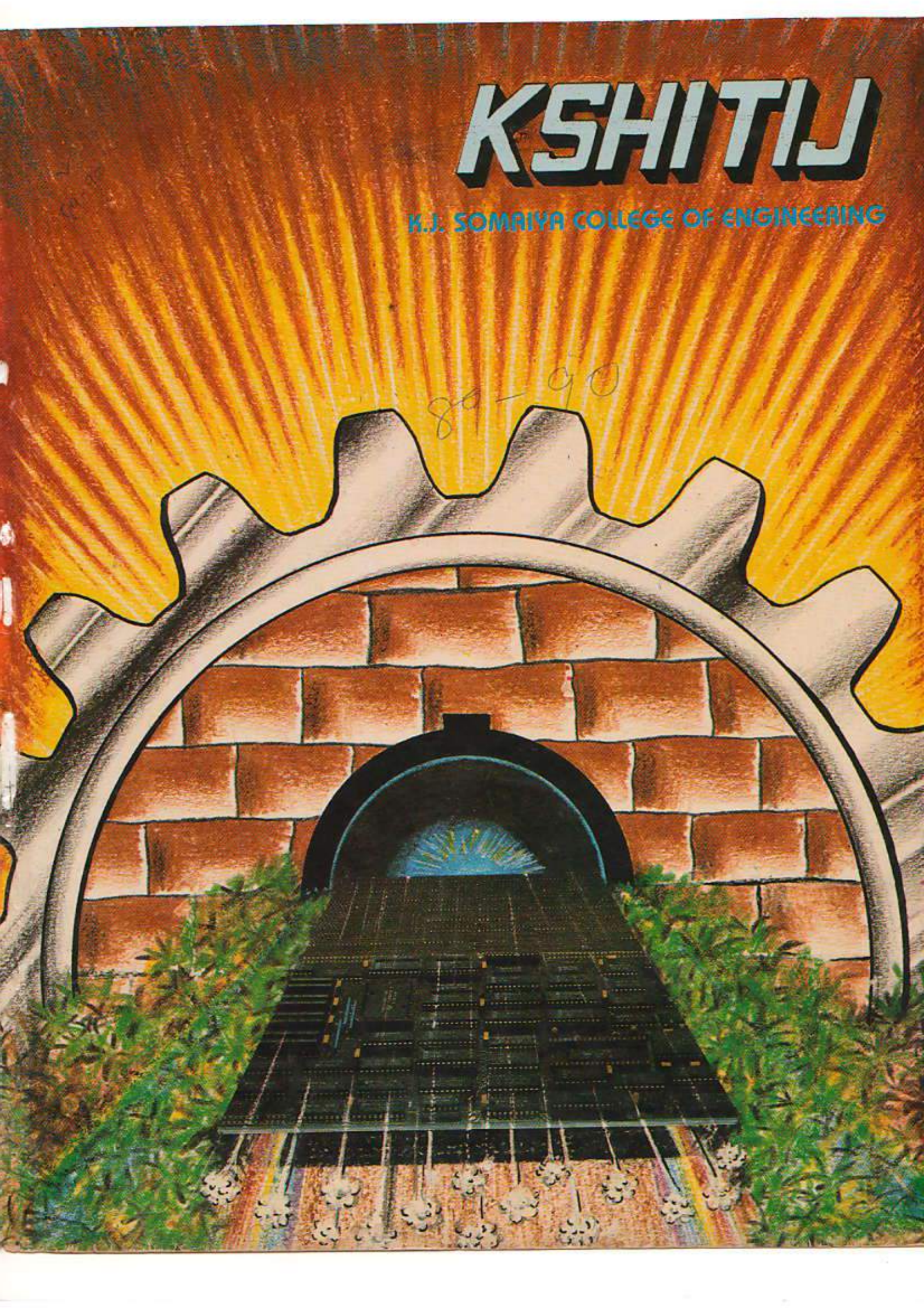


# KSHITIJ

K.J. SOMAIYA COLLEGE OF ENGINEERING



80-90





ॐ पूर्णमदः पूर्णमिदं पूर्णात् पूर्णमुदच्यते ।

पूर्णस्य पूर्णमादाय पूर्णमेवावशिष्यते ॥ १ ॥

1 OM. Whole is that (Brahman), whole also is this (world). From whole comes the whole; take whole from whole; (yet) whole remains.

ॐ ईशावास्यमिदं सर्वं यत् किं च जगत्यां जगत् ।

तेन त्यक्तेन भुञ्जीथा मा गृधः कस्य स्विह्नम् ॥ २ ॥

2 OM. Whatever exists in this world is to be enveloped by God (the Ruler). By renouncing it (the world) thou mayst enjoy. Do not covet the riches of any one.

मूकं करोति वाचालं पङ्गुं लघयते गिरिम् ।

यत्कृपा तमहं वन्दे परमानन्दमाधवम् ॥ ३ ॥

3 I bow down to Madhava, the Bliss Eternal; to Him whose grace enables the dumb to speak (and) the lame to go across a mountain.

ॐ प्रणो देवी सरस्वती वाजेभिर्वाजिनीयती

धीनामवित्यवतु ।

ॐ चोदयित्री सूनृतानां चेतन्ती सुमतीनाम् ।

यज्ञं दधे सरस्वती ॥ ४ ॥

4 OM. May Sarasvati, the Divine, protect us by her strength-giving favours, she who is rich in strength-giving favours, the protector of our thoughts, Sarasvati, who inspires hymns and promotes pious thoughts, brings about our sacrifice.

ॐ असतो मा सद् गमय । तमसो मा ज्योतिर्गमय ।

मृत्योर्मांश्मृतं गमय ॥ ५ ॥

5 OM. From the unreal lead me to the real. From darkness lead me to light. From death lead me to immortality.

ॐ सह नावतु सह नौ भुनक्तु सहवीर्यं करवावहै ।

तेजस्विनावधीतमस्तु, मा विद्विषावहै ॥ ६ ॥

6 OM. May God protect us both at the same time; at the same time support us both; May both of us at the same time apply (our) strength. May our learning be illustrious. May there be no hatred (between us).

सर्वेभ्यः सुखिनः सन्तु सर्वे सन्तु निरामयाः ।

सर्वे भद्राणि पश्यन्तु मा कश्चिद् दुःखमाप्नुयात् ॥ ७ ॥

7 May all here be happy. May all be free from disease. May all see well-being. May nobody experience misery.

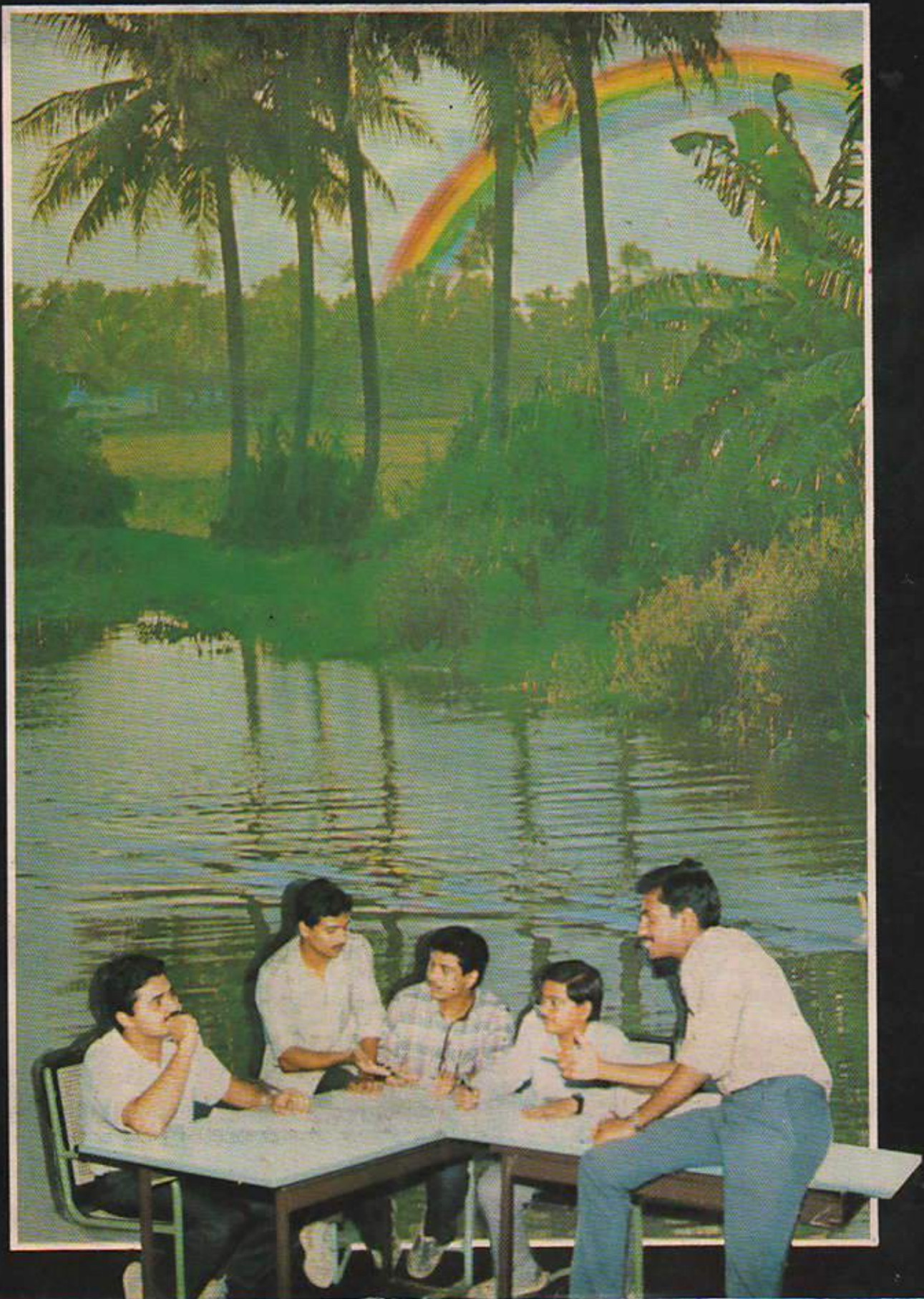
ॐ शान्तिः । शान्तिः । शान्तिः ॥

OM. Peace, Peace, Peace!



## The Magazine Committee

L-R: Ashok Kurup, Mahesh Karlekar, Nikhil Rao, Vinod Giri and Savio Remedios





## Editorial Committee



*Clockwise (L-R)-G.K.Sastite Principal (in-Charge) Nikhil Rao Mrs. N.M.Kumthekar Mrs. Leena Vyas*

## Advisory Committee



*Clockwise (L-R)— Prafulla Darekar Prof. P.N.Nageshkar Prof. Lazar Babu Mahendra Patil*



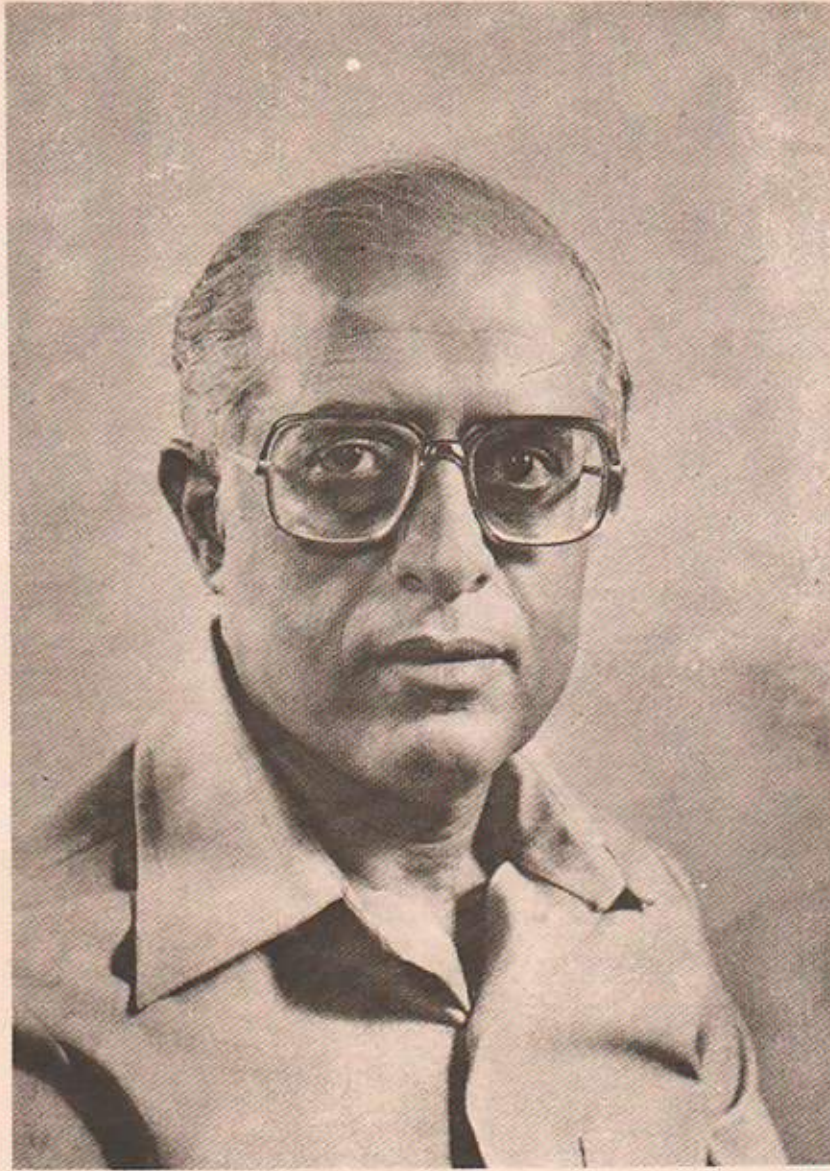






With deep sense of gratitude and humble dedication to our Founder  
**SHRI KARAMSHIBHAI J. SOMAIYA**  
*CHAIRMAN*





With respects to  
**DR. SHANTILAL K. SOMAIYA**  
*VICE-CHAIRMAN*  
For his Inspiration & Guidance



## Greetings From The Editor



नमस्ते,

*How's life! Great I suppose. If you were to ask me I would say life is at the positive peak of a sine wave as I experience the pleasure of presenting the third volume of 'KSHITIJ' to you. With many positive aspects like optimistic thinking, constructive criticism and co-operation to the hilt on my side, the best was bound to occur and it took the form of 'KSHITIJ'.*

*As you leaf through this magazine you will probably wonder why an engineering college magazine should be carrying articles apart from technical articles. The primary reason is that students opting for professional courses rarely get a chance to express their thoughts and ideas. What with termworks, assignments and frequent exams looming large over their heads, non-technical ideas are simply crushed under the weight of heavy studies. A college magazine is therefore by far the best medium for the students to reveal their suppressed talents and this magazine aims to achieve precisely this objective.*

*We are living in a world of high tech. H-D TV, permanent space stations, CATSCAN, Robots, Fifth generation computers etc. effectively symbolize the influence of high technology on our lives. Designs of complex power plants, nuclear establishments, interfacing of different control instruments with micro-processor can be obtained very easily using CAD. Our guest column features an informative article on CAD/CAM by an eminent personality in this field Dr.C.Amarnath from I.I.T Bombay.*

*Tell me, do you spend your evenings or for that matter your free time with people who talk in a humorous way and keep you in splits all the while or with people to whom Humour has wished adieu long back? You will definitely agree that humour be it at work or at home or at social outings is a must for a healthy development of mind and body. Our guest column features brief excerpts from the book 'Humour And Productivity' by Dr.Ramani, Director of NITIE.*

*Life without music is like eating food without salt. In this tension ridden life of ours, music acts like a reverse catalyst, something that helps you unwind the trials and tribulations of day-to-day life. We have heard a lot of people sing classical songs, talk about classical music but no one has put the different raagas on paper in a manner that a layman can understand. This magazine carries an article to that effect.*

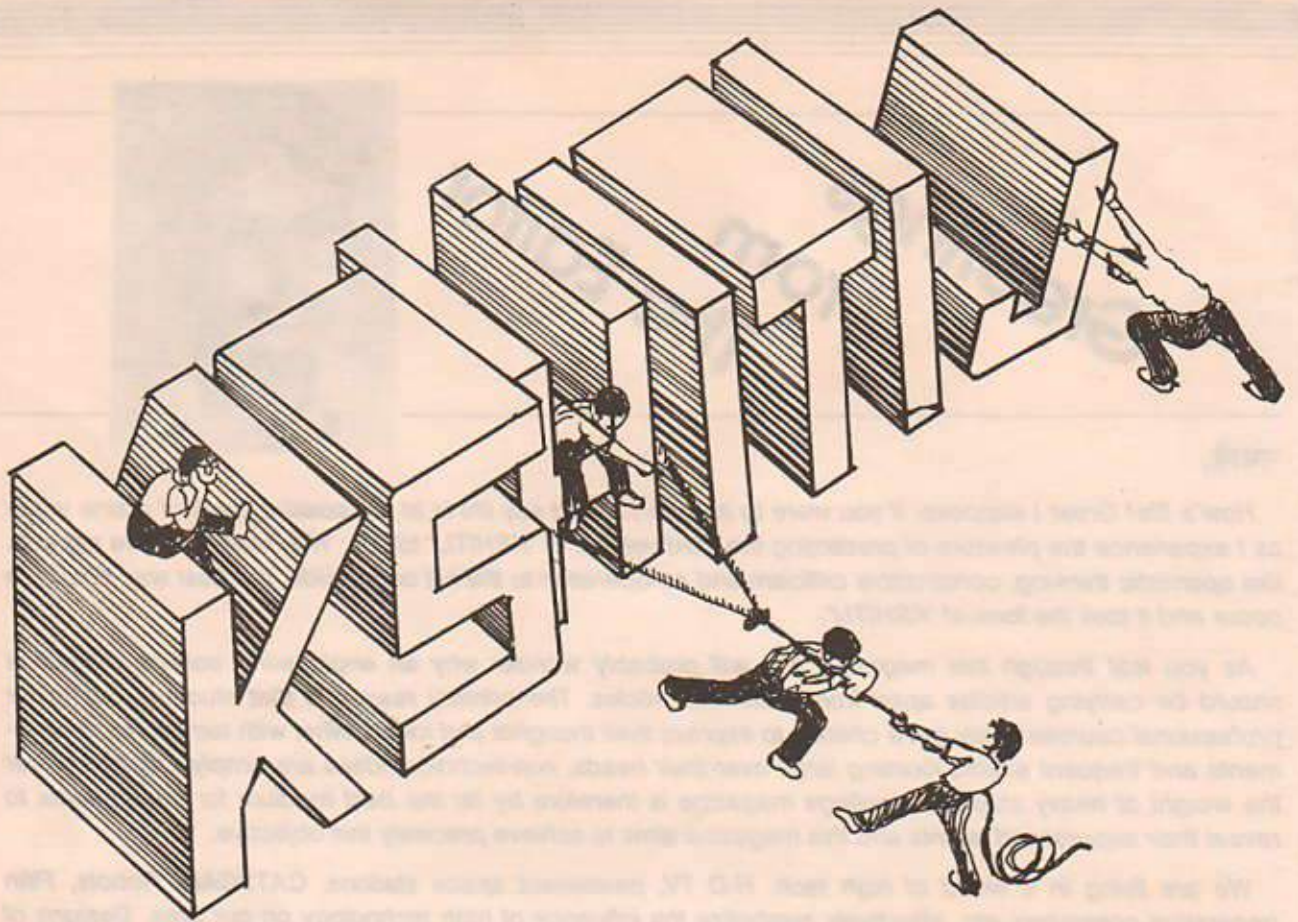
*Regional languages and English enjoy the same status in our society. By the way, are you a tea addict or a supporter of Nelson Mandela's cause? Have you ever had the experience of travelling in a local train when 'Bhajans' in praise of the 'Almighty' are in full flow? Did I hear a big yes? If so then I can hear the regional section saying, "Hello. Welcome to the world of Rhythm and Blues." I also hear a faint no. **Don't worry, Be Happy.** The other articles in the regional section may just be your cup of tea.*

*And last but not the least a big thanks on behalf of the Magazine Committee to all the students and staff Members who helped in bringing out this volume of 'KSHITIJ'.*

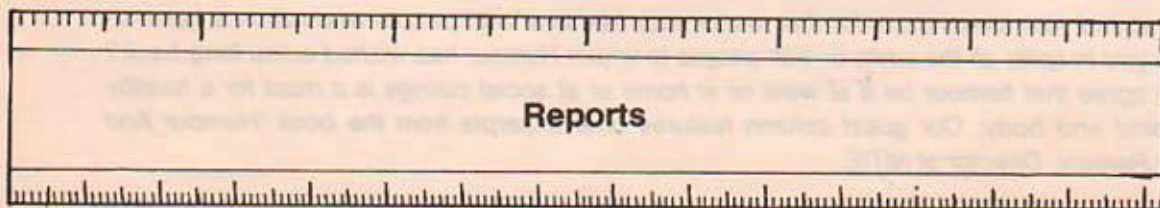
सुखद वाचन की कामना करते हुए मैं आपसे बिदा लेता हूँ। फिर मिलेंगे।

*Aikhil Rao*





## Contents .....



### Reports

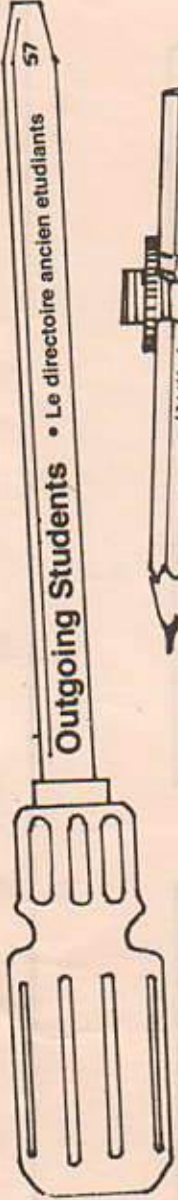
• Principal's Report	— G.K. Sashte	7
• Students' Council 1989-90	— Anil Jadhav	10
• A.M.T.E.S.	Ashok Kurup	13
• E.E.S.A.	Bhavesh Mehta	14
• A.P.E.S.	Raviganesh	14



The concepts of engineering no longer hold true. Today, no single branch of engineering can survive without taking aid from others. Especially Mechanical engineering has no future without Electronics. Our cover page stresses precisely on the fact that, when Mechanical and Electronics combine together, they bring out newer horizons' of technology and prosperity.

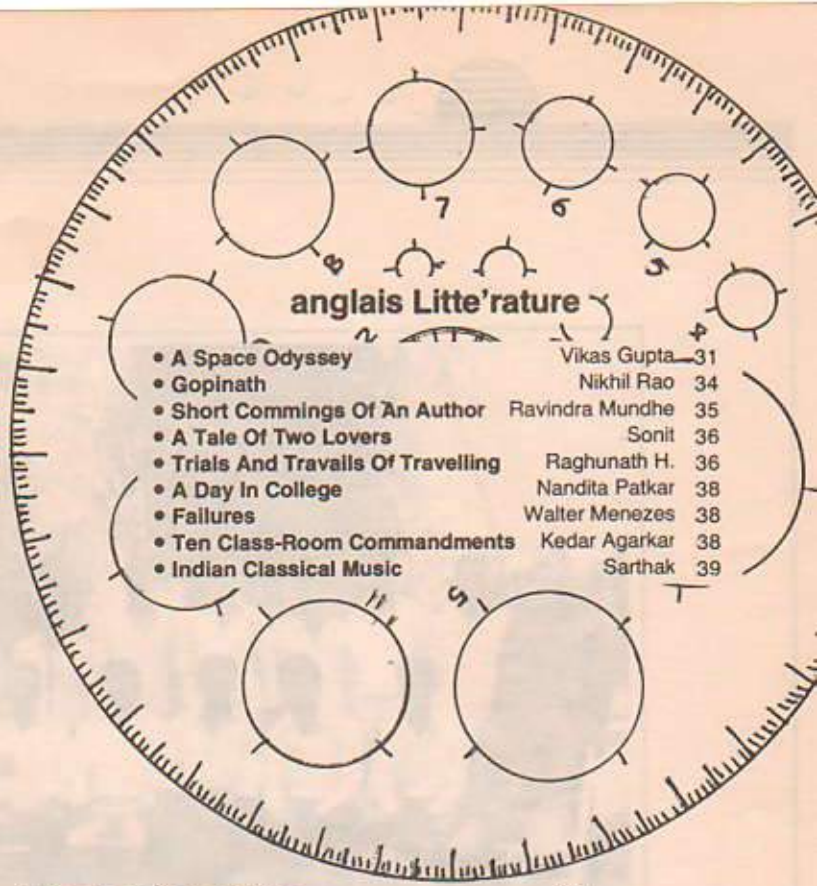
—Mahesh Karlekar





## Technical and Professional Articles

- Guest Articles**
- CAD/CAED/CAM  
Dr. C. Amarnath 19
  - Humour And Productivity  
Dr. S. Ramani 25
  - Instant Colour Film  
Savio Remedios 27
  - Space Survival  
Rajesh Jasani 28



- anglais Litterature**
- A Space Odyssey Vikas Gupta 31
  - Gopinath Nikhil Rao 34
  - Short Comings Of An Author Ravindra Mundhe 35
  - A Tale Of Two Lovers Sonit 36
  - Trials And Travails Of Travelling Raghunath H. 36
  - A Day In College Nandita Patkar 38
  - Failures Walter Menezes 38
  - Ten Class-Room Commandments Kedar Agarkar 38
  - Indian Classical Music Sarthak 39

- \* आपलं मराठी वाङ्मय मंडळ ..... ४७
- \* महाभारत: एक शाश्वत सत्य शिल्पा वैद्य ४८
- \* चहाख्यानम्! अनिल य. जाधव ४९
- \* भजन आणि प्रवास विनायक म. गटले ५०
- \* अश्वमेधाचा वारू मयुरेश नगरकर ५२
- \* एकदा मला कधीतरी.... महेश कार्लेकर ५२
- \* खंत महेंद्र पाटील ५२

## भारतीयम्

- \* हिन्दी बोलना हमारी Duty है नरेश पाचाल ५३
- \* महफूसियत की तलाश प्रीती गोयल ५३
- \* इनसानियत को मृत्यु - दंड विजय रायसिघानी ५३
- \* अनजाना अपनापन प्रीती गोयल ५३
- \* नेल्सन मंडेला ने..... नरेश पांचाव ५४
- \* दरिद्रता नरेश पांचाव ५४
- \* आगे भावेश मखेना ५४
- \* अक सपनुं प्रवासनुं दरेश मखेना ५४



In case of Mahendra Patil,  
his sketches hardly need any explanation.  
His brushes speak for themselves.  
Mahendra can bring out essence of any idea  
and make them possible on paper.

Hat's off to Mahendra!!







**NON-TEACHING STAFF**

*Hidden pillars*



**WORKSHOP AND LAB TECHNICIANS**

*No comments!!(for smooth submissions)*





**TEACHING STAFF**

*Unity in Integrity (Just for a snap?)*

### NON—TEACHING STAFF

*(Left to Right) Standing:* MR.P.M.Joshi, Mr.P.N.Pandit, Mr.D.A.Dait, K.T.Chandrapal, Mr.J.S.Tiwari, Mr.Surendra Tiwari, Mr.Mangal Chand, Mr.G.A.Baing, Mr.J.R.Makwana, Mr.H.P.Tiwari, Mr.S.P.Mishra.

*Sitting:* Mr.D.D.Joshi, Mr.B.S.Kubal, Mr.A.B.Kunder, Mr.C.R.Mohandas, Mr.N.A.Gandhi, Prof.G.K.Sashte (In-Charge Principal), Mr.P.S.Choksi, Mr.P.R.Sharma, Mr.S.K.Shetty, Mr.K.Ramachandran, V.S.Shivale.

