara
23	Joshi Drashti	Adri IT Solutions, Vadodara
24	Makwana Akshaykumar	Teqto Infotech, Rajkot
25	Vaghamshi Ravi	ITC, AAU, Anand



#### 4. Students Enrolled in 2018-2019

#.	Enrolment No.	Name of Students
1	3060818001	Abhangi Aashrutikumari Kishorbhai
2	3060818002	Bamaniya Kinjalben Vikrambhai
3	3060818003	Bhatt Darshit Hiteshbhai
4	3060818004	Chaudhary Maheshbhai Samaratbhai
5	3060818005	Chauhan Dhruvi Rajeshbhai
6	3060818006	Chauhan Pruthvirajsinh Ashvinsinh
7	3060818007	Ganvit Pragneshkumar Hareshbhai
8	3060818008	Gareja Raju Jetabhai
9	3060818009	Gatta Raj Sureshbhai
10	3060818010	Kachhiya Rutvikkumar Ashwinbhai
11	3060818011	Karavadara Jaykumar Sangambhai
12	3060818012	Khunti Maheshbhai Khimabhai
13	3060818013	Kotadiya Vishalkumar Nilesh
14	3060818014	Lokhil Tushar Manubhai
15	3060818015	Luhar Anil Navghanbhai
16	3060818016	Mameriya Vishal Becharbhai
17	3060818017	Mori Nikitaben Hareshbhai
18	3060818018	Nakum Mihirkumar Dhirubhai
19	3060818019	Pandya Het Nayan
20	3060818020	Parmar Arpita Madhavsinh
21	3060818021	Parmar Hardikkumar Ratansinh
22	3060818022	Patel Drashti Rakeshbhai
23	3060818023	Patel Jinal Bhavikkumar
24	3060818024	Patel Krishnaben Pravinbhai
25	3060818025	Patel Niraliben Yogeshbhai
26	3060818026	Patel Rakshit Rohitbhai
27	3060818027	Patel Viraj Jitendrakumar
28	3060818028	Pathan Yawarkhan Yasinkhan
29	3060818029	Patoliya Hiren Govindbhai
30	3060818030	Prajapati Niharika Manishbhai
31	3060818031	Rajdeepsinh P Thakor
32	3060818032	Rana Ishika Dharmeshbhai
33	3060818033	Rana Jay Pareshbhai
34	3060818034	Rathod Guntant Babubhai
35	3060818035	Rathva Khushbuben Maheshbhai
36	3060818036	Shekhada Parthkumar Shaileshbhai
37	3060818038	Tandel Diyakumari Arjunbhai
38	3060818039	Varvariya Hemant Hardasbhai
39	3060818040	Vasava Kiranbhai Girishbhai



## 5. Student Representative Council

Student Representative Council (SRC) is basically a student-operated college committee designed to promote college spirit and leadership among students. Students participate in all levels of the council to maintain a high standard of personal conduct. Council members skillfully demonstrate the leadership qualities by serving as good examples of behaviour through their deeds and actions.

The Student Representative Council (SRC) is formed:

- ✓ To develop positive attitude and to practice good citizenship
- ✓ To promote harmonious relation throughout the college
- ✓ To improve student/faculty relationship
- ✓ To improve college moral and general welfare
- ✓ To provide a forum for student expression
- ✓ To plan special events or projects

Benefits of being involved in Student Representative Council include:

Opportunity to improve reading and writing skills, gain experience in public speaking, and hone other skills like team building and cooperation. Students learn how to make a positive impact on college and community environment. In addition, Student Representative Council gives a platform to meet new friends and work with a wide variety of people.

## 6. The SRC for the year 2018-2019

Partron : Dr. D. R. Kathiriya, Principal and Dean  
Chairman : Mr. K. P. Patel, Assistant Professor  
General Secretary : Ms. Mansi R. Patel, General Secretary

#.	Name	Designation	Activities
1.	Dr. D. R. Kathiriya	Principal & Dean	<b>President</b> , NCC, Personality Development, Social Gathering
2.	Mr. Kalpesh P. Patel	Assistant Professor	<b>Chairman</b> , Indoor and Outdoor games
3.	Mr. J. V. Suthar	Assistant Professor	<b>Co-Chairman</b> , Outdoor games
4.	Dr. Y. R. Ghodasara	Professor (P)	Personality Development
5.	Dr. G. B. Chaudhai	Assistant Professor	National & State Events and Training, College Event
6.	Dr. Mayur Raj	Assistant Professor	College Magazine, National & State Events, Indoor games, Literary Activity
7.	Mr. N. M. Vegad	Assistant Professor	NSS, Adventure, Cultural Activities
8.	Mr. D. K. Parmar	Assistant Professor	National & State Events and Training, Cultural Activities, Athletics, Social Gathering
9.	Dr. B. A. Amin	Assistant Professor	NCC, College Event





## 7. Student Representatives

#	Name	Sem	Activities
1.	Ms. Mansi R. Patel	7th	General Secretary, College Event
2.	Mr. Virat k. Chaudhari	5th	Deputy General Secretary, Outdoor games
3.	Ms. Dhvani Sontoki	5th	Ladies Representative, Social Gathering
4.	Ms. Ankita, Ms. Yogeshwari, Ms. Urvisha and Mr. Darshan	5th	Cultural Activities , College Magazine, Literary
5.	Mr. Kuldip Parmar	7th	Class Representative , Social Gathering
6.	Mr. Ankita D. Solanki	7th	Class representative, College Event
7.	Mr. Rupesh N. Patel	5th	Class Representative, Indoor games
8.	Ms. Dhruvi R. Modi	5th	Class Representative , Athletics, Cultural
9.	Mr. Jaykumar H. Gohil	3rd	Class Representative, Outdoor games
10.	Ms. Shraddha M. Patel	3rd	Class Representative, Athletics
11.	Mr. Vikram, Ms. Hemangi	3rd	Literary, College Magazine, College Event
12.	Mr. Keyur D. Markana	3rd	NCC, Social Gathering
13.	Mr. Vishal N. Kotadiya	1st	Class Representative, NSS, Adventure
14.	Ms. Ishika D. Rana	1st	Class Representative, NSS, College Event



## 8. વિદ્યાર્થીઓને માર્ગદર્શન

Dr. D. R. Kathiriya  
Principal & Dean,  
College of Agricultural Information Technology  
Anand Agricultural University, Anand

[શ્રી બબાભાઈ પટેલ દ્વારા સંપાદિત 'વિદ્યાર્થી ઉપનિષદ'માંથી સાભાર.]

### [1] સંસ્કાર ગ્રહણ કરવાનો સમય:

આખા જીવનમાં વિદ્યાર્થીજીવનનો કાળ ખૂબ આનંદનો અને સુખનો માનવામાં આવે છે. માણસ મોટો થયા પછી દુનિયાદારીની અનેક આપત્તિઓ અને મુશ્કેલીઓથી ત્રાસે છે, ત્યારે તેને પોતાની વિદ્યાર્થી દશા યાદ આવે છે.... આ અવસ્થા અત્યંત મહત્વની છે. આ જ કાળમાં જે સંસ્કાર અને જે ટેવો પડે છે તે આખી જિંદગી માણસમાં ટકી રહે છે. તેથી આ કાળ મને કેવળ આનંદ અને બેફિક્કરપણાનો ન લાગતાં જીવનમાં જરૂરી એવાં ઉચ્ચ શિક્ષણ તથા સંસ્કાર મેળવવાની અને સારી ટેવો પાડવાની દૃષ્ટિથી ઘણો મહત્વનો લાગે છે. આ જ કાળમાં તમે એ જીવનનું મહત્વ સમજો તો આજની તમારી ચાલુ વિદ્યાર્થી દશામાં જ તમે પોતાના ભવિષ્યના જીવનનો પાયો નાખી શકશો.

### [2] શ્રેષ્ઠ પુરુષોનાં ચરિત્રોમાંથી બોધ:

સારા સંસ્કાર મળવાની સગવડ તમને આજે ક્યાંય ન દેખાતી હોય તો તમે મહાન પુરુષોનાં ચરિત્રો તથા સારા ગ્રંથો વાંચો, તેનું મનન કરો. અને તે પરથી યોગ્ય બોધ ગ્રહણ કરો. આપણને સારું શિક્ષણ અને સંસ્કાર આપનારું કોઈ નથી એમ માની નિરાશ થઈને બેસી ન રહો. સારા થવાની તમને ઈચ્છા હોય તો તમે પોતે જ ઉત્સાહપૂર્વક સારા સંસ્કારો પ્રાપ્ત કરવા મંડી પડો. તમારા અંતરમાં જો સદિચ્છા પ્રગટે તો ચાલુ સ્થિતિમાંથી પણ તમને રસ્તો મળશે. તમારી ઈચ્છા પ્રબળ હશે, તમારો સંકલ્પ દૃઢ હશે, તો પરમાત્મા પોતે તમારો માર્ગદર્શક બનશે. તમારા માર્ગમાં નડતા અંતરાયો દૂર કરવાનું સામર્થ્ય તે તમને આપશે.... તમારે આ બાબતમાં કદી પણ આળસ કે કંટાળો ન કરતાં હંમેશાં ઉત્સાહી અને પ્રયત્નશીલ રહેવું જોઈએ.

### [3] સારાનરસા સંસ્કારોનાં પરિણામ:

સારામાં સારા સંસ્કારો પ્રાપ્ત કરવાનો તમારે માટે આ જ કાળ છે અને ખરાબ ટેવો પાડીને જીવનને કુમાર્ગે ચઢાવવાનોય આ જ કાળ છે. કઈ વાતનું શું પરિણામ આવશે એ સમજવાની શક્તિ આજે તમારામાં નથી; તેમ જ કોઈ પણ બાબતના પરિણામનો દીર્ઘદૃષ્ટિથી વિચાર કરવા જેટલી સૂક્ષ્મતા અને પ્રગલ્ભતા આજે તમારી બુદ્ધિમાં આવેલી નથી. તમે પોતે આજે સારાનરસાનો વિચાર કરી શકો તેમ નથી, તેથી જે વસ્તુઓ મહાપુરુષોએ માન્ય કરેલી છે, સંત સજ્જનોએ જે વસ્તુઓને મહત્વની ગણી છે તેને જ તમે અપનાવો. સજ્જનોને તમે તમારા જીવનના માર્ગદર્શક બનાવો; તેથી તમારામાં સંયમ અને પુરુષાર્થ બંને આવશે. વખત જતાં તમારી ઉંમર અને અનુભવ વધશે એટલે તમારામાં વિવેકની વૃદ્ધિ થશે અને તે વિવેક જ આગળ જતાં તમને સારાનરસાના નિર્ણયમાં સહાયભૂત થશે. તમારો આત્મવિશ્વાસ વધશે. પછી પોતાના માર્ગમાં તમારે કોઈને પૂછવાપણું નહીં રહે.



#### [4] નિશ્ચય, નિર્દોષતા અને સૌંદર્ય:

કાયા, વાચા અને મનથી નિર્દોષ રહેવાનો તમારે આજથી જ નિર્ણય કરવો જોઈએ; કારણ આજની તમારી નિર્દોષ અવસ્થામાં જ તમે પવિત્ર નિશ્ચય કરી શકો છો. એક વાર તમે નિશ્ચય કરો એટલે પછી કોઈ પણ સ્થિતિમાં તે પાર પાડવાની શક્તિ તમારામાં જાગૃત થયા વગર નહીં રહે. પણ નિશ્ચયને અંગે ત્રણ મહત્વની બાબતો તમારે ધ્યાનમાં રાખવી જોઈએ. નિશ્ચયની બાબતમાં તમારે હંમેશ પ્રામાણિક, પ્રયત્નશીલ અને સાવધ રહેવું જોઈએ. આ ત્રણમાંથી એક પણ બાબત તરફ તમે દુર્લક્ષ કરશો તો તમારો નિશ્ચય પાર નહીં પડે. દરરોજ પરિશ્રમ કે વ્યાયામ કર્યા વગર આપણને જમવાનો અધિકાર નથી એમ તમારે સમજવું જોઈએ. કોઈ પણ વ્યસનનો જરા સરખો ચેપ તમારે પોતાને કદી ન લાગવા દેવો જોઈએ. આખી જિંદગી વ્યસનથી મુક્ત રહેવું હોય તો તે વિશે તમારા ચિત્તમાં તીવ્ર નિષેધની ભાવના સતત જાગૃત રહેવા દો.... શરીર નીરોગી, મજબૂત, પ્રમાણસરનું, ચંચળ અને સ્ફૂર્તિવું રાખો એટલે તેમાં જ બધું શારીરિક સૌંદર્ય આવી જશે. તમારા શરીરમાં શુદ્ધ લોહી ફરવા દો એટલે તે કાન્તિવાળું દેખાશે. આમાં જ ખરું સૌંદર્ય અને પૌરુષ છે.

#### [5] વાચા શુદ્ધિ અને ક્રિયા શુદ્ધિ અંગે સાવધપાણું:

નિંદા, કપટ, દૂવેષ, અસત્ય, અપ્રામાણિકતા, છેતરપિંડી એ બધા દોષો તમારી વાણીમાં કદી ન આવવા જોઈએ. તેમાં મૂઢુતા, મધુરતા અને સત્યતા સહેજે હોવી જોઈએ. તમારા શબ્દોમાંથી નિરાધારને આધાર, વિચારહીનોને વિચાર અને અજ્ઞાનીને જ્ઞાન મળવું જોઈએ. અને ઉદ્દામ, ઘાતકી અને દુરાચારી લોકોને જેથી ડર લાગે અને તેઓ પસ્તાવો કરવા પ્રેરાય એવું સામર્થ્ય તમારા શબ્દોમાં હોવું જોઈએ.... ગુણોનો પ્રયત્નપૂર્વક અભ્યાસ કરવો પડે છે, જ્યારે દોષો કેવળ દુર્લક્ષ કરવાથી વધે છે.... તમારા બોલવામાં, ચાલવામાં, હસવામાં કોઈ પણ રીતે અતિશયતા કે બીજો કોઈ દોષ ન આવવો જોઈએ. તમારા વિનોદમાં દ્વેષનું માધુર્ય, પ્રેમ અને જ્ઞાનનો સુંદર મેળ હોવો જોઈએ. જેનો તમે વિનોદ કરો તેને પણ તેથી આનંદ થવો જોઈએ, અને દુઃખ તો કદી ન થવું જોઈએ... તમને સંગીત ન આવડે તોય ચાલે; કારણ સંગીત તેટલા વખત પૂરતું મધુર લાગે છે. પરંતુ તમારા હંમેશના બોલવામાં જ તમે માધુર્ય રેડી શકો તો તેમાંથી જ તમારી વાચાશુદ્ધિ અને મન:શુદ્ધિ હંમેશ પ્રગટ થતી રહેશે.... પોતાના વિચારો યોગ્ય રીતે બીજા આગળ રજૂ કરવાની અને તેમને ગળે ઉતારવાની કળા તમારે અત્યારથી જ કેળવવી જોઈએ. મુખદુર્બલતા કે શરમાળપાણું, બીકણપાણું કે સંકોચશીલતા તમારામાં ન હોવી જોઈએ. તમારામાં સભાક્ષોભ ન હોવો જોઈએ, સ્પષ્ટ બોલવાની હિંમત હોવી જોઈએ પણ ઉદ્દેશતાઈ કે અવિવેક ન હોવો જોઈએ. તમારા બોલવાનો કોઈને કંટાળો કે તિરસ્કાર ન આવવો જોઈએ. તેથી પરિમિત, વ્યવસ્થિત અને પ્રસંગોચિત બોલવાની તમારે ટેવ પાડવી જોઈએ. બીજાઓને કંટાળો આવે તે પહેલાં તમારે પોતાની વાણીને રોકવી જોઈએ... તમે પોતે સદગુણી થાઓ તોય બીજાને કદી પણ હીન ગણશો નહીં. પ્રેમથી બધાને પોતાના કરવાની વૃત્તિ તમારામાં હોવી જોઈએ.