### WORK SHOP AND LAB TECHNICIANS

*(Left to Right) Standing:* Mr.J.L.Sawant, Mr.T.Pandey, Mr.R.K.Vishwakarma, Mr.B.K.Chavan, Mr.R.N.Upadhyay, Mr.V.K.Tiwari, Mr.G.G.Madhavi, Mr.S.k.Varghese, Mr.M.S.Miotry, Mr.A.V.K.Nair, Mr.R.V.Patre, Mr.C.D.Mankame, Mr.V.P.Pandey.

*Sitting:-* Mr.V.D.Ranbhare, Mr.R.P.Devanand, Mr.S.N.Kankalkar, Mr.R.P.Talele, Mr.S.S.Sawant, Prof.G.K.Sashte (In-Charge Principal), Mr.B.P.Dabholkar, Mr.S.B.Thokale, Mr.B.Nair.

*(Left to Right) Standing:-* Mr.T.P.Prabhakaran, Mr.R.K.Jain, Mr.S.S.Thakur, Mr.R.Baiju Raj, Mr.P.P.Premchandran, Mr.K.Jaypalan, Mr.A.S.Desai, Mr.K.Sridharan, Mr.A.S.Thosar, Mr.A.V.Gupta, Mr.P.Nageshkar.

*Sitting:-* Mrs.S.R.Vaze, Mrs.B.Sheela, Prof.M.C.Peter, Prof.B.B.Mathur, Prof.G.K.Sashte (In-Charge Principal), Mr.N.Ramaswamy, Dr.A.K.Choudhary, Mrs.N.M.Kumthekar, Mrs.L.R.Vyas.





## Students' Council:- 1989-90



**YOGESH BAJAJ**  
CULTURAL SEC  
*Anybody can beat*



**ANIL JADHAV**  
GENERAL SEC  
*Spirit behind the panel*



**NIKHIL RAO**  
MAGAZINE SEC  
*Kashitj minus Nikhil = Ni(khi)L*



**PRAFULLA DAREKAR**  
YOUTH FESTIVAL SEC  
*Making magic out of curds*



**PRASAD JOSHI**  
CRICKET SEC  
*Glorious Innings*



**ANAND KUMAR JHA**  
ATHLETICS AND AQUATICS SEC  
*Babul ki duayen leti JHA*



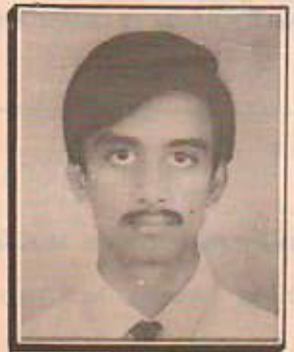
**MAHENDRA PATIL**  
WALLPAPER SEC  
*If brushes could speak...*



**GIRIJA VELANKAR**  
LADIES REPRESENTATIVE  
*Handle with care*



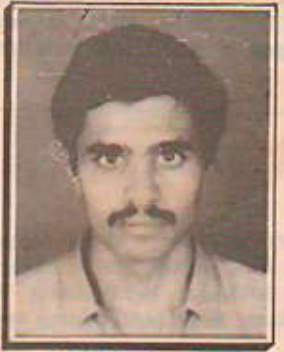
**MANISH VYAS**  
JI YOUTH FESTIVAL SEC  
*Mahabharat se Ramayan tak*



**KANAN KRISHNAN**  
INDOOR GAMES SEC  
*Kah(N)an Gaye woh T-shirt??*

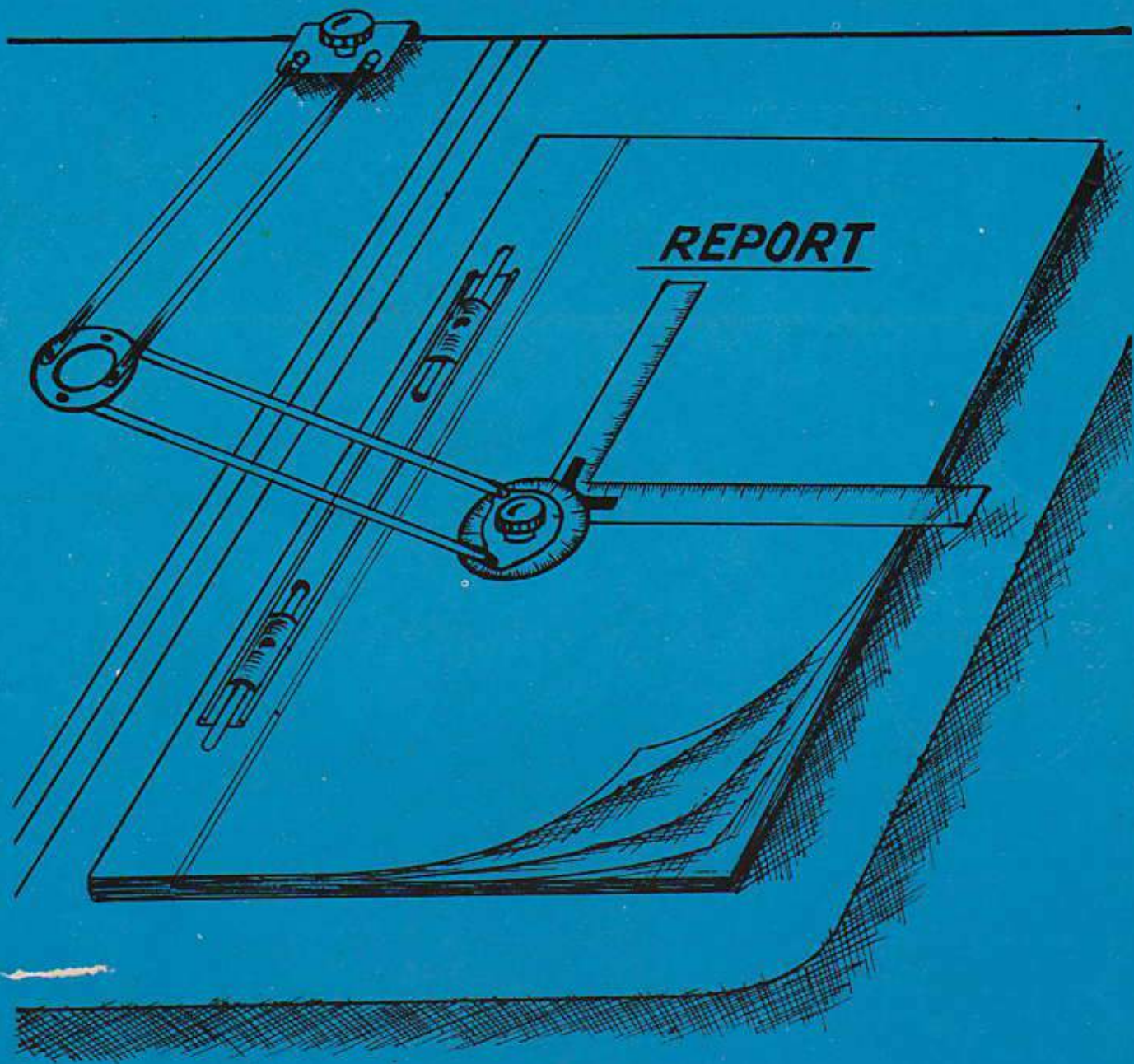


**RAHUL DESHMUKH**  
MINOR GAMES SEC  
*Too Minor to be Major*



**DINESH GADGIL**  
OUTDOOR GAMES SEC  
*Man behind racket now behind bars*









The Spirit of the College Symbolised by our Principal (In-Charge) G.K.Sashte





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## Principal's Report For The Academic Year 1989-1990

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—G.K.SASHTE

The college was started in September 1983, as non-aided institution sanctioned by the Government of Maharashtra and affiliated to the University of Bombay. The college has overcome its teething problems and has established its own identity.

The infrastructural facilities like buildings and equipment, workshop machinery etc. have been established. The Machine shop, Fitting shop, Forging shop, Carpentry shop, Welding shop, Fluid Mechanics Lab. and Heat engine laboratory have been housed in the workshop building, while in the Main building provisions have been made for the Administrative Office, Lecture Halls, Drawing Halls, Seminar Halls, Laboratories, Recreation Room, Badminton Hall, Library, Computer Center and Auditorium. At present total area of One Lakh sq.ft. including workshop building is made available. Recently the Government of Maharashtra has sanctioned additional F.S.I for the college building to construct the 3rd and 4th floors extension of the Main college building which will provide additional area of 22,800 sq.ft. for the additional lecture & drawing halls.

At present the college imparts instructions in the branches of (i) Electronics Engineering (ii) Production Engineering and (iii) Machine Tool Engineering with an intake of 90, 60 and 30 seats respectively. In addition to the present courses it is proposed to introduce Mechanical Engineering and Computer Engg. and also to raise the intake of Electronics Engineering from 90 seats to 120 seats in the near future.

The college is well equipped with all required machinery and equipment. The total expenditure incurred on workshop machinery and equipment is now Rs.52,90,000. It is expected that we will purchase equipment for another Rs.10,00,000 in the next year.

1568 books have been added to the library during the last two years making the total no. of books in the Library to 5410. Also about 21 journals, both Indian and foreign have been subscribed.

The College lays stress on the quality of instructions, hence several measures have been introduced to improve the standard of teaching. The members of faculty are sponsored for M.E./M. Tech courses. They are also encouraged to attend the seminars and refresher courses. The qualified experts from the Industries and experienced teachers from well established institutions like I.I.T or V.J.T.I are invited as Visiting faculty by the college.

A committee of the Bombay University visited the college on 11th October, 1989. It was headed by Dr.S.N. Deshmukh and was constituted of six other members. The committee went through the facilities including class rooms, library, laboratories, equipment etc. Also the Local Managing Committee is due to visit the college in connection with affiliation of the college to Bombay University for the academic year 1989-90.

The students of the college have shown great interest and enthusiasm in various activities. The Association of Production Engineering students and Electronics Engineering students association have been formed. During the year 1989-90 the Association of Machine Tool Engineering students was formed. It was inaugurated at the hands of Dr.S. Ramani, Director, NITIE, Bombay.

Activities of these associations involve organising industrial visits, publication of bulletins, exhibitions of wall papers and organising technical film shows.

About 80 students from our college took active part in the "Engineering festival" organised by the Institution of engineers (India) on Saturday March, 17, 1990. They participated in group discussion, engineering



quiz, extempore speech, personality contest, dramas and national integration musical performance. Three prizes were bagged by our students.

The students have taken considerable interest in extra curricular activities. The highlights of their achievements in sports and games are reported separately by the General Secretary.

The college has achieved good reputation during the short period. The percentage of passing students at S.E., in the last University examination held in June 1989 was between 96% and 100% in different branches of engineering. Five students from Electronics Engineering and 3 students from Production Engineering secured the place among the top ten rank holders at B.E. University examination held in June 1989.

There was a great rush for admissions to First year Engineering during the academic year 1989-90. The branchwise percentage of the last candidate admitted was electronics—94%, Production—90.88% and Machine Tool 90%.

Dr.S. Narayana Iyer, Principal resigned in November 1989 and Prof.G.K. Sashte, Head, Electronics Engineering, has taken charge as In-charge Principal.



### MERITORIOUS STUDENTS APRIL/MAY 1989 EXAMINATIONS

<b>FIRST YEAR:</b>		Rank at College
Lewis Derrick J.		1st
<b>SECOND YEAR:</b>		
<b>ELECTRONICS</b>		
Soman Manoj S.		1st
<b>PRODUCTION</b>		
Remedios Savio S.		1st
<b>MACHINE TOOLS</b>		
Gumaste Sudhendra R.		1st
<b>THIRD YEAR:</b>		
<b>ELECTRONICS</b>		
Sathe Saleel B.		1st
<b>PRODUCTION</b>		
Kochar Parambir Singh		1st
<b>MACHINE TOOLS</b>		
Mesina Omez S.		1st
<b>FINAL YEAR:</b>	Rank at College	Rank at University
<b>ELECTRONICS</b>		
Havia Paresh J.	1st	2nd
Sigana Harvinder O.	2nd	3rd
Rajesh Natarajan	3rd	4th
<b>PRODUCTION</b>		
Desai Vidhyadhar S.	1st	4th
F.amaswamy Krishnan	2nd	5th
Ravi Sarangpani	3rd	6th

### MACHINE TOOLS

Pawar Milind V.	1st
Savla Prakash D.	2nd
Shringarpure Nilesh A.	3rd

### Achievements Of Our Students At Various Inter-Collegiate Competitions

#### 1988-89:—

#### ROTARACT:—

Event	Name	Prize
Light Classical	Sarthak Dasgupta F.E.(ETX).	1st

#### ROONGTA:—

Film Song " "

#### SYNERGY (NITIE): -

Light Vocal " "

#### MOOD INDIGO '89

Light Vocal " "

#### A.B.V.P.

Light Vocal " 2nd

Classical Vocal " 3rd

#### PRATIBIMBH-'89

Light Vocal " 2nd





## Students' Council — 1989-90

ANIL JADHAV Gen. Secretary



It gives me immense pleasure in presenting before you, a brief report of the activities of the KJSCE Students Association for academic year 1989-90.

The year started with the F.ES presenting a entertaining programme on occasion of 'Freshies Eve' which was held under guidance of Prafulla Darekar and Bajaj Yogesh.

After the elections for various Posts were held, the annual meeting of the Students' council which was presided by President, Chairman and Vice Chairman was called on 29 Jan.90. Various proposals for sports, cultural and other activities were discussed.

"Blood Donation Camps" were organised by Students' Association in both the semesters. The donation camp was initiated by chairperson Mrs.N.M. Kumthekar and was assisted by student council members. A Total of 90 bottles of blood were collected during the donation camp.

In continuing with our tradition, our college this year too actively participated in various inter collegiate youth festivals and competitions, and won prizes. The prominent among them were.

- \* MALHAR — Organised by St Xaviers.
- \* MOODINDIGO — Organised by I.I.T Bombay.
- \* YOU-89 — Organised by Bedekar college.
- \* Engg. Festival — Organised by Institute of Engineers.

Our college presented a cultural programme at Engg. Festival organised at Institute of Engineers, which was greatly appreciated.

The sports activities began in the second half of the year.

The inter-branch cricket tournament held at Matunga gymkhana was won by electronics students. Mrs.N.M. Kumthekar fetched the sponsorship for this year's Inter-Engg. cricket tournament organised by our college. Cricket secretary Prasad Joshi's planned and tireless efforts, enabled the matches to be played smoothly at Shivaji Park Maidan. The entire credit for the success goes to him and Kanan Krishnan. Sardar Patel College of Engg. emerged victorious with Shah & Anchor Kutchi College of Engg. finishing second.

The other games which received active participation

were: Table Tennis, Badminton, Chess and Carrom. This year girls too participated in various sports events. The herculean task of organising the above events was efficiently handled by Kanan Krishnan (Indoor game sec.), Rahul Deshmukh (Minor games sec.) and Girija Velankar (L.R.). The credit for Annual Athletics meet goes to Anand Kumar Jha.

Various novel activities this year included the 'College Tie and Saree day' initiated by Bajaj Yogesh and staff sports organised mainly by Prof.Gupta and Prof.Nageshkar. Both activities were successful achievements of Students' association.

Annual social-90 was held on 31st March 1990.

The variety entertainment program in the cultural fete included—

- \* Ramayan:— A musical drama; directed by Manish Vyas.
- \* Solo Dance:— Bhakti Rathod.
- \* Classical Music:— By Prahladsinh Jadeja and Others.
- \* Break-Bhangara:— Choreographed by Manish Vyas.
- \* Solo Dance:— Anupama Aglave.
- \* The World this week:— T.E. Production.
- \* Banjara Dance:— T.E. ETX Girls.
- \* Orchestra:— Conducted by Anil Jadhav and compered by Mahesh Karlekar

The world this week was reckoned in esteem by the audience. The entire entertainment programme was a grand success and the credit goes to Manish Vyas, Mahesh Karlekar, Nikhil Rao & Savio Remedios. Food and other departments were handled efficiently by Prafulla Darekar, Prasad Joshi, Patkar Santosh and Kanan Krishnan. And last but not the least the stupendous success of this scintillating Eve is accredited to our cultural sec. Yogesh Bajaj.

My profound thanks to all my fellow somayites, both named and unnamed, especially the members of Students' Council and the teaching staff, as well as the non teaching staff for their bubbling enthusiasm and tireless efforts which made this year's activities 'a success story.'

\* \* \* \*

*As long as we are lucky we attribute it to our smartness, our bad luck we give the Gods credit for.*



**MALHAR-'88**

Event	Name	Prize
Freeze (Still Life)	Mahendra Patil S.E. (PROD)	3rd

**1989-90:—****MALHAR-'89**

Event	Name	Prize
Classical Vocal	Sarthak Dasgupta S.E. (ETX)	1st
Face Value (Portrait)	Mahendra Patil T.E. (PROD)	2nd

**HMV (LION'S CLUB)**

Event	Name	Prize
Classical Vocal	Sarthak Dasgupta	1st

**UNIVERSITY:—**

Event	Name	Prize
Classical Vocal	Sarthak Dasgupta	3rd

**COMPETITION ROTARACT:—**

Event	Name	Prize
Light Classical	Sarthak Dasgupta	1st

**A.B.V.P.**

Event	Name	Prize
Classical Vocal	Sarthak Dasgupta	3rd

**AVISHKAR**

Event	Name	Prize
Light Vocal	Sarthak Dasgupta	2nd

**SYNERGY**

Event	Name	Prize
Classical Vocal	Sarthak Dasgupta	1st
Light Vocal	"	"

**A.D. SHROFF MEMORIAL ELOCUTION COMPETITION**

Event	Name	Prize
English Elocution	Sis.Meenal Kamat F.E. 'A'	3rd

**ELOCUTION COMPETITION (BEDEKAR COLLEGE)**

Event	Name	Prize
English Elocution	Sis.Nandita Patkar F.E. 'A'	1st

**ELOCUTION ON "BUILDER'S DAY" BY ALL INDIA BUILDER'S ASSOCIATION.**

Event	Name	Prize
English Elocution	Atul Sethi F.E. 'C'	Consolation

**AARAMBH-'89:—**

Event	Name	Prize
Twist The Tune	Shankar Ghosh F.E. 'C'	2nd

**AAROHAN:—**

Event	Name	Prize
Twist The Tune	Shankar Ghosh	3rd

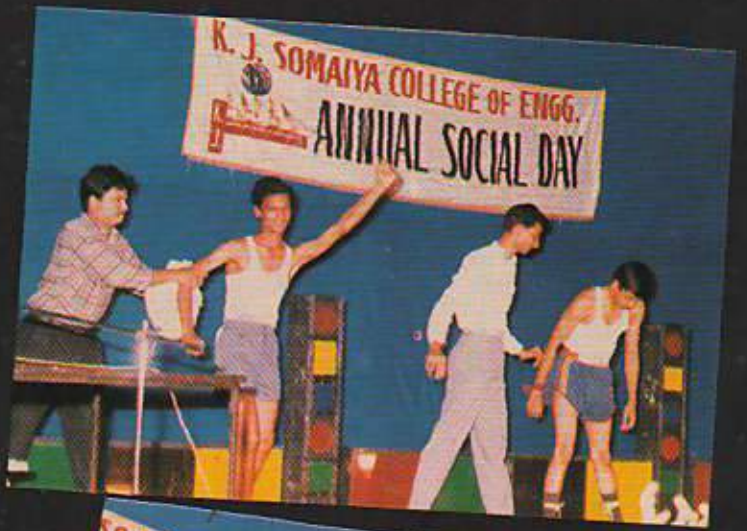
**ENGINEERING FESTIVAL '90—INSTITUTION OF ENGINEERS**

Event	Name	Prize
English Extempore Group	Atul Sethi	2nd
Discussion	Haviganesh V. T.E. (PROD)	1st
Personality Contest	Mahesh Menon T.E. (PROD)	Runner-UP.

GIVE ME  
YOUR SCIENTISTS,  
YOUR DOCTORS,  
YOUR TEACHERS,  
BUT KEEP YOUR  
OTHER EXPORTS  
TO YOURSELVES









COLLEGE AT A GLANCE

Electronics & Instrumentation Lab



Computer Center



Hydraulics Lab



Metrology Lab

Library





## A. M. T. E. S

ASHOK KURUP

The Association of Machine Tool Engineering students is an association which was formed in order to bring all the Machine Tool Engineering students on a common platform to work together towards the common objective of overall development of each student in the academic field as well as extra curriculars.

The objectives of our association are—

- Seminars: Guest lectures by Eminent personalities.
- Computer familiarisation programme.
- Personality development.
- Speaking for success.
- Audio visuals on emerging new trends.
- E D P.
- Face to face with industries.

The need for the Association was felt as Machine Tool Engineering being a new branch, which is totally industry oriented and fast progressing, the students should be brought abreast of the latest trends in the fields and also their theoretical knowledge should be supplemented with a practical view of the industry. To achieve this, all the students would have to come together and work in coordination with each other. The Association, thus tries to achieve this objectives and also provides for exchange of ideas between the

students.

The Association was formally inaugurated on 24th September 1989 at a grand function organised in the newly-built seminar hall of the college. The inaugural lamp was lit by Dr. Ramani, the Director of NITIE, an eminent personality in the engineering field today. Dr. Samandham, Professor at NITIE, another eminent person in CAD/CAM also graced the occasion. Our ex-principal, Dr. S. Narayan Iyer also graced the occasion and congratulated the members of the Association. Heads of Departments, staff members and students all turned out in large numbers and made the occasion a grand success.

The Association basically consists of a Joint Action committee, which is a committee of five representatives from each class; and an Executive council of 8 members elected from the Joint Action committee.

The Association's first endeavour was a film-show on drawing fundamentals, Production Process, which was a grand success as there was a large turnout of students as well as staff members.

The future plans of the Association are organisation of Guest lectures by eminent personalities in the field of Machine Tool Engineering and Robotics.



*Lighting before a humorous and enlightening talk.*

— Dr. S. Ramani





## E.E.S.A .... TOWARDS HIGHER LOGIC LEVELS

**BHAVESH MEHTA** Treasurer



Joint Secretaries (L-R)—Nikhil Rao, Neelesh Pandit, Ajay Rane.



Bhavesh Mehta  
Treasurer

Ever since the inception of E.E.S.A. we have been moving forward, not in gigantic leaps but a humble steady and sure approach. Our organisation has been the envy of others in many respects and we definitely hope to achieve even greater heights towards knowledge, understanding and success.

E.E.S.A. has always strived towards activities that have the essence of information and a wide spread of knowledge. We would like to summarise the events that E.E.S.A. has fulfilled during the academic year 1989-90.

- 1) E.E.S.A. monthly magazine for Mar. 1989.
- 2) Film shows for T.E. & S.E.
- 3) E.E.S.A. monthly magazine for April 1989.
- 4) Project Guidance lecture held in Oct. 89. where our ex-students who were the speakers spoke in much detail and the guidance which was delivered was highly beneficial for our members.
- 5) Two monthly magazines in Oct. 89 & Nov. 89.
- 6) E.E.S.A. had organised self teaching computer lectures in Mar. 1990. Under this the students had a broad based curriculum which included MS-DOS, AUTOCAD, PC-TOOLS and TURBO PASCAL. DUE respects to Prof. Nageshkar whose guidance helped us immensely.

Besides all these E.E.S.A. had organised industrial visit to PUNE which had to be postponed due to inconvenience to the students. Many other events like Self Developed Project, Visits etc. could not get off ground due to lack of response.

E.E.S.A. has been ably carried forward under the inspiration and meticulous work of Nikhil Rao (Joint sec). We have also received able support from Ajay Rane, Samir Merchant, Neelesh Pandit, Suresh Iyengar, Deepa Ramani (all S.E.) and many others without whose help many events would not have been so successful. E.E.S.A. looks forward to all members to make it a truly dynamic and commendable organisation. It looks forward to an continued enthusiastic response to fulfill more and more aspirations and make our organisation a truly enviable one.

Our organisation E.E.S.A. has been making steady progress under the chairmanship of Prof. G.K. Sashte whose vast experience and continued guidance have served like light houses to us. Lastly it also wishes to thank all for contributing to E.E.S.A. We hope in the coming years we will be more successful to achieve our goal of "TOWARDS HIGHER LOGIC LEVELS." So let's make E.E.S.A. proud or rather 'Mera E.E.S.A. Mahan'.

## THE A.P.E.S..... about US

**RAVIGANESH** Jt. Secretary

The Institution of Production Engineering U.K. has defined the Production Engineer as "one who is competent by reason of education, training and experience in technology and management to determine the factors involved in the manufacture of commodities and to direct Production Processes to achieve the most efficient co-ordination of efforts with due consideration to Quantity, Quality and Cost."

It is obvious from this definition that, students of this rapidly growing branch of Engineering need to have a consistent rapport with the industry and must keep in

touch with the latest developments in technology.

To substantiate these needs of budding Production Engineers, the Association of Production Engineering students was formed and officially inaugurated on 2nd September 1986. The objectives of the organisation are—

- to provide a common forum to bring all the Production Engineering students closer and to expose them to the various practical aspects of Engineering through technical film shows and industrial visits.





Joint Secretaries (L-R) —Vinod Giri, Raviganesh, Savio Remedios.

Rajesh Salian  
Treasurer

—to provide a common platform for all members to discuss modern developments in Production Engg. and related areas through lectures, bulletins and seminars.

In the past four years, since its formation the A.P.E.S has carried out wide ranging activities and has strived hard to achieve its objectives.

In order to enable students to be familiar with the industry and its working, the organisation has been arranging frequent industrial visits.

Visits to Mahindra and Mahindra Ltd., Mukand Ltd., Mafatal Engg. works, G.K.W Ltd., etc. in the past years have proved to be very useful to the students, as they have provided an opportunity to see 'the theory being applied in practice.'

The seminar on 'Computers In Industry' organised by the A.P.E.S on 22nd September 1988 at I.E., Worli was the most significant achievement of the organisation. This seminar was well attended by students from the various colleges of Bombay and also had several participants from the industry. Inaugurated by the then Minister of Education, Prof. Javed Khan, the seminar had eminent speakers from various fields, who enlightened the participants on some of the latest computer related technology such as CAD, CAM and Robotics.

With the college having acquired a 16 mm film projector, the A.P.E.S is now in a position to organise more technical film shows for its members. These film-shows help the students to understand various

processes, new developments in technology and trends in the industry in a very effective manner. Some of the films shown include welding, press working, casting, cutting tools, Capstan and turret lathes, CNC machines, N.D.T. etc.

The A.P.E.S bulletin has proved to be a very effective medium for students to communicate their ideas to each other. The bulletin, introduced with the main aim of acting as a practical supplement to the student's academic knowledge, has been well appreciated and has gathered responses, from sources outside the college as well.

The A.P.E.S wall paper has proved to be an excellent medium for students to give vent to their creative talent and at the same time help them to keep abreast with the latest developments in technology.

The group discussions, quiz competitions and extempore sessions organised by the A.P.E.S has also evoked a very positive response from the students.

The organisation has grand plans for the years to come. We will be organising several seminars and group discussions in near future. We hope to make the A.P.E.S truly an organisation of Production Engg. students, for Production Engg. students and by the Production Engg. students.

All this and a lot more depends on you. We look forward for your suggestions, criticisms and whole hearted cooperation as we march forward.....IN SEARCH OF EXCELLENCE.

\* \* \* \* \*

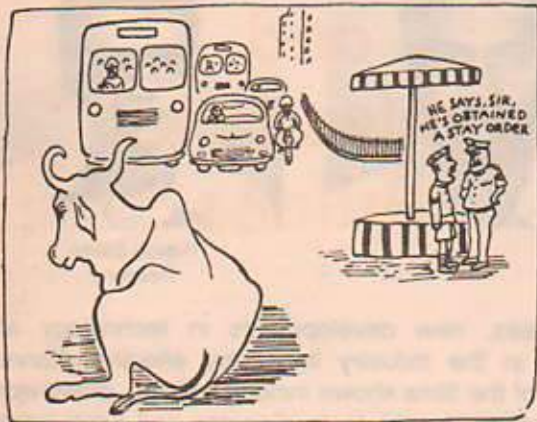
**Fame:** A pedestal on which the victim is placed in order to give the world a better chance to throw bricks at him.