#### [6] રસનેન્દ્રિયની શુદ્ધિ:

આરોગ્યની દૃષ્ટિથી ખોરાકમાં સારો સ્વાદ લાગવો બહુ જ જરૂરી છે, અને તે સ્વાદ લઈ શકાય તે માટે આપણી રસનેન્દ્રિય ઘણી નીરોગી અને તીક્ષ્ણ હોવી જોઈએ. પણ આપણે તેમ ન કરતાં ઊલટું ખાવાના પદાર્થોમાં અનેક તીવ્ર દ્રવ્યો નાખીને તેને સ્વાદિષ્ટ બનાવવાનો પ્રયત્ન કરીએ છીએ. આ પ્રયત્ન અનેક દૃષ્ટિથી અનિષ્ટકારક હોવા છતાં



આપણે તે જ ચાલુ રાખીને આપણી રસેન્દ્રિયની શક્તિને ક્ષીણ કરીએ છીએ. આવી ખરાબ ટેવોમાં તમે ન પડતાં યોગ્ય પરિશ્રમ અને વ્યાયામ વડે પોતાની હોજરી સારી રાખજો. તેની પાચનશક્તિ સતેજ રાખજો.

## [7] પહેરવેશની બાબતમાં વિવેક:

કપડાંની સુંદરતા કરતાં તેમના કીમતીપણા કરતાં, સાદાઈ અને સ્વચ્છતાને તમારે મહત્વ આપવું જોઈએ. કપડાંનો વિચાર કરતી વખતે પોતાના દરરોજના ધંધાની સગવડની તેમ જ આરોગ્ય, સાદાઈને આર્થિક સ્થિતિ વગેરેની દૃષ્ટિથી તમે વિચાર કરજો. કપડાંથી પોતાની જાત શણગારી શોભા લાવવાનો અને મોટાઈ મેળવવાનો પ્રયત્ન બુદ્ધિહીન અને મૂર્ખ માણસ પણ કરી શકે. એટલું જ નહિ, પણ એ જ એવો પ્રયત્ન કરે. પણ તમારા જેવાઓએ પોતાના નીરોગી, મજબૂત અને સુડોળ શરીરથી, તેમ જ બૌદ્ધિક અને માનસિક સદગુણો વડે સુશોભિત થવાની મહત્વાકાંક્ષા રાખવી જોઈએ. કપડાંની તેમ જ તમારા ઘરમાંની અને બહારની રહેણી પણ સાદી અને વ્યવસ્થિત હોવી જોઈએ. તમારું આખું જીવન વ્યવસ્થિત હોવું જોઈએ. પોતાની બધી વસ્તુઓ વ્યવસ્થિત રાખવાની તેમ જ તે સારી રીતે વાપરવાની તમને ટેવ હોવી જોઈએ. દરેક બાબતમાં શિસ્તથી વર્તવાનો તમારો સ્વભાવ બનવો જોઈએ. કામ કરવામાં નિયમિતપણું સાચવજો. બોલેલું વચન અને માથે લીધેલું કામ વખતસર પૂરું કરવાની બાબતમાં હંમેશ દક્ષ રહેજો.

## [8] અન્યાય-પ્રસંગે કર્તવ્ય જાગૃતિ:

તમે કદી પણ કોઈને અન્યાય કરશો નહીં; તેમ જ કોઈનો અન્યાય સહન પણ ન કરતા. તે જ પ્રમાણે બીજા પ્રત્યે કોઈ અન્યાય કરતો હોય તો તે પણ તમારાથી સહન ન થવો જોઈએ, અને શક્ય તેટલા પ્રયત્નથી તમારે તે અન્યાયનો પ્રતિકાર કરવો જોઈએ.

## [9] પરિશ્રમનું મહત્વ:

શારીરિક પરિશ્રમનો તમને કદી કંટાળો ન હોવો જોઈએ. તેમાં તમને નાનમ ન લાગવી જોઈએ. પરિશ્રમ ન કરવો એ દુર્બળતાનું અને ખોટા અહંકારનું લક્ષણ છે એમ તમે માનજો. આયતું ખાનારા અને બીજાની મહેનત પર સુખ અને સ્વાસ્થ્યની ઈચ્છા કરનારા લોકો દીકે જોરાવર લાગે, તો પણ મનથી તેઓ દુર્બળ છે એમ ચોક્કસ માનજો..... તમે પોતાનું શરીર, બુદ્ધિ, મન અને વાણી પવિત્ર રાખજો. તમને તમે યોગ્ય ટેવો પાડો અને કોઈ પણ બાજુથી દોષ સાથે સંબંધ ન આવવા દો તો તમારા જેવા નસીબદાર બીજા કોઈ નથી એમ માનજો.

પરમાત્મા તમારા શુભ હેતુમાં તમને સદૈવ સહાય થાઓ...



## 9. B U Z Z W O R D S

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Dr. Y R Ghodasara

Professor & Head, Department of AIT, College of Agricultural Information Technology,  
AAU, Anand

### **Innovation**

Innovation in its modern meaning is a "new idea, creative thoughts, new imaginations in form of device or method". Innovation is often also viewed as the application of better solutions that meet new requirements, unarticulated needs, or existing market needs. Such innovation takes place through the provision of more-effective products, processes, services, technologies, or business models that are made available to markets, governments and society. An innovation is something original and more effective and, as a consequence, new, that "breaks into" the market or society. The opposite of innovation is exnovation.

### **Disruptive Innovation**

In business theory, a disruptive innovation is an innovation that creates a new market and value network and eventually disrupts an existing market and value network, displacing established market-leading firms, products, and alliances. The term was defined and first analyzed by the American scholar Clayton M. Christensen and his collaborators beginning in 1995, and has been called the most influential business idea of the early 21st century.

### **Paradigm Shift**

A paradigm shift, a concept identified by the American physicist and philosopher Thomas Kuhn, is a fundamental change in the basic concepts and experimental practices of a scientific discipline. Kuhn presented his notion of a paradigm shift in his influential book *The Structure of Scientific Revolutions* (1962).

### **Digital Literacy**

Digital literacy refers to an individual's ability to find, evaluate, and compose clear information through writing and other mediums on various digital platforms. Digital literacy is evaluated by an individual's grammar, composition, typing skills and ability to produce writings, images, audio and designs using technology. While digital literacy initially focused on digital skills and stand-alone computers, the advent of the Internet and use of social media, has caused some of its focus to shift to mobile devices. Digital literacy does not replace traditional forms of literacy, instead building upon the skills that form the foundation of traditional forms of literacy.

### **Datafication**

Datafication is a modern technological trend turning many aspects of our life into data which is subsequently transferred into information realised as a new form of value. Kenneth Cukier and Victor Mayer-Schöenberger introduced the term Datafication to the broader lexicon in 2013. Up until this time, Datafication had been associated with the analysis of representations of our lives captured through data, but not on such a scale that we now see. This change was primarily due to the impact of big data and the computational opportunities afforded to predictive analytics.



### **Digital Rights Management**

Digital rights management (DRM) tools or technological protection measures (TPM) are a set of access control technologies for restricting the use of proprietary hardware and copyrighted works. DRM technologies try to control the use, modification, and distribution of copyrighted works, as well as systems within devices that enforce these policies.

### **Netiquette**

Online etiquette is ingrained into culture, although etiquette in technology is a fairly recent concept. The rules of etiquette that apply when communicating over the Internet or social networks or devices are different from those applied when communicating in person or by audio or videophone. It is a social code of network communication and help.

### **Sensorization**

Sensorization is a modern technology trend to insert many similar sensors in any device or application. Some scientists believe that sensorization is one of main requirements for third technological revolution.

### **Microsite**

A **microsite** is an individual web page or a small cluster of pages which are meant to function as a discrete entity within an existing website or to complement an offline activity. The microsite's main landing page can have its own domain name or subdomain.

### **Immersion**

Immersion into virtual reality (VR) is a perception of being physically present in a non-physical world. The perception is created by surrounding the user of the VR system in images, sound or other stimuli that provide an engrossing total environment.

## **10. N A S S C O M**

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Dr. Y R Ghodasara

Professor and Head, Department of AIT, College of Agricultural Information Technology,  
AAU, Anand

### **Overview**

The National Association of Software and Services Companies NASSCOM, a not-for-profit industry association, is the apex body for the 154 billion dollar IT BPM industry in India, an industry that had made a phenomenal contribution to India's GDP, exports, employment, infrastructure and global visibility.

Established in 1988 and ever since, NASSCOM's relentless pursuit has been to constantly support the IT BPM industry, in the latter's continued journey towards seeking trust and respect from varied stakeholders, even as it reorients itself time and again to remain innovative, without ever losing its humane and friendly touch.



*NASSCOM is focused on building the architecture integral to the development of the IT BPM sector through policy advocacy, and help in setting up the strategic direction for the sector to unleash its potential and dominate newer frontiers.*

NASSCOM's members, 2200+, constitute 90% of the industry's revenue and have enabled the association to spearhead initiatives at local, national and global levels. In turn, the IT BPM industry has gained recognition as a global powerhouse. In India, this industry provides the highest employment in the private sector.

**Chairperson** : Rishad Premji  
**Members** : over 2,000 companies  
**Headquarters** : Noida  
**Founded** : 1 March 1988  
**Founders** : Dewang Mehta, Nandan Nilekani  
**Affiliations** : National Institute for Smart Government, Data Security Council of India

### **Vision**

*To help the IT and IT enabled products and services industry in India to be a trustworthy, respected, innovative and society friendly industry in the world.*

### **Mission**

- Transform Business, Transform India
- Be a conduit of change through thought leadership, research, market intelligence and membership engagement
- Establish India as a hub for innovation, products and start-ups
- Work with the government to shape policy in key areas such as, skill development, trade, digital economy and business services
- Increase the industry's outreach in its core markets and beyond, through strategic alliances
- Be an industry platform for sharing and building best practices and collaborative engagement
- Facilitate growth, and maintain India's leadership position as a trusted business destination
- Expand the country's pool of relevant and skilled talent to drive inclusive and balanced growth

## **11. Using Computer Multimedia Technology to Enhance Agriculture**

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Dr. R. S. Parmar

Professor, College of Agricultural Information Technology, AAU, Anand

Access to information and improved communication is a crucial requirement for sustainable agricultural development. Computer multimedia technologies when applied to conditions in rural areas can help improve communication, increase participation, disseminate information and share knowledge and skills. However, it is observed that the rural populations still have difficulty in accessing crucial information in order to make timely decisions. There is a concern that the gap between the information rich and information poor is getting wider. It is essential that information availability is demand driven rather than supply driven. Computer multimedia technology application



is very broad, almost throughout all walks of life, and in every corner of our life. There are several organizations extensively using Computer multimedia technology in India to facilitate better communication between researchers, extension workers and their farmer clients to transfer technologies and information more cost effectively. Multimedia is a combination of text, graphic, art, sound, animation and video elements. Computer multimedia will offer learners more complete and individual control over their learning. The main reason behind recommending the use of computer based multimedia system for farmers is to facilitate interactivity and better understanding between individual learners and the subject matter. Multimedia tools are ideally suited to demonstrate complex and dynamic process that cannot be explained easily with conventional media and methods.

## 12. Machine Learning and ML.NET

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Dr M. P. Raj

Assistant Professor, College of Agricultural Information Technology, AAU, Anand

### Introduction

The amount of data in the world and in our lives seems ever-increasing—and there's no end in sight. Omnipresent computers make it too easy to save things that previously were trashed. Inexpensive disks and online storage make it too easy to postpone decisions about what to do with all this stuff and keep it all. Ubiquitous electronics record our decisions like choices in the supermarket, financial habits, comings and goings. It also records each and every activity as well as various parameters in agriculture. The World Wide Web (WWW) overwhelms us with information; meanwhile, every choice we make is recorded. As the volume of data increases, inexorably, the proportion of it that people understand decreases alarmingly. Lying hidden in all this data is information—potentially useful information—that is rarely made explicit or taken advantage of.

In data mining, the data is stored electronically and the search is automated—or at least augmented—by computer. Even this is not particularly new. Agricultural Scientists, statisticians, forecasters, and many others have long worked with the idea that patterns in data can be sought automatically, identified, validated, and used for prediction. The unbridled growth of databases in recent years, databases for such everyday activities as customer choices, brings data mining to the forefront of new business technologies.

Data mining is defined as the process of discovering patterns in data. The process must be automatic or (more usually) semiautomatic. The patterns discovered must be meaningful in that they lead to some advantage, usually an economic one. The automatic process of discovering relevant pattern from alike database and thus improving or appending such knowledge to its own database is known as Machine Learning.

Machine learning is an application of artificial intelligence (AI) that provides systems the ability to automatically learn and improve from experience without being explicitly programmed. Machine learning focuses on the development of computer programs that can access data and use it learn for themselves.





The process of learning begins with observations or data, such as examples, direct experience, or instruction, in order to look for patterns in data and make better decisions in the future based on the examples that we provide. The primary aim is to allow the computers learn automatically without human intervention or assistance and adjust actions accordingly.

## ML.NET

ML.NET is a cross-platform open-source machine learning framework, originally developed in Microsoft Research, which makes machine learning accessible to .NET developers. ML.NET evolved into a significant framework over the last decade and is used across many product groups in Microsoft like Windows, Bing, PowerPoint, Excel and more. ML.NET enables machine learning tasks like classification (for example: support text classification, sentiment analysis) and regression (for example, price-prediction). ML.NET allows .NET developers to develop their own models and infuse custom machine learning into their applications, using .NET, even without prior expertise in developing or tuning machine learning models.

Along with these ML capabilities, this first release of ML.NET also brings the first draft of .NET APIs for training models, using models for predictions, as well as the core components of this framework such as learning algorithms, transforms, and ML data structures.

ML.NET includes components such as Model Builder (a Visual Studio UI tool), a CLI (command-line interface) and AutoML (Automated Machine Learning used to build custom models).

Features and functionality for its multiple use cases include:

- Sentiment analysis
- Customer segmentation
- Object detection
- Fraud detection
- Sales spike detection
- Image classification
- Sales forecasting
- Classification/categorization
- Regression/predict continuous values
- Anomaly detection
- Recommendations

Using “TimeSeries” support for forecasting in scenarios like detecting spikes and changes in product sales using an anomaly detection model or creating sales forecasts which could be affected by seasonality and other time related context.

ML.NET has been designed as an extensible platform so that one can **consume other popular ML models such as TensorFlow and ONNX models** and have access to even more machine learning and deep learning scenarios, like image classification, object detection, and more.

**With Microsoft.Extensions.ML integration package it can be easily integrated in web or serverless apps.** Specifically, the package allows a developer to use Microsoft.Extensions.ML for loading the ML.NET model using Dependency Injection, and optimizing the model’s execution and performance in multi-threaded environments such as ASP.NET Core apps.

**ML.NET CLI** allows to automatically generate an ML.NET model and underlying C# code. You can run the ML.NET CLI on any command-prompt (Windows, Mac, or Linux)."

**Model Builder allows:**

- Expanding support to .txt files and more delimiters for values
- No limits on training data size
- Smart defaults for training time for large datasets
- Improved model consumption experience

**Reference(s):**

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2. URL: <https://dotnet.microsoft.com/apps/machinelearning-ai/ml-dotnet> Accessed on 23/07/2019
3. URL: <https://www.expertsystem.com/machine-learning-definition/> Accessed on 23/07/2019

## 13. Image Processing Applications in Precision Agriculture

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Mr. K. P. Patel

Assistant Professor, College of Agricultural Information Technology, AAU, Anand

Image processing holds an effective set of tools for the analysis of imagery used in precise agriculture. From the farmers' perspective, automating analysis of yield limiting factors and building rational management plans saves both time and money. Automating this analysis is especially beneficial for those farmers to which expert knowledge and advice is not readily available or affordable. Technological advances in the development of precision agriculture machinery and software will then prove to be cheaper and faster than on-ground human intervention and data collection.

Advancements in both image processing routines and communication systems now change the picture for farmers. The amount of image processing applications in precise agriculture is growing steadily with the availability of higher-quality measurements coupled with modern algorithms and increased possibility to fuse multiple sources of information from satellite imagery and sensors positioned in fields.

Major concerns in agriculture are water stress, quality of yields, and the use of pesticides. Providing data and monitoring irrigation, whether artificial or natural, is possible by tracking satellite imaging of fields over time. Applications in precision agriculture allow mapping of irrigated lands at lower costs. Water also affects the thermal properties of plants. Therefore, processing infrared imaging provides additional means to analyze and monitor irrigation. The analysis from infrared imaging can then be used in pre-harvesting operations, to decide whether or not or even where to harvest.

Weeds growing in farms can also be detected by combining image processing and machine learning techniques. Edge based machine learning classifiers can identify weeds in color images. In addition, classification based on plant color features can be added and information regarding the texture of plants integrated to enhance classification accuracy. The partial success of these algorithms has motivated further development in herbicide applications. Fuzzy algorithms based on green color



analysis of plants have provided weed coverage estimation and allowed for the integration of this knowledge into farm management plans.

The quality of yield is another concern of farmers. Automated quality analysis of food products is a great money and labor saving process, especially in light of heavy regulations on fruit quality and safety standards. Image processing is an accurate and reliable method for sorting and grading fresh products (fruits, grains, bakery products, etc.) characterized by color, size and shape.

From the applications in precision agriculture listed above, we can easily imagine the future of the role of image processing in agricultural processes. As fields and farms grow bigger, better monitoring systems are needed for automated management and reduced expenses. In addition, the availability of both hardware and software at relatively affordable prices makes the integration of image processing techniques in field management plans and food quality examination processes easy and affordable. In the era of information, the fusion of images and sensor data will prove to be straightforward and beneficial for farmers and consumers alike.

## 14. કૃષિમાં રિમોટ સેન્સિંગનાં ઉપયોગો

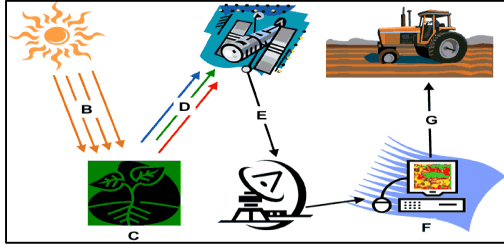
Dr. D. K. Parmar

Assistant Professor, College of Agricultural Information Technology, AAU, Anand

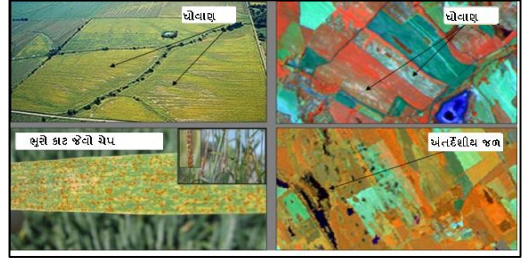
અંગ્રેજીમાં કૃષિ (AGRICULTURE) શબ્દ બે લેટિન શબ્દો પરથી આવે છે: એગર એટલે ખેતર અને કલ્ચર એટલે જમીનનું ખેડાણ. રિમોટ (દૂરસ્થ) સેન્સિંગ એટલે શારીરિક કે ભૌતિક સંપર્ક વિના એક પદાર્થ કે વિસ્તારનો અંદાજ કાઢવો. રિમોટ સેન્સિંગ એવું વિજ્ઞાન અથવા કળા છે કે જે પદાર્થ/વિસ્તાર સાથે શારીરિક સંપર્ક વિના સંવેદનાત્મક ઉપકરણો (SENSORS) મારફતે માહિતીનું વિશ્લેષણ કે પદાર્થ વિશે જાણકારી મેળવવામાં માટે ઉપયોગી બને છે. રિમોટ સેન્સિંગ એક પરોક્ષ (સંપર્ક વિના) આકારણીની રીત છે જે વનસ્પતિ/પાકની સ્થિતિ, પૃષ્ઠ પરના પાકનાં લક્ષણો અને પાકનું આરોગ્ય દુરથી જાણવા મદદરૂપ થાય છે. સંવેદનાત્મક ઉપકરણોને બે ભાગમાં વહેંચી શકાય છે સક્રિય અને નિષ્ક્રિય. સક્રિય સંવેદનાત્મક ઉપકરણો : તેઓ કૃત્રિમ કિરણોત્સર્ગ બહાર ફેંકે અને તેની પ્રતિબિંબિત થયેલી ઊર્જા માપે છે. નિષ્ક્રિય સંવેદનાત્મક ઉપકરણો : તેઓ પ્રતિબિંબિત સૌર કિરણોત્સર્ગ અથવા ઉત્પન્ન થયેલ ગરમીનો ફેરફારનો કિરણોત્સર્ગ માપે છે. રડાર સક્રિય રિમોટ સેન્સિંગ સાધનોનું ઉદાહરણ છે. નિષ્ક્રિય સાધનોનો ઉપયોગ ઇલેક્ટ્રોમેગ્નેટિક વિસ્તારોની વર્ણપટ તરંગલંબાઈ માપવા માટે થાય છે કે જે દૃશ્યમાનમાં પ્રતિબિંબિત થયેલ સૌર કિરણોત્સર્ગ(તરંગલંબાઈની માત્રા ૪૦૦-૭૦૦ નેનોમીટીર), નજીક ઇન્ફ્રારેડ( તરંગલંબાઈની માત્રા ૭૦૦-૧૧૦૦ નેનોમીટીર) અને શોર્ટવેવ ઇન્ફ્રારેડ(તરંગલંબાઈની માત્રા ૧૧૦૦-૨૫૦૦ નેનોમીટીર) અને થર્મલ ઇન્ફ્રારેડ માં બહાર ફેંકાયેલ ઊર્જા(તરંગલંબાઈની માત્રા ૩ થી ૧૫ નેનોમીટીર). તેમના ચોક્કસ લક્ષણો માટે, નિષ્ક્રિય સાધનોનો ઉપયોગ રીમોટ સેન્સિંગનાં વિવિધ ક્ષેત્રો માટે થાય છે. વનસ્પતિના વિકાસનો વર્ણપટ વનસ્પતિના છત્રનું માળખું, વનસ્પતિ તત્વો અને થર્મલ લાક્ષણિકતાઓ જેવા લક્ષણો દ્વારા પ્રભાવિત હોય છે. છોડ કે જે તણાવની સ્થિતિ (રોગ દ્વારા પ્રેરિત)માં છે તેના પાર્ણ વિસ્તાર, હરિતદ્રવ્યની માત્રા અને સપાટીનું તાપમાન જેવા પરિમાણો તંદુરસ્ત અને રોગ રહિત છોડ કરતા અલગ હોય છે.

## રીમોટ સેન્સિંગ કઈ રીતે કામ કરે છે.

આકૃતિ ૧ માં જોતા સૂર્ય (A) ઇલેક્ટ્રોમેગ્નેટિક ઊર્જા(B) નું ઉત્સર્જન કરે છે જે છોડને(C) મળે છે. ઇલેક્ટ્રોમેગ્નેટિક ઊર્જાનો એક ભાગ પાંદડા દ્વારા વાતાવરણમાં ફેલાય છે. સેટેલાઈટ પરનાં સેન્સરો પ્રતિબિંબિત ઊર્જા ને ઝડપી લે છે(D). પછી આ માહિતી જમીન પરના સ્ટેશનને મોકલવામાં આવે છે(E). ત્યાર બાદ માહિતીનું વિશ્લેષણ કરવામાં આવે છે(F) અને ખેતરના નકશા પર પ્રદર્શિત કરવામાં આવે છે (G).



આકૃતિ ૧: રીમોટ સેન્સિંગ કઈ રીતે કામ કરે છે.



આકૃતિ ૨: કૃષિ ક્ષેત્રોની સમસ્યાઓ

પાકના રોગવાળા ભાગ અને તંદુરસ્ત ભાગો અલગ કરવા માટે યોગ્ય ચોક્કસ ફિલ્મ કે ફિલ્ટર સંયોજનનો ઉપયોગ એ ચાવીરૂપ બાબત છે. ફિલ્મ ઉપયોગના મુખ્ય પ્રકારો કાળો અને સફેદ રંગ, ઈન્ફ્રારેડ, સામાન્ય રંગ અને રંગ ઈન્ફ્રારેડ છે. ઈન્ફ્રારેડ ફિલ્મો પસંદ કરવામાં આવે છે કારણકે તેમની દૃશ્યમાન પ્રકાશ માટેની ચઢિયાતી સંવેદનશીલતા અને નજીક ઈન્ફ્રારેડ કિરણોત્સર્ગની તરંગલંબાઈ ૭૦૦-૮૦૦ નેનોમીટીર છે. રંગ ઈન્ફ્રારેડ બહુતર છે કારણ કે તે છોડનાં રોગવાળા અને તંદુરસ્ત ભાગો વચ્ચેનો તફાવત અલગ અલગ રંગથી બતાવી શકે છે. તંદુરસ્ત પાર્ણસમૂહ ઈન્ફ્રારેડ તરંગલંબાઈ માટે અત્યંત પ્રતિબિંબીત છે અને આ ફિલ્મ પર લાલ દેખાય છે, જ્યારે રોગગ્રસ્ત પાર્ણસમૂહ નીચા ઈન્ફ્રારેડમાં પ્રતિબિંબિત છે અને તેના ફોટોગ્રાફમાં લાલ દેખાતું નથી જે આકૃતિ ૨ માં દ્રશ્યમાન થાય છે.

## 15. Recycling and utilization of banana and its by-products: As renewable resources

Dr. J. V. Suthar

Assistant Professor, College of Agricultural Information Technology, AAU, Anand

### Introduction

Banana is one of the earliest crops cultivated in the history of human agriculture. The origin of this particular plant family stretches from India to Papua New Guinea which includes the South East Asia. Its mass cultivation and consumption in the recent decades made it the world second largest fruit crop with an estimated gross production exceeds 139 million tones. World leading banana producers are India, China, Uganda, Ecuador, Philippines, and Nigeria. Most of the edible bananas are cultivated mainly for their fruits, thus banana farms could generate several tons of underused by-products and wastes. Its enormous by-products are an excellent source of highly valuable raw materials for other industries by recycling agricultural waste. This prevents an ultimate loss of huge amount of untapped biomass and environmental issues.

## By-products utilization from banana

The banana pseudostem will be cut and become waste biomass after the banana fruit is ripe and harvested, because the banana plant is unusable for the next harvest. It can be estimated that one hectare of banana farm could produce approximately 220 tons of biomass wastes (Figure 1). These wastes are usually disposed of by the farmer into lakes and rivers or simply burned. The utilization of banana by-products such as peels, leaves, pseudostem, stalk and inflorescence in various food and non-food applications serving as thickening agent, coloring and flavor, alternative source for macro and micronutrients, nutraceuticals, livestock feed, natural fibers, and sources of natural bioactive compounds and bio-fertilizers. It is important that all available by-products be turned into highly commercial outputs in order to sustain this renewable resource and provide additional income to small scale farming industries without compromising its quality and safety in competing with other commercial products.

The banana leaf is frequently used in food processing, food esthetic, food packaging, etc. The banana fruit itself is one of the most popular fruits and important diet due to its high nutritional content, thus it becomes a valuable commodity all around the world. The major uses of banana pseudostem fiber are in making specialized and high-quality sanitary products such as baby pampers, textiles, and papers such as banknotes. The banana pseudostem fiber can also be used for ropes such as marine rope since this fiber has good resistance to sea water and has buoyancy properties. Other uses of this fiber are for making coffee and tea bags, filter cloths, as reinforcement fibers for plaster, disposable fabrics, and light-density woven fabrics. The central core can be used for making pickle, candy, and soft drink, whereas banana pseudostem sap (BPS) can be used for mordant for fixing a color and organic liquid fertilizer, while the scutcher can be used for making compost and vermi-compost (Figure 2 and Table 1).

Additionally, all parts of the banana plant have some medical added values, such as the flower can be cooked and consumed by diabetics, bronchitis, dysentery, and ulcer patients. The banana pseudostem sap can be orally taken or externally applied for stings and bites. The young leaf can be used for skin irritations (as a poultice). The roots, ashes of leaves, peels, and seeds also can be used for medicinal purposes in some countries.