**Teen-age:** The interval between pigtails and cocktails.

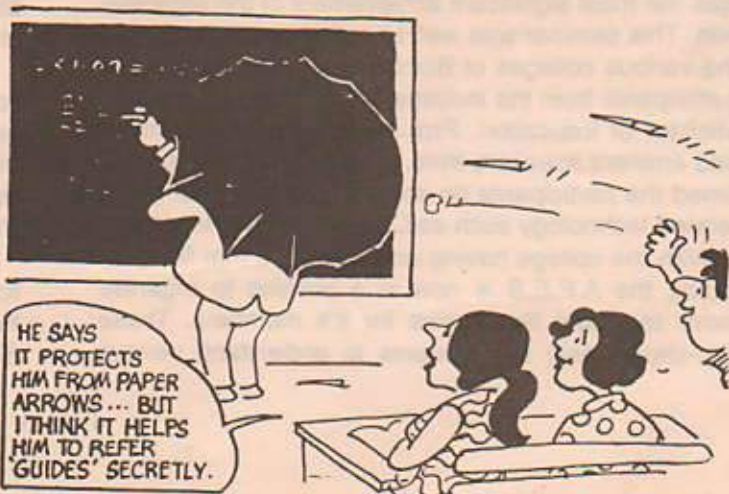
**Life:** A diary in which every man means to write one story, and writes another.

**April 1:** This is the day upon which we are reminded of what we are on the other threehundred sixtyfour.





16



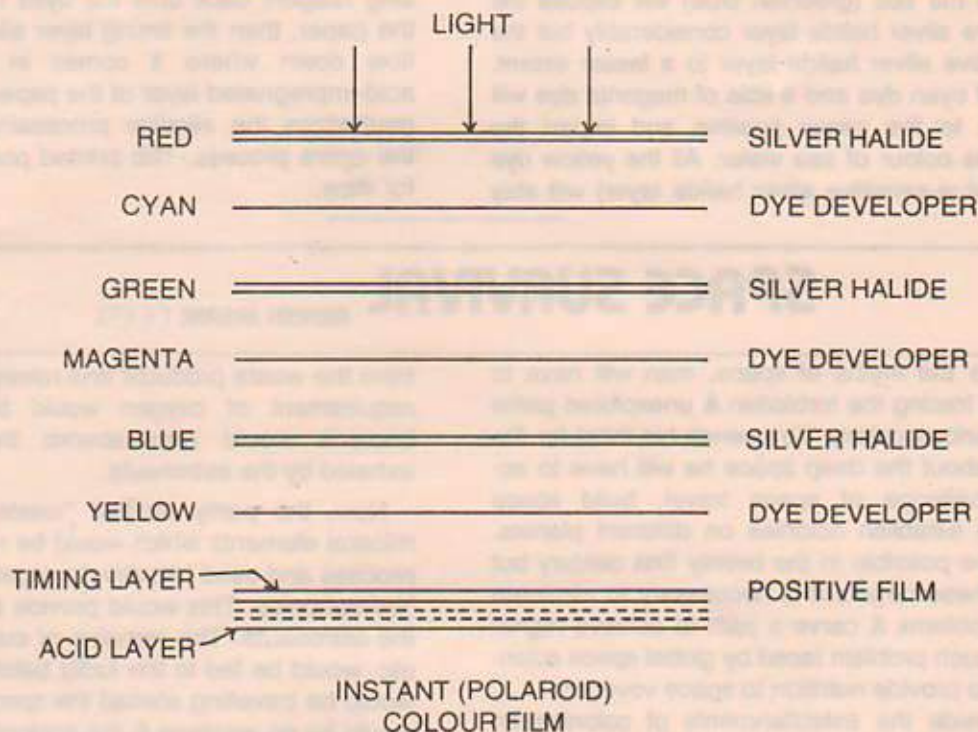
*'I'm giving education just one more try... if I fail again, I'm entering politics!'*





# INSTANT (POLAROID) COLOUR FILM

SAVIO REMEDIOS T.E. PROD



We often see tourists clicking away to pull off a fully processed colour photograph in barely a minute from their camera. It looks like sheer magic.

This is due to the invention of POLAROID PROCESS by Edwin H. Land of U. S. A. He was prompted to do research on instant film processing when his daughter asked him impatiently, after returning from holidays, how long she would have to wait to see the pictures. Land's efforts culminated in the production of a single colour print which could be produced in a minute in 1947. The prints had other advantages too, such as improved sharpness and freedom from graininess when compared with other films of equal sensitivity.

Light consists of three 'primary' colours, red, green, and blue. These have their 'complementary' colours. Cyan (blue-green) is complementary to red, that is, white light minus red. Magenta (blue-red) is white devoid of green, while yellow is complementary to blue (white minus blue). Also the mixing of two complementary coloured lights produces white light.

Instant colour film has alternate layers of silver halide and a dye developer. There are three silver halide layers, each sensitive to a primary colour, separated by three complementary dye-developer

layers. The arrangement of the layers is as shown in the figure.

Each dye-developer is affected by the silver halide layer above it. If a silver halide is not exposed when light of particular colour falls on it (since it is not sensitive to that colour), it allows the dye below it to seep through until it reaches the paper positive and gets deposited there on. But if a silver halide layer, being sensitive to a particular colour, does get exposed, it will not allow the dye below it to move down.

Thus when we photograph the sky, blue light from the sky falling on the film exposes the blue sensitive silver halide layer, but it leaves the green and the red sensitive layers unexposed. When the photographer pulls the film pack from camera, the film passes between two rollers which crush a pod containing a viscous alkaline processing reagent. This reagent spreads evenly between the negative (film) and positive (paper). The reagent activates the dye developer molecules. Since the green sensitive and red sensitive silver halide layers are not exposed by the blue light of the sky, the magenta and cyan dyes will flow down on to the paper. But the yellow dye below the blue sensitive silver halide layer (which is exposed) will remain in place. Once the magenta and cyan





reach the paper positive, they combine to form the blue colour of the sky.

Light from the sea (greenish blue) will expose the blue sensitive silver halide layer considerably but the green sensitive silver halide layer to a lesser extent. Thus a lot of cyan dye and a little of magenta dye will travel down to the paper positive and impart the greenish blue colour of sea water. All the yellow dye (below the blue-sensitive silver halide layer) will stay

put.

The positive layer is coated with an upper layer called the timing layer, which keeps the alkaline processing reagent back until the dyes have seeped on to the paper, then the timing layer allows the reagent to flow down where it comes in contact with the acid-impregnated layer of the paper positive. The acid neutralizes the alkaline processing reagent, halting the entire process. The printed positive is now ready for view.

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## SPACE SURVIVAL

RAJESH JASANI T.E.ETX

To explore the myths of space, man will have to take risks of tracing the forbidden & unexplored paths of this mysterious galaxy. To quench his thirst for the knowledge about the deep space he will have to accept the challenge of space travel, build space stations and establish colonies on different planets. This might be possible in the twenty first century but to achieve these targets it is necessary to eliminate the basic problems & carve a path to achieve higher goals. One such problem faced by global space scientists is how to provide nutrition to space voyagers.

Leaving aside the establishments of colonies on other planets, even a return trip to Mars (which is taking concrete steps) would take three long years and thus the basic problem of providing basic nutritional requirements need to be solved.

A solution to the above problem is to provide tin food but it is estimated that for a to and fro journey to Mars for a team of seven astronauts, 27,000 pounds of food and 37,000 gallons of water would be required which would amount for tremendous freight charges, add additional weight to the space craft and the side effects of tin food would disturb both physical & mental health of the astronauts.

The American & Soviet space scientists have started extensive research on this important project and have been partly successful in experimenting with hydroponics (i.e. cultivating vegetables in water containing essential minerals for plant growth) but this is not the only solution since along with vegetables, meat & milk and milk products should also be made available to the voyagers. This has led to formulation of ecological chain which balances all the factors & provides the basic requirements. This space ecological cycle can be summarised as follows:

The waste matter generated will be partly decomposed by bacteria and will be sent into a special filtration tank.

The filtration tank contains symbiotic bacteria which would absorb nitrogen and carbon-di-oxide

from the waste products and release oxygen thus the requirement of oxygen would be fulfilled. These bacteria would also absorb the carbon-di-oxide exhaled by the astronauts.

Now, the partly purified "waste" will still contain mineral elements which would be removed by special process and used to cultivate vegetables by means of hydroponics. This would provide a source of food to the astronauts. The remains of cultivation i.e. leaves etc. would be fed to the lucky batch of "Cattle" which would be travelling abroad the space ship. Thus there would be no wastage & the ecological cycle would be maintained besides the cattle would provide with milk & meat and also a means of experiment to the space scientists.

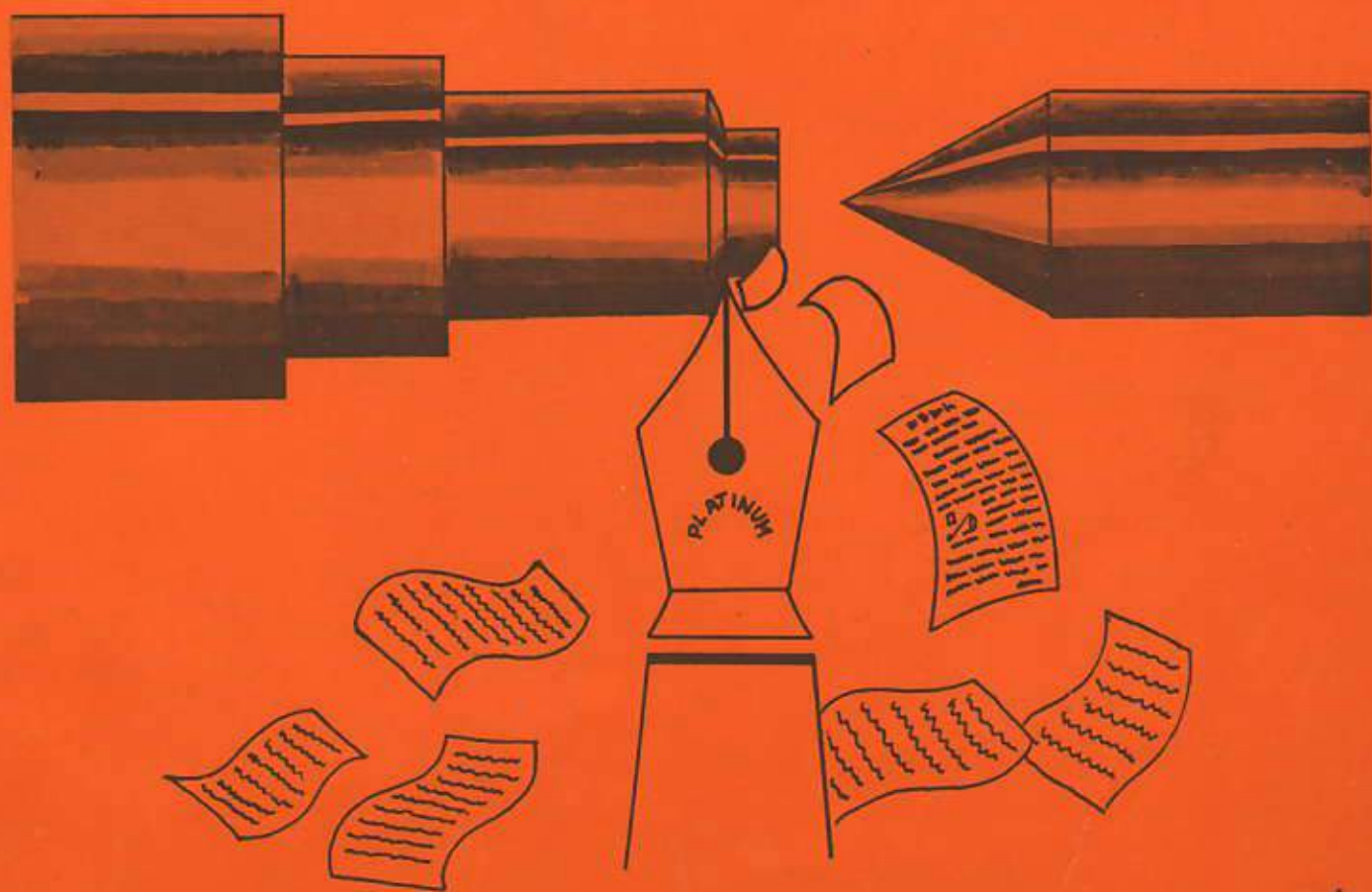
The water which is now drained of minerals (by-hydroponics) would be sent into a special unit where by it would be purified by subjecting to a pressure of 3000 pounds at a temperature of 375°C. This purified water can now be used again. Thus a perfect ecological balance would be set up with practically no wastage.

The other alternative to the, above problem is time travel. According to Einstein's theory of relativity, as the speed of matter increases, time advances at a slower rate. We know that the speed of light is  $3 \times 10^8$  m/sec. Now even if the space craft travels at a speed which is 1% less than the speed of light then the rate at which time advances is reduced by 70,000 times i.e. if people on earth finish their course of lunch and dinner 6570 times the time travellers need to have lunch only once i.e. nine earth years would mean only half a day of time travel.

How ever at present this is possible only in sci-fi films as the future of time travel looks bleak. Today we will have to be satisfied only with the space ecological cycle which provides a ray of hope towards the long cruise to explore the mysteries of the deep black space.



# Technical and Professional Articles







# CAD / CAED / CAM

by  
Dr.C.Amarnath,  
Robotics Laboratory,  
Department of Mechanical Engineering  
Indian Institute of Technology, Bombay

## DESIGN IN DAY TO DAY LIFE

Every human being is a designer be it a child who arranges toy blocks in a pattern or an adult who ponders over the size and shape of the shelf needed in the kitchen. An essential part of the design process is the ability to visualize and communicate the details of the design. Oral communication of such details is often lengthy and tedious. A picture serves the purpose better. The picture need or need not contain dimensions. The picture may or may not be on paper. A mechanic repairing your scooter fabricates the replacement from a picture (design!) contained most often not on paper but in his mind. The point being emphasized here is that at the day to day level a picture of one's idea and design are synonymous, and one tends to view the process of drawing as equivalent to designing. There maybe nothing wrong with this view but often one unfortunately comes across people who can prepare excellent sketches, but cannot provide sensible ideas for improving the layout of your office. Those who cannot sketch can seek the services of others, and now one observes a design team in action, explaining for example details of the kitchen shelf to a thoroughly harassed carpenter. A desktop computer with graphic capabilities could have been utilized for preparing the sketch, thus dispensing with the services of an extra person. The carpenter would have appreciated such a move as this leaves him only one person, the designer, who can now call himself a Computer Aided Designer, to contend with.

## COMPUTER AIDED DESIGN.

We have observed the action of a computer in day to day design process, and notice that it has aided the process of generating a picture of the design, but the carpenter ignorant of the limitations of computers may go around boasting that he is making a kitchen shelf designed by a computer! We notice that it is hence possible to confuse picture generation with design. The availability of a computer with the ability to draw, pictures and 3-D views in color with appropriate shadings would enhance our "design" capabilities enormously though it would be uneconomical to employ such techniques in household "projects".

The above simple design process (which does not obviously contain engineering content and can be im-

plemented on a computer using the simplest available "Graphics Package" could be called and is unfortunately called CAD!. Industry does use such CAD systems particularly for design of consumer products. In mass manufacture of shoes or chairs "design" would mostly comprise of generating a dimensioned drawing. Sometimes parts of engineering products are also designed in this fashion, examples being housings of commonly used machinery. Any drawing package would suffice for such tasks. There are however powerful packages specifically for use by architects and commercial artists which can produce pictures with a high degree of realism. An architect using such a package can layout the gardens, furniture and other interior details, and if the customer is not satisfied quickly change the design right in front of the customer's eyes. Such packages are also used by textile, garment, shoe, furniture and consumer goods manufacturers, who deal with products with little or no engineering content.


## THE ROLE OF THE PICTURE.

The link between design and manufacture, whether it be in a carpenter's shop or a cobbler's hut or an aircraft factory, is a picture. A picture is also needed when buying or selling engineering products. You would, for example, like to know the location and size of the bolt holes on the baseplate of the heavy motor you are purchasing, so as to prepare your foundation bolts. You would also like to know the overall size and shape of any protrusions on the motor body to plan the space requirements. The picture is thus a vital communication tool.

## PICTURES, COMPUTERS AND INFORMATION.

The picture in a CAD-CAM environment resides in a computer memory. Note that associated information like dimensions, bill of material, etc. also reside in the memory alongwith the picture. All the officers and engineers of an organization (designers, manufacturing personnel, sales and service engineers, purchase officers, etc.) can call the picture and associated information and examine it. All look at the same information, since all share the same database. This, non-distortion of information is one of the main advantages of computerization whether in engineering





mere guidelines. We shall now examine some of the packages available to the engineering designer but before doing so we shall examine a set of packages whose capability is equivalent to that of a DESIGN DRAUGHTSMAN.

Design draughtsmen are generally very experienced draughtsmen who over the years have picked up the technique of carrying out the necessary engineering calculations for designing simple and frequently used components (like keyways, flanges, bolts, couplings) and producing the corresponding manufacturing drawings. Numerous components of machinery are designed in this fashion, and the design draughtsman can relieve the designer from this tedious chore.

### COMPUTER AIDED DESIGN DRAUGHTING PACKAGES (CADD)

These are also called Parametric Shells. Example of one such shell is a commercial package entitled SYNTHESIS, which is built to handle graphics through AUTOCAD. SYNTHESIS is used for design drawing of standard components and systems. The user inputs simple design equations required to compute the product dimensions. Graphics permit the user to sketch the product with dimensions labelled as variables. The package assigns computed values to these "dimension variables" and draws the actual drawing of component to correct size and proportions. SYNTHESIS allows one to visualize changes needed in other sub-assemblies when dimensions of one sub-assembly are changed. (Sheet metal, Fabrication work, piping, standard machinery, chemical equipment, simple plastic molds, welded joints, etc. are some typical application areas).

### COMPUTER AIDED ENGINEERING DESIGN PACKAGES

We now come to the actual CAED packages. The packages available in this area can be broadly classified as packages for:

- \* Selection of sub system or components
- \* Design Analysis
- \* Engineering Analysis
- \* Engineering Synthesis
- \* Other packages used include

(a) Optimization packages (b) Numerical Analysis packages (c) Manufacturing Analysis packages (d) Performance Simulation packages and utilities for preparing say Material charts, Reports and for maintaining records of links between various documentation and drawings.

#### Data Bases/DBMS:

These are used for selection of sub-systems and

components and materials. These are essentially computerized catalogs.

**Shells for design Analysis: Electronic Spread sheet, TK Solver.** Design analysis is one of the most extensively used techniques for design of components. One such commercial shell "TK Solver" is used essentially for repetitive solution of engineering design equations. TK Solver permits one to try out all combinations of parameters and is useful when designing products using formulae from handbooks. It keeps track of variables, units, equations, etc. TK Solver is extremely powerful as one need not recast formulae to bring unknowns to one side of equation. TK Solver is also useful for arriving at a preliminary design needed for further engineering analysis.

### Engineering Analysis Packages:

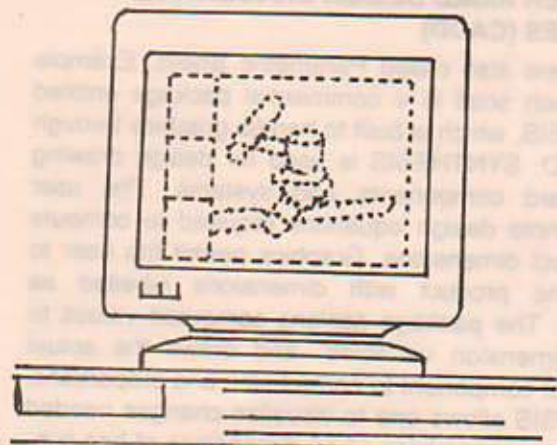
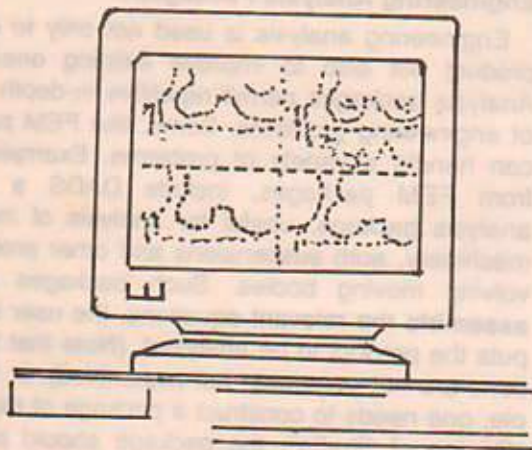
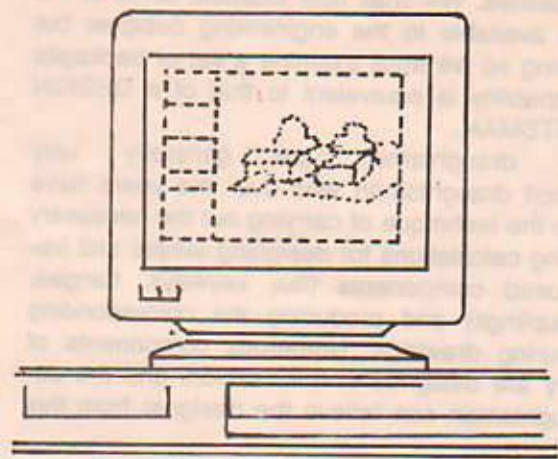
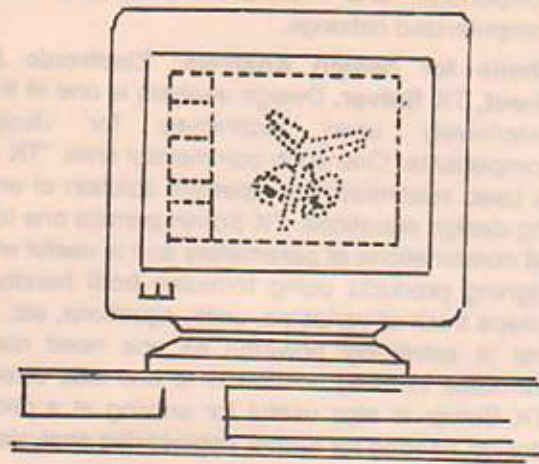
Engineering analysis is used not only to design a product but also to improve existing ones. Engg. Analysis packages permit repetitive in-depth analysis of engineering problems. Some, like FEM packages, can handle a variety of problems. Examples, apart from FEM packages, include DADS a dynamic analysis package, useful for analysis of motions in machinery, auto suspensions and other problems involving moving bodies. Such packages generally **assemble** the relevant equations, the user simply inputs the product to be analyzed. (Note that the equations are not generated but assembled). If, for example, one needs to construct a package of this type for "Design of Shafts", the package should permit the user to input the diameters of various steps, lengths of each step, location, magnitude and direction of loads (which need not all be in the same plane) number and type of support bearings (ball, roller sleeve etc.) and their locations. The package must be generalized i.e. it should be able to handle any number of steps and must be able to assemble the relevant equations and solve them and output the stresses, B.M. diagrams etc.

Since Engg. Analysis covers a vast domain the majority of packages available are not as general or as user friendly as FEM or the DADS package. Some of the "problem specific packages" available include those on Gear Design, Rotor Dynamics, Bearing Design, Heat Transfer and Piping system stress analysis. Many in-depth component design packages involve repetitive analysis and are utilized in particular by industries manufacturing products which have to operate with a high degree of reliability. The design of such special packages requires the services of experts in the relevant areas.

### Engineering Synthesis Packages:

In engineering synthesis (a process which is the op-





posite of analysis) we attempt to arrive directly at a solution given required performance criteria. The classic example of synthesis is the determination of geometric dimensions of a mechanism given the desired output motion. Packages entitled LINCAGES-4, LINCAGES-6 AND LINCAGES-N are examples of such packages and can handle 4, 6 and N link mechanisms respectively. It should be noted that very few engineering problems are amenable to engineering synthesis.

#### **Manufacturing Analysis and Performance analysis packages:**

These packages do not strictly belong to the domain of CAD-CAM, but are used occasionally. Let us assume that a gearbox has been designed. It is well-known that gear teeth are not perfect involutes or cycloids. This is because these teeth are "corrected". The output of such gear pairs is not a constant velocity. There is a slight fluctuation of angular velocity during each cycle of tooth contact. These fluctuations in

velocity would obviously lead to accelerations and decelerations of output (during part of a revolution) and since shafts have inertia this may lead to torsional fatigue loading. These problems become critical at high speeds, and it is better to conduct such performance evaluation studies beforehand.

Caution is necessary when conducting and using results of such studies in real life problems. Numerous parameters (many unknown and unanticipated) affect real life performance, and unless such computer studies are based on knowledge gained from earlier experiments on prototypes or field testing experience the results of the computer studies are likely to be at variance with the actual state of affairs leading to catastrophic failures of products. (This warning is from a recent U.S. Dept. of Defense study. Some advanced weapon systems were recently developed using only computer simulations for studying the performance of the systems. The engineering designs were then based on the results from this "Computer Experience". The designs were directly fed to a CAM system which in turn fed appropriate data to N.C.



machines which spewed out the weapons. (No prototypes were built!). Needless to say none of the weapons withstood the simplest field trials and the investigation into the billion dollar mess is still going on.)

### COMPUTER AIDED MANUFACTURING.

Once design or engg. design is completed, one has at his disposal a pictorial representation of the product. This could be in the computer memory or on paper. The availability of the drawing of a product in the memory of a computer permits us to use this source as an input to the manufacturing systems. This is the area of CAM, which has many subsets, a few of which are discussed below.

#### Computer Aided Machining:

The impetus to CAM was provided by the availability of N.C. machines. The computers controlling the N.C. machine can be interfaced to the CAD-CAM system. Programs known as Post-Processors convert the part drawing into a code suitable for operation of the N.C. machine.

Apart from the above there are programs which examine a drawing of a part which is to be cast or forged. It is well-known that dies are required for this purpose. The programs automatically generate the path of the milling tool, which manufactures the requisite dies.

#### Computer Aided Manufacturing:

Here we have, for example, programs which can work out the path of a gas cutting tool required to cut steel plates. The input to the program is a drawing of the final sheetmetal product. Using a "Sheetmetal Unbending" or a "Flat Pattern Development" program the computer first works out the "development" before computing the cutter's path.

#### Other CAM packages:

There are numerous other CAM packages, and one example "Computer Aided Process Planning" is discussed here. A process plan is prepared before a part is manufactured. Computers can be programmed to develop the plan, using the pictorial data available in its memory. Process planning requires experience. To enhance the capability of such programs the knowledge of highly skilled process planners is captured using EXPERT SYSTEMS. Such expert systems are easily built today using "Expert System Shells". (One such shell (entitled VIDWAN) which runs on a PC is available at a very low cost from NCST, Juhu.)

### PREPARING PACKAGES

The algorithm and formulae needed for developing CAD-CAED-CAM packages may be prepared by engineers in the respective disciplines while the coding

and preparation of the utilities and user interfaces is better left to specialists in Computer Software, who have the appropriate background and experience in preparing software and user interfaces. It has been observed that if the engineering expert who designs the algorithm and decides the design procedure is also asked to conduct the coding, he tends to spend more time on coding (an area in which he is not an expert) and as time passes he tends to relegate the design procedure to secondary importance as he is more concerned with debugging and delivering the software. Teamwork is hence essential, more so because the actual engineering portion of software may be only 30 to 50% (or even less) of the entire code.

#### Procuring Packages:

Numerous packages of general nature are available in the market. It is essential to ensure that your system has the adequate memory, hard discs, graphics hardware etc. to run the given software. Reputed software houses provide up-dates as improvements occur in software. This is one of the biggest advantages in procuring software from established houses.

Table:

### USAGE OF CAD-CAED-CAM PACKAGES

#### NOTE:

1. The table below lists the packages as per their usefulness to a given type of industry. This does not imply that other packages are not of use to such industries nor does it imply that other industries cannot use such packages.
2. Draughting and problem specific packages are omitted from this table. The former are useful to almost all industries and the latter may be needed occasionally by almost any type of industry.
3. Optimization packages are utilized to optimize (minimize or maximize) product weight, cost or performance, reduce wastage through shape optimization etc. These packages are used for design of critical components and systems and also in high volume production wherein miniscule savings per component can add up to substantial profits.

PACKAGE	INDUSTRY
Date Base Parametric Design Analysis Engg. Analysis (Gen. purpose)	* Manufactures of Machinery, Machine Tools, Chemical Equipment, Component Manufactures, Fabricators, Tailor made Machinery, Sub-systems and component manufactures.





- |                      |  |              |  |
|----------------------|--|--------------|--|
|                      | * Assemblies of low to moderate complexities with essentially similar features.  | observations | case of manufacturers of products of moderately complex assemblies (and in high volumes) with occasional evolutionary changes in product design, examples being cars, engines, standard machines, machine tools and textile machinery. |
| Engineering Analysis | * Manufacturers of systems like turbines, and products which are to operate with high reliability, no two products being exactly alike. Manufacturers of high quality subsystems for OEM.            |              | * Graphics and CAED packages predominate in design of systems like TV towers, dams etc.  |
|                      | * Low volume products, involving moderate number of components.  |              | * Graphics, CAD and CAM packages predominate in consumer product design, mostly to meet rapid changes in consumer preferences.   |
| CAD-CAED-CAM         | * Larger industries with diverse interests.  |              | * Graphics packages predominate in Architectural Design.   |
|                      | * Manufacturers of products involving numerous components and sub-systems. (Low volumes of production, high reliability and substantial design changes occur over the years—Aircraft Manufacturers.) |              | * Industries desirous of meeting marketing deadlines with revolutionary products, may need to utilize all facets of CAD-CAED-CAM (at least for a short initial period) to be able to bring out the product quickly into the market.    |
| Some                 | * CAD usage generally dominates in   |              |  |

\* \* \* \*

**Road sign:** Drive Carefully, Don't insist upon your rites.

**Commuter:** A man who shaves and takes a train, and then rides back to shave again.

**Lecture:** A process by which the notes of the professor are passed to the pupils without passing through the brains of either.

**College man:** At twenty he thinks he can save the world, at thirty he begins to wish he could save part of his salary.

A cannibal dressed in the western clothes went to college and grew to maturity in civilization. Then he took his first trip on a luxury liner. He went to the diningroom, Where with proper deference the steward asked him, "May I show you the menu?" "No, I would rather see the passenger list," said the cannibal.

\* \* \* \*

**Baby:** An angel whose wings decrease as his legs increase.

**Beer baron:** A malty millionaire.

**College professor:** A guy who's paid to study the sleeping habits of students.

**Diamond:** A chunk of coal that made good under pressure.

**Dieting:** Accepting every loss as a gain.

**Efficiency expert:** A man who kills two birds with one stone and gets the stone back.

\* \* \* \*

The opening Indian batsmen in a Test match against the West Indies were Sunil Gavaskar and a new find, Sardar Stroke Singh. Marshall, the pace bowler, opened the bowling for his side. The firstball went sizzling past the off-stump to be collected by the wicketkeeper. Sardar Stroke Singh did not as much as budge from his place. Marshall bowled his second, third and fourth balls all about the wicket with Stroke Singh standing still as a statue. The fifth delivery was declared "No ball" by the umpire. Like a true Test professional Sardar Stroke Singh went tapping the pitch mid-way towards Sunil Gavaskar and said, "I knew from the very beginning the fellow did not have a ball in his hand."





Engineering Analysis

\* Manufacturers of systems like turbines, and products which are to operate with high reliability, no two products being exactly alike. Manufacturers of high quality subsystems for OEM.

\* Low volume products, involving moderate number of components.

CAD-CAED-CAM

\* Larger industries with diverse interests.

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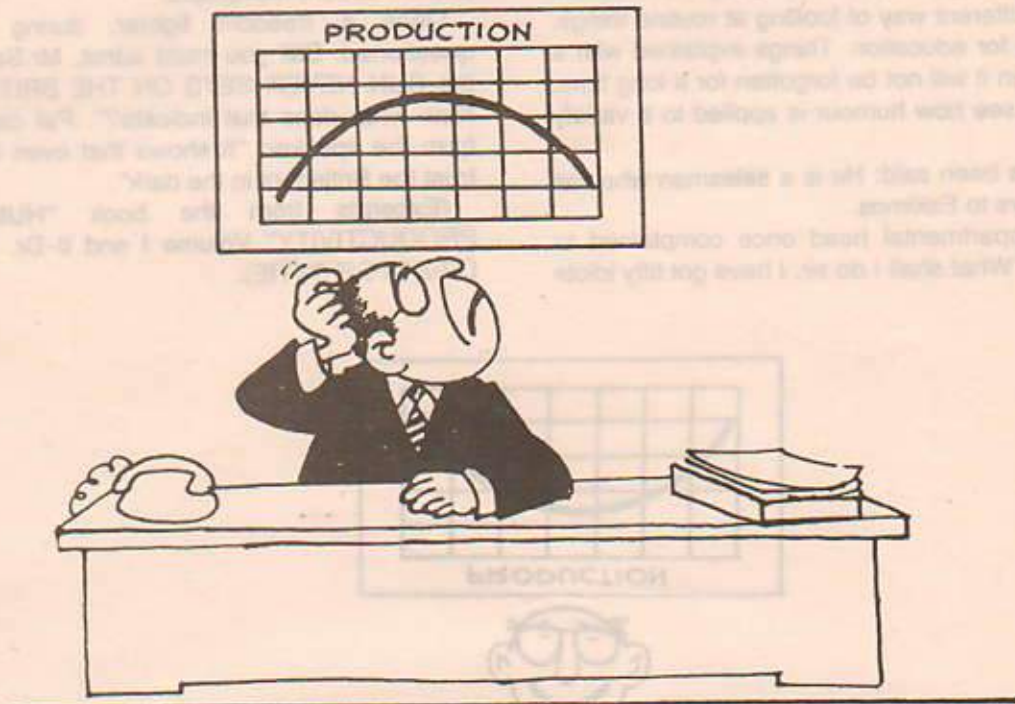
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# HUMOUR AND PRODUCTIVITY

Dr.S.RAMANI DIRECTOR (NITIE)



The modern concept of productivity embraces much more than the ratio between the output of wealth produced and the input of resources used in the process. Productivity is an attitude of mind, a mentality for progress and the constant adoption of economic and social life to changing conditions. In short, it is to produce more and more from less and less.

On the other hand, humour is 90% psychology which can be used effectively for better productivity in every walk of life. Humour is an effective management tool, a superb communication device and an excellent stress relieving agent.

Enlightened debate on the connection between humour and productivity has led to several positive conclusions, particularly in the areas of management, communications, safety control, advertisement, negotiations, class-room lectures, medical care in hospitals, etc. Humour reduces tension by joking about universal human frustrations and faults. It encourages people to relax and laugh and delights in poking fun at oneself. It unites people by building rapport and giving everyone a chance to participate.

Research in communication shows that non-verbal communication plays a dominant part in conveying messages; verbal 7%, vocal characteristics 38% and non verbal 55%.

Another research examined the impact of planned humour in task performance. It was found that in test-

ing, when using a humorous form of the test, high anxiety students performed significantly better than their counterparts using non humorous materials. The results indicate that exposure to humour may reduce anxiety and thereby affect task performance. These results have implications in the design of examinations for students by professors. Perhaps the principals of colleges and headmasters of schools will pursue this idea.

Humour and productivity are very closely linked. Research has proved that a manager who uses humour effectively get better results from their subordinates. Humour plays a crucial role in advertising. By far the best example for this will be the ad-campaign for Amul butter.

The most prevalent form of humour is the joke. A good joke doesn't hurt anyone. It has a function far beyond merely producing laughter. It represents an insight. It is education in a more palatable form.

Every circus has a joker who incidently is, if anything more competent than other players. The joker in a pack is the most versatile of all playing cards. Jokes and jokers should not be treated and disposed off lightly.

Even great philosophers known for their gravity and seriousness have made humorous statements. For eg.

\* Poets utter great and wise things which they do not





themselves understand-Plato.

\* The French are wiser than they seem and Spaniards seem wiser than they are-Bacon.

Humour can be applied to every thought and action. Humour is a different way of looking at routine things. It is a method for education. Things explained with a slight humour in it will not be forgotten for a long time. We shall now see how humour is applied to a variety of situations.

Sales: It has been said: He is a salesman who can sell refrigerators to Eskimos.

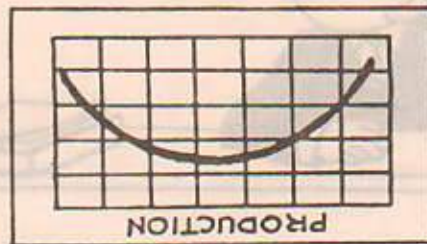
Office: A departmental head once complained to the Manager, "What shall I do sir, I have got fifty idiots

under me". The manager replied, "Yes but you should pity me, I have got fifty one idiots under me".

And finally Humour and productivity with reference to the freedom movement.

Once a freedom fighter, during Home Rule questioned: Still you must admit, Mr.Satyamurti, that the SUN NEVER SETS ON THE BRITISH EMPIRE. Now what does that indicate?". Pat came the retort from the speaker: "It shows that even God does not trust the Britishers in the dark".

(Excerpts from the book "HUMOUR AND PRODUCTIVITY" Volume I and II-Dr. S. Ramani—DIRECTOR (NITIE).



\* \* \* \*

Two men met in heaven. "What did you die of?" asked the one.

"I died of extreme cold. And what about you?"

I came home from work and heard my wife talking to a stranger. On entering the house, I searched every nook and corner of the house, but could not find anyone anywhere. I felt so guilty of my behaviour that my heart failed."

On this, the other one said, "Had you cared to open the fridge neither of us would have died."

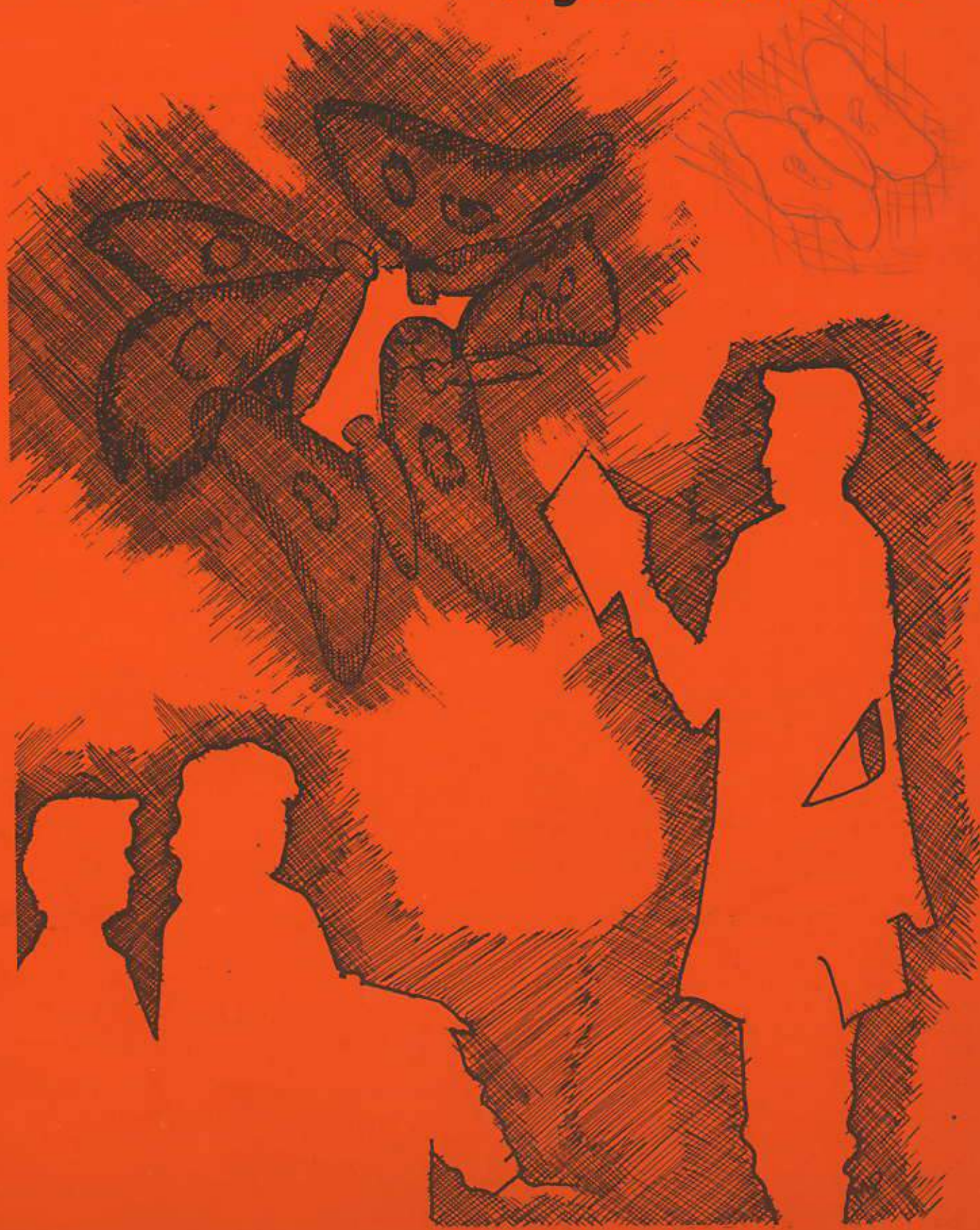
Three friends, a Hindu, a Muslim and a Sikh, all great admirers of Bir Bajrang Bali were hotly arguing about what community Hanumanji belonged to. The Hindu was outraged by their claims: "How could Hanuman possibly be Muslim?" he demanded of his Muslim friend. "We have Ahsan, Rehman, Sulaiman and many other Muslim names ending with aan. Hanuman could well have been one such name."

"And you Sardarji," said the Hindu aggressively. "Sikhism came into being a thousand years after the Ramayana. How can you say Hanuman was Sikh?"

"Quite clearly Hanuman was Sikh," replied the Sardarji. "Here we have someone who does not know the person whose wife has been abducted, he does not know the lady who has been abducted and he has no enmity towards the abductor. Nevertheless he sets his tail on fire and burns up a whole city. Who else would do such a think except a Sardarji".



anglais Litte'rature





# A SPACE ODYSSEY

VIKAS GUPTA T.E.TX

The Flight Commander watched the digital chronometer ticking away the minutes and then the final seconds. Instinctively he closed his eyes as the huge space shuttle began to vibrate due to the thrust of its nuclear engines. Then, with a shudder, the gleaming metal monster lifted off the launching pad pushing the occupants into their padded contour seats as it built up acceleration.

"Blast-off plus three! All systems green!"

The Flight Commander could feel the G forces begin to slacken as the shuttle reached its orbital velocity of 17500 mph. The shuttle orbited round the Earth once and then slowly docked itself with the Skylab space Research Lab.

"Attention please! Docking complete! You may proceed to the Skylab now."

Fifteen hours had passed since Communication Engineer Steven Hunter, Microbiologist Dr. Paul Robinson and Dr. Carolyn Smith and Astrophysicist Srivatsa Unnikrishnan had arrived at the Skylab to replace the previous occupants. Everyone had settled in fine and all were revved up to start their respective experiments.

Hunter ran the initial checks through the main computer. The solar panels were in place. The auxiliary computer was functioning perfectly. Everything was just perfect. He radioed back to the control room at the Kennedy Space Centre. Hunter then turned on the closed circuit monitor cameras and eased into his chair. He was sure that this mission would be highly successful. The simulated gravitational pull eliminated any feeling of being thousands of miles above the Earth. Actually there was hardly any difference between this control room and the one he had trained in, back on Earth.

Dr. Unnikrishnan (called Unni) peered at the computer screen attached to the telescope outside the lab. The passing comet, in all its splendour, would be a sight to see outside the Earth's obstructing atmosphere.

Dr. Smith and Dr. Robinson had already started preparing the bacteria cultures in the microbio lab.

Dr. Smith put her hands into the rubber gloves which projected into the hermetically sealed enclosure. This system provided the scientists with easy manoeuvrability without being actually exposed to the microorganism they were working on. The enclosure also contained separate cubicles in which the mice on whom the experiments would be carried out were kept. The enclosure also had a robotic arm which could be controlled from outside. The air tight sealing

of the room and the enclosure was controlled by the auxiliary computer, which could detect even the smallest leakage.

"Dr. Robinson, the culture is ready to be irradiated" said Dr. Smith.

"Thanks," Dr. Robinson replied curtly. He turned the dial on the console to control the intensity and duration of the Gamma rays. The robotic arm carried the petridish into space through an opening and aimed the Gamma gun at it. It would take some time before Dr. Robinson could proceed.

Dr. Unni waited anxiously. The comet would be visible to the naked eye in a few hours now.

The robotic arm automatically brought back petridish containing the bacterial sample. The culture, initially green in colour, had turned into fluorescent yellow. The culture had also increased, covering the entire growth medium. Dr. Robinson had never seen such a thing happen on Earth. Maybe it was due to the combined effect of zero gravity and the Gamma rays.

Dr. Robinson keyed in the instructions for the arm to introduce the bacteria into the cubicle of specimen no. 1. The mouse in the cubicle became highly agitated and within seconds, became motionless. Both the microbiologists stared at the creature in dismay.

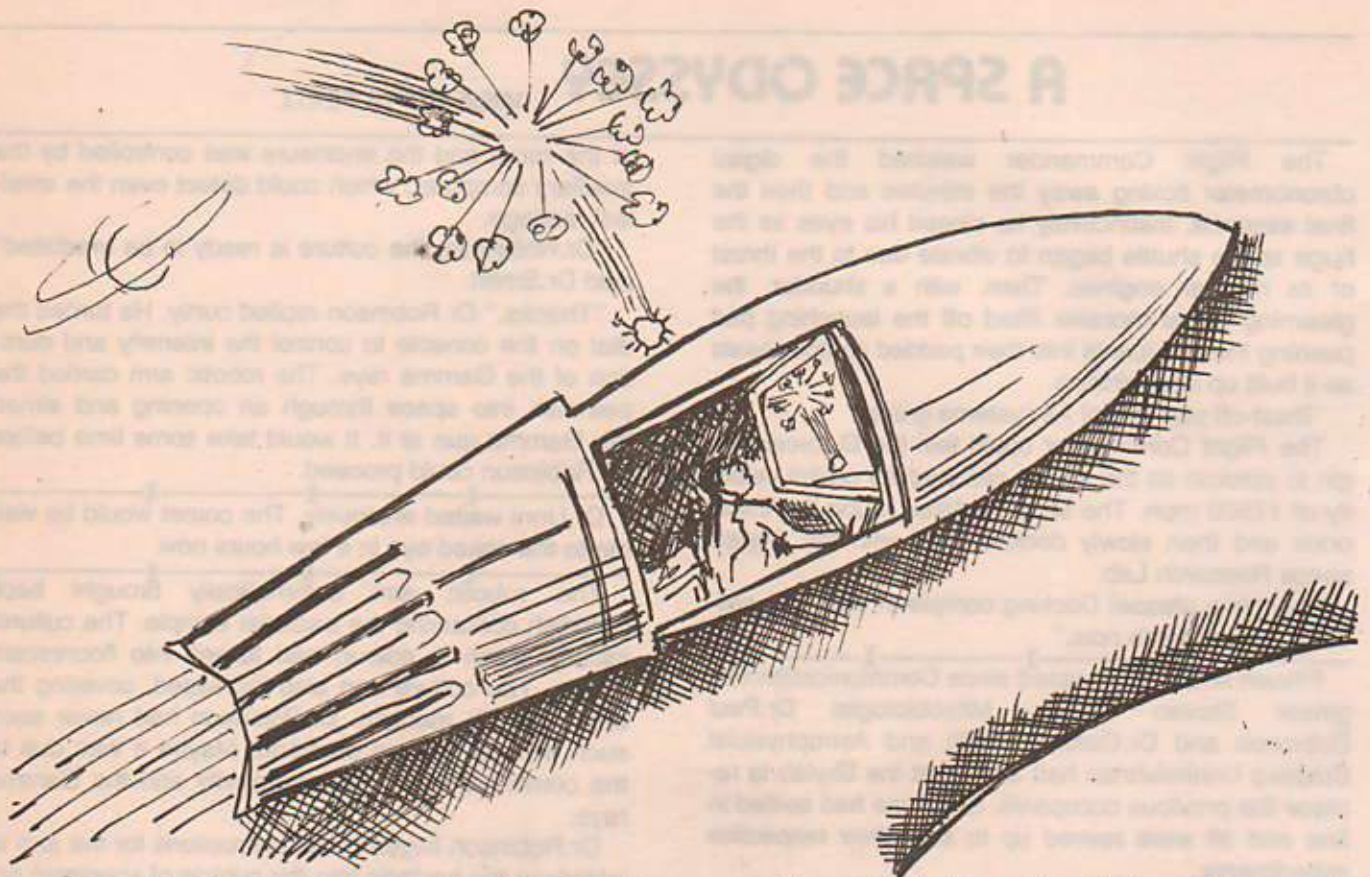
"Dr. Smith, I think we need to perform an autopsy," said Dr. Robinson, trying hard to maintain his composure.

The autopsy showed some astonishing results. The blood vessels of the mouse contained a pus-like white fluid instead of red blood!!! Microscope pictures showed that there was not a single RBC in the blood vessels of the mouse. The bacteria had somehow stimulated the growth of leucocytes which in turn had destroyed the RBC's. Dr. Robinson sank into his chair. Now he was really shocked. Had he created something which he could not control?

Dr. Robinson introduced the bacteria into another cubicle, but this time he had already injected a tracer into the mouse. The tracer reacted with the haemoglobin of the blood without impeding it. The tracer was radioactive and thus could be easily detected, flowing into the mouse. The computer screen showed this natural circulation before the bacteria was introduced. But within seconds of introducing the bacteria, the blood disappeared, starting from the lungs and finally from all parts of the body. This showed that the bacteria entered the circulation through the respiratory system, spreading almost instantly.

"Hunter, Carolyn here! I think we have a major





problem. You'd better come here!" Dr. Smith exclaimed over the intercom.

Over the monitor, Hunter could see that Dr. Smith was really nervous. There had to be something desperately wrong.

Hunter went over to the microbio lab and was shaken out of his wits at what he had heard and seen. Finally he said, "I think we'd better radio back to base and tell them about this 'development'. Let's see what they have to say about that. Meanwhile continue with your experiments. It'll take some time before I can radio back, since we are at antipodes with the base."

Unnikrishnan, oblivious to the high drama in the microbio lab, continued to peer at the screen.

There it was! What a glorious sight! A highly spiritual man, Unnikrishnan began reciting shlokas from the Geeta, involuntarily.

Suddenly everything went wrong! The comet seemed to explode and a large fragment headed towards the Skylab.

"Steven. I think we are in deep trouble! The comet has exploded and a large chunk of it is heading towards us!" Unnikrishnan screamed.

"Oh my God! Unni, we are in deeper trouble than you think," replied Hunter trying to keep cool.

The huge projectile raced towards the Skylab at an incredible speed. Hunter and Unni stared at it in hor-

ror. They sat helpless, without being able to move an inch as death sped towards them. Hunter could feel the adrenalin pumping into his blood.

The Skylab shook violently as the comet fragment scraped the lab and raced into the oblivion of space.

Hunter went limp with relief. His brain pounded hard with tension that had build up. It was a miracle that the comet fragment had not hit the Skylab head-on. He turned to the computer panel to assess the damage but his brain, befuddled with the ambivalence of relief and tension, failed to register the situation.

As his thoughts cleared, he looked at the monitor and saw that the microbio lab was a mess. The apparatus and the petridishes had fallen off the table and Carolyn and Robinson lay motionless on the floor. The collision with the comet chunk had damaged the auxillary computer which controlled the sealing of the air-tight enclosure and the microbio lab. Before the main computer could take control the bacteria had escaped, killing both the microbiologists instantly. Hunter then turned to the monitor which displayed Unni's room. Unni was motionless too! Hunter screamed over the intercom. Unni seemed to stir.

The voice of Hunter over the intercom told Unnikrishnan that he was still alive. God had saved him.

"Unni, I think you'd better come to the control room. We have a lot to discuss," said Hunter.





Both the men were really shaken up with what had happened. The collision had also destroyed the communication system with Earth. They sat in a space ship miles above the Earth, isolated from all mankind with a deadly micro organism which had already killed two of their colleagues. The power of the main computer was failing too with the solar panels completely destroyed. It would be a matter of hours before the computer would fail releasing the organism into the main lab and that would be the end of both of them.

Hunter thought of the escape pod but only one of them could escape. Also before they left the Skylab, they would have to try and destroy the killer micro organism. He knew that by cyst formation the bacteria would be able to travel in space and there were remote chances that it would reach the Earth. It was time for some really bold decisions.

Hunter turned to Unni and said "Look here Unni. The lab contains a thermo-nuclear device for self destruction. I'm sure that the heat generated by the explosion will be enough to destroy the bacteria. Also, there is an escape pod in which only one of us can

escape. The guy who remains behind can turn on the device. And then the rest is up to luck. "Its the last chance we have!"

Unni surprised Hunter by accepting his word without hesitation. The only problem that remained was how to decide which one of them would stay back. Unni asked Hunter to show him how to operate the thermonuclear device. Hunter took key out of his pocket and told Unni where it had to be inserted. Next Unni asked Hunter where the escape pod was. Hunter had already made up his mind. He would stay. He took Unni to the escape pod and showed him how to operate it. Hunter then turned to walk towards the controlroom when Unni hit him hard on his neck. Hunter just crumbled to the floor.

Unni sat calmly in the control room. He watched the escape pod leave the lab and re-enter the Earth's atmosphere. He inserted the key and put on the thermonuclear device. He put his palms together, closed his eyes and bowed his head waiting patiently for the end.

\* \* \* \* \*



- The college student wrote a letter home that said, "Dear Mom and Dad, I am so worried about you. I haven't heard from you in more than a month. Please send me a check so I'll know that everything is all right at home."
- The college student said to his roommate, "What a lousy trick my dad played on me!" "What did he do?" his roommate asked. "I wrote home for Rs.960.00 to buy an unabridged dictionary—and look what he did. He sent me the dictionary."





# GOPINATH

NIKHIL RAO T.E. ETX

Ananthpura was brimming with activities. The year being an election year, hectic activities like tarring the road, construction of houses for the poor, supply of essential items etc. were being carried out. Television, too, had made its appearance that year.

Aniket Babu had won the election from this constituency five years ago and had made a lot of pledges for his election campaign. After winning, for four years he had rarely shown his face to the people of Ananthpura. When questioned about his presence, his secretary would say that he was busy in Delhi. So when suddenly, essential goods which were scarcely available in the past, were available at a cheap rate the people of Ananthpura knew Aniket Babu was making his presence felt.

As election time drew near rival parties engaged in mud-slinging, trying to prove to the public that their candidate was the ideal man and if elected would make Ananthpura a paradise.

Gopinath was an independent candidate. The parties used to laugh whenever Gopinath's name was seen in the list of candidates and would say, "Poor guy, he will lose his deposit."

Gopinath had worked sincerely and had tried to improve the lot of the poor. He had been instrumental in the setting up of the first night school where he taught the people himself. He fought for women's rights and believed that for a society to prosper, discrimination against women should stop. He was a secular man and was the singular force behind the building of a temple, a mosque, and a church in one single plot of land. With the help of the zamindars, he had built a hospital where the poor could be treated at a reasonable rate. He had also built a home for destitutes. Most people of Ananthpura therefore decided that they would give him their whole-hearted support.

Nature had bestowed Ananthpura with a lot of natural resources. Oil had been discovered a year before the elections. Coal was in abundance. For corrupt politicians this was an ideal place to make a fast buck and Aniket Babu was no different.