Figure 1. Different parts of banana tree

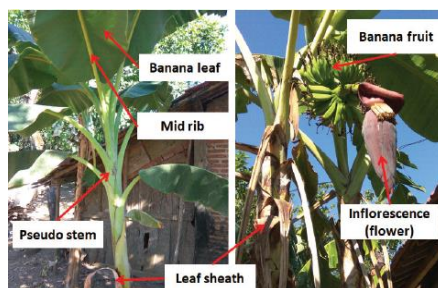


Figure 2. Before and after utilization of banana pseudostem



**Table 1.** Details of value added products of banana pseudostem

Products	Value added products	Beneficiaries	Remarks
<b>A) Fibre</b>			
Yarn preparation trial on jute spinning m/c and yarn to fabrics	About 3.7 t yarn was prepared on jute spinning system. Yarn was used for making fabrics of different qualities. From fabrics products like coat, apron, gloves, binders <i>etc.</i> were prepared.	Spinning and Textile industries	Improvement in yarn quality is necessary to make it suitable for fabric making at commercial scale
Non-woven fabrics	About 2 t non woven fabrics of different GSM (500, 7000 and 1000) have been prepared. Quality testing is in progress and can be used for wall panelling, sound proofing <i>etc.</i>	Textile industries	Fibre can be directly used for preparing non-woven fabrics, for which trials have been successfully conducted, cost reduction technology over woven fabric.
Paper			
At industrial scale	As a raw material for preparing cheque and grease proof paper	Paper industries	Fibre cost is high as compared to other available raw material
At handmade level	As raw material for preparing handmade paper, from which various stationary articles like files, folders, box files, binders, note pads <i>etc.</i> , can be prepared	Cooperatives, local entrepreneur	Suitably used as a raw material by blending with paddy straw, bagasse, cotton rags, scutcher, waste paper <i>etc.</i>
Extraction of cellulose	Extraction of MCC from banana fibre has been standardized at laboratory scale	Pharmaceutical industries for coating tables	Tested and properties found to match with commercially available MCC
Handicrafts items	Preparing various articles like bags, dolls, decorative wall hangings, key chains <i>etc.</i>	Cottage/ rural industry, SHGs and NGOs	--
<b>B) Scutcher</b>			
Converting into manure and as a fish feed	As manure: Tested in crops like banana, sugarcane and papaya and recommended to farmers.	Farmers	Found to comparable performance with other organics
	As fish feed – pelleting of vermicompost + cattle feed	Fish farming community	30% substitution of cattle feed, cost reduction by 32 per cent
Particle board	As a partition	Local industries	--
<b>C) Sap</b>			
Sap and enriched sap	As a liquid fertilizer or nutrient spray	Farmers/ cooperatives/ entrepreneur	Induce early transplantable stage in nursery seedlings, saving of 20-30 % chemical fertilizer
Mordant	For colour fastening of dyes	Textile dyeing industries	Good fastening properties of various shades
<b>D) Central core</b>			
Edible products	For preparing candy, pickles, RTS <i>etc.</i>	Food processing industries	Found to contain Fe and vitamins (B2 and B5) in appreciable amounts.

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## **16. Scope and Importance of Automation in Agricultural Field in India**

Er. Vishal Mehra

Assistant Professor, College of Agricultural Information Technology, AAU, Anand

Agriculture is the most important sector of Indian Economy as it accounts for 18 percent of India's gross domestic product. It has great impact on socio-economic structure of the country as it provides employment to around 50% of the country's work force among 2/3 are women.

Since Independence, India's agriculture sector had many setbacks and passes through drastic changes. However, in the late sixties, the green revolution arena, India had achieved a mile stone in the area of food security and became a food export country. Now a day's *India ranks second in farm output in the world.*

Agriculture sector is facing many problems due to water scarcity, Labor shortage and farm cost. Also, the availability of Land for agriculture purpose is diminished due to urbanization and other human facilities. The concept of automation is growing in the Agriculture Industry to overcome these issues. Automation can play a important role in agriculture Industry because the world population is projected to rise to 9 billion by the year 2042 and there will be a huge challenge to provide good quality, nutritious and affordable food to every human being and conventional methods of agriculture have some drawbacks like improper water irrigation methods which leads to water wastage, quality of soil is degraded day by day because of over use of pesticide and weedicide, wastage of seeds, improper harvesting technique and storage facility.

To overcome the above issues concepts of automation can be implemented in various farm processes like irrigation, Weed Detection and weed elimination, Bird Repeller, Spraying of Pesticide and Harvesting.

### **Automatic Irrigation System:**

An automatic irrigation system does the operation of a system without requiring manual involvement of persons. Every irrigation system such as drip, sprinkler and surface gets automated with the help of electronic appliances and detectors such as mini-computer / micro-controller, timers, sensors and other mechanical devices. Automatic irrigation systems works on either time based or soil moisture based. In first technique water is irrigated at fix time of interval. In the second method moisture present in the soil is measured by various kind of soil moisture sensors and this information is sent to the mini-computer/micro-controller. According to the present value of the moisture present in the soil, micro-controller will automatically turn on the water pump and once the moisture in the soil reached at prescribed limit it will turn off the water pump. Since, this method is based on present value of



moisture in the soil it will irrigate the water if needed and hence can prevent the waste of water by the great extent.

#### **Automatic Weed Detection and weed elimination:**

Weed is unwanted wild growing plant which absorbs the nutrients and damper the growth of the cultivated plant. Controlling of weed is necessary and the same time it is very laborious and time consuming task. Conventionally, weed is removed by manually and/or spraying weedicide in the agricultural fields. In spraying operation weedicide is sprayed everywhere in the agricultural fields which causes many side effect on environments, humans and other living creatures. The automatic weed detection and weed elimination system provide efficient method of weed. The machine vision system is used to identify and differentiate the weeds from the crop. After identification weed is removed either spraying of the weedicide on the weed with the help of drone or Mechanical robots can be used to extract the weed from soil. GPS based guidance system , line follower technique can be used for the accurate tracking. Automation of this task can help to overcome the issue of the labor shortage, excessive use of weedicide and side effects caused.

Apart from above operations many other operations like bird repelling, crop harvesting where automation of these operations can reduce the problems faced by agriculture sector. Area of automation of farm operations has very good future scope and it will benefit to farmers and all human beings.

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## **17. Machine Learning and Analytics in Agriculture**

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Devani Ankit

Student of 3<sup>rd</sup> year, CAIT, AAU, Anand

One of the most innovative pieces of the digital transformation is the ability to use machine learning and advanced analytics to mine data for trends. This can start way before the planting of the seed, with plant breeders. Machine learning can predict which traits and genes will be best for crop production, giving farmers all over the world the best breed for their location and climate.





Machine learning algorithms can also be used within the manufacturing aspect of agriculture, where consumers purchase their products. These algorithms can show which products are being purchased the most and which products are falling under in the market. Thus, creating proficient and effective forecasts for future farming.

I believe that the future of agriculture depends on its digital transformation. Farmers will benefit from each of these digital transformation trends in agriculture, giving them freedom from concerns over the environment, a better yielding crop and the ability to manage their crops in new and efficient methods. As our population continues to grow, our agricultural methods must grow with it. It's time to take advantage of the technology we have at our disposal to put food on our table and create peace of mind for our farmers

## 18. AI in Agriculture

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Jaydeep Gorasiya

Student of 3<sup>rd</sup> year, CAIT, AAU, Anand



Increasing consumption and rising requirement of better yield of vegetation are estimated to be one of the essential elements calling for robots in agriculture. Increasing intake motivates farmers to increase farming operations and provide an upward push to the requirement of automating farming operations.

### Artificial Intelligence



Artificial Intelligence (AI) with simulated algorithmic computer models that mimic human behavior can be considered. In this process an installed application guides farmers through the process of growing, sowing, harvesting and sale of produce.

Artificial Intelligence is a program that can adapt itself to execute tasks in real time situations using cognitive processing as the human mind. Interestingly, it does not require constant supervision.

### Benefits of Artificial Intelligence in Agriculture

In Agriculture Market, AI technology has been segmented into robotics, crop, soil management and animal husbandry. Algorithmic models composing of participants and market behavior to price movements of various years tell their likely price in near future which avoids distress in farmers.

AI models store crop specific moisture requirement and assess the moisture content in the fields by using satellites. It also gives signal to farmers through text messages for water requirement through auto-irrigation. AI makes pragmatic assessments of demand and supply, market intelligence, crop competitiveness and regional crop planning very handy.

This technology assist farmers in enhancing their crop yield and product quality by analyzing and correlating large amount of structured and unstructured data from multiple sources to extract actionable insights to enhance yield. In Tanzania, AI discovered diseases with 98 percent accuracy and deployed robotics to uproot weeds.



## Future of Artificial Intelligence in Agriculture



According to a study digital farming and connected farm services can impact 70 million Indian farmers in 2020. Thereby, adding \$9 billion to farmer incomes.

In 2017, the Global AI in agriculture market size was 240 million US\$ and it is expected to reach 1100 million US\$ by the end of 2025 and a CAGR of 20.8 percent during 2018-2025. Thus initiatives to increase digital literacy in rural landscape can be seen as a weapon in doubling farmer income in near future.

## 19. The Best Tech Innovations of the Last Three Years

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Parth Sheladiya

Student of 3<sup>rd</sup> year, CAIT, AAU, Anand

### 1. Practical Augmented Reality

Augmented reality stands to be the most immediate tech development that will affect our lives in the near term. With micro displays becoming reasonably priced, we will see personal wearable's becoming available to the masses. This will provide us with a whole new avenue of information retrieval use on a daily, minute-by-minute basis.

### 2. Generative Adversarial Networks

Generative adversarial networks (GANs) are a new type of neural network that is semi-supervised and enables companies to learn more from less labelled data. Let's say you would like to identify customers who are likely to churn but only have labels of actual churn after X days for a handful of customers. GANs enable this and succeed where other fully supervised neural networks fail.

### 3. Real-Time Language Translation

Driven by voice recognition technology coupled with AI, real-time language translators allow single-language speakers to have real-time conversations. It's impressive both on the usability front (earphones) and on the level of complexity insofar as getting both the language and accent right.

### 4. Chatbots

I love the idea of chatbots and what they can do to take on some of the time-consuming work companies have while making businesses look good in terms of their customer experiences. Plus, chatbots are good at collecting information and analyzing it for further insights. It's just a great way to cover tech support and service questions.

### 5. Artificial Intelligence in Mobile Apps

A year ago, building AI into mobile apps would have been extremely difficult and costly. Today, it's a lot less expensive, and we can incorporate Microsoft Cognitive Services, Google services, or Amazon services that use AI to make a mobile experience more intelligent, anticipate users' desire



and needs, and present information in context. Artificial intelligence, particularly in mobile devices, has transformed the user experience in the last few years as cognitive services have advanced exponentially.

## **6. Inexpensive, Fast Storage**

The cloud, AI, VR and other buzzwords are often considered the hottest tech trends. However, the rapidly declining cost and increasing performance of flash-based storage powers these trends. Without the modern, low-cost solid-state drive (SSD), VR and AI would still be inaccessible to most businesses. Cloud providers rely on SSDs. Innovation in the storage industry builds a foundation for new tech.

## **7. Deep Learning-Based Predictive Analytics**

The biggest technology innovation of the last three years just might be predictive analytics using AI-based deep learning. The ability of a computer to learn by just analyzing data without having to let the algorithm know what variables are important is unprecedented. This form of unsupervised learning is drastically changing the role of technology.

## **8. Serverless Computing**

Today, developers have to worry not only about building their application but deploying and hosting it as well. It is a large portion of their workflow and requires them to commit resources in time and money up front. Serverless computing makes launching applications cheaper and faster by letting companies focus on the customer value without having to worry about deployment and scaling. The possibilities this will unlock are endless.

## **9. Brain-Computer Interfaces**

Brain scanners can translate your thoughts into textual words. Discussions about these devices have been around for some time; however, they could only map a handful of commands. Imagine if only by wearing a ball cap you could think, "How deep is that river?" and have the answer read back into an earpiece. The next step is to get the information back directly into your brain.

## **10. AI and Machine Learning Applications**

The most impressive piece of tech that has come out in recent years is the practical application of AI and machine learning. Whether it is modeling data, analyzing speech or driving a car, we are starting to see real-world applications of these technologies. It may have taken a few of decades, but the field is making good on the promises that were made back in the 1980s.

## **11. The Cloud**

No doubt that the cloud service is one of the great technologies that happened in the last three years. SMBs that need to concentrate on the business do not have the right knowledge or the teams in place to maintain their systems or are not willing to spend the money in that direction. The cloud offers a unique and flexible option for them to make sure they will be able to concentrate on business execution.



## 20. How Emerging Technologies Are Offering A Different Future For History.

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Parth Sheladiya

Student of 3<sup>rd</sup> year, CAIT, AAU, Anand

Recent events at Notre-Dame highlight how easily history can be erased. Emerging technologies are offering old landmarks new options when it comes to upkeep, refreshing and remembering historical buildings. New technologies are enabling buildings to be rebuilt, rediscovered and remembered like never before. Notre-Dame isn't the most photographed landmark in the world, but it might be the most scanned. Thanks to detailed scans by the team who created the video game 'Assassin's Creed' and the late Andrew Tallon, Notre-Dame can now be restored and remembered as authentically as possible. The Spanish government recently commissioned a 3D model of one of their most iconic buildings, the Royal Palace in Madrid, to create a unified digital record of the current state of the interior and exterior of the Palace. The Leica BLK360, a miniaturised 3D imaging laser scanner from Hexagon Geosystems was used to capture data in the most confined spaces of the Palace. Using this technology the Spanish government was able to uncover previously unknown details of the Palace, such as the exact number of windows in the 280-year-old building.

“These assets, which represent a precise and accurate record of a given space, can be revisited at any time in the future and are also instrumental in helping update existing floor plans, detect potential structural issues as well as predict and assist in future restoration efforts,” says Burkhard Boeckem, CTO at Hexagon Geosystems, who led the team that designed and created the BLK360. Another recent historical preservation project includes the scan of Queen Nefertiti's Tomb in Egypt, resulting in the immersive VR experience ‘Nefertari: Journey to Eternity’ which was premiered by global streaming service CuriosityStream and developer Experius VR.

3D and 4D printing allow several specific opportunities for historical landmarks. From creating exact replicas to utilising authentic materials, rebuilding (and maintaining) historical sites will owe a lot to new printing options. For example, not only could a new spire be 3D-printed for Notre-Dame, ashes from the fire could be infused into the build to add a level of authenticity previously impossible. China has already utilised 3D printing to create building blocks made from smog.