When the party workers realised that Gopinath might win the elections and they told this to Aniket Babu, he was furious. He decided that by hook or crook he had to win the elections. He decided to put an end to Gopinath's life. But he realised that killing him would postpone the elections. He then tried to buy Gopinath out and ask him to withdraw his candidature. But Gopinath refused the money. Aniket Babu then burnt his house killing his wife and children. This incidence had a very high emotional impact on Gopinath. He was a totally shattered man. But the people consoled him and urged him to continue the battle and liberate Ananthpura from the clutches of Aniket Babu.

When this news reached Aniket Babu he decided to use the best weapon in his armoury, the weapon of character assassination. He began spreading rumours that Gopinath had killed his wife himself because he was having an affair with a local lady who used to come in the night school and as his wife had come to know of this, he had silenced her. But the people knew that this was another of Aniket Babu's numerous plots to win the elections.

Aniket Babu now realised that the only way possible was rigging the elections and that he did in the style of a true politician.

Gopinath was a dejected man. He protested but the election commissioner said that Aniket Babu had been elected democratically.

"DEMOCRATICALLY", how different that word sounded now.

Aniket Babu and his men celebrated their victory by drowning themselves in liquor. After the revelry was over Aniket Babu got into his mercedes and left for home.

Ananthpura woke up to a new morning. The chirping of birds heralded the beginning of a new era. The reason: The daily newspaper had a small article under the caption,

"ANANTHPURA MP KILLED IN CAR ACCIDENT, RE-ELECTION SOON."

\* \* \* \* \*

**Hospital bed:** A parked taxi with the meter running.

**Diagnosis:** A physician's forecast of disease by the patient's pulse and purse.

**Prescription:** Hieroglyphics written by physician, to be translated by a pharmacist into rupee signs.

From a schoolboy's examination paper: 'M.D. stands for Mentally Deficient'.

A bank is a place where they lend you an umbrella in fair weather and ask for it back again when it begins to rain.

Criticized by the opposition MPS for his budget, William Gladstone got up and said loudly, "A budget is like a woman and she cannot be beautiful to everyone".

Public money is like holy water, everyone helps himself.





# SHORT COMMINGS OF AN AUTHOR

RAVINDRA MUNDHE F.E.E.TX

MANY OF YOU MUST HAVE GONE THROUGH MANY OF THE NUMEROUS BOOKS ON ELECTRONICS THAT ARE AVAILABLE IN THE MARKET; IF NOT; YOU WILL HAVE THE MISFORTUNE ONE DAY OR THE OTHER. THE FOLLOWING ARTICLE IS MEANT TO PROTECT POOR IMMATURE STUDENTS FROM THE VICIOUS AND THE CUNNING MINDS OF THE AUTHORS.

WHAT FOLLOWS IS, WHAT ANY READER WILL COMMONLY FIND AND BELOW IS WHAT THE READER SHOULD ACTUALLY INTERPRET.

1. Statements: ".....But to explain that would be beyond the scope of this book."  
Interpretation: I do not understand it myself, so neither would you!!
2. Statements: ".....The only mathematics necessary is intermediate algebra and a little bit of trigonometry."  
Interpretation: If I really tell you how much mathematics is required you would better buy a WARTIKAR & WARTIKAR than my book.
3. Statements: ".....The author believes that a text covering theory of practical devices and circuits should be accompanied by a closely correlated laboratory manual."  
Interpretation: Beware! The author is coming up with another book to bore you.
4. Statements: ".....Chapters 2,3,7,10 can be safely omitted while chapters 4,5 and 9 are assigned for outside reading if time permits."  
Interpretation: You can safely ignore the whole

book without any significant loss of knowledge.

5. Statements: ".....I wish to express my appreciation to the following companies who made available photographs of instruments and devices used in the text."  
Interpretation: Shamelessly disclosing how they have bribed him into advertising their products.
6. Statements: ".....Solutions to important problems given at the back of the book."  
Interpretation: There are also other important problems but I could not solve them myself!
7. Statements: ".....Efforts have been made to bring this book up to date with the latest technology."  
Interpretation: Latest technology means atleast 10 years old.
8. Statements: ".....This book is dedicated to my beloved wife."  
Interpretation: Cunningly dedicating the book to himself as his wife is assumed to be totally dedicated to him.
9. Statements: ".....I wish to thank Prof. SO AND SO from SO AND SO INSTITUTE OF TECHNOLOGY along with..... for their help in bringing out this book."  
Interpretation: Without their valuable help this book would have been ready at least 5 years ago.
10. Statements: ".....For further information the students would do well to refer the following books."  
Interpretation: These books have failed miserably in the market, let's see if any of you fools help in bringing up the sale.

\* \* \* \* \*

*No smart pickpocket wastes his time on a married man.*

**Mrs. Smith:** "I wonder why we never manage to save anything".

**Mr. Smith:** "It's the neighbours, dear. They'er always doing something we can't afford".  
*He that boasteth of his ancestors, confesseth he hath no virtue of his own.*

**Dentist:** *A prestidigitator who putting metal into your mouth, pulls coin out of your pocket.*

*Worry is the interest we pay on trouble before it happens.*

*Health is a crown on a well man's head, but no one can see it but a sick man.*

*If you borrow Rs.5 you are a pauper, if you borrow Rs.50,000 you are a businessman, if you borrow Rs.5,00,000 you are a business tycoon, if you borrow Rs. 50,00,00,000 you are the Government.*

*You can cure a woman of almost any common illness by mentioning that its symptoms are signs of advancing age.*

*The insane desire to pay for the board and lodging of another man's daughter is a cynic's definition of marriage.*





## A TALE OF TWO LOVERS

SONIT JAIN FEETX

The tale of two lovers that I am going to tell you is the most passionate love tale that you have ever heard. Even the tales of Romeo and Juliet, Heer and Ranjha would be no match for it.

The love which has destroyed me mentally and physically is not as fair as the moon but for me she is a darling. Her brownish hue has won my heart and her appearance is a poet's delight.

It was love at first sight. I do not exactly recall when I started liking her but I think it was during my school days. Daily morning minutes with her always made me late for school. But during the break I was again with her. Those few minutes with her elevated my joy to new peaks. My whole body and mind would become invigorated after meeting her. Even in college

she was with me. I was always seen with her in the canteen. When my lips touched her heated body a sensation would run through me. My mind was controlled by her.

During exam times she would accompany me through the night and encourage me to study. I give her all the credit of my success at the H.S.C. exams.

My orthodox family had many a times told me to leave her. They sometimes even forced me to stop meeting her. But my love for her just seemed to grow day by day and has stood the test of time.

Even in engineering, whenever I get some free time I seek her company. We have now become inseparable.

"How could I leave you, tea, you are the only beverage I love."

## TRIALS AND TRAVAILS OF TRAVELLING

RAGHUNATH H. T.E.PROD

As the sun rises, You get up, refreshed to attend college. You go through the routine work with an eye on the clock. Then you leave your house to reach the railway station. In the peak hours, it looks anything but a railway station. People of all hues and colours can be seen at this place waiting anxiously for the yellow and brown monster called the 'train' to arrive.

As you descend down the stairs into the platform proper, you are swept into a sea of humanity. You find way to your place to board the train with much difficulty. You will find almost one quarter of the people doing a balancing act on the edge of the platform with their necks straining out to spot the coming train. Anxiety looms large on every face with every passing minute as to when they would behold the sight of the train thundering into the station. As the train nears the station, almost all the people try to get as close to the edge as possible. The first sight of the blessed train is, the least to say, terrifying. One is confronted with the sight of people hanging from doors, standing on the windows (Hat's off to them) and some of them looking relatively comfortable on the roof. As the train slithers to a stop, the alighting passengers get into action and the whole station is thrown into a state of frenzy. God knows how, but somehow the alighting passengers do manage to get down. Then comes the real great act. Some of the seasoned veterans get into the train before it can halt and after the halt there is a virtual free-for-all. Scaling the Everest is no mean task but boarding a crowded train during peak hours is. With bags and sticks and arms flying about, it is a

near miracle if you can board the train without getting a good whack from one of the above mentioned U.F.O. 's. And woe betide the man who doesn't alight from the train quickly. He is jammed at the door and is made the target of everybody's anger and frustration with fists and legs being used freely. As you barely get into the train, it jerks to a start leaving almost half of the people cursing and swearing at the station. Then comes the supreme battle inside the train.

Occupants inside the train won't budge an inch of their hard-won space. All hoarse-crying by those perching precariously like bats is of no avail. The tactics and techniques used to get into a comfortable position in the train would make even the shrewdest army commander hang his head in shame. You are always on the look-out for a better position by slowly nudging and elbowing your way around. One of the strategic positions is the place near the door inside the train from where you can inhale the gas called oxygen in surplus needed to keep your heart ticking. A shifting of one's position is always accompanied by grumbling and at odd times by the swearing of the man/men whose feet you inevitably tread upon during such an exercise.

Inside the train, you come across a cross-section of people- There is always the confused village youth who always seems to find himself at the wrong door. Then there is the bulky, tall, pot-bellied man who is the master of all he surveys. Even a slight movement by him triggers off a chain of reactions. Then you can always spot the short man who finds himself at the



receiving end of thrusting elbows, jutting shoulders, huge bellies and unwieldy suitcases. He is one of the main victims in the train. Then you come across the smoker who puffs out volumes of smoke bang into your face without paying any heed to the warnings on the cigarette pack and on the train. Then there is the inevitable group of card-players who keep playing unmindful of the commotion all around them. Then, there is the man who unerringly finds your feet to rest his pair of limbs. There are also the elderly people with their swishing newspapers which has an irritating way of getting under your nose or tickling the back of your neck. You almost always come across the man who gets stuck on the middle bar with his bag on one side and his anatomy on the other, revolving around this bar for all he's worth and getting hammered by the incoming and outgoing passengers in the bargain. Then there are always the pick-pockets whose presence one can detect only after alighting from the train by finding a neat slit in the trouser pocket. Even though you're smarting from the loss of your money, pass, etc you can't help admiring these sleight-of-hand specialists for managing to relieve you of your valuables under such trying conditions.

When you sense (not see) the train approaching your destination you start the journey from inside the compartment to the door which is an achievement in itself. One finds oneself being propelled ahead by the commuters behind while simultaneously you can feel the losing grip of your hand on your bag which has lodged itself between someone's legs. With Herculean effort, you regain your hold and to your discomfiture find your path being blocked by the nonchalant man who has no intentions of either getting down or getting out of your way. So this entails more expenditure of energy on your part and also wastage of breath by way of swearing and at last you find yourself within striking distance of the door and somehow manage to get down at your destination.

It won't be uncommon if after getting down you find your hair all tousled up, your limbs aching and your shirt moaning the loss of a button or two. You take a minute or two to regain your composure and make yourself presentable and start off to the college, shuddering from the knowledge that you have to go through the entire gamut of actions once again to get back home.



\* \* \* \* \*

Sometimes the difference between a good speaker and a poor speaker is a comfortable nap.

**Teacher:** "Why haven't you brought your report card back yet, Johnny?"

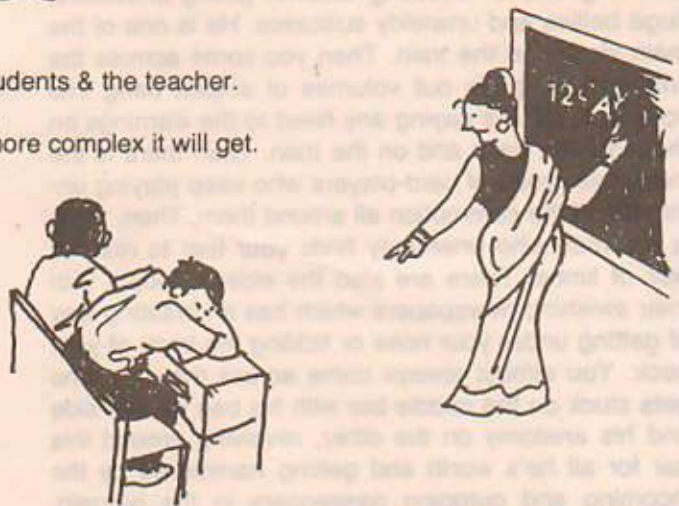
**Johnny:** "Because you gave me an A in something and they're still mailing it to relatives."





## A DAY IN COLLEGE

The day in college begins with the C.S. lecture,  
 There's total lack of communication between the students & the teacher.  
 Between two topics of maths it is difficult to differentiate,  
 The more you try to integrate your knowledge the more complex it will get.  
 With full force begins the mechanics lecture,  
 A little effort, and you can understand the teacher.  
 Chemistry is certainly most volatile,  
 It's useless trying to concentrate even for a while.  
 Computer programming is something you'd like to do.  
 A little basic knowledge and you are through.  
 I'd better not express my views on drawing,  
 Though I certainly have plans for improving.  
 The 45 minute break is the most awaited,  
 Not a single second of that time is wasted.  
 The irresistible part is the coffee sold,  
 Some take it hot, some take it cold.



NANDITA PATHAK F.E.ETX



## FAILURES

Failure doesn't mean you are a failure...  
 It does mean you haven't succeeded yet.  
 Failure doesn't mean you have accomplished nothing,  
 It does mean you have learnt something.  
 Failure doesn't mean you have been a fool,  
 It does mean you had a lot of faith.  
 Failure doesn't mean you've been discouraged,  
 It does mean you are willing to try.  
 Failure doesn't mean you don't have it,  
 It does mean you have to do it in a different way.  
 Failure doesn't mean you are inferior,  
 It does mean you are not perfect.  
 Failure doesn't mean you have wasted your life,  
 It does mean you have a reason to start afresh.  
 Failure doesn't mean you should give up,  
 It does mean you should try harder.  
 Failure doesn't mean you'll never make it,  
 It does mean it will take a little longer.  
 Failure doesn't mean God has abandoned you,  
 It does mean God has better idea.

WALTER MENEZES  
F.E.ETX

## TEN CLASS-ROOM COMMANDMENTS



1 2 3 4 5 6 7 8 9 10

- I Love thy classmate!  
(especially the maid next to you!)
- II Thou shalt not come late to class!  
(better take the whole day off!)
- III Thou shalt not talk in the class!  
(shout-you'll be heard better!)
- IV Thou shalt not manipulate laboratory readings!  
(copy from last year's journals!)
- V Thou shalt not misuse the apparatus in lab!  
(let your partners do the dirty job!)
- VI Thou shalt pay respect to thy professors!  
(by appropriate nick-names!)
- VII Thou shalt not fool thy professor!  
(well, you won't need to!)
- VIII Thou shalt not peep into another's paper!  
(better have it passed on!)
- X Thou shalt not copy from another!  
(better have him write it for you!)
- X Thou shalt not have smack in class!  
(Boy! It's not for us!!)

KEDAR AGARKAR  
T.E. M/C TOOLS





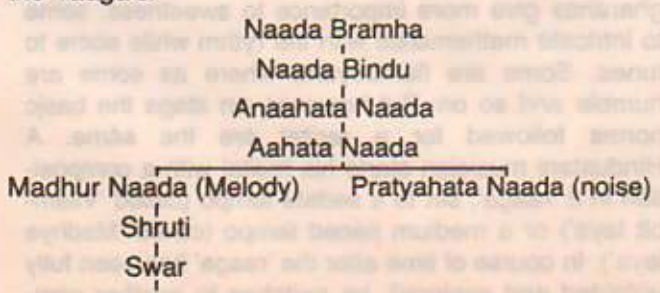
# INDIAN CLASSICAL MUSIC

SARTHAK S. EETX

It all began with a slight flex of a muscle. The intrigued primitive, on the verge of delivering music to the world, had repeated the phenomenon, least aware that he was inventing 'rythm'. He soon found means to transmit his intrinsic movements to the world outside, which always thanked him, sometimes with a thump & sometimes with a thud. Thus he gave birth to 'music'. His roving mind, since then, has roved incessantly through the realms of sound and music, starting from crassitude to the culmination of its consciousness in Mozart and Beethoven in the west and Tansen in the east.

It was much before Tansen, to be precise, that Indian music had anchored itself in the cultural and spiritual heritage of the country. Vedic-age is the era from which Indian music got many expedient guidelines and definitions. The composition that prevailed those days were called 'Saamagana' (derived from 'Saamaveda', the veda devoted to music only). The number of notes used there were very limited (precisely three). This is observed in the monotonous renderings of hymns (mantra's) even today. Thankfully, however, in due course, popularity and quest for variety finally raised this number to seven (The 'Saptak' or the octave in the western format). These notes were ultimately standardized and defined as 'Sa', 'Re', 'Ga', 'Ma', 'Pa', 'Dha', 'Ni'. Supplimentarily, flat tones of 'Re', 'Ga', 'Dha', 'Ni' and a sharp tone of 'Ma' (called 'Komal Swara' & 'Teevra Swara' respectively) were also defined.

It is widely known that the ancient Hindu sages used to always endeavour to establish a mystical nexus between nature and divinity. From time to time they have worshipped natural elements like fire, earth, rivers, air etc. and in their penances they did achieve a kind of supernatural sentience. Similarly music, too, didn't escape their attentions. Their contemplations in this field yielded the basics of music which by their very concepts reflect the depths these saints had fathomed. The ramifications from the primordial sound 'Naada Bramha' shown below gives the descent of the 'raaga's.



Saptak  
Thaat  
Raaga

'Naada Bramha' is the primordial sound. It is more a philosophical term than something practical to be heard by any common ear. It is the cause of sound. Every sound in the universe emerges from 'Naada Bramha'. 'Naada Bindu' is the expression of all sound, together in an infinitesimal form. This too cannot be heard by my common man, but can be experienced by vedic penances. Ragas have portrayed its importance by its symbol 'OM', 'Anaahata Naad' an abstract concept again, is the sound existing in the instrument i.e. 'Anaahata Naada' is said to be stored (some kind of musical potential energy or better, a musical probability wave funcion) in the 'guitar' even before it is plucked.

'Aahata Naad' is the sound due to vibration. As the meaning suggests, it can be heard. It is further divided into two broad branches noise and melody.

'Pratyahata Naad' is the kind of sound which is unacceptable to the ears (noise).

'Madhur Naad' means melody.

'Shruti' signifies a particular division of the octave. To understand it, let's take up this example. Often we hear people get dischorded (Besur) while playing or singing. That means they stray into some note which does not match with the previous and later notes. It is here that the Shruti is broken and we feel uneasy while hearing it. Twenty two such Shrutis have been enumerated.

'Swaras' are those notes which are useful to create music. They are viz. 'Sa', 'Re', 'Ga', 'Ma', 'Pa', 'Dha', and 'Ni'.

'Thaat' means the parental scale. There are ten Thaats in Hindustani music and seventy two in Carnatic (called 'Melkarta's). Each of these use all the seven 'Swaras' but in different combinations of their natural tones and flat and/or sharp tones.

'Raaga's are formed from these parental scales by discrete combinations of the 'Swaras' from the thaats or sometimes by ruling out or ruling in, a particular chronology of 'Swaras' so as to give a definite form and style to the 'raaga'.

Now we come down to another important aspect of music. Its the rythm (or 'taala'). Though rythm is generally given a status of an accompaniment like any other supporting instrument, it goes a long way in heightening the final product. Tagore beautifully stressed upon the importance of rythm saying; "What is





rythm? It is the movement generated and regulated by harmonious restrictions. This is the creative force in the hand of the artist. As long as words remain in uncadenced prose form they do not give any lasting feeling of reality. The moment they are taken and put into rythm, they vibrate in radiance". The concept of 'taala' too involves a bit of Hindu philosophy. Its genealogy from the 'Mahaakaala' is given as:

Mahaakaala  
Kriya  
Chanda Kriya  
Aryakta Chanda Kriya  
Vyakta Chanda Kriya  
Taali  
Taala

'Mahaakala' is eternity, the infinite interval. It is the cause of itself. It is comparable to a still, waveless ocean. To the Hindus it is a form of Lord Shiva.

'Kriya' is the first disturbance in this stillness. It is analogous to the 'Naada Bindu' discussed before. It is the symbol of Shiva's cosmic dance.

'Chanda Kriya' is the divisioning of the eternity by counts. The waves, the ticking second arm of a clock etc. for example represent Chanda Kriya.

'Avyakta Chanda Kriya' is also another thought provoking concept. It is the rythm conceived by the mind. If say, one concentrates and tries to listen mentally to some rythm or beats, then that rythm in its inexpressed form is called 'Avyakta Chanda Kriya'.

The rythm, conceived inside, when expressed outside is called 'Vyakta Chanda Kriya'. It may involve sound or an expression too. eg: The rythm shown by the baton of a conductor in a symphony too, is a kind of 'Vyakta Chanda Kriya'. The spontaneous outburst of joy or happiness in the form of a clap is called 'Taali'.

'Taala' is the final and practical form of rythm. The word 'Taala' perhaps has been derived from the two paradoxial actions. The 'Taa' from the 'Tandava Nritya' of Shiva and 'La' from the 'Lasya Nritya' of Parvati.

Having defined the melody and rythm part of music we are now slowly closing in on the present scene of Indian music in its complete performable form. However to discant upon the topic we have to face a bifurcation here. Indian music now branches out into two out of phase institutions namely Hindustani music and Carnatic music.

The Carnatic school of music has always been predominant in the south. As this part of the country has been less prone to predatory onslaughts. So (unlike North) no Mohammedan influence has been successful in tainting the originality of the age old music form.

Perhaps its orthodox nature has impeded its popularity in the whole country. But as far as authenticity is concerned, Carnatic music can indeed boast of its purity. A great deal of uniformity exists in the method of imparting lessons in this branch. Every student is always initiated with the Mayalamava Gouda (Choice, in the Hindustani is entirely on the teacher). In the south the students not only learn the same raagas but also the same 'Swaravalis', 'Jatiswara', 'geethas', 'alankaras' & 'varnas' that were set by Purandaradasa, four hundred years ago. The standardization is so strict that nothing is left to the vagaries of the performer or the listener. The 'Krutis' (or the pieces) have set notated forms and the only difference is their interpretations made by separate exponents. It is analogous to the 'Ravindra Sangeet' in Bengal, which again has strict prohibitions against even slight deviation from the original notation. That, in fact, in a way is detrimental for the imaginations, as the scopes of ameliorations on preset compositions are too bleak.

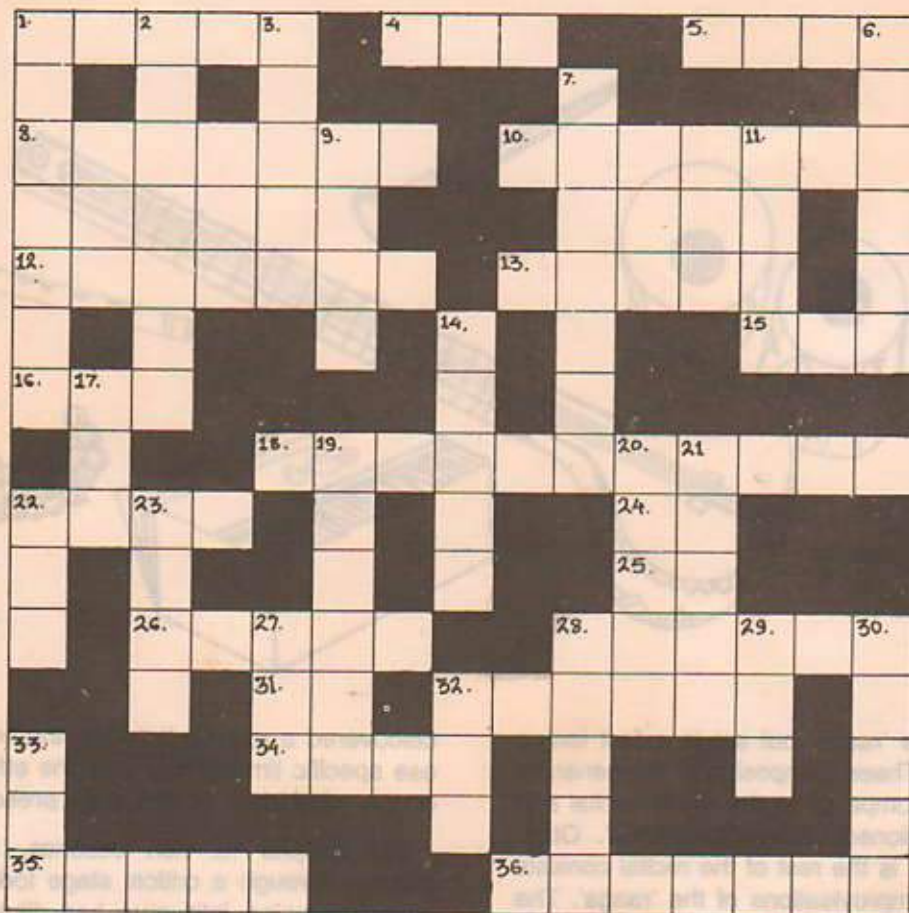
It may be observed that the musicians of this school tend to concentrate more on the grammer than on the finer graces of voice production and voice culture (excluding a handful of exceptions). They care more for intricacy than for sweetness. Attention is paid to the convolution of notes and not to their elegant production. A clear distinction that can be marked by any one is that unlike a Hindustani musician who begins his recital by slowly identifying himself with every note, a Carnatic musician tries to weave a vibrato or a tremolo around a note, right from the start. Broadly speaking, Hindustani music is leisurely and relaxed while Carnatic is very fleeting. Dr. Chetan Karnan points out the difference quite subtly—"The difference can be seen between the serene expressions of Buddha's face in the Ellora Caves and the movement of 'Natraja' in the bronze statue".