Snap recently launched 'Landmarkers', an augmented reality feature that enables Snapchat users to see an animated version of the landmark on their phone as they take a snap of it. Snap employees decide which historical buildings get the honour of having an animated Landmarker lavished on them. Currently, the list of buildings that have had Landmarkers applied includes; The Eiffel Tower (Paris, France), Buckingham Palace (London, UK), the Capitol (Washington DC, USA), the Flatiron Building (NYC, USA) and the TCL Chinese Theatre (Hollywood CA, USA).



## 21. The Internet of Things is creating the Smart Cities of Tomorrow

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Parth Sekhada

Student of 2<sup>nd</sup> year, CAIT, AAU, Anand



Millions of new devices are estimated to connect to the Internet every second. The installed base of the Internet of Things (IoT) is forecast to grow to between 25-30 billion devices by 2020. Spending for the IoT economy is expected to range into the trillions over the next ten or more years.

Against this backdrop, the Smart Cities of tomorrow are taking shape. They take advantage of the devices in our homes and businesses and the data they create to enhance the quality of life for the people living and working within them.

The demand for smart city solutions is expected to reach \$2.57 billion worldwide 2025, driving by factors such as growing urban populations, the need to better manage limited natural resources, and an increased emphasis on environmental sustainability.

Ellen Hwang is the Smart City Director/Assistant Director of Strategic Initiatives for the City of Philadelphia, part of the city's team tasked with managing its technology infrastructure, planning, and policy. In this role, she is responsible for Philadelphia's technology related governance, policy, program development, and capacity building.

As a Philadelphia resident and the co-founder of a technology business as well as two tech-related non-profits in the city, I've had a front row seat to its tech efforts. The city has made incredible advances in the way it leverages and advances tech, even receiving a "smart city readiness" grant from the Smart Cities Council in 2017. The grant included in-kind financial support from the Council to host a stakeholder event to kick-off the development of a roadmap for applying smart technologies.

## 22. Port Solar Charger

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Hemal V. Patel

Student of 3<sup>rd</sup> year, CAIT, AAU, Anand

- A solar charger is a charger that employs solar energy to supply electricity to devices or batteries. They are generally portable.
- Solar chargers can charge lead acid or Ni-Cd battery banks up to 48 V and hundreds of ampere-hours (up to 4000 Ah) capacity. Such type of solar charger setups generally use an intelligent charge





controller. A series of solar cells are installed in a stationary location (ie: rooftops of homes, base-station locations on the ground etc.) and can be connected to a battery bank to store energy for off-peak usage. They can also be used in addition to mains-supply chargers for energy saving during the daytime.

- Most portable chargers can obtain energy from the sun only. Some, including the Kinesis K3, and GeNNex Solar Cell 2 can work either way
- ❖ Examples of solar chargers in popular use include:
  - Small portable models designed to charge a range of different mobile phones, cell phones, iPods or other portable audio equipment.
  - Fold out models designed to sit on the dashboard of an automobile and plug into the cigar/12v lighter socket to keep the battery topped up while the vehicle is not in use.
  - Flashlights/torches, often combined with a secondary means of charging, such as a kinetic (hand crank generator) charging system



## 23. વ્યક્તિએ હમેશા ૬ વાતો વિચારતા રહેવું જોઈએ

Dr. D. R. Kathiriya  
Principal & Dean  
College of Agricultural Information Technology  
Anand Agricultural University, Anand

### પેલલી વાત-

આપણને ખબર હોવી જોઈએ કે અત્યારે સમય કેવો છે. કોઈપણ સમજદાર વ્યક્તિ જાણે છે કે વર્તમાનમાં સમય કેવો ચાલી રહ્યો છે. અત્યારે સુખના દિવસો છે કે દુઃખના, આ જ આધારે તે કાર્ય કરે છે. દુઃખના દિવસોમાં ધૈર્ય અને સમજદારી સાથે કાર્ય કરવું જોઈએ અને સુખના દિવસોમાં બેદરકાર ન બનવું જોઈએ.

### બીજી વાત-

વ્યક્તિને ખબર હોવી જોઈએ કે તેનો સાચો મિત્ર કોણ છે અને શત્રુ કોણ છે. જો આપણને જાણકારી હોય કે આપણા સાચાં મિત્ર કોણ છે તો નિશ્ચિત રીતે કોઈપણ પ્રકારના નુકસાનથી બચી શકાય છે. જીવનમાં કેટલીક પરિસ્થિતિઓમાં મિત્રોનો વેશમાં શત્રુ પણ હોઈ શકે છે. જેનાથી બચીને રહેવું જોઈએ. શત્રુઓને ઓળખીને હમેશા તેમનાથી સાવધાન રહેવામાં જ ભલાઈ છે.

### ત્રીજી વાત-

વ્યક્તિને ખબર હોવી જોઈએ કે જે જગ્યાએ તો રહે છે તે કેવી છે, ત્યાંનું વાતાવરણ કેવું છે અને ત્યાંનો માહોલ કેવો છે. જ્યાં આપણે રહીએ છીએ ત્યાં રહેનારા લોકો વિશે પણ આપણને સંપૂર્ણ જાણકારી હોવી જોઈએ. જો કોઈ ખરાબ સ્વાભાવવાળો વ્યક્તિ આસપાસ રહેતો હોય તો તેનાથી સાવધાન રહેવું, વાતાવરણ અને માહોલનો પણ ધ્યાન રાખવો જોઈએ જો વાતાવરણ આપણા સ્વાસ્થ્ય માટે લાભકારક નથી તો તેનો પ્રબંધ પહેલા કરવો જોઈએ.

### ચોથી વાત-

વ્યક્તિને તેની આવક અને ખર્ચનો સંપૂર્ણ ખ્યાલ હોવો જોઈએ. વ્યક્તિની આવક શું છે તે જ પ્રમાણે તેણે ખર્ચ કરવો જોઈએ. એક બહુ જુની કહેવત છે કે જેટલી ચાદર હોય એટલા જ પગ ફેલાવવા જોઈએ. આ વાતનું હમેશા ધ્યાન રાખવું કે ક્યારે પણ હદથી વધારે ખર્ચ થાય નહીં.

### પાંચમી વાત-

ચાણક્ય કહે છે કે સમજદાર વ્યક્તિને ખબર હોય છે કે તે કેટલો યોગ્ય છે અને તે ક્યાક્યા કાર્યો કુશળતા સાથે કરી શકે છે. જે કાર્યોમાં આપણને મહારથ હાંસલ હોય એ જ કાર્યો આપણને સફળતા અપાવી શકે છે.

### છઠ્ઠી વાત-

અહીં જણાવેલી પાંચ વાતોની સાથે જ વ્યક્તિને આ પણ જાણકારી હોવી જોઈએ કે તેનો ગુરૂ કે સ્વામી કોણ છે અને તે તમારાથી કયું કાર્ય કરાવવામાં માગે છે. આ વાતની જાણકારી થતાં વ્યક્તિએ એ જ કામ કરવું જોઈએ જે તેના ગુરૂ તેનાથી કરાવવા માગે છે. આવું કરવાથી વ્યક્તિને ક્યારેય પરેશાનીઓનો સામનો કરવો પડતો નથી.



## 24. Up from Slavery (Book Review)



Rajdeepsinh Thakor  
Student of 2<sup>nd</sup> year, CAIT, AAU, Anand

After having put this book aside for a while, I finally finished Booker T. Washington's "Up from Slavery." You realize just how destructive and pathetic the "civil rights" movement has become (filled with race-mongers such as Jesse Jackson) when you see the approach of a good and decent man. As Allan West says, blacks today really are on another type of plantation.

Booker T. Washington was fresh off the old one. And he did something you just don't see these days. He worked hard to unite the races instead of fomenting grievance. Instead of telling his race that they were owed a living by whitey, he told them they must work hard and get an education.

Had the South followed his lead (and many white Southerners did and joined in the cause) instead of following the Democrat Party-backed KKK and the entire attitude of marginalizing blacks, we would be a hundred years ahead of where we are now.

This biography is not quite as gripping as that of the one written by Frederick Douglass, but they don't overlap. Douglass' biography mainly covers his life as a slave. Washington's takes a look at that unique post-war period when nobody

knew what to do. There were millions of uneducated former slaves who somehow how to make it in a society that was also filled with its share of uneducated white people.

Washington was a practical man. His philosophy was that if members of his race got a good education and made themselves useful, the rest would take care of itself. He wanted economic opportunity and wasn't as concerned with social equality. I think it was a smart move. We see that today. Things such as affirmative action simply breed resentment. But when someone of any race can fix your car or whatever, that is the road to putting little emphasis of race.

By the sheer will of his eloquence and good ideas, Booker T. Washington gained adherents from all races, north and south. It is a forgotten time. Now race and victimhood are the mainstay of Democrat Party politics. A man such as Washington would have been considered a dreaded enemy of the party. Washington stressed hard work and education, not grievance and hand-outs. I wonder how many blacks are aware of their own history. The only choice they have is not the cancerous grievance-mongers that are so prevalent today.

## 25. You Can Win (Book Review)



Hemangi Chhaya  
Student of 3<sup>rd</sup> year, CAIT, AAU, Anand

**"Winners don't do different things, they do things differently"** - A saying which was popularized heavily, not sure whether the author of this book, *Shiv Kherra* was the originator of this legendary line or someone else, but nevertheless, it had a very deep meaning into it. The author taglines his book *'You can win'* by using the given phrase.





Mr Shiv Khera is a world renowned entrepreneur, speaker and business consultant. He is the author of 16 books so far and also the founder of a company named Qualified Learning Systems Inc in the US. This book has been one among his best and one of the international best sellers, with a million copies being sold from 1998 (the year in which it was released)

For all those who have read this book, there needs no explanation and for those who haven't, this is a book which provides a remedy for negativity or basically explains a positive angle to every situation and circumstance which occurs and shapes our lives.

The book is divided into the following 11 chapters:-

- The importance of Attitude
- How to build a positive Attitude
- Success
- What is holding us back
- Motivation
- Self Esteem
- The Importance of Interpersonal skills
- 25 steps to building a positive personality
- Subconscious mind and habits
- Goal setting
- Values and Vision

In the second and third chapters, he stresses that in order to achieve success, several factors such as desire, commitment, responsibility, hard work, character, positive thinking, etc need to be combined.

Another equally good example was that of a person who suffered several setbacks at various stages of life, was defeated mentally and had no hope of recovery, But, in the midst of such setbacks, he later went on to become the *US President*. This man was none other than *Abraham Lincoln*.

In the chapter title *Motivation*, he explains that there are two factors which help motivate a person - External and Internal. External motivation is due to outside factors such as peer pressure or fear of authority such as the fear of getting spanked by one's parents or teachers. Often, external motivation provides for an incentive such as money or reward, as provided by an organisation for completion of targets given to employees. Internal motivation occurs when the individual has the burning desire to achieve something without regard for the incentive.

Each of the chapters indicate that the author has researched very well into human nature and explains the reason as to why there are people who succeed despite the odds and another set of people when faced with the same circumstances, do not succeed or end up as failures. He has given a solution to every of the given problems as well as important quotations of the world's famous.

Overall, this book provides a great learning experience for those who wish to achieve success and positivity in their life. Since several practical and powerful real life examples are given, one would easily note that becoming successful does not involve learning rocket science, only a step by step journey of positive thinking or belief, right attitude, desire, character, patience and perseverance.



## 26. URI : The Surgical Strike (Inspirational Movie)



Dharajiya Vikram  
Student of 3<sup>rd</sup> year, CAIT, AAU, Anand

Aditya Dhar's unforgiving war drama incorporates the events that led to the surgical strikes as seen through the eyes of protagonist Major Vihaan Singh Shergill (Vicky Kaushal). To make things harder for him, he has personal battles to fight at home as well.

First things first, Vicky Kaushal is on a roll. Interestingly, after playing a valiant Pakistani Army officer in Raazi, here he switches sides and plays an invincible Para (Special Forces) Commando, Indian Army. Justifying the hype around him, the actor continues to grow from strength to strength. His sincere and effortless presence adds depth to this film, that otherwise lacks the palpable tension you expect from a war drama. What makes it then engaging is not its execution, but the audacity of the mission it dramatically decodes and recreates. Despite knowing the result, you watch the events unfold with childlike intrigue as the complex operation plan was classified. The rigorous process — how 80 Indian Para SF commandos managed to infiltrate PoK and destroy the terror camps, makes for an instructive watch if not gripping.

The soldiers give up their today for our tomorrow and no words can signify or repay the sacrifices they make for our country. Uri puts a spotlight on the thankless job they do with passion in their hearts and fire in their bellies. The film is a fitting tribute to the Indian Army conceptually but cinematically, it's not a film without flaw

## 27. Manikarnika (Inspirational Movie)



Patel Shraddha  
Student of 3<sup>rd</sup> year, CAIT, AAU, Anand

A biopic of Rani Lakshmbai, one of the earliest patriots of our freedom struggle, ought to be a special thing. Hers is the inspiring story of a brave young queen who refused to cede control of her kingdom to the British following her husband's death; who fought alongside her troops on the battlefield; and, who in 1858 at the age of 29, lost her life in service of the land. That icon deserves a crackling film.

*Manikarnika: The Queen of Jhansi* is first and foremost powered by the passion of its leading lady. Kangana Ranaut is unwavering in her portrayal of Rani Lakshmbai. There's a hard-to-miss intensity in her eyes, and tenacity in her voice. She commands the screen with a fiery, arresting presence, never letting your attention wander away from her. In the battle scenes too, galloping on a steed, charging into rows of enemy soldiers, slashing and tearing into their flesh, practically leaping onto an elephant, her valour is so convincing, even the gravity-defying stuff looks real.

The problem is the single-track narrative and its unwillingness to explore anyone or anything other than the Rani Lakshmbai-worshipping angle. I wasn't so bothered about the fact that the film has little room for other characters to shine, as I was by the sheer clunkiness on display. I know this is the Bollywood version of a historical, but Rani Lakshmbai breaking into a dance with the locals takes creative liberties to a whole new



level. I was also dismayed by some of the hackneyed dialogue. A British officer declares in mangled Hindi after being humiliated by the queen: “*Iss bezzati ka jawaab main khoon se loonga.*” We’re still making our characters talk like that?

There isn’t a quiet moment or a subtle note in *Manikarnika: The Queen of Jhansi*. This is a deliberately simplistic film; an old-fashioned patriotic saga told in the broadest of strokes, and with full nationalist fervor. Kangana Ranaut’s extraordinary performance is the film’s biggest strength, playing the woman for whom they said :

**“*Khoob ladi mardani woh toh Jhansi wali rani thi.*”**

## 28. Homi J. Bhabha



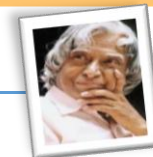
Keyur Markana  
Student of 3<sup>rd</sup> year, CAIT, AAU, Anand

Homi Jehangir Bhabha was born on 30 October, 1909 to a wealthy Parisi family in Mumbai that was very influential in the west of India. In 1927, Bhabha began his studies at Cambridge University. In 1932 he passed the Mathematics Tripos, again with first class and he received his doctorate degree in nuclear physics from the University of Cambridge in 1934. Homi Jehangir Bhabha was an Indian born nuclear physicist who made important contributions to quantum theory and cosmic radiation. He is known as the “father of Indian nuclear program.” Homi J. Bhabha was an Indian nuclear physicist, founding director, and professor of physics at the Tata Institute of Fundamental Research (TIFR). Bhabha was awarded the Adams Prize (1942) and Padma Bhushan (1954). The man who pioneered the Indian nuclear research programme, Homi Jahangir Bhabha was a nuclear physicist who laid the foundation for nuclear research in India. Often hailed as the “father of Indian nuclear programme”, Bhabha was not only a scientist, but also a visionary and an institution builder. From childhood, he was an intelligent and hard working student and his parents dreamed of him becoming a mechanical engineer. However, young Bhabha’s interest laid in studying physics and not in becoming an engineer. Yet he honored his parents’ wish and completed his degree in mechanical engineering. His parents too respected their son’s true interest and supported him in his pursuit of scientific research. Bhabha studied in Europe where he became acquainted with many great physicists of his time, and was determined to contribute to India’s scientific research upon his return. He had very ambitious plans and upon returning to his home country, he set about establishing the Cosmic Ray Research Unit. He helped to formulate India’s strategy in the field of nuclear power for which he is fondly remembered as the father of Indian nuclear power. The great scientist’s brilliant career was cut short by a plane crash which claimed his life.

He was the first Chairman of The Atomic Energy Commission of India



## 29. A.P.J. Abdul Kalam



Mahesh Khunti  
Student of 2<sup>nd</sup> year, CAIT, AAU, Anand

Avul Pakir Jainulabdeen Abdul Kalam (15 October 1931 – 27 July 2015) was an aerospace scientist who served as the 11th President of India from 2002 to 2007. He was born and raised in Rameswaram, Tamil Nadu and studied physics and aerospace engineering. He spent the next four decades as a scientist and science administrator, mainly at the Defence Research and Development Organisation (DRDO) and Indian Space Research Organisation (ISRO) and was intimately involved in India's civilian space programme and military missile development efforts. He thus came to be known as the Missile Man of India for his work on the development of ballistic missile and launch vehicle technology. He also played a pivotal organisational, technical, and political role in India's Pokhran-II nuclear tests in 1998, the first since the original nuclear test by India in 1974. Kalam was elected as the 11th President of India in 2002, widely referred to as the "People's President". He returned to his civilian life of education, writing and public service after a single term. He was a recipient of several prestigious awards, including the Bharat Ratna, India's highest civilian honour. While delivering a lecture at the Indian Institute of Management Shillong, Kalam collapsed and died from an apparent cardiac arrest on 27 July 2015, aged 83. Thousands including national-level dignitaries attended the funeral ceremony held in his hometown of Rameshwaram, where he was buried with full state honours.

## 30. P. V. Sindhu



Gunvant Rathod  
Student of 2<sup>nd</sup> year, CAIT, AAU, Anand

P. V. Sindhu is an Indian professional badminton player who earned widespread fame after winning a silver medal in the 2016 Rio Olympics. With this win, she became the first and youngest Indian woman to win a silver medal at the Olympics. She also became the second Indian badminton player to win an Olympic medal after Saina Nehwal. In 2013, she won a bronze medal at the Badminton World Championships to become the first Indian women's singles player to do so. She repeated this feat the very next year by winning another bronze medal. She has already won a number of medals for her country, which helped her earn the nation's top two sports honors, the Rajiv Gandhi Khel Ratna and the Arjuna Award. She was also awarded the Padma Shri, India's fourth highest civilian award, in March 2015. While being born to a family deeply rooted in sports might have helped her, according to her coach Pullela Gopichand, her determination and commitment to the game is the reason behind her success.



## 31. MS Dhoni - An Inspiration of many

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Ishika Rana  
Student of 2<sup>nd</sup> year, CAIT, AAU, Anand

An everyday man who went on to be popularly known as the ‘Captain Cool’ is none other than our very own Indian Men’s (ODI & T20Is) Cricket Team Captain, Mahendra Singh Dhoni or simply known as Dhoni. His journey marks from being a simple small town boy to the man who led a team to victory in the T-20 World Cup. There was once a time when the Indian Cricket Team was simply filled with the city kids. Due to excellent infrastructure and good scope for the game in cities, many small town boys would not succeed defeating them in the Ranji Trophy. But this man proved it all wrong. MSD had seen a dream, which many feared to see. Hailing from a very small town of Ranchi, Dhoni dared to dream and with courage and guts make that dream a reality. Since a very young age, he idolized Sachin Tendulkar who is known as the God of Cricket and Bollywood actor Amitabh Bachchan. He started his career as a Ticket Collector in Indian Railways. His hard work and never-give-up spirit finally landed him in International Cricket in 2003.

Dhoni was not only known for his cricket but was also very popular for his lengthy wavy hair style. In fact, it had then become a trend that every boy in the country now wanted to adorn the “Dhoni Hairstyle”. Dhoni started making rounds for his cool attitude – something we all most aspire to emulate. We would find him with a smile even in the toughest of games. This calm attitude of his landed him as the Captain of the team. He had not only made his dream of playing alongside his idol Sachin a reality but had become his captain. In 2007; he led the team a whopping victory in ICC T-20 World Cup. He continues to inspire the younger generation with his brilliant captaincy, and out of the box thinking.

### MS THOUGHTS:

- If you don’t really have a dream, you can’t really push yourself; you don’t really know what the target is.”
- “It’s important to learn and not repeat the same mistakes. What’s done is done.”
- “I am always the one who is responsible for anything bad that happens in Indian cricket. Everything that happens is because of me.”

## 32. Air Strike

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Pruthviraj Chauhan  
Student of 2<sup>nd</sup> year, CAIT, AAU, Anand

The **2019 Balakot airstrike** was conducted by India in the early morning hours of February 26 when Indian warplanes crossed the de facto border in the disputed region of Kashmir, and dropped bombs in the vicinity of the town of Balakot in Khyber Pakhtunkhwa province in Pakistan.

Pakistan's military, the first to announce the airstrike on February 26 morning, described the Indian planes as dropping their payload in an uninhabited wooded hilltop area near Balakot.



India, confirming the airstrike later the same day, characterized it to be a preemptive strike directed against a terrorist training camp, and causing the deaths of a "large number" of terrorists.

The following day, February 27, in a tit-for-tat airstrike, Pakistan retaliated, causing an Indian warplane to be shot down and its pilot to be taken prisoner by the Pakistan military before being returned on March 1.

Analysis of open-source satellite imagery by the Atlantic Council's Digital Forensics Laboratory, San Francisco-based Planet Labs European Space Imaging, and the Australian Strategic Policy Institute, has concluded that India did not hit any targets of significance on the Jaba hilltop site in the vicinity of Balakot.

On 10 April 2019, some international journalists, who were taken to the Jaba hilltop in a tightly controlled trip arranged by Pakistani government, found the largest building of the site to show no evidence of damage or recent rebuilding.

The airstrikes were the first time since the India-Pakistan war of 1971 that warplanes of either country crossed the Line of Control and also since both states have become nuclear powers.

On 14 February 2019, a convoy of vehicles carrying security personnel on the Jammu Srinagar National Highway was attacked by a vehicle-borne suicide bomber at Lethpora in the Pulwama district, Jammu and Kashmir, India. The attack resulted in the deaths of 46 Central Reserve Police Force personnel and the attacker. The perpetrator of the attack was from Indian-administered Kashmir. The responsibility for the attack was claimed by the Pakistan-based Islamist militant group Jaish-e-Mohammed. Pakistan condemned the attack, and denied any connection to it. The airstrike occurred ahead of the 2019 Indian general election. On February 19, Pakistan's PM attributed Indian government's desire to attack Pakistan to the upcoming election. The Indian government rejected the allegation.

There has been ambiguity among the sources as to what the exact target was, and about whether the madrassa -- *Taleem ul-Quran* run by Masood Azhar's brother-in-law, Muhammad Yusuf Azhar, was an active JeM camp or not.

According to WikiLeaks, a 2004 United States Department of Defence interrogation report stated that Balakot had "a training camp that offers both basic and advanced terrorist training on explosives and artillery." In contrast, military analysts asserted that whilst the area used to host militant camps, they dispersed after the 2005 Pakistan earthquake to avoid detection by the international aid groups providing relief in the area.

Indian intelligence sources claim that the camp was located in a hilltop forest, 20 km (12 mi) from Balakot, and that it was a resort-style facility, with space and room for 500–700 militants, including a swimming pool, cooks and cleaners. *The New York Times* mentioned western security officials of having doubted the existence of such large-scale training camps, asserting that Pakistan no longer runs them and that "militant groups are spread out in small groups around the country".

The local people varied as to the purpose of the facility. In the immediate aftermath of the strikes, whilst some claimed of it being an active Jaish training camp, others asserted it to have been a mere school for the local kids and that such militant camps used to exist far earlier. On later visits by



Reuters, the locals claimed that the school had been shut down about a year back and was no longer operational

### 33. Friend's forever

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Hiren Patoliya

Student of 2<sup>nd</sup> year, CAIT, AAU, Anand

There lived two friends called John and Noah in a small village. One day they decided to travel the world and started their journey. They crossed many towns and then reached to a desert. They decided to take rest and have lunch in the shade. While eating, they entered into an argument. Noah became very angry and slapped John.

John felt hurt, and without saying a word to Noah, he wrote on the sand “TODAY MY BEST FRIEND HAD SLAPPED ME ON MY FACE.” After some time they started their journey again and reached a deep jungle.

They saw a beautiful lake surrounded by, and they can't resist the temptation of taking a bath into it. John undressed and jumped into the lake first, but he got stuck into the deep mud lying below the beautiful lake water and started drowning. Noah saw all this, and with the help of a block of wood, he saved John. John thanked Noah for saving his life and then wrote on a stone “TODAY MY BEST FRIEND HAS SAVED MY LIFE.”

Amazed by all this Noah asked John “When I had slapped, you had written it on the sand and today when I have saved your life, you have written it on the stone, why? John replied, “When someone hurts us, we should write it down on sand so that wind can erase it away but when someone acts good to us or does some act of kindness then we should engrave it on the stone so that it can never be erased.”

### 34. An Old Man

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Nirali Patel

Student of 2<sup>nd</sup> year, CAIT, AAU, Anand

An old man lived in the village. He was one of the most unfortunate people in the world. The whole village was tired of him; he was always gloomy, he constantly complained and was always in a bad mood.

The longer he lived, the more bile he was becoming and the more poisonous were his words. People avoided him, because his misfortune became contagious. It was even unnatural and insulting to be happy next to him.



He created the feeling of unhappiness in others.

But one day, when he turned eighty years old, an incredible thing happened. Instantly everyone started hearing the rumour:

“An Old Man is happy today, he doesn’t complain about anything, smiles, and even his face is freshened up.”

The whole village gathered together. The old man was asked:

Villager : What happened to you?

**“Nothing special. Eighty years I’ve been chasing happiness, and it was useless. And then I decided to live without happiness and just enjoy life. That’s why I’m happy now.”**

– An Old Man

## 35. Books play a significant role

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Ankita Mervana

Student of 4<sup>th</sup> year, CAIT, AAU, Anand

Books play a significant role in our life. They say that “When you open a book, you open a new world”. I believe that everyone would agree with this statement as books have become inevitable to mankind. For the majority of people, books are part of their everyday life. A book is like a best friend who will never walk away from you. Books are packed with knowledge, insights into a happy life, life lessons, love, fear, prayer and helpful advice. One can read about anything under the sun. Books have been here for centuries and without them today’s knowledge of our past ancestors, cultures and civilizations would have been impossible. Have you ever thought what would have happened if intellectuals never documented their studies?

On the 23rd of April the world celebrates the World Book Day. This day is a celebration of authors, illustrators, books and most importantly reading. The main aim of the World Book Day is to encourage children to the pleasures of books and reading. The reason for choosing this particular date is interesting. The 23rd of April is a symbolic date for world literature because it is the date of death for many great authors and poets such as William Shakespeare, Miguel de Cervantes, William Wordsworth and many others.

In my opinion reading is the perfect hobby and I am sure that a lot of people would agree. There are a lot of wonderful reasons why reading is important. Here are a few reasons why you should consider reading a book: To expose yourself to new thing: Through reading, you expose yourself to new things, new information, new ideas, new ways to solve a problem, and new ways to achieve a goal. Reading might help you discover hobbies or exploring things you didn’t know you like. Exploration begins from reading and understanding. To improve oneself: Reading helps you understand the world more. Through it, you begin to have a better understanding on a topic that interest you. Self-improvement start from reading, through reading you have a better understanding and better decisions to take in the





future. To improve your understanding: The more you read the more you understand things completely and helps you find the truth about something. Through reading you learn more about society and how to adapt in it. To improve your imagination: You are limited by what you can imagine, all the worlds described in books as well as views and opinions by other people, will help you expand your understanding of what is possible. To reduce stress: Studies show that reading reduces stress. The participants in this study only needed to read silently for a few minutes to slow down the heart and ease tension in the muscles. To improve your memory: When you read you have more to think. Reading gives you a unique pause button for understanding and insight. The benefits of this increased activity helps to keep the memory sharp and the learning capacity agile. To entertain oneself: Reading has an entertainment value. Reading is not only fun, but it has all the added benefits that we discussed so far. A good book can keep you entertained while developing life skills. A book communicates knowledge, and not only knowledge but wisdom of all kinds. They say that “The more you read, the more well-read you are”. In simple terms what this means is that the more you read the more exposed you are, your attitudes, your ideas and your imagination changes. I believe that my personality, behaviour, ideas and knowledge are all built on the books I have read. Nothing can add to our intellect more than reading a book.

## 36. Make it Green

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Zala Falguni

Student of 4<sup>th</sup> year, CAIT, AAU, Anand

Lives are crying because it's not clean,  
Earth is dying because it's not green...  
Earth is our dear Mother, don't pollute it,  
She gives us food and shelter, just salute it...  
With Global Warming, it's in danger,  
Let's save it by becoming a strong ranger...  
With dying trees and animals, it's in sorrow,  
Make green today and green tomorrow...  
With melting snow, one day it will sink,  
How can we save it, just think...  
Trees are precious, preserve them,  
Water is a treasure, reserve it...  
Grow more trees, make Mother Earth green,  
Reduce pollution and make her a Queen...



### 37. Poem on Life

Patel Divya  
Student of 3<sup>rd</sup> year,  
CAIT, AAU, Anand

Life is too short o wake up in the morning  
with regrets,  
So, Love the people who treat you right  
and forget about the ones who don't.  
And believe  
That everything happens for a reason...  
if you get a chance – take it;  
if it changes your life- let it.  
Nobody said that it would be easy...  
They just promised  
It would be worth it.