Rising to North, lets for the sake of brevity, exclude obsolete styles such as Dhrupad, Dhammar etc. Every exponent here belongs to a 'Gharana' (families). Each 'Gharana' has its own style, and own ways of interpretations of various aspects. They also have carefully guarded compositions called 'Bandish' as which are passed from inheritor to inheritor. Some gharanas give more importance to sweetness, some to intricate mathematics with the rythm while some to tunes. Some are flamboyant, where as some are humble and so on. But however, on stage the basic norms followed for a recital are the same. A Hindustani musician starts his recital with a composition in a 'raaga', set to a sedate tempo (called 'Vilambit laya') or a medium paced tempo (called 'Madhya laya'). In course of time after the 'raaga' has been fully unfolded and explored, he switches to another com-









**Across:**

- 1. SATANIC VERSES was a controversial one (5)
- 4. A large bird appearing in tales (3)
- 5. A person who looks down upon others(4)
- 8. This man gives F.W.D.CLARK sleepless nights (7)
- 9. Captivate by beauty (7)
- 12. Not erect (7)
- 13. A subtle production of something beautiful (3)
- 15. Mother Teresa is one (3)
- 16. A title given to knights (3)
- 18. Study of fishes (11)
- 22. A co-ordinated group (4)
- 24. Dr.—: BOND MOVIE (2)
- 25. Inspector general in short (2)
- 26. IMAER (Anagram):— Maybe your girlfriend's name (5)
- 27. You get this alcoholic beverage from sugarcane (3)
- 28. Cyanide is one, Stychramine is another (6)
- 31. -- of America (2)
- 32. A spiritual session (6)
- 34. Given to a defaulter (4)
- 35. 'EIFFEL' is one, 'PISA' is another (5)
- 36. These guys fish with hooks(7)

**Down:**

- 1. Goddess of retribution (7)
- 2. Fermenting wine gives you this (7)
- 3. Do not speak the truth (3)
- 6. Caped crusader, box office hit (6)
- 7. Disorder (7)
- 9. Give temporarily (4)
- 11. Shakespeare: BARD OF— (4)
- 14. Assesses or estimates (5)
- 17. Anger (3)
- 19. He was in TOP GUN (6)
- 20. The "emotional" vegetable (5)
- 21. Reasoning (5)
- 22. Weighs a—: very heavy (3)
- 23. Peak of perfection (4)
- 28. Non-believer (5)
- 29. Mass of water (3)
- 30. Connected group (3)
- 32. You reap as you—(3)
- 33. Appropriate (3)

**Shanmukhasundaram T.E.ETX**

Answers on Page 63



# CALENDAR

## 1990

**JULY**

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

**AUGUST**

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**SEPTEMBER**

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**OCTOBER**

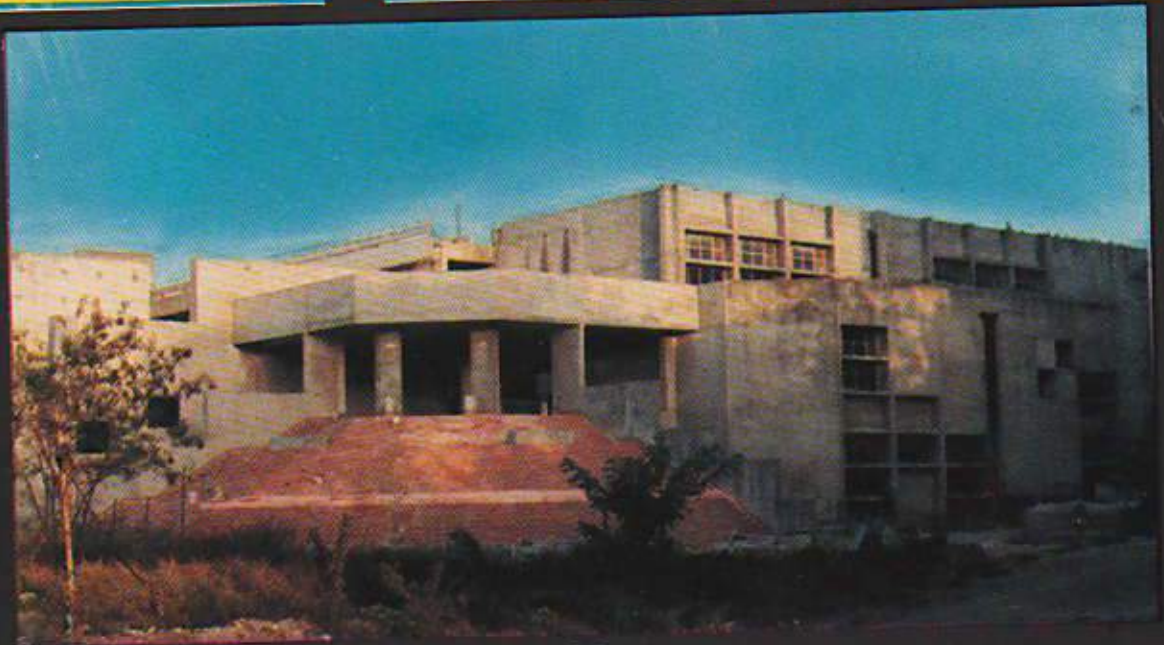
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28	29	30	31			

**NOVEMBER**

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**DECEMBER**

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## 1991

**JANUARY**

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**FEBRUARY**

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**MARCH**

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**APRIL**

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28	29	30				

**MAY**

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**JUNE**

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भारतीयम्





# आपलं मराठी वाङ्मय मंडळ

राहुल देशमुख सचिन कर्णिक

एकदा १२ वी झाली कि मग सायन्सच्या विद्यार्थ्यांचा भाषेच्या अभ्यासाशी किंवा निगडीत अशा गोष्टीशी संबंध कमी येतो. अभियांत्रिकी शाखेचा विद्यार्थी मेकॅनिक्स आणि मेटॅलॉजीच्या वेढ्यात पार चिरडला जातो आणि मग त्याला सारखे वाटत असते कि या विश्वातून जरा बाहेर पडावे. म्हणूनच आपल्या कॉलेजच्या माजी विद्यार्थ्यांनी "मराठी वाङ्मय मंडळाची" १९८४ साली स्थापना केली व प्रसिद्ध कसोटीपटू कै.विजय मर्चंट यांच्या हस्ते त्याचे उद्घाटन झाले. पण मवामं म्हणजे नेमके काय?

हे मंडळ केवळ मराठी भाषिक विद्यार्थ्यांसाठी आहे असा कोणीही गैरसमज करून घेऊ नये. कोणीही आमच्या मंडळाचा सभासद किंवा कार्यकर्ता होऊ शकतो. मंडळाच्या कार्यक्रमांना जो खर्च येतो तो आम्ही देणगीच्या रूपाने विद्यार्थी व प्राध्यापक यांच्या कडून गोळा करतो. कोणताही कार्यक्रम ठरवताना प्रत्येकाचे मत विचारात घेतले जाते. दर वर्षासाठी एक पाच जणांचे कार्यकारी मंडळ निवडले जाते.

आतापर्यंत मराठी वाङ्मय मंडळाच्या व्यासपीठावरून अनेक मान्यवर मंडळी वावरली आहेत. त्यात श्री.श्रीराम कणेकर यांची फिल्लमबाजी, श्री.व.पु.काळे व श्री. शं.ना.नवरे यांचे कथाकथन, तसेच नटसम्राट श्री.यशवंत दत्त यांच्याशी गप्पागोष्टी असे प्रमुख कार्यक्रम झाले आहेत. या वर्षी म्हणजे 'क्षितिज' च्या प्रकाशनापूर्वी मराठी वाङ्मय मंडळाने श्री.रंगनाथ कुलकर्णी यांचा 'गरीब बिच्चारं पुरुष' हा कार्यक्रम आयोजित करून साऱ्यांना



मंत्रमुग्ध केले. वरील प्रत्येक कार्यक्रमांला आम्हाला उत्तम प्रतिसाद मिळाला.

यंदाच्या मंडळाने 'स्पंदन' या नांवाचे भितीपत्रक सुरू केले आहे. त्यात आम्ही कॉलेजच्या विद्यार्थ्यांच्या कविता, लेख वगैरे प्रकाशित करतो. ज्या विद्यार्थ्यांना स्वतः कार्यक्रम सादर करायचे असतील तर मंडळ त्यांना व्यासपीठ उपलब्ध करून देते. मवामंचा प्रत्येक कार्यक्रम यशस्वी करण्यात प्रत्येकाचा हातभार असतो. पण इथवर काही मंडळाची वाटचाल थांबणार नाही. या वर्षाचा दुसरा कार्यक्रम बघायला जरूर यायचं हं!







# महाभारत : एक शाश्वत

## सत्य

शिल्पा वैद्य

द्वितीय वर्ष इलेक्ट्रॉनिक्स

'कर्मण्येवाधिकारस्ते मा फलेषु कदाचन।'

या अर्थपूर्ण श्लोकापासून सुरू होणारं महाभारत दर रविवारी मोठ्या उत्सुकतेने आबालवृद्धांकडून पाहिले जाते. जनमनावर व भारताच्या सांस्कृतिक, सामाजिक जीवनावर या महाकाव्याची मोठीच छाप पडली आहे.

विविध व्यक्तिरेखांचे वर्णन करताना त्या व्यक्ति ज्या परिस्थितीत वाढल्या व त्यांनी जे अनुभवले त्याचे यथार्थ चित्रण महाभारतात आढळते. बदलत्या सामाजिक परिस्थितीतही त्यातील संदर्भ टिकून राहिले आहेत व म्हणूनच ते त्रिकालाबाधीत आहे.

राजघराणी जाऊन लोकशाही आली तरीदेखील त्यात रंगवलेल्या व्यक्तिरेखा आजही आपल्याला आपल्यातच सापडतात. सतत अन्यायाच्या आगीत होरपळला गेलेला व म्हणूनच नाईलाजास्तव का होईना दुर्जनांची साथ देणारा कर्ण आपल्याला आजच्या तरुणांचे प्रतीक वाटतो. अन्याय, भ्रष्टाचार, वशिलेबाजी, वाढती बेकारी यांतूनच विध्वंसक युवाशक्ती उगम पावते. कॉलेजमध्ये नीट न शिकवता खाजगी क्लासेसमध्ये भरमसाठ फी घेऊन केवळ ठराविक विद्यार्थ्यांनाच विद्यादान करणारे द्रोणाचार्यही आपण पहातो. आपले यश, संपत्ती यात दुसरे कुणीही वाटेकरी असू नये यासाठी प्रसंगी हीन पातळीवरही उतरणारे अनेक दुर्योधन व त्यांच्यावर निष्ठा ठेऊन अंधानुकरण करणारे दुःशासनही आपल्याला समाजात आढळतात. अफाट महत्वाकांक्षा व संकुचित वृत्तीमुळे ते आपल्यातील गुणांचाही दुरुपयोग करतात.

आजकालचे राज्यकर्तेही आपली सत्ता व अधिकार जाऊ नये यासाठी कायकाय करतात याच्या सुरस कथा आपण नेहमी वाचतो. राजकरण या दुष्टचक्रात सदसद्विवेकबुद्धी बाजूला ठेऊन हताशपणे सारे काही पहाणारा धृतराष्ट्र म्हणजे मेलेल्या मनाचे प्रतीक नव्हे काय? खर तर सत्ता आपल्या हाती असते व आपणच त्यांच्यावर अंकुश ठेऊ शकतो. पण आपण निष्प्रभ ठरतो. याचे कारण आपल्यातीलच काही लोकांच्या अशा उच्च महत्वाकांक्षेला आपण आवर घालू शकत नाही व पर्यायाने 'गतानुगतिकः लोकः' ही भूमिका कायम ठेवतो, नव्हे त्याचे समर्थनही करतो. परिस्थितीच्या भोवऱ्यात अडकलेला व आपले स्वत्व, अस्मिताही प्रसंगी पणाला लावणारा व हार मानणारा युधिष्ठिर ही कविकल्पना निश्चित नव्हे. आजही वरिष्ठांचे लांगूलचालन करताना स्वतःचा स्वाभिमान विकायला निघालेले, खोट्या प्रतिष्ठेपायी भोवऱ्यात फसलेले युधिष्ठिर आपण पहातो.

अन्यायाचा प्रतिकार करण्याचे सामर्थ्य अंगी असूनही प्रसंगी निमूटपणे सारे काही सहन करणाऱ्या भीमार्जुनांचीही वानवा नाही ही खरी शोकांतिका आहे.

परंतु याचा अर्थ असा नव्हे की महाभारतात वर्णिलेल्या केवळ दुष्ट प्रवृत्तीच आज प्रबळ आहेत. द्रोणाचार्यांचा किता न गिरविता खेडोपाडी जाऊन निरपेक्ष बुद्धीने ज्ञानप्रसार करणारे शिक्षक, डॉक्टर्स, समाजसेवक आढळतात. गीतेत सांगितलेला कर्मयोग ही मंडळी खऱ्या अर्थाने जगतात.

सत्तेसाठी हपापलेले राजकारणी आहेत त्याचप्रमाणे पत्नीसाठी राजसत्तेचा त्याग करणारेही आहेत. सत्ता, संपत्ती यांच्या दबावाखाली न येता राज्यकर्त्यांच्या डोळ्यात झणझणीत अंजन घालणारे न्या.लॅटिनसारखे न्यायमूर्ती आहेत. जनतेसमोर सत्य आणणारे निर्भड पत्रकार आहेत व म्हणूनच कधी मुलीचे मार्क वाढवायचा प्रयत्न केला म्हणून तर कधी तोफाखरेदीत भ्रष्टाचार केला म्हणून राजकारण्यांना पदभ्रष्ट व्हावे लागले आहे.

'यदा यदा हि धर्मस्य ग्लानिर्भवति भारतः।'

या श्लोकाप्रमाणेच जेव्हा जेव्हा लोकांच्या सहनशक्तीचा अंत पाहिला जातो तेव्हा तेव्हा परिस्थिती पूर्णपणे पालटणाऱ्या शक्तींचा उदय होतो. व होणाऱ्या उद्रेकातून अशा दुष्ट प्रवृत्तींचा समूळ नाश होतो. म्हणूनच निर्दयी हुकूमशहा चौचेस्कूची राजवट उलथली जाते. २८ वर्षांनंतरही मानवी हक्कासाठी लढणाऱ्या नेल्सन मंडेलाची सुटका होते. धडाडीने चक्रव्यूहाचा भेद करणारा अभिमन्यू आपल्याला आदरणीय वाटतो.

आज जगात शांतता नांदावी, निःशस्त्रीकरण व्हावे यासाठी प्रयत्न करणारे मुत्सद्दी श्रीकृष्णाचाच वारसा पुढे चालवत नाही काय?

यत्र योगेश्वरः कृष्णः यत्र पार्थो धनुर्धरः।

तत्र श्रीविजयो भूवाभूमा नीतीमतिर्ममः॥

या श्लोकाप्रमाणेच सत्याचा सूर्य असलेला कृष्ण व पराक्रमी अर्जुन जेथे आहेत त्यांचाच विजय होतो, हा आत्मविश्वास महाभारत हे महाकाव्य आपल्याला देते.

आजच्या या कलियुगातही असे प्रखर व्यक्तित्व तयार होऊन काळाबाजार, गुंडगिरी, दहशतीपुढे मान तुकवलेल्या समाजमनाला जागृतावस्थेत आणून अपप्रवृत्तींवरूद्धचा लढा जिंकेल काय? तरंच महाभारत हे केवळ काव्य नसून शाश्वत सत्य आहे असे म्हणता येईल.



## चहाख्यानम् !

अनिल यशवंत जाधव  
चतुर्थ वर्ष प्रॉडक्शन

फार फार पूर्वी एक महान ऋषी तपश्चर्या करीत होते. पण तप करीत असताना त्यांना झोप आवरेनाशी झाली म्हणून रागाने त्यांनी आपल्या पापण्याच कापून टाकल्या. त्या पापण्यांतून एक झाड उगवले. ऋषीच्याच पापण्या त्या! नंतर त्या ऋषींच्या शिष्यांनी एक शोध लावला. त्या झाडाची पाने पाण्यात उकळून ते पाणी प्याल्यावर त्यांची झोपच उडाली. ते रोपटे म्हणजे आपला चहा. म्हणजे पाहिलंत चहाला कशी 'अध्यात्मिक बँकग्राऊंड' आहे ती! आपणाला, चहाबाजांना अभिमानास्पद गोष्ट आहे ही.

असा हा चहा म्हणजे पृथ्वीवरील अमृतच! आणि म्हणूनच चहा पिणे हे पिरियड बुडविण्याइतके सोपे नाही. काहीजण इडली-डोसा चापतात आणि वर चहाचे आचमन घेतात. काहीजणांना तर असे वाटते की, हॉटेल मालक पिस्तूल घेवून उभा आहे. म्हणतो आहे, 'जल्दी करो! वर ना .....' पण चहा पिणे हे एक महान यज्ञकर्म आहे. ते पार पाडण्यासाठी वातावरण निर्मितीचीही आवश्यकता असते. संध्याकाळचा तांबूस प्रकाश पसरला आहे. पक्षी आपल्या घट्याकडे परतत आहेत..... वगैरे वगैरे वातावरण असावे. रेडियोवर किशोर कुमार 'जीवन से भरी तेरी आँखें.....' सारखे एखादे आर्त गाणं गात असावा. घरात 'ती'च्या शिवाय कुणी नसावं. शेजारच्या रमाकाकू टी.व्ही. वर भावगीतांचा कार्यक्रम पाहण्यात रंगल्या असाव्यात. थोडक्यात म्हणजे 'डिस्टर्ब' करायला कुणी नसावं आणि अशा या सुंदर समयी 'ती' ला चहा ठेवण्याचा प्रेमळ हुकूम करावा. 'ती' गॅसवर आधी पातेले ठेवेल. त्यात हळूवारपणे पाणी ओतेल. ते उकळून चहाची पूड घेण्यास वर उड्या मारू लागले की, 'ती' हलकेच चहा, साखर टाकेल. मग चहाच्या वासाने मन कसं गुगून जाईल. नंतर 'ती' कपबशीत चहा ओतेल, किचीत दुध टाकेल. आपल्याला दिलेल्या चहाच्या कपाकडे क्षण दोन क्षण पहावे आणि हलकेच कप ओठाला भिडवावा. नंतर जी अनुभूती येते त्यालाच म्हणतात 'ब्रम्हानंद'!

चहा हा जसा एकांतातला मित्र तसेच चार मित्रांना जोडणारा दुवा. कॉलेजचे संमेलन, कॅटिन मधला बटाटावडा, पिरियड चुकवून पाहिलेला सिनेमा आणि 'ती....ती.....रे F.E. ची, अरे मी नाही का रोजडे ला तिला रोज दिले होते. ....' या गप्पा या सर्वांना चहामुळे कशी मस्त लज्जत येते.

चीनमधील जेवण, अमेरिकेत रहाणे आणि जपानी स्त्री ज्याला लाभली तो भाग्यवान. पण त्याही पेक्षा जे लोक थॅडीमध्ये रात्री चहापान करतात ते जास्त भाग्यवान. अशा वेळी मग मोठ्यांना त्यांचे पूर्वयुष्य जणू चहाच्या त्या वाफेत दिसते. मग काका



खुलतात, सांगू लागतात, 'आमच्या वेळी, म्हणजे लहानपणी बरं का! ह्या ज्या बिल्डिंग्स दिसतात ना, तिथे मोकळं मैदान होतं मग आम्ही ....' आजी, 'पूर्वी साखरेचे भाव नव्हते भडकले बाई!' म्हणून आईकडून आपल्या कपात जास्त साखर ओतून घेते. छोटी पिलावळ पण आशाळभूतपणे त्या चहाकडे पहात असते. मग 'आता एवढाच हें' या दटावणीसह त्यांना चहा मिळतो. चहाने एवढी धुंदी आलेली असते की बागचे टोले पडले तरी झोप येत नाही. ती पण बिचारी कुठे चहा पीत बसलेली असते कोण जाणे!

चहा पीत असताना वादळेही होतात. पण चहातलीच वादळे ती! चहाच्या एका घोट्याबरोबर शांत होतात. एरव्ही सुस्त असलेली सरकार दरबारची मंडळी "चायपाण्याला" काहीतरी दिलं की लगेच कशी तल्लख होतात. हा चहाचा केवढा मोठा फायदा बरे!

अतिपरिचयाने मलय पर्वतावरील भिल्लीण चंदनाची लाकडे चुलीत घालते म्हणे. तसेच काहीसे चहाचे झाले आहे. या जिवलग मित्राकडे मुंबैकरांचे 'काहीसे दुर्लक्ष होत आहे. "चाय-गरम" च्या ऐवजी "दो-थम्स अप" च्या आरोळ्या ऐकू येतात. पण या 'कोला' हलातही आमच्यासारखे काही निष्ठावंत कार्य(?)कर्ते अजूनही आपला कप घट्ट धरून आहोत. म्हणूनच 'मी बाई नाही चहा घेत' असे म्हणून चहा पिणाऱ्यांना हलके ठरवणाऱ्यांची कीव येते. अशांना मृणालबाई गोरे, लक्षा बेडे, अमिताभ बच्चन, पु.ल. या साऱ्यांना चहा किती किती आवडतो हे मी सांगतो. कुणी तरी अमक्या तमक्या नटीने 'माझ्या सौंदर्याचे रहस्य म्हणजे लिप्टन चहा' असे शपथपूर्वक सांगितले आहे. हे त्यांना पटवतो आणि किटलीतील चहाचा राग जावा म्हणून आणखी दोन कप चहा प्राशन करतो.

मला वाटते, माझ्या प्रमाणेच सर्व चहाबहादुरांना वाटत असेल की मोक्ष मिळवून स्वर्गात केवळ अमृतपान करण्यापेक्षा पुन्हा पुन्हा पृथ्वीवर यावे, पुन्हा पुन्हा चहा प्यावा आणि पुन्हा चहाच्या संगतीने आयुष्य चवदार करीत जगावे.





## भजन आणि प्रवास

विनायक गटले  
तृतीय वर्ष, इलेक्ट्रॉनिक्स

गर्दीतील लोकल रेल्वे प्रवास मुंबईकरांना नवीन नाही. पण भजन करित लोकल प्रवास करणे म्हणजे काय हे काही दिवसांपूर्वीच मी अनुभवले. त्याचीच ही गाथा.

त्याचं असं झाल की स्टेशनवर यायला मला काही मिनिटे उशीर झाला. पाहिलं तर गाडी स्टेशनात शिरत होती. त्यामुळे मला इच्छित डब्यापर्यंत पोचताच आलं नाही. नाईलाजाने मी शेवटच्या डब्यात चढलो.

डब्यात तिसरी सीट कशीबशी पकडून हाशहाशुश करित असतानाच मला असे दिसून आले की बाजूला काही लोकांनी खिडकी बंद करून तेथे देवाचा फोटो टांगला आहे आणि त्याला हारही घातलाय. एव्हाना आजूबाजूला काही लोकांनी आपआपल्या पिशव्यांतून टाळ व झांज बाहेर काढल्याने मी भजनाच्या डब्यात चढल्याची जाणीव झाली. आजवर या लोकांबद्दल केवळ मी ऐकून होतो. आज प्रत्यक्ष अनुभवणार म्हणून थोडा आनंदित झालो.

दोनच मिनिटात गाडी सुटली त्याबरोबर 'बोला पुंडलिक वरदे .....' चा गजर माझ्या कानी पडला आणि 'श्रीराम जय राम - जय जय राम' च्या नादात भजन सुरू झाले. त्याला टाळ व झांजेची साथ काही लोक करू लागले. काही टाळ्या वाजवित होते. एकाने तर दोन काटक्या आपल्या बरोबर आणल्या होत्या. त्या तो डब्याच्या पत्र्यावर ताशा बडवावा त्याप्रमाणे बडवत होता. जसजसा गाडीचा वेग वाढू लागला तसतसा भजनाचा व टाळ-झांजेचा आवाज वाढू लागला. विज्ञानात जसं वेगाच त्वरणाशी (acceleration) किंवा इतर गोष्टींशी समप्रमाण असतं तसा काही संबंध भजनाचा व गाडीच्या वेगाचा असावा असं मला वाटू लागलं.

वाढत्या झांज व टाळांचा आवाज थोड्याच वेळात नकोसा वाटू लागला. सुरुवातीला सहनीय वाटणारा भजनाचा आवाज आता एवढा वाढू लागला की तो आता सहन करणे अशक्य वाटू लागले. हृदयाचे ठोकेंही आता जलद पडू लागले. हा आवाज एवढा प्रचंड होता की कोणी घणाचे धाव डोक्यात घालतोय असं वाटू लागले. जसजसे पुढचे स्टेशन जवळ येवू लागले तसा तर भजनाचा वेग अधिकच वाढला. तो जणू पुढच्या स्टेशनवरील त्यांच्या सहकाऱ्यांना इशाराच असावा. कारण गाडीचा वेग जेव्हा स्टेशनात शिरल्यावर कमी झाला तेव्हा काही लोकांनी रेल्वेत अशाप्रकारे मुसंडी मारली की प्रत्यक्ष समुद्रोड्डाण करणाऱ्या हनुमानालाही स्वतःची लाज वाटावी. भजनीमंडळीच्या सहकाऱ्यांनी तर इतर लोकांना धडाधड बाजूला सारून आपल्या

सहकाऱ्यांजवळ ज्या प्रकारे कूच केले ते पाहून अटकेपार झेंडा फडकविणाऱ्या 'राधोभरारीने'ही आश्चर्याने तोंडात बोटे घातली असती. कलियुगात ईश्वरावरील ते अचाट प्रेम पाहून मला तर अगदी गहिवरून आले. नामदेव, तुकाराम यांचा विदूमाऊलीच्या दर्शनासाठी जो आवेग होता त्या तोंडाचा या लोकांचा आवेग पाहून मी धन्य धन्य झालो.

आता लोकांच्या संख्येत वाढ झाल्याने भजन अगदी तेजात आले होते. पुढच्या स्टेशनात परत तीच पुनरावृत्ती झाली. माझ्या समोर एक वृद्ध गृहस्थ बसले होते. या प्रचंड आवाजाने त्यांना श्वासही घेणे जड होऊ लागलं होतं. त्यांची अवस्था पाहून एक क्षण वाटल की जाऊन या लोकांना विनंती करावी की 'बाबारे' घरी जावून वाटेल तेवढ्या आवाजात भजन करा. पण तुमच्या या भजनाचा दुसऱ्यांना त्रास का? भजनच करायच होत तर तो एवढा तासे बडवून कशाला करायला पाहिजे? शांततेने काही करता येत नाही का? पण खरं तर मनातून मी लोकांना थोडा घाबरलो होतो. त्यांना विनंती करण्याचा सुद्धा मला धीर झाला नाही. म्हणून सहजच मी शेजाऱ्याला प्रश्न केला 'अहो' तुमचं हे भजन कुठपर्यंत चालतं?' तर तो मला म्हणाला 'तसं तर आमच्याकडे बोरिवलीहून चर्चंगेट पर्यंतही न सपणारा स्टॉक आहे पण लोकं



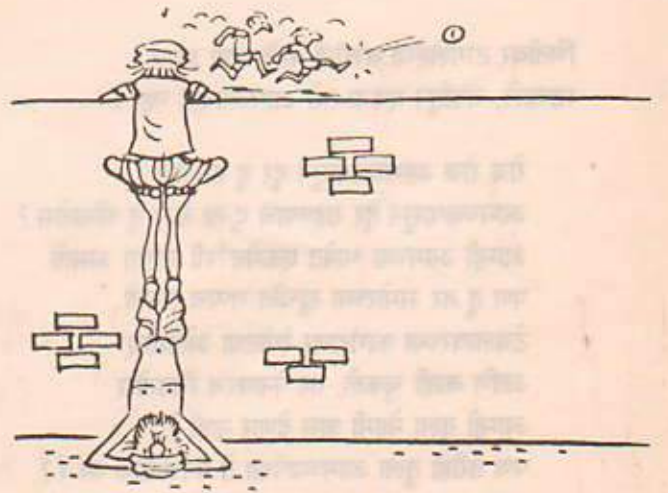
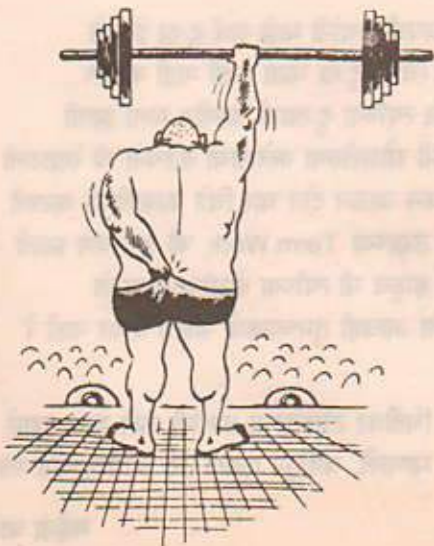
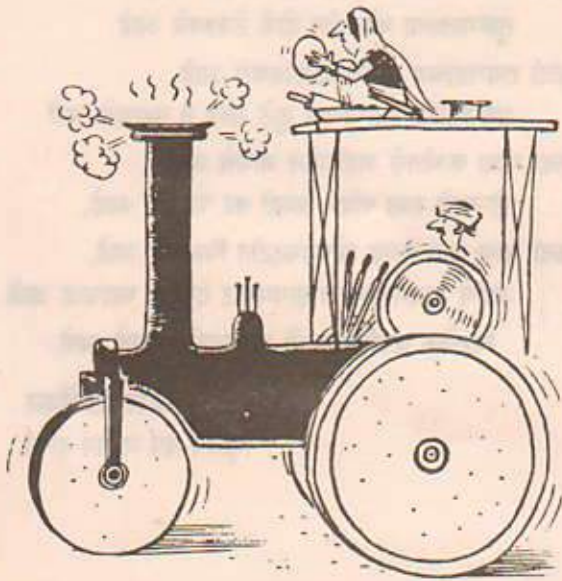
मधे उतरणारी असल्याने आम्ही भजन चर्चंगेटलाच थांबवतो.' त्याच्या बोलण्यात आपण भजन करतो म्हणजे कोणी मोठे झालो आणि आपल्याकडे भजनाचा मोठा साठा आहे याचीच मोठी आढ्यता होती. त्याच्या बोलण्याचं मला फार हसू आलं, त्याच बरोबर एवढा वेळ ओरडून भजन करण्याच्या क्षमतेबद्दल मनापासून कौतुक वाटलं. 'ही लोकं एवढी शक्ती या भजनात घालवल्यावर ऑफीसात कसं वरं काम करू शकतील? कोणतं टॉनिक त्यांना एवढं शक्तीमान करतं?' हा विचारही मनात टपकला.