### 38. કોણ

Vishal Mameriya  
Student of 2<sup>nd</sup> year,  
CAIT, AAU, Anand

હું રિસાયો, તમે પણ રિસાયા તો  
પછી આપણને મનાવશે કોણ ?  
આજે તિરાડ છે, કાલે ખાઈ બની જશે તો  
પછી તેને ભરશે કોણ ?  
હું મૌત, તમે પણ મૌત તો પછી  
આ મૌત તે તોડશ કોણ ?  
નાની નાની વાતો દિવથી લગાવીશું,  
તો પછી સંબંધ નીલાવશે કોણ ?  
છુટા પડીને દુખ :અને દુખીતમેપણ :,  
તો વિચારો ડગલું આગળ વધશે કોણ ?  
ના હું રાજી, ના તમે રાજી,  
તો પછી માફ કરવાની મોટાઈ દખાડશે કોણ ?  
યાદોના ગમમાં ડૂબી જઈશ હું અને તમે,  
આપણને વૈર્ય આપશે કોણ ?  
એક અમારાં, અંક તમારી અંદર પણ,  
તો પછી આ અહંતેહ રાખશે કોણ ?  
જિંદગી કોત મળી છે હંમેશ માટે, તો પછી  
આ વાતને વાગોળવા માટે અહીં રહેશે કોણ

### 39. वे राहें ही इंसान की असल मंजिल होती हैं!

Dharajiya Vikram  
Student of 3<sup>rd</sup> year,  
CAIT, AAU, Anand

जिन राहों पर दुश्मनों की निगाह होती है,  
वे राहें ही हमारे लिए सर्वोपरि होती हैं !  
मुश्किलों के राह में चलने के कारण,  
वे राहें ही इंसान की असल मंजिल होती हैं!!  
लोगों को कुछ पानेकी तड़प होती है,  
पर उनकी ये ख्वाब पूरी नहीं होती है!  
चूंकि उनके जीवन में आलस्य होती हैं,  
वे राहें ही इंसानकी असल मंजिल होती हैं!!  
बीते हुए समय कभी नहीं लौटते हैं,  
उन राहों में अपने भी खो जाते हैं!  
फूलों और कांटों के ऊपर बनी,  
वे राहें ही इंसान की असल मंजिल होती हैं!!  
काबिलियत से ही लोगों की पहचान होती है,  
कर्मों से ही सपने स्वीकार होती हैं!  
उन सब कर्मों को आजका अभी करें क्योंकि,  
वे राहें ही इंसान की असल मंजिल होती हैं!!

### 40. અગ્નિપથ

Akhade Vinita  
Student of 4<sup>th</sup> year,  
CAIT, AAU, Anand

વૃક્ષ હોં ભલે યજ્ઞે,  
હોં બઢે, હોં ઘને,  
એક પત્ર છાંહંભી  
માંગ મત ! માંગ મત ! માંગ મત !  
અગ્નિપથ ! અગ્નિપથ ! અગ્નિપથ !  
તૂ ન થકે ગાક ભી,  
તૂ ન થમે ગાક ભી,  
તૂ ન મુડેગા કભી,  
કરશપથ ! કરશપથ ! કરશપથ !  
અગ્નિપથ ! અગ્નિપથ ! અગ્નિપથ !  
યહ મહાન દશ્ય હૈ,  
દેખ રહા મનુષ્ય હૈ,  
અશ્રુ, સ્વેદ, રક્ત સે  
લથ-પથ, લથ-પથ, લથ-પથ,  
અગ્નિપથ ! અગ્નિપથ ! અગ્નિપથ !



## 41. Sarhad par sena baithi hai

Kiran Vasava

Student of 2<sup>nd</sup> year, CAIT, AAU, Anand

(Ek sainik ka apne deh vasiyon ko aashwasan)

Main kal bhi tha, main aaj bhi hun  
Phir gham mein doobe shehri kyun,  
Becchain na ho, mayus na ban  
Sarhad par sena baithi hai.  
Masoom ki jaane le lekar  
Aatanki seena tante hain,  
Laachar hain vo, dushvar hain vo  
Sadbuddhi kahin gava baithe  
Jispar goli barsaate hain  
Vo bhi Allah ki naymat hain,  
Fark sirf bas a hai  
Vo janme ghar pados mein hain  
Jab jab dushman lalkara hai  
Tab tab usko pahhda hai,  
Gar aankh utha kar vo dekhe  
Use nayan mukt kara denge  
Yeh sena Hindustan ki hai  
Chahat keval ballidaan ki hai,  
Tum so sako sukh chain ke sang  
Zimma sambhale sainik hum  
Raat tanik lambi to kya  
Subah abhi aati hogi,  
Baichain na ho, mayus na ban  
Sarhad par sena baithi hai.  
Sarhad par sena baithi hai.

## 42. Believe In Yourself

Chhaya Hemangi

Student of 2<sup>nd</sup> year, CAIT, AAU, Anand

Believe in yourself  
to the depth of your being.  
Nourish the talents  
your spirit is freeing.

Know in your heart  
when the going gets slow  
that your faith in yourself  
will continue to grow.

Don't forfeit ambition  
when others may doubt.  
It's your life to live  
to live it throughout!

Learn from your errors  
don't dwell in the past.  
Never withdraw  
from a world that is vast.

Believe in yourself;  
to find the best that is you.  
Let your spirit prevail  
to steer a course that is true.



### 43. Don't Quit

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Gohel Ritu

Student of 3<sup>rd</sup> year, CAIT, AAU, Anand

When things go wrong, as they sometimes will,  
When the road you're trudging seems all uphill,  
When the funds are low but the debts are high,  
And you want to smile but you have to sigh,  
When care is pressing you down a bit...  
Rest if you must, but don't you quit!

Life is queer with its twists and turns,  
As every one of us sometimes learns,  
And many failures turn about  
When we might have won had we stuck it out.  
Don't give up though the pace seems slow...  
You may succeed with another blow.

Often the struggler has given up  
When he might have captured the victor's cup;  
And he learned too late when the night came  
down,  
How close he was to the golden crown.  
Success is failure turned inside out...  
And you can never tell how close you are  
It may be near when it seems so far.  
So stick to the fight when you're hardest hit  
it's when things seem worst that you must not  
quit.

### 44. Value of Time

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Patel Shraddha

Student of 3<sup>rd</sup> year, CAIT, AAU, Anand

Time is precious don't let it pass by  
For once it's gone, there's nothing but to cry  
So be strong and hold some  
Give some and take some  
Time is water, don't let it dry  
For once it's gone, there's nothing but to cry  
So be quick and keep some  
Use some and gain some  
Time is money don't let it fly  
For once it's gone, there's nothing but to cry  
So be wise and grasp some  
Give some and gain some  
Time is precious don't let it pass by  
For once it's gone, there's nothing but to cry.

### 45. Never judge your beauty

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Changavadiya Rashmi

Student of 3<sup>rd</sup> year, CAIT, AAU, Anand

Never trust a mirror,  
For a mirror always lies,  
It makes you think that all you're worth,  
Can be seen from the outside.  
Never trust a mirror,  
It only shows you what skin deep is,  
You can't see how your eyelids flutter,  
When you're drifting off to sleep,  
It doesn't show you what the world sees,  
When you're only being you,  
Or how your eyes just light up,  
When you're loving what you do,  
It doesn't capture when you're smiling,  
Where no-one else can see,  
And your reflection cannot tell you,  
Everything you mean to me,  
Never trust a mirror,  
For it only shows your skin,  
And if you think that it dictates your worth,  
It's time you looked within.



## 46. Yesterday, Today and Tomorrow

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Devan Bhammer  
Student of 3<sup>rd</sup> year, CAIT, AAU, Anand

Yesterday I done things that pleased others  
Today I do things that pleased myself  
Tomorrow is the day I change what I have done wrong  
Yesterday I hate things that hurt me  
Today I shall change things under my control  
Tomorrow I shall do more that I can envisioned  
Yesterday I had past my youth era  
Today I am wiser than yesterday  
Tomorrow I will become a legend because I dare to dream big  
Happy are those whom appreciated what yesterday had brought  
Happy are those whom plan for things to do today  
For tomorrow what might bring us is eternal happiness and peace  
Yesterday Time flies so fast without realising we are already dead  
Today wasting our time is wasting our life  
Tomorrow Time is valueless and priceless  
Let yesterday remind me of the sweet memories of yester years  
Let today be my reminder of treasuring our life  
For tomorrow may bring uncertainty onto our life  
So let us treasure and value our time  
Time becomes priceless when we take things for granted  
Time becomes meaningless when we face our final moment of our dead  
Time becomes tomorrow heaven when we treasure the present moment



## 47. Importance of Sports in our life

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Reeya Raval

Student of 3<sup>rd</sup> year, CAIT, AAU, Anand

➤ **INTRODUCTION:** One can think of a healthy mind only in a healthy body. Both physical and mental well being are the prerequisites of great achievements in man's life.

➤ **WHAT IS SPORT?**

Sports is a category that covers numerous different activities. Many sports involve high degrees of physical activity (for instance, running or rugby) whilst others focus more on strategy and mental exertion (for example, chess is considered to be a sport).

➤ **NECESSITY OF SPORTS :**

*"Sports have their great utility."*

1. Sports are the sources of recreation. They provide relief and a sense relaxation in a life of monotony of routine marked by miseries, hardships and hurdles.
2. They instill or infuse a sportive spirit to take up the heavy burden of life in a lighter vein and not to think of life either as a tragedy or a comedy but as the ordinary business of living.
3. It is very essential to maintain health and physical fitness.
4. It encourages the growth of team-spirit.
5. Sports and games bring about various methods of diversions.
6. Sports help in improving the cognitive function of the brain.
7. In sports, players need to make fast calculated decisions. Hence, it infuses a person with the ability of decision making.

**"Good, Better, Best.  
Never Let It Rest  
Until You're Good Is Better  
And Your Better Is Best."**

**CONCLUSION:** It is not the sound and the fury that counts but effort in the right direction to make a mark. Keeping this in view, it is high time that we spot out our sports talents and provide all necessary facilities to train them properly so as to enable them to compete with world champions with no feelings of diffidence.

## 48. Our achievements

### 1. Research Project On

### “Gross Primary Productivity from Agriculture Using GISAT Data”



#### Collaborating Unit

Dr. G. B. Chaudhari and Dr. R. S. Parmar  
College of Agricultural Information Technology  
Anand Agricultural University

#### Originating Unit

Dr. Rojalin Tripathy and Shri K. N. Chaudhari  
Agriculture and Land Eco-Systems Division, BPSG, EPSA  
Space Applications Centre, Ahmedabad

GISAT (Geo-Stationary Imaging Satellite) is planned as a geo-stationary imaging satellite for integrated observations of Land, Ocean and Atmosphere. The potential applications that can be served are Agriculture, Forestry, Meteorology, Weather Forecasting, Oceanography, Disaster monitoring, etc. Looking to the fine spatial resolution with high temporal resolution and the data availability from the wave length regions is important for crop studies. The present research plan is envisaged to estimate daily weekly and monthly Gross Primary Productivity (GPP) over the agricultural area with the objectives of the project as

1. Estimating Light Use Efficiency (LUE) in different crops
2. Computation of GPP from selected crops at Field and Tower level
3. Evaluation of existing Models for deriving LUE



#### 4. Estimation of GPP from Satellite Data and its validation with ground GPP and global satellite GPP product

GPP is the amount of carbon assimilated by vegetation through photosynthesis over time. It influences the carbon cycle and human habitability of our planet. While the mechanisms regulating GPP are well understood and modelled at the leaf and canopy level, regional and global GPP models still need to address large uncertainties in the estimates. Integrated GPP from all major crop types (including both C3 and C4) such as Cereals, Pulses, Oilseeds generation of a single GPP product from agriculture at regular time frame using Indian satellite data is yet to be attempted. GISAT with a spatial resolution of around 50m (daily) will help to model GPP at finer resolution and will have the advantage of providing continuous, repetitive, and consistent observations of agricultural dynamics at regional scale. The project proposes to generate operational product of GPP using the VPM model based on LUE. The VPM approach that runs with the concept that the vegetation GPP is a function of the amount of Photo synthetically Active Radiation (PAR) absorbed, which in turn depends on incoming radiation and the crop's PAR interception capacity. This concept will be used with different models to compute RUE which will be evaluated and the best model based on the comparison with the field value will be used for final GPP estimation. The resultant GPP from each model will be compared with the ground estimated GPP at selected sites with flux tower for each crop type under consideration. This will also be validated with the GPP product of existing satellite.

Input data includes the data required for estimating LUE, input data for different LUE models, and input data for Monteith model. Field data will be collected at selected sites of Gujarat to derive LUE, fAPAR and GPP at ground. Diurnal measurement of photosynthesis will be carried out for precise estimation of amount of carbon fixed per unit time. Further, the experiments will be repeated in two different seasons (Kharif and Rabi) so as to cover major crop type. Portable photosynthesis instrument will be used for these measurements. The instrument measures various variables that are related to the process of photosynthesis, which includes amount of incident PAR, temperature, humidity etc. Additionally, other associated canopy variables such as leaf area index, chlorophyll content, canopy closure and gap fraction will be measured in the selected vegetation type as per requirement. The ground data will be collected at major crop growth stages. The expected outcomes i.e. Biophysical Product is the best model for computing LUE and GPP from different crop types.

The GPP from agricultural crop would be an important input to the terrestrial GPP product from GISAT that will provide an accurate, regular measure of the production activity or growth of terrestrial vegetation. This will also be a measure of crop yield, range forage and forest production.

## 2. Project on “Content Aggregation for Vikaspedia”

Vikaspedia is a multilingual, multi-sectorial Knowledge sharing portal. Vikaspedia is a Ministry of Electronics and Information Technology (MeitY), Government of India initiative for providing eKnowledge and use of ICT-based applications for employment of underserved communities in select livelihood related domains. The Centre for Development of Advanced Computing (C-DAC), Hyderabad is implanting this initiative.



C-DAC has made an agreement with Department of Agricultural Information Technology, College of Agricultural Information Technology (DAIT-CAIT), Anand Agricultural University for generating content for this portal.

DAIT-CAIT shall generate or upload approx. 200 pages (per page max 250 words) / month of authentic and relevant content related to Agriculture and allied sectors in Agriculture domain of Vikaspedia in Gujarati language. C-DAC, Hyderabad will pay Rs. 20,000/- (exclusive of all applicable taxes) for generating and uploading approx. 200 pages content (per page max 250 words and Rs. 100/- per page) per month to DAIT-CAIT. Dr. Mayur P. Raj (Assistant Professor), College of Agricultural Information Technology, Anand Agricultural University is nodal officers for Content aggregation project.