आताशा गाडी पूरी खचाखच भरली होती. त्यात खिडक्या बंद असल्याने भजनाचा आवाज नुसता कानावर आदळत होता. मला तर कधी एकदा दादर स्टेशन येतंय असं झालं होतं. जागा सोडावी तर गर्दीत उभे रहावे लागणार आणि बसून राहिलो तर या भजनाने वेडा होणार. अर्थात इकडे आड तिकडे विहीर अशी माझी अवस्था झाली होती. एव्हाना या लोकांचे दोनदा प्रसाद वाटप झाले होते व भजन आता सिनेमाच्या चालीवर धावत होते. वाद्रे येताच मी जागेवरून उठलो व दरवाज्यावर जाण्याचा प्रयत्न करू लागलो कारण कधी एकदा या डब्यातून बाहेर पडतो असं झालं

होत. दादर स्टेशन बदल एवढी आतुरता मला आजवर कधी वाटली नव्हती. माटुंगा. मागे टाकून गाडी दादर स्टेशनात थांबल्याबरोबर मी आनदाने प्लॅटफॉर्मवर उडी मारली. एका मोठ्या दुःस्वप्नातून बाहेर पडल्यासारखे वाटत होते. उतरतांनाचा गोंगाटही मला भजनाच्या आवाजापुढे शांत वाटत होता. मी माझी बॅग पाठीवर टाकली व मनातूनच त्या भजनीमंडळीच्या डब्याला कोपरापासून नमस्कार केला व पुन्हा चुकूनही त्या डब्यात पाऊल न टाकण्याचा निर्णय घेऊन मी मध्य रेल्वेच्या दिशेने चालू लागलो.







## अश्वमेधाचा वारू

मनाला कशाचीही बंधने नसावी  
मनाची कवाडे उघडून द्यावी।  
शीतवाऱ्याची झुळूक आत चटकन शिरावी  
मनाला माझ्या ती स्पर्शून जावी॥



मनाचा गंध आसमंतात भरवा  
रानीच्या फुलांनाही बहर यावा।  
हिरवाईची मुक्त उधळण व्हावी अन्  
तप्त धरित्रीही न्हाऊन जावी॥

आभाळाच्यानिळाईला लालीही चढावी  
सागराने हृदयावर चांदीही ल्यावी।  
विहंगांच्या कूजनाला साद मी द्यावी अन्  
बासरीच्या सुरांत ती विरूनही जावी॥

मनाला मी माझ्या लगाम न द्यावा  
अश्वमेधाचा वारू हा मुक्त उधळवा॥

मयुरेश नगरकर  
प्रथम वर्ष इलेक्ट्रॉनिक्स

## एकदा मला कधीतरी....

एकदा मला कधीतरी एव्हरेस्ट पहायचे आहे,  
एस्कमोच्या इगलूमध्ये चहा पिऊन यायचे आहे.  
एकदा मला कधीतरी दिल्लीला जायचे आहे,  
पाढऱ्या कपड्यातील काळी माणसे शोधायची आहेत.  
एकदा मला कधीतरी पंजाबलाही जायचे आहे,  
लाल झालेल्या मातीत काळेपण शोधायचे आहे.  
एकदा मला कधीतरी अंदमानला जायचे आहे,  
तुरूंगातल्या कौठडीत डोके टेकायचे आहे.  
एकदा रायगडाच्या तोफेत डोक्यायचे आहे,  
मराठ्यांचा स्वाभीमान कुठे गेला ते पहायचे आहे.  
एकदा मला कधीतरी आफ्रिकेत जायचे आहे,  
गोन्याचे रक्त पांढरे असते का पहायचे आहे.  
एकदा मला धारावीच्या झोपडपट्टीत फिरायचे आहे,  
आणि ताजमहालाचा झगमगाट देखील पहायचा आहे.  
कित्येक वर्षांपासून मी माणूसकी शोधतो आहे.

महेश कालेंकर  
तृतीय वर्ष मशिन टूल्स

## खंत

भितीवर टांगलेल्या ब्रशांनी केले मला इशारे  
म्हणाले, वर्षातून एकदा तरी आमच्याकडे पहा रे

रोज रोज आमच्यापासून दूर तू राहतोस  
आमच्यापासून दूर राहण्याचं दुःख कसं तू सोसतोस ?  
आम्ही आमच्या भाषेत एकमेकांशी बोलत असतो  
पण तू तर समोरच्या खुर्चीत गप्पच बसतो.  
टेबलावरच्या कागदावर रेघोट्या ओढतोस  
आणि काही चुकले, तर पेनावरच चिडतोस  
आम्ही तुला नेहमी त्रास देणार नाही रे  
पण तरीही तुला आमच्यापेक्षा ते पेनच प्रिय का रे ?

भितीवर टांगलेल्या ब्रशांनी केले मला इशारे  
म्हणाले, वर्षातून एकदा तरी आमच्याकडे पहा रे

आजपर्यंत त्यांनी माझे सर्व दुःख झेलले  
पण त्यांचे दुःख मला कधी नाही कळले.  
आज त्यांच्या दुःखाची जाणीव मला झाली  
त्यांनी सोसलेल्या क्लेशाची कल्पना मी रेखाटली  
पटकन जाऊन दोन चार चित्रे काढाविशी वाटली  
पण उद्याच्या Term Work ची आठवण झाली  
मग हळूच मी त्यांच्या केसांना गोंजारले  
'मला आजही तुमच्याकडे पाहता येणार नाही रे'

भितीवर टांगलेल्या ब्रशांनी केले मला इशारे  
म्हणाले, वर्षातून एकदा तरी आमच्याकडे पहा रे

महेन्द्र पाटील  
तृतीय वर्ष प्रॉडक्शन



## हिन्दी बोलना

हिन्दी बोलना हमारी Duty है।

Brothers and Sisters.....

India हमारी country है।

और हम हैं, India के citizen

इसलिए Hindi बोलना हमारी Duty है।

पर बेचारी Hindi की किस्मत ही खोटी है।

आजकल की Young generation  
whenever mouth खोलती है।

Only - Only English ही बोलती है।

Person की Personality को English से तोलती है।

हिन्दी संस्कृति को पाश्चात्य से गौण मानती है।

तब हमारा सर shame से झुक जाता है।

and heart deep वेदना से भर जाता है।

ये सब very wrong है।

Actually देशद्रोह है।, ढोंग है।

हमें अपनी daily life में

Hindi language को लाना है।

World wide फैलाना है।

Then and then only मोहनदास and

भारत माता के

Dreams होंगे सच।

Thank you very much.

## हमारी Duty है



नरेश पाचाल  
तृतीय वर्ष मशिन टूल्स

## महफूसियत की

हयात ले आई है तुझको

ये किस मकाम पे

है सुनी नज़र, सहमी अधर,

बहती अश्रुओं की धारा

रोके नहीं सकती।

अमन - चैन ढूँढते नैन

दर - दर भटकता दिल का चैन।

हैं बिखरे बाल

देखो उसका हाल -

बस पनाह की तलाश है,

बस ममता की चाह है, इक बसेरे का ख्वाब है

और इक नए सवेरे की आस है॥



प्रीती गोयल

अंतिम वर्ष

इलेक्ट्रॉनिक्स

तलाश

## इनसानियत को मृत्यु-दंड

शास्त्र कथनी - "हैं पुरानी;"

कल तक जानी - पहचानी, आज अनजानी;

क्रूरता की आग में एक बूँद पानी - इनसानियत?

स्त्रीधन के बोझ तले ढह गई,

स्त्रीसंग लपटों में बह गई;

जन्म-पूर्व अपनी कहानी कही,

जन्म-पश्चात् उसने कटुता सही,

क्या अब बाकी रही, इनसानियत?

जाति - युद्ध में विकलांग हो गया तन,

धन - बल से बलि चढ़ गया मन;

पाखण्ड अपना फैला चुका है फन,

मोड़ - मोड़ पर हैं सर्प गेहूँअन,

कैसे सहेगी यह विघटन, इनसानियत?

इनसान ने कैसा बेतुका कार्य किया,

प्रकृति की सुंदर भेंट को लाचार किया,

इनसानियत का बयान सुना नहीं

और, उसे मृत्यु-दंड दे दिया।

विजय रायसिंघानी  
अंतिम वर्ष मशिन टूल्स

## अनजाना अपनापन

वो क्या एहसास है

जो दिलों को बाँधे अनजाने,

वो क्या कशिश है

जो साहिल पे खींचे लहरों को न जाने।

क्यूँ बुनते हैं ख्वाब तनहाईयों में,

और उठते हैं दर्द, दिल की गहराईयोंसे,

मिला तो है कोई, पर नहीं मिला,

ये है कैसी हकीकत,

है दिल को न कोई गिला।

ये कुदरत, ये किस्मत, ये चाहत क्या है?

ये रस्मों - रिवाजों की दुनिया न जाने

ये बंधन जो बाँधे दिल के तारों को क्या है?

ये सिर्फ चाहत भरी निगाहें ही जाने॥

प्रीती गोयल अंतिम वर्ष इलेक्ट्रॉनिक्स





## નેહસન | માંડેલાને..... (તેમના મુક્તિ પ્રસંગે)

એક પંખીએ ગીત મજાનું ગાયું,  
તેના તરંગિત સ્વરમાં ગજન જાણે છાયું.  
આ સ્વરોના સથવારે અંધારનું જગ ભૂલાયું  
કેમ લાગે છે કે ચતોચત ધરએ કંઈ કેટલું પાયું!  
ગાયું તેણે, “બધા જ સરખા, બધા જ સાચ,  
ન કોઈ કાળા-ચોરા, હવે તો એક થાવ ભયું!”  
સાંભળી આ સ્વતંત્ર્યદેવીના મુખે સ્મિત રેલાયું,  
પંખીના આ સૂરોમાં સાચું જગ ન્હાયું.  
જ્યારે પંખીને પિજરમાંથી મુક્ત કરાયું,  
ત્યારે તેણે આ ગીત મજાનું ગાયું.

— જ્યદીપ પાઠક  
પ્રથમ વર્ષ પ્રોડક્શન

## હરીશર્ધ

હરીશર્ધનો આ કેવો જમાનો!  
તે કર્યું હવે હું કરવાનો  
મિત્રતાનું હવે નામ બાકી,  
તાર કરતાં હું વધવાનો.

તારુ મારું જીવન ખોરું  
મનમાં વેરને દાવત દેવી  
કોષ કરી ખોટાઈ ને વરવું  
વિચાર એનો કરી તરકડવું.

રોજ ચેપી આ ઝટપટ ઝીલે  
સૌને અસર કરી સતાવે.  
દવા અક્સીર કોઈ શોધી દેજે,  
મનુષ્ય મનમાં સૌ ઝાંકી લેજે.

માનવ શાને કરો હરીશર્ધ  
જેવો હશે એવો દેખાઈ?  
હશે જ્ઞાન જશે પરખાઈ.  
દેખાદેખી રહેશે કરમાઈ.

નરેશ પાંચાલ  
તૃતીય વર્ષ મશીન ટ્રસ્ટ

## આજે

આજે તારું મારું કહેવા કરતાં ‘આપણું એજ ન્યારું’ છે.  
આજે સમાનતાની ચલ પર એકતાનો જ સહારો છે.  
આજે મંદિર, મસ્જદ ને ગીરજાધર સૌને પ્યાસ છે.  
પણ માનવતાની રક્ષા કરવા સૌને એક કરવાના છે.  
આજે અમીર-ગરીબ, માલિક-નોકરના ઘણાંય વાડ છે.  
પણ મનથી સર્વે સરખા હોય તો ધન તો ધૂળની માયા છે.  
આજે સ્ત્રી, પુરુષ, જ્ઞાન, જાત ના છે. ભેદ ઘણાંય,  
તો ભૂલો જાઓ બધું ને યાદ રાખો માનવતા સહાય.  
આજે હિંસાના છે શસ્ત્રો ઘણાં સન્નાનાં છે લોભી ઘણાંય,  
પણ અહિંસાના પાયા પર આત્મ મંદિર સ્થાપીએ જગ.

ભાવેશ મહેતા  
વિત્તીય વર્ષ મશીન ટ્રસ્ટ

## એક સપનું પ્રવાસનું

નીકળવાના હતા ૧૬ મી મે ૧૯૮૬ ને દિન.  
તેથી દૈન્યમાં હતાં ઉમંગો ને છલકતું હનું દિલ.

વિચારોને ફૂટી પાંખો ને  
શમણાં આપ્યાં જાતજાતનાં  
ક્યારે પહોંચું સિમલાને  
જેતું સ્થળો જાતજાતનાં

આ ઉર કેમ લાગી રહ્યું છે ઉછળતું?  
લાગે છે, જેવું છે એને પેલું ઝરણું  
જે કુલુની ખીણમાંથી નીકળતું.

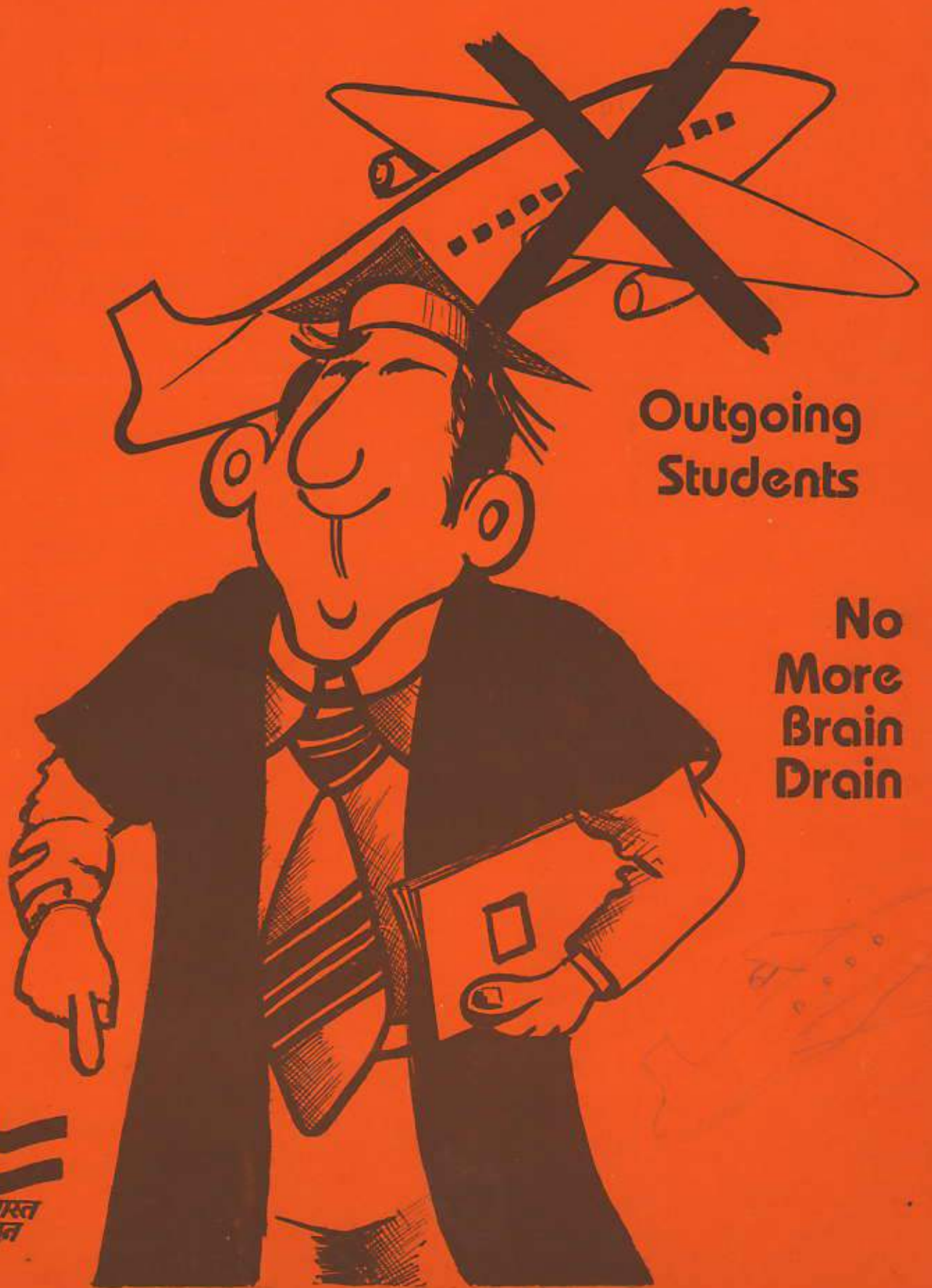
ચડી જઈ છે કેમ ખાલી માચ પગમાં?  
વિચારતું હશે.

ક્યારે માંડશું ડા બદ્દીકેદારના પવિત્ર. ધામમાં!  
આ નયનો નિરખી રહ્યા છે શું?  
શું શોધી રહ્યા છે માચ દૈન્યમાં?  
કદાચ જેઈ રહ્યા છે શમણાંના ઉપવનમાં  
ઊડે ઉતરી ગયેલા માચ ચંચળ જીવને!

આંખો પર પડ્યા સુર્યકિરણોને  
ઉડી ગયા શમણાં મન મહીં,  
જગ નાખી નજર ચહેરા પર  
હનું કાંઈ નહીં,  
સિવાય કે જગ ગમગીની!!

— પ્રેરક. હરેશ. મહેતા  
પ્રથમ વર્ષ પ્રોડક્શન





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**Mr. Dharwadker Manish Narayan**, 4, Ahilya Ashram, 7th Road, Santacruz (E), B'bay-55.





- Mr.Kini K. Harish T., Flat No.18, CanBank House, 1st Hasnabad Lane, Santacruz (W), Bombay-54.  
C/o. Mr.K.V.Kini, Ramakrishna Nilaya, Kallinapur, South Kanara, Karnataka.
- Mr.Pathare Sachin Shashikant, 34/35, Gangadhar Nivas, Gokhale Road (North), Dadar, Bombay-28.
- Mr.Beheray Atulya S., 604-Skylark-A, Lokhandwala Complex, Andheri-58.
- Mr.Darukhanawalla Jamshed Khurshed, Ganesh Niwas, Bld.-1, Flat 28, 'D' Wing, Thana (W).
- Mr.Doshi Manish S., 454, Nepeansea Road, Matru Aashish, Bombay-6.
- Mr.Malhotra Vivek Rajendralal, 21 (u)/54, Kavita Apts., Wadala Bombay-400 031.
- Mr.Pandit Ajit Dinesh, F/14, Ambekar Nagar, Parel, Bombay-12.
- Mr.Chaudhari Ajay Suresh, 6, Anil Kunj, Sakharam Kir Road, Mahim, Bombay-16.
- Mr.Bolangady Parvin M., A-7, 'Anant', Tejpal Scheme, Rd. No. 5, Vile Parle (East), Bombay-57.
- Mr.Bang Varadraj Rangnath, Ramkumar Venugopal, 58-Bhuleshwar Road, B'bay-2.
- Mr.Gandhi Hemen Kishorebhai, B-6, 'Suraj Sadan', Juhu Scheme, N.S. Road No.3, Vile Parle (W), Bombay-56.
- Mr.Balla Hitesh Devji, 169, J.D. Bhavan, Matunga Road, Bombay-19.
- Mr.Jain Manojkumar Shikharchand, M.S. Jain, 5, Shivdarshan, Tilak Nagar, Dombivli (E), Pin-421 201.
- Mr.Kasbekar Durgesh Bhaskar, 11/402, D.N.Nagar, Andheri (W), B'bay-58.
- Mr.Varandani Rajinder Bhagwandas, A-1/3 Kripa Nagar, S.V. Road, Irla, Bombay-56.
- Mr.Shinde Uday Jagannath, A/53, Bilwa Kunj Society, L.B.S. Marg, Mulund (W), B'bay-80.
- Mr.Apte Vijay Madhav, Chandiwala Bldg., Jayparkash Nagar, Goregaon (E), B'bay-63.
- Mr.Punjabi Ravi Srichand, 304, Shiv-Ashish, 66, S.V. Road, Andheri, Bombay-58.
- Mr.Koradia Rohit Harsukhlal, 104, Roma Sadan, Simpoli Off Road, Borivali (W), B'bay-92.
- Mr.Joshi Mukund Vasant, Godse Wada, Tilak Chowk, Datta Ali, Near Balak Mandir, Kalyan-421 301.
- Mr.Gupta Mahesh Shrikrishna, 10, Hem Kunj, Zaver Road, Mulund (W), B'bay-80.
- Mr.Metha Dharmeshkumar Kantilal, 102, Shobha Apartment, S.M. Road, Mulund (W), B'bay-80.
- Mr.Joshi Ravindra S., 'Vitthal Krupa', Dattanagar, Dombivli (E), Pin-421 201.
- Mr.Apte Vikas Sadashiv, Apte's House, Lokmanya Ali, Thane, Pin-400 602.
- Mr.Bandodkar Rajesh S., 8/2 Kalaiwala Bldg., Tejpal Scheme, Road No. 3 Vile Parle (E), B'bay-57.
- Mr.Arondekar Rajesh Dattaram, 31/796 Nehru Nagar, Kurla (E), B'bay-24.
- Mr.Borkar Manoj Madhukar, 12/9, M.I.G. Colony, Kurla (W), B'bay-70.
- Mr.Deshmukh Sachin Prabhakar, B/15, Om Mayuresh Society, Mithagar Road, Mulund (E)-81.
- Mr.Bhatt Mukesh Bhaskerbhai, 2, Laxmi Nivas, Opp. Ambaji Temple, Carter Road No. 3, Borivali (E), B'bay-66.
- Mr.Patel Nitin Joshbhai, 24 Bhavan, Navroji Lane, Ghatkopar (W), B'bay-86.
- Miss.Lad Madhuri Ramakant, 19/157, Unnatnagar 2, Goregaon (W), B'bay-62.
- Mr.Shah Sunil Manharlal, 4/41, Jansukh Apartments, Kasturba Road, Kandivali (W), B'bay-67.
- Mr.Bhayani Sachin Sureshchandra, 11, Chheda Bhavan, U.P. Road, Mulund (W), Bombay-80.
- Mr.Desai Divyesh Jyatindra, 13/22, Savitri Kunj, Vallabaug extension, Garodia Nagar, Ghatkopar.
- Mr.Desai Sujit Hasmukhlal, B-12, Rajesh, Vishwabharati Soc., Juhu Lane, Andheri (W), Bombay-58.
- Miss.Indira R. D'souza, 9, Sai Nagar, Off. St. Anthony's Road, Chembur, Bombay-400 071.

#### 1988-89—MACHINE TOOLS

- Miss.Gogate Sandhya Pandharinath, 1, Vijaydurga Soc., Dr.R.P. Road, Dombivli (E).
- Mr.Shah Jayesh Navnitlal, 13/48, Matru Mandir, 278, Tardeo Road, Bombay.
- Mr.Nandiwadkar Umesh Balaram, 8/10, Shenwiwadi, Khadilkar Road, Girgaum, Bombay-400 004.
- Mr.Pradhan Amol Sadanand, E/20, Ramwadi, Bave Bazar, Opp. Joker Talkies, Kalyan-421 301.
- Mr.Kamat Mahesh Vishnu, L 1/4, Tilak Nagar-2, Chembur, Bombay-400 089.
- Mr.Kulkarni Pralhad Dasmohan, 1/5, Gokhalewadi, (Shree Ramwadi), Manpada Road, Dombivli (East).
- Mr.Dalvi Sanjay Damodar, 3/157, Khernagar, Bandra (E), Bombay-400 051.
- Mr.Sharma Manish G., B-2, I.I.T. Powal, Bombay-76.
- Mr.Kshatriya Prashant R. 2/7, Everest Society, Dombivli (W).
- Mr.Lala Ranjeet P., 1/19, Chaitanya Society, Vakola, Santacruz, Bombay-55.
- Mr.Kothari Parag Manharlal, 37, Jaldarshan, 51, Napean Sea Road, B'bay-36.
- Mr.Ajitkumar Gangadharan, P 24/2, M.E.S. Qrts., Powal, Bhandup p.o., Bombay.
- Mr.Jagiasi Rajkumar Totaldas, Flat No. 4/III, Ram Nivas Co.op.hsg. Soc., Ulhasnagar-4.
- Mr.Shedge Satish Shankar, B/59, Shri Krishna Co.op.hsg. Soc., L.B.S. Marg, Mulund (W), Bombay-80.
- Mr.Pawar Milind Vinayak, 26, Meena, R.B.M. Road, Ghatkopar (E), Bombay-77.
- Mr.Belapurkar Suhas Digambar, 1/51, Dr.Ranganekar Soc., Shivshrushti, Kurla (E), Bombay-400 024.
- Mr.Yeole Shashikant Bhaskar, C/o V.C.Yeole, Shrikrupa Building, Katemanivalli Road, Kelswadi, Kalyan (E).
- Mr.Rajadhyaksha Sirish Chandrakant, D-84/251, M.I.G. Colony, Bandra (E), Bombay-400 051.
- Mr.Savla Prakash Damji, J/3, Kanjur estate, Stn. Road, Kanjurmarg, Bombay-400 078.
- Mr.Shringarpure Neelesh Arvind, Block No.4, 1st floor, Staff Quarters of Cotton Tehnological Research laboratory, 387, A, J.K.Saw-ant Rd., Mahim, Bombay-400 016.
- Mr.Srinivas Subramanian, No.4, Prabhu Niwas, Opp. 3 Petrol pump, Agra Road, Naupada, Thane-2.

#### 1988-89—PRODUCTION ENGINEERING

- Mr.Achary Rajesh Subramaniam, 106-Amber Apartment's, James Beachy Road Bhandup Bombay-78.
- Mr.Agrawal Jitendra Kumar N., 60/19 Indian Naval Dock Yard, Civilian Housing Colony, Kanjurmarg (W), Bombay-400 073.