### 3. IIRS distance learning programme

College of Agricultural Information Technology is the coordinating institute of IIRS distance learning programme. CAIT has coordinated almost all programmes from 2015 onwards. In last Year outreach programme on “**Basics of Remote Sensing, GIS & GNSS**” more than 22 participants participated. 18 participants have successfully cleared course on “**Basics of Remote Sensing, GIS & GNSS**” and are awarded certificate for it.



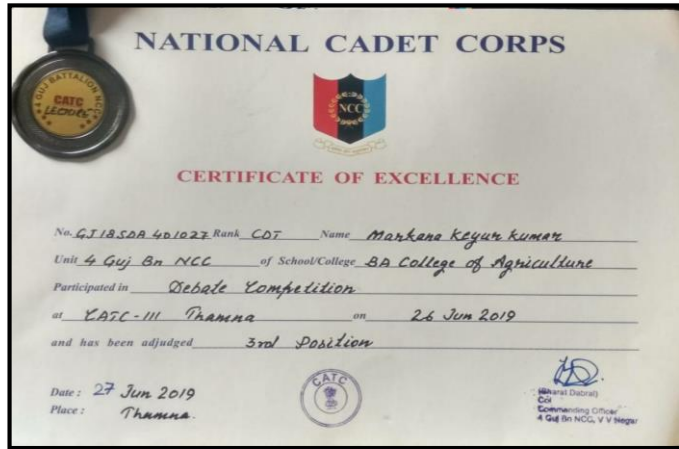
IIRS DLP Live Lecture

	2015-16	2016-17	2017-18	2018-19	2019-20
IIRS outreach programme	2	5	8	9	2
Participants	72	105	98	115	65



## 4. Combined Annual Training Camp

Keyurkumar Markana of 5<sup>th</sup> semester were get 3<sup>rd</sup> rank in Debate competition in Combined Annual Training Camp Organized at Thamna.





## 49. Inspiration from Alumni



Name : Abhinav

Batch : 2014

**1. What were some of the most defining events/opportunities/aspects of your time at this college?**

There were many defining events:-

- Be on time.
- Every one has equal chance of learning.
- We got opportunity to take participate in different events as numbers were less.
- Help your friends in classroom or hostel but not in exams.
- Working on project was the best learning opportunity.

**2. What is one thing one should be certain to do before they graduate?**

Before graduation, student should attain a high level of soft skills because that's only the need of today's market along with academics.

**3. What inspires your passion for your career or other personal interests?**

**4. Throw some light on your path after graduation. Have there been any surprises along this way?**

After graduation I started preparing for competitive exams. I gave around 10-20 national level exams. I qualified in some of exams. But I failed to qualify till the end. I gave CAT 2018, I had IIM Ahmedabad (PGP-FABM) call but unfortunately, I failed to convert. I took admission in National Institute of Bank Management. Life is full of surprises, try to bear them.

**5. What advice(s) would you like to give to someone just starting out in our field?**

A person who has just started for them I think:-

- First of all be positive, if you have started here don't think how the college is? Just move ahead there are lots of opportunities waiting.
- Don't depends on professors too much, they can't teach everything. Try to put your efforts more.
- Apart from studies try to give time in other co-curricular activities. Now day's recruiters not only look academics but they are more interested in what other activities you are good at?
- Believe in group activity don't try to go ahead alone.
- Learning is long process you can't learn everything. Be proficient in something that you only know that will make you different from others.



- 6. What else do our readers need to learn? We understand that no single curriculum provides everything that you'll need to be successful in your next job. What do you recommend based on your experiences that we need to learn extra? Where were the gaps?**

Yeah it's true no single curriculum provides everything to be successful for next job. I think machine learning along with data analytics should be taught. There should be more focus on remote sensing field. There should be collaboration with other top institute for advancement in various departments or fields. I think students are not able to open up with professors.

- 7. What are your future plan?**

At present I am pursuing Post Graduate Diploma in Banking and Finance, and have graduation in agriculture information technology, so my plan is to reach a respected position in agricultural department of banks like NABARD and RRBs.

- 8. A short message for our young readers.**

Just move ahead with this college don't worry what will happen in future. There are lots of opportunities and many doors will open of its own. Try to make balance between studies and other extra co-curricular activities. Try to become specialized in the field not generalized. Try to open up with the respected professors, there remains lots of things inside that is not shared.



**Name : Radhika**

**Batch : 2014**

**1. What were some of the most defining events/opportunities/aspects of your time at this college?**

Well, Annual Day of 2014-15 and Education Tour were the best events of our time. There were also other opportunities like Coding Events, NSS Camp, Farm Visits, Cultural Events and many others. The best part was I made friends for life. To develop projects on IT and Agricultural and learn new technologies was the best part.

**2. What is one thing one should be certain to do before they graduate?**

Before complete graduation

- Try to do very well in your academics
- Participate in college events
- Make a close group of friends
- Self learning is the best option
- Push yourself out of that comfort zone
- Help others
- Create Project from basic to advance level
- Befriend a professor
- Enjoy as much as you can (without disturbing academics/projects).

**3. What inspires your passion for your career or other personal interests?**

My family and my siblings are my biggest source of inspiration and my strongest supporters as well. Their dedication to working is what motivates me to be like them. They are self-motivated individuals. Hence I try to imbibe their positivism into my life. I have learned from my father how to not give up on a tough situation. My mother is the source of calm confidence. Knowing exactly where to push hard and where to slow down is something I have imbibed from her. They remain, my go-to people, when I feel under the weather or less motivated.

**4. Throw some light on your path after graduation. Have there been any surprises along this way?**

So after graduation, it was time for job meeting seasoned people who can sweep you off with their experience, it was time to experience rejections, it was time for living an unexpectedly hard phase. I had a job offer from an IT firm, but the internship period in itself kicked the heck out of me. So,



I found a new Job. Also life after graduation teaches you a LOT of patience. Give up the EGO, live up the LIFE hold NO grudge and MOVE ON.

## 5. What advice(s) would you like to give to someone just starting out in our field?

I have the following advice for fresh undergraduate students:

- Be the way you are. You don't need to copy other people's style statements.
- Be aware of everything around you.
- Help your friends in studies if you can. Helping others in any way improves you Discover your passion and make time for your hobbies.
- Don't be afraid to learn new things, taking risk.
- Fix your goal and work accordingly. This will help in your transition from college world to real world.

## 6. What else do our readers need to learn? We understand that no single curriculum provides everything that you'll need to be successful in your next job. What do you recommend based on your experiences that we need to learn extra? Where were the gaps?

There are many upcoming and new technologies So I recommend to teach Cloud Computing, Angular and React, Internet of Things, Machine learning based on student's interest. Give some extra time to student for self learning. Listen what students want to do and learn. Appreciate student's efforts so they can give their best.

## 7. What are your future plan?

Currently I am working as Software Developer. My plan is to get more experience, to learn new technologies and also to work as freelancer.

## 8. A short message for our young readers.

Just one general advice, **don't rely on college alone to get you where you want!** In fact, don't even rely on it at all.

What matters is what you do outside of these courses during college. Everything else, which is not a degree requirement, is what actually matters. And I really mean everything from participation in a student club to competing in student competitions (technical and non-technical) to travelling, interning, etc. Your portfolio matters way more than your transcript and then the ranking of your college.



Name : Tapan

Batch : 2014

## 1. What were some of the most defining events/opportunities/aspects of your time at this college?

Following are the list of the opportunities I got to explore..

- Volunteering: Volunteering has been like a school of life; I've learned a lot and I've discovered a world I didn't know existed.
- Sports activities: I got many chances to play Table-tennis, Cricket, and Basketball for the college. It's been very useful to get teamwork, time-management and many lessons along with the physical exercise.
- Seminars and workshops: Seminar and workshops raises immediate awareness of the skills of adaptability, empathy, critical thinking, integrity, being proactive, optimism and resilience. These are the skills that underpin everything else in terms of effectiveness and impact.
- Programming Competitions: It's been very helpful to improve our logic and thinking ability. Taking part at the inter-collegiate and Hackathons gives opportunities to explore our knowledge.
- Cultural Activities: Cultural activities helped me a lot to remove my stage fear and gives strength to speak confidently in front of the mass.

## 2. What is one thing one should be certain to do before they graduate?

- In terms of my journey with the college I would like say, everyone has to start preparing for career path after graduation. We know that we have two choices to go with the Agriculture stream or to go with the IT stream as per our interest of choice we have to select and start doing preparations for it (in terms of masters or jobs).

## 3. What inspires your passion for your career or other personal interests?

- As a software developer, I'm passionate about creating truly beautiful, efficient digital products to make people's experience with technology memorable. In software development we using **Trial and Error methods** to reach successful output which exactly suits our day to day life also.



**4. Throw some light on your path after graduation. Have there been any surprises along this way?**

- I just started my new journey as a software developer. In this short period of time I learnt many technologies like Laravel, Vue.js and wordpress. The time management and teamwork helped me a lot. I found many improvement in my communication, decision making and thinking out of the box. One surprising thing I saw that communication can be the key to success if we are good to convey our message then the technical knowledge become secondary.

**5. What advice(s) would you like to give to someone just starting out in our field?**

- I would like say challenge yourself and always try to take risk without any fear because everyday we have right to do mistakes but It should be a new one.

**6. What else do our readers need to learn? We understand that no single curriculum provides everything that you'll need to be successful in your next job. What do you recommend based on your experiences that we need to learn extra? Where were the gaps?**

- First I would like to say that we have great sources like library and internet facility in our university. We just have to use it properly.
- In terms of internet I can say open your accounts in Quora, Stack overflow and LinkedIn and start to explore it.
- Start to read the newspaper everyday.
- LinkedIn would be a great platform to get job (In IT field).
- Self learning through youtube etc.

**7. What are your future plans?**

- Currently I decided to get a bit more experience and preparing myself for M.tech in IT.

**8. A short message for our young readers.**

- I would like Say College life is the career shaping phase of our life so explore it as you can and have some great memories together.



## 50. Seminars and Expert Talks

### Expert Lecture on AI by Dr. Preeti Sajja



### Expert Lecture on Agriculture Marketing by Mr. Devesh Patel



### Expert Lecture on Azure by Mr. Nilesh Shah



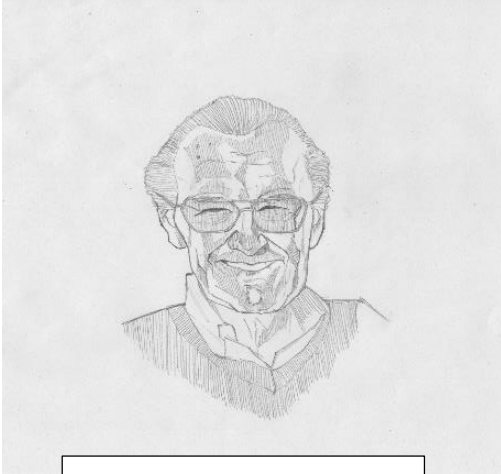
## Expert Lecture on Leadership Skills



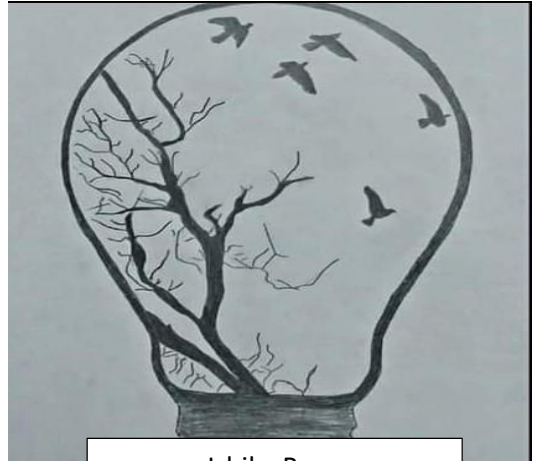
## Seminar on IGIS by SGL Technologies, Ahmedabad.



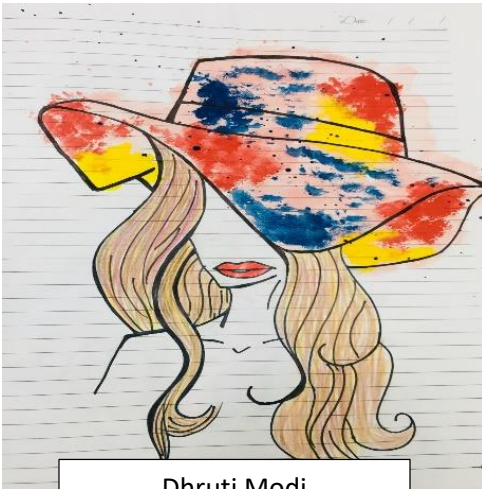
## 51. Creative corner



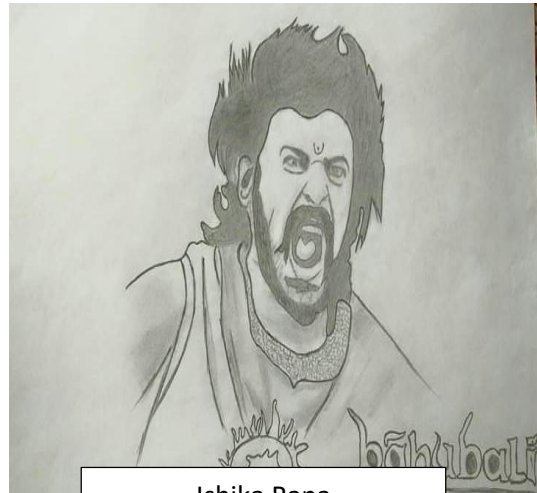
Patel Rakshit



Ishika Rana



Dhruvi Modi



Ishika Rana

## 52. Photo Gallery

### GREEN DAY



### Traditional Day



### GROUP DAY





# WALL OF UNITY



# SPORTS DAY



# ANNUAL DAY





# DNABIT



राष्ट्रीय एकीकरण शिविर  
**NATIONAL INTEGRATION CAMP**  
25<sup>th</sup> November to 1<sup>st</sup> December, 2018  
Sardar Patel University, Gandhinagar, Vadodra  
Department of Cultural Studies, NSS Cell,  
Ministry of Education, Gandhinagar

## NSS ACTIVITY



## Educational Tour









**DNABIT**



**CONVOCATION**





### 53. Vice-Chancellor Gold Medalist

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**Swapnil Prakash**  
2009



**Sugandh Chauhan**  
2010



**Modh Rifaliben**  
2011



**Kanti Kumari**  
2012



**Pruthvi Patel**  
2013




# COLLEGE AT A GLANCE






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# AGRICULTURAL INFORMATION TECHNOLOGY

### ANAND AGRICULTURAL UNIVERSITY, ANAND

## ONLINE INTERACTIVE LEARNING