- Mr. Baldota Rahul Kumar N.**, 194-Narendrabhavan, Station Road, Wadala.  
**Mr. Bapat Hemant Vitthal**, Sahajanand, Prakash Society, R.P. Road, Ramnagar, Dombivili (E), Dist. Thane.  
**Mr. Deokule Sanjay**, 75/2556, Nehru Nagar Kurla, Bombay-24.  
**Mr. Desai Vidyadhar S.**, 4/9, Jawahar Jyoti Co.op. Hsg. Society, W.I.E., Thane.  
**Mr. Dhirar Sanjeev**, Asian Cables Corp. Ltd., 2nd Pokhara Road, Thane-400 601.  
**Mr. Gune Prashant Prakash**, 152/5, Vaishali Govind Bldg., Brahmin Soc. Thane.  
**Mr. Joshi Mahesh Moreshwar**, 6, Aashish, 22, Tarun Bharat, Andheri (E), Bombay-99.  
**Mr. Joshi Prasanna R.**, 11, Sandhya Palikavrinda Soc., Sasmira Marg. Bombay-25.  
**Mr. Khara Sanjeev Kishor**, 114, Enterprise Appforjett Hill Road, Bombay-36.  
**Mr. Konda Bhumeswar Gangaram**, Sorad Bldg. No. 44 A, 1st Floor, Room No. 16, N.M. Joshi Marg, Bombay-400 013.  
**Mr. Parchure Dhananjay Arvind**, A-3, Satkar, Nath Pai Nagar, Ghatkopar-77.  
**Mr. Rakhade Millind Nandkumar**, C-25, Om Mayuresh, Mithagar Road, Mulund (E), Bombay-81.  
**Mr. Ramaswamy Krishnan**, Block No.1 & 2, Plot No.135, Gnd. Floor, Rajeshwari Bhavan 16th Road, Chembur, Bombay-71.  
**Mr. Sawant Jaywant Vishwanath**, 4/43, Chanchal Smruti, Wadala, Katrak Road Bombay-31.  
**Mr. Sane Mahendra Vasant**, Atawd Post-Padgha, Tal. Bhiwandi Dist-Thana.  
**Mr. Sawant Rajendra Jaysing**, 115/3786, Nehru Nagar, Kurla (E), Bombay-24.  
**Mr. Shah Jimit Kirtikumar**, 'B' Bhagyodaya, 104, St. Mary Road, Vile Parle (W).  
**Mr. Wakankar Shishir Mahadeo**, B/4, Awantika, Gawanpada, Mulund (E) Bombay-81.  
**Mr. Joglekar Prashant Yeshwant**, A-9, Madhu-Milind Society Near Samantwadi, Naupada Thane-400 602.  
**Mr. Nerkar Atul Arvind**, Flat A/23, Shatdal Society, Azad Lane, Andheri (West), Bombay-58.  
**Mr. Shetye Prasad**, Yog Milan, R. No. 1, Deenanath Mangeshkar Marg, Bombay-36.  
**Mr. Palve D. A.**, 51/A/13 Hirji Bhojraj Chawl, Bombay-400 033.  
**Mr. Gawankar Rajendra Shrikrishna**, 2, Yash Laxmi, Opp. Brahmin Sabha, Tilak Road, Dombivli (East)-421 201.  
**Mr. Hariname Tushar Madhukar**, D.N. Nagar, Andheri (W), Bombay-58.  
**Mr. Francis Shaji**, Tuisi Villa, Tank Road, Orlem Malad (W)-64.  
**Mr. Manjarekar Rajesh Ankush**, A-8/20, BEST Nagar Govergaon (W) Bombay-400 064.  
**Mr. Gune Shashank Pandurang**, 186- C/6, Ratan Society, S.V.S. Marg, Mahim Bombay-16.  
**Mr. Thakare Hemant Ranchhod**, 10/A 'Bhagirathi Sadan' Collectors Colony, Mahul Road, Chembur-74.  
**Mr. Limkar Ajay Nagesh Rao**, Anupama Villa Block No.4, Opp. Jayant BQC Factory, Kale Marg, Kurla (W)-70.  
**Mr. Mehta Nipunkumar Jaysokhlal**, 13, Waman Building, 46, Garodia Nagar, Ghatkopar-77  
**Mr. Udhani Umesh Keshavdas**, B.R. No. 263, Room No. 1, Ulhasnagar-1, Dist. Thane.  
**Mr. Patwardhan Sachin Mukund**, Dnyanyog, P.D.O. 'X' Road, Shastrinagar, Dombivli (E)-421 201  
**Mr. Ravi Sarangapani**, A-1/3 P & T Colony, Santacruz (E), B'bay-29.  
**Mr. Singh Virendra Singh Ramcharita**, 15, Gayatrikrupa, N.S.B. Road, Mulund (West), B'bay-400 080.  
**Mr. Pikle Prashant G.**, 26, Vaishali Apartments, 7 Bungallows, Versova, Andheri (W), Mumbai-58.  
**Mr. Rajiv Kishanchand Chadha**, 501, Saveria 'A', J.P. Road, Andheri (W), B'bay-58.  
**Mr. Hinduja Naresh Mohanlal**, 216/G, Jumbo Darshan, Koldangri-2, Sahar Road, Andheri (E), B'bay-69.  
**Mr. Bhargava Amit Amarnath**, 31, Swadhin Sadan, 'C' Road, Churchgate, Bombay-400 020.  
**Mr. Shah Nilesh Vinaychandra**, 20, Brahma Bhavan, GD. Floor, Hansoti Road, Cama Lane, Ghatkopar (W), B'bay-86.  
**Mr. Shah Yogindrakumar N.**, At. Post. Neral, Dist. Raigad Tal. Kanjad-410 101.  
**Mr. Shenoy Ganesh Shivaraya**, A 26/27, Shivaram Sadan, V.S. Road, Prabhadevi, B'bay-25.  
**Mr. Sheth Amit Rameshchandra**, 14, Pankaj 'A', L.B.S. Marg, Ghatkopar (W), B'bay-77.  
**Mr. Sisangiya Hiteshkumar Vitthalidas**, 5/Anand Bhuvan, Liberty Garden Road-1, Malad (W), Bombay-64.  
**Mr. Wakade Sadanand Diwakar**, B-201, Bhushan Krupa, Goregaon, B'bay-63.  
**Mr. Shah Sachin Vinod**, Flat No. 202, Audamber Apt., Veer Savarkar Road, Bombay-25.  
**Mr. Zunase Deepak Chintaman**, D.P. Lohar wada, Dr. Ambedkar Road, Kalyan-421 301.  
**Mr. Butala Kunjan Bharatbhai**, A/10, Rakhi Bldg., M.G. Road, Kandivli (W), Bombay-67.  
**Mr. Sathaye Kiran R.**, Bldg. No. 1, Mayoos R.N. 25/26, College Lane, Dadar, Bombay-400 028.  
**Mr. Shah Hiten Shashikant**, C-203, Minal Apt., Old Nagardas Road, Andheri (E).  
**Mr. Sabane Mandar Sharad**, Sheetal Co.op.Soc., Block No.19, 4th floor, Opp. Rly. Stn., M.G. Road, Dombivli (W)-421 202.  
**Miss. Panjwani Veena Prem**, 34, Rajawadi, 60 ft Road, Ghatkopar (E), Bombay-400 077.  
**Miss. Tara Venktachalam**, 36-A Mini land, Tilak Road, Bhandup, Bombay-400 078.  
**Mr. Watamwar Hemantkumar Shirhar**, 6, Ambaji Vihar (W), Pestom Sagar No.2, Chembur, Bombay-400 089.  
**Mr. Zaveri Paresh Chandulal**, A-Rajesh Park, R.B. Mehta Road, Ghatkopar, Bombay-400 077.  
**Mr. Kane Nitin Vasant**, 18, Vikas, Plot No. 566, Stn. Road., Chembur, Bombay-400 071.  
**Mr. Kulkarni Manoj Prabhakar**, 167/9, Hariniwas, Jawahar nagar, Goregaon (W), Bombay-400 062.

### 1988-89—MECHANICAL ENGINEERING

- Mr. Khare Ajay Balachandra**, Type V, 5/02, Rasayani, Dist. Raigad, Pin-410 207.  
**Mr. Anikathil Thomas Abraham**, 'Rose'-9, Peston Sagar, Chembur Bombay-88.  
**Mr. Sriram Ganeshan**, 32/179, 'Srinivas', Garodia Nagar, Ghatkopar (E), Bombay-400 077.  
**Mr. Jain Pravin Kushalraj**, K.J. Metha, 19 Mangal Bhavan, Old Nagardas Road, Andheri (E).  
**Mr. Savant Pravin Balvant**, 13/200, Siddharth Nagar, Goregaon (W), Bombay-62.  
**Mr. Tamhankar Abhai**, 5/33, Hajiali Municipal Qtrs., Bombay-400 034.  
**Mr. Ravichandran Narayanan**, 160/8, Gayatri, Central Avenue Road, Chembur, Bombay-400 071.





Mr. Vartak Santosh Narsinha, 5/108, Nityanand Nagar, Andheri (E), Bombay.  
Mr. Goregaonkar Kiran Pandurang, 'Krupa', Gawa Dewinze Road, Mulund (E), Bombay-81.  
Mr. Shah Dipen Pravinchandra, A/5, Suvidha, R.R.T. Road, Mulund (W), Bombay-80.  
Mr. Chaudari Vikas Ramdas, Old Bori Bld., Near 3 Petrol Pump, Naupada Thane-400 602.  
Mr. Phadke Abhijit Bhalchandra, 164/D, Hindu Colony, Dr. Ambedkar Road, Dadar, Bombay-400 014.  
Mr. Srikanth Santhanam, 1/1, Krishna Bldg., R.C. Marg, Chembur, Bombay-400 071.  
Mr. Baraskar Kishore Mukund, Rly. Qua. No. 98/13, Rly. Colony, Kurla (E), Bombay-24.  
Mr. Subba Kiran Nathuram, 37/1197, Tagore Nagar, Vikhorli (E), Bombay-88.  
Mr. Naik Prashant P., B-1, Newlife Society, Shiv-Srushti, Kurla (E), Bombay-24.  
Mr. Joshi Rajendra N., 39, Johsiwadi, Chitale Path, Bhvani Shanker Road, Dadar, Bombay-28.  
Mr. Anupam B. Sahai, 211, Samudra Mahal, Dr. A.B. Road, Worli Bombay-400 018.  
Mr. Kumbala Ramdas M., Muthaya Chawl, Pratap Nagar, Bhandup, Bombay-79.  
Mr. Malik Manish D., 502, Jal Javana, Juka, Java, Vadya, Lane, Bombay-49.  
Mr. Nisal Mohanshri Krishna, Shree-Samrat Apt., Block 19, Ram Maruti Road, Naupada, Thane.  
Mr. Potdar Vidhyadhar Shridhar, B/2, Shree Saharas, Nath Pai Nagar, Ghatkopar (E), Bombay-77.

### 1989-90—ELECTRONICS ENGINEERING

Miss. Agharkar Vaishali M., 835, Anand Ban, College Lane, Dadar, Bombay-28.  
Mr. Agarwal Sanjay Vinod, 74/29, Surendra Sadan, Opp. Central Rly. Workshop, Parel, Bombay-400 012.  
Miss. Dubhashi Monika Gurnath, Dubhashi Niwas, Ajmal Road, Vile Parle (E), Bombay-57.  
Miss. Goel Priti, 404, Mathura Apt., 49, M.V. Road, Andheri (E), Bombay-69.  
Miss. Surve Sujata Shantaram, 90/3146, Nehru Nagar, Kurla (E), Bombay-400 024.  
Mr. Baljekar Aniruddha Vasant, 169-D, Dr. Ambedkar Road, Dadar, Bombay-400 014.  
Mr. Bhangale Manoj Rajaram, 27 A/1, Govind Nagar, Sodawala Road, Borivili (W), Bombay-400 092.  
Mr. Bhat Rajesh Venkatraya, 215, Sonal Apartments, Jayprakash Nagar, Road No. 2, Goregaon (E), Bombay-63.  
Mr. Bhatt Anup A., F/33, Tarabaug Estate, Charni Road, Bombay-400 004.  
Mr. Bodalia Ashwin Amratlal, 21, Bazargate St, First Floor, Fort, Bombay-400 001.  
Mr. Buricha Nilesh Shantilal, 4, Lois Mansion, Opp. Kismet Cinema, Prabhadevi, Bombay-400 025.  
Mr. Burkule Sandeep Ramdas, 3 B/121, Bhaktiyog Society, Vaziralvakar, Borivili (W), Bombay-92.  
Mr. Chaukekar Sanjay Shantaram, A/301, Sahakar Villa, S.V. Road, Malad (W), Bombay-64.  
Mr. Chhatbar Pulin Pravin, 14, Bhasker Lane, Hargovin Desai Wadi, Bombay-2.  
Mr. Chogle Nikhil Kesarinath, 'Kshatraikya', Block No. 4, Anant Patil Road, Dadar, Bombay-400 028.  
Miss. Desai Sujata Tanaji, 3, Lily-Kunj, N.P. Thakkar Road, Vile Parle (E), Bombay-57.  
Mr. Dandekar Sandeep S., C/2, Ambekar Nagar, G.D. Ambekar Road, Parel, Bombay-12.  
Mr. Deshmukh Ajit Sharma, C-O. Quarters, No. 1, K.E.M. Hospital, Parel, Bombay-12.  
Mr. Deshpande Pankaj Sharad, 30, Dalwai Bldg., L.T. Nagar, Goregaon (W), Bombay-62.  
Mr. Doshi Nimish Arun, 'Jyot', Irla Bridge, S.V. Road, Vile Parle (W), Bombay-56.  
Mr. Doshi Sameer Madhukant, 5/108, Renuka, Tilak Road, Ghatkopar (E), Bombay-77.  
Mr. Gandhi Nilesh Bharatkumar, 2/26, Calain Bld.-2, 49, Shadashiv X Lane Bombay-4.  
Mr. Gupta Ashish Indramohan, 502, "The Ark", S.V. Road, Santacruz (W).  
Mr. Gupta Arun Omprakash, C-2180, Ishwar Bhawan, Rani Sati Marg, Malad (E), Bombay-97.  
Mr. Iyer Venkatachalam Subramaniam, B/5, Swastik Apts., Near Ganesh Theatre, Cheral, Thane.  
Mr. Jagdale Prasad Purushottam, 5/1, 'Guruprerana', Naikwadi, Shivaji Path, Thane-2.  
Mr. Jalihal Shrinivas Ranganath, A/2, Prashant Apartments, Exar Road, Babhai, Borivili (W), Bombay-92.  
Mr. Joshi Abhay Arvind, Swaminarayan Bhuvan, Kharkar Lane, Thane-400 601.  
Mr. Karekar Umesh Manohar, 12, Mount View, Mandpeshwar, Borivili (W), Bombay-400 103.  
Mr. Joshi Salil Ramesh, 3/21, Shree Siddhi Vinayak Society, 394, Veer Savarkar Marg, Dadar, Bombay-400 028.  
Mr. Kamath Narendra Krishna, 16, La-Bella Society, Azad Road, Andheri (E), Bombay-400 069.  
Mr. Karanji Sanjay Shailesh, 142 B, Lalbaya Haveli, Bhuleshwar B'bay-2.  
Mr. Khare Mukesh Vijay, 11, Dr. Jumani Chawl, Jitendra Road, Malad (E).  
Mr. Kulkarni Shailesh Madhav, 4, Vinayak Appartments, Savarkar Road, Dombivili (E)-421 207.  
Mr. Kunder Taranath K., 12-A, Desai Apts., Dattatraya Road, Santacruz (W), B'bay-54.  
Mr. Lakhani Pankaj Liladhar, B-4, Rajkamal, Shradhanand Road, Ghatkopar (W), B'bay-86.  
Mr. Lalla Susheel S., 102, Sheetal Apts., 3rd Road, Santacruz, B'bay-55.  
Mr. Makhija Rajesh Shyam, 171 Baaz Building, Khetwadi Back Road, B'bay-4.  
Mr. Malhotra Sanjay Harnam, 14/223, Sardar Nagar Sion (W), B'bay-31.  
Mr. Morwekar Rajesh Nandkumar, A/6, Giri Darshan, R.H.B. Road, Mulund (W), B'bay-80.  
Mr. Narkar Gajanan Prabhakar, Uma Nivas, R. No. 16, D.L. Vaidya Road, Dadar B'bay-28.  
Mr. Mistry Uday L., G/13, Shaunar, Marve Road, Malad (W), B'bay-64.  
Mr. Nahar Shailesh B., 25, Manav Mandir, Worli, B'bay-18.  
Mr. Oak Bharavi Subhash, Hanuman Vas, Shastri Hall, Jivaji Dadaji Marg, Bombay.  
Mr. Pai Sanjay Narendranath, 1, Shivanand Apartments, Katrap Road, Kulgaon (Thane Dist.)-421 503.  
Mr. Patel Rajesh Kanti, 65, Darshan, Hatkesh 504, N.R. Road B, Vile Parle (W), B'bay-49.  
Mr. Ladha Manish Shankarlal, 9, Kamal Society, Old Agra Road, Thane-2.  
Mr. Patel Nilesh Arvindkumar, 32, Mahavir Chhaya, Vallabh baug lane, Ghatkopar, Bombay-400 077.





- Mr. Awari Pandurang Raghunath**, 90/3218, Tilak Nagar, Chembur Bombay-89.  
**Mr. Joshi Ajit Arvind**, 'Safalya' Samartha Nagar, Opp. Chunabhatti Fly. Str., Bombay-22.  
**Miss. Godambe Kanchan Shashikant**, 17-Shri Shawas, Phadke Road, Gawanpada, Mulund (E), Bombay-81.  
**Mr. Deodhar Shallesh Nandkumar**, Kalakunj, Gokhale Road, Vishnu Nagar, Dombivali (W).  
**Mr. Parekh Milan Dinesh**, 54, Entrepise Apt., Forjet hill, Tardeo Road, Bombay-36.  
**Mr. Joe Varghese**, 5, Sunita Ashanagar, Chembur, Bombay-89.  
**Mr. Naik Satishchandra Patnagar**, 19 Lata Kunj, 278 Sion (E), B'bay-22.  
**Mr. Shah Tushar S.**, Suchit Apt., 8-Bulsroy Lane, Santacruz (E), B'bay-55.  
**Mr. Walwalkar Pratap Ramesh**, 13 Sita Sadan, Faria Nagar, Bhandup, B'bay-78.  
**Mr. Shetty Pradip Babu**, 144, Tenement Bldg., 4th/B, Sane Guruji Road, Bombay.  
**Mr. Tawde Sunil P.**, B/8, Shanti Sadan, Sahakar Road, Vile Parle (E), B'bay-57.  
**Mr. Samant Sachin Umakant**, 2/7 Nilkatha Chintam Co. Society, Che. Koliwada, Thane (E).  
**Mr. Moraes Savio Jerry**, 6/Brass Cottage, Kirol, Ghatkopar (W), B'bay-86.  
**Mr. Barboza Charles**, C-44, Bharath Bhavan, 1st floor, R. No. 13, Elphinstone Road, B'bay-13.  
**Mr. Tendse Anil Anant**, 10, 'Chandrakala', Ram-wadi, Naupada, Thane-2.  
**Mr. Vashi Mehulkumar Rameshchandra**, B-2/19, New India, Staff Qurs., Juhu Lane, Andheri (W), Bombay-58.  
**Mr. Shah Sanjay Kumudchand**, 17, Sushila baug, 53-A, S.V. Road, Bombay-54.  
**Mr. Zurunge Sunil Baban**, 4/317, Railway police Headquarter, Pantnagar, Ghatkopar, Bombay-75.  
**Mr. Modi Bhadrash Dineshchandra**, 9, Radhakrishnan Bldg., Tejpal Scheme R-4, Vile Parle (E), Bombay-57.  
**Mr. Thool Rajesh Janardhan**, Block A 396/797, Subhash Tekdi Ulhasnagar-4.  
**Mr. Pimple Manoj Vasudeo**, 1/11, Rajas Building, N.S. Phadke Road, Andheri (E), B'bay-69.  
**Miss. Pairecha Rita Kapoorchand**, C/o. K.H. Shah C-21/232, Khetwadi Main Road, B'bay-400 004.  
**Mr. Subramaniam Krishnan**, Bhagirath Bhavan, GR. Floor, Sakharam Keer Marg, Mahim, B'bay-400 016.  
**Mr. Singhnia Deep S.**, 1/14, The Malad Co.-op. Hsg. Soc., Poddar Park, Malad (E), Bombay-400 097.  
**Mr. Surve Arvind Chandrakant**, 4, Govind Niwas, Nanepada Road, Mulund (E), Bombay-81.  
**Mr. Surve Surendra Balkrishna**, A/15, Datta Prasad Soc., Paranjpe 'B' Scheme 1st Road, Vile Parle (E), Bombay-57.  
**Mr. Talpade Rajesh Rasik**, 5, Neel Kamal, Bhaskar Colony, Naupada, Thane-2.  
**Mr. Thakkar Meghraj Tarunkumar**, 89 A, Dadiseth Agiary Lane, Ganesh Bhuvan, 2nd Floor, Chira Bazaar, Bombay-2.  
**Mr. Thakkar Rajesh Natwarial**, 12-Vardhaman, Oghadbhai Lane, M.G. Road, Ghatkopar (E), Bombay-77.  
**Mr. Shah Pankaj Indrachand**, 1/4, Vrindavan, 57, R.B. Mehta Road, Ghatkopar (E), Bombay-77.  
**Mr. Udecha Pradip Liladhar**, C-29, Mirani Nagar, G.G. Road, Mulund (W), Bombay-80.  
**Mr. Parekh Kartik A.**, A/34, Nootan Nagar, Times Road, Bandra, B'bay-50.  
**Mr. Parmar M. Chetan**, 216, Triveni, Room No. 9, Road No. 3, Jawahar Nagar, Goregaon (W), B'bay-62.  
**Mr. Patkar Rajesh R.**, Sudhansu Co. Society, M.G. Road, Kandivili (W), Villoge, Bombay-67.  
**Mr. Pathe Sandeep Lahu**, C/3, Darpan, Veera Desai Road, Andheri (W), Bombay-58.  
**Mr. Randive Yogesh Subhash**, A-10, Shree Datta-Vihar Society, Naupada, Thane-400 602.  
**Mr. Sapre Rajendra Moreshwar**, C/2-Anand Deep-3, Pendse Nagar, Dombivili (E).  
**Mr. Sathe Salil Bhaskar**, 17, Anik Court, 211 Shivaji Park Road No. 5, Mahim, Bombay-16.  
**Mr. Shah Apurva Amritlal**, 7 A, New Suvas Appt., 68 F, Napean Sea Road, Bombay-400 006.  
**Mr. Shah Manojkumar Kiritkumar**, Velji Shivji Bldg, Ground floor, Hingwala Lane, Ghatkopar (E), Bombay-77.  
**Mr. Shah Nimesh D.**, Kailash Nagar, 658, Tardeo Road, 5th Floor, Flat No. 1, Bombay-7.  
**Mr. Shah Samir Hasmukh**, 53, 'Anuja' Manek Nagar, Chandwarkar Lane, Borivili (W).  
**Mr. Shah Tarang Nateverial** C-1/21 A, Khiranagar Santacruz (W).  
**Mr. Shah Vipul R.**, C-42, Vimal-Nagar, S.V. Road, Kandivili (W), Bombay-67.  
**Mr. Shavche Milind V.**, 12, Sahawas, B.P. Crass Road, Mulund (W), Bombay-80.  
**Mr. Shetty Navinkumar Ravindra**, 5, Albert Mansion, 77/48, Prabhat Colony, Santacruz (E), B'bay-55.  
**Mr. Shinde Ganpat Pandurang**, A-16, Vijai Sanghmitra, Chakala, Andheri (E), B'bay-99.  
**Mr. Daftery Dipesh Madhusudan**, A/5, Kailash Jyot, Derasar Lane, Ghatkopar-77.  
**Mr. Rao Vinayak K.**, A/4, Vishwakarma Jyoti, Subhash Lane, Malad (E).  
**Mr. Damani Bharat K.**, 89, Jeevan Vihar, 5-Manav Mandir Road, Bombay-400 066.

### 1989-90—MACHINE TOOL ENGINEERING

- Mr. Murthy Ajay**, 148/5002, Nehru Nagar, Kurla (E), Bombay-24.  
**Mr. Dalwalla Paresh Sureshchandra**, Chinwalla Bldg., 1st Floor, Room No. 23, 'B' Bolck, Navroji Hill Road, Bombay-9.  
**Mr. Lad Shallesh Vasant**, 50/1796, M.H.B., Tilak Nagar, Chembur, Bombay-89.  
**Mr. Kolke Sujit S.**, 57/1843, Nehru Nagar, Kurla (East), Bombay-24.  
**Mr. Javali Mohan Anilkumar**, Bldg. No. 50/2224, Vartak Nagar, Thane-400 606.  
**Mr. Bhide Kedar Vasant**, A/14, Ganesh Deep, P.Dindayal Marg, Dombivali (W).  
**Mr. Sutar Anil Murlidhar**, 2 A/5, Vaibhav Apt., Sanghani, Ghatkopar Bombay-86.  
**Mr. Gangadhar Rattan**, 484/Sector II Koliwada Bombay-400 057.  
**Mr. Gada Rohit Bhagwanji**, Seema Nivas, 34-E, Mori Road, 1st Floor, Mahim, Bombay-16.  
**Mr. Karmarkar Umesh Prabhakar**, 2/30, Meghadoot Soc., Tilaknagar, Thane (East)-400 603.  
**Mr. Shah Nimish M.**, D-34/310, M.I.G. Colony, Bandra (E), Bombay-51.  
**Mr. Shetty Rajesh Jagannath**, 29/A Nirmala Nivas, A.M. Street, Parel Bombay-12.  
**Mr. Masalia Sanju Mahendrakumar**, 106, Rupal Apt., Shivaji Nagar, Daftari Road, Malad (E), Bombay-97.





- Mr. Pal Ashok Ganesh, 36, Satya Sadan, 3rd Floor, Denawadi, Thakurdwar, Bombay-2.  
Mr. Malladi Pramod Kumar, A-203, Niranjan Apts., Hira Nagar, Nahod Road, Mulund (E), Bombay-80.  
Mr. George Joby, Flat No. 10, T.S.N. Co-op. Hsg. Soc., Opp. I.I.T. Market, Powai Bombay-76.  
Mr. Nair Pramod, Sr II/3, Koyna Colony, Anik Chembur, Bombay-74.  
Mr. Khiani Vinod Purshottam, 37, Strand House, 4th Floor, Opp. Strand Cinema, Colaba, Bombay-5.  
Mr. Alavani Balkrishna Yogin, 8/115, Sidharth Nagar (A), Goregaon (W), Bombay-62.  
Mr. Anil Kumar Jayaprasad, 15/101, Ganga Sadan, Soudamini Co-op. Hsg., Pestom Sagar Extn., Chembur, Bombay-89.  
Mr. Ghudnaik Saiprasad Jaywant, 5/72, B.I.T. Blocks, R.B. Chandorkar Marg, Agripada, Bombay-11.  
Mr. Bhise Paresh Hemkant, Block No. 4, Bldg. No. 9, Ellora Society, Vishnu Nagar, Dombivli (W)-421 202.  
Mr. Diviale Uday Balkrishna, Municipal Chawl No. 3131, Sabu Siddick Road, Bombay-1.  
Mr. Dubey Atul N., 203, Sagar Sangeeta, Dr. A.B. Nair Road, Juhu, Bombay-49.  
Mr. Gulvady Girish Shashidhar, F/7, Karnatak Bldg., Mogul Lane, Mahim, Bombay-400 016.  
Mr. Joshi Samir Janardhan, 15/232, IV Sidharthnagar, Goregaon (W), Bombay-400 062.  
Mr. Kamat Guruprasad Umesh, 5/79, Kannamwar Nagar-1, Vikhroli (W), Bombay-83.  
Mr. Rao Balkrishna C. Ramchandra, B-2/3, Scindia Soc., Andheri-Kurla Road, Andheri (East), Bombay-69.  
Mr. Mesina Omez Samoon, 68, Patanwala Mahal, 44, E.S. Patanwala Marg, Bombay-400 027.  
Mr. Panchal Deepak Manilal, 13/443, Tilaknagar, Chembur, Bombay-89.  
Mr. Patel Ajay D., 'Aurum', Devnar, Fakm Road, Devnar, Bombay-400 0088.  
Mr. Inamdar Rajesh Arvind, 3/36, Geeta Society, Charai, Thane-400 601.  
Mr. Save Jitendra Keshav, 55, Khedekar House, Pavaskar Road, Dahisar (W), Bombay-68.  
Mr. Belg Charuhas Arun, 3, Mano Beena, C.D. Barhiwala Road, Andheri (W), Bombay-400 058.  
Mr. Ghorpade Santosh Raghunath, Mishra Kunj, R 14, Vaibhav, O.A. Chouk, Tembepad, Bhandup, Bombay-400 078.  
Mr. Shenoy Mukund Shankar, Bldg. No. 4, Block No. 6, 112 Municipal Colony, Sasmira marg, Worli, Bombay-400 025.  
Mr. Jagannath Venkatesh, B-12, Colour Chem Colony, Balkam, Thane-400 608.  
Mr. Fernando Thomas, B-22, Voltas Hsg. Soc., Shiv Srushti Nagar, Bombay-24.  
Mr. Jeste Prashant Bhalchandra, A/18, Municipal Qts., (32, Tenements), Sane Guruji Road, Chinchpokli, Bombay-400 011.  
Mr. Mulay Aniruddha Dattatraya, 31st-Govind Nivas, Brahman Soc., Naupada, Thane-400 602.  
Mr. Raisinghani Vijay Thakurdas, 5/13, Prem Prakash Co-op. Hsg. Society, Laxmi Colony, Chembur, Bombay-74.  
Mr. Naik Sachin Bhavanrao, 36/804, Truptikutir, New Siddarth Nagar, Goregaon (W), Bombay-400 062.  
Mr. Shivaji Juzar Abdulla, 'Alha Sanat', Flat A-3-3, Chapel Lane, Santacruz (W), Bombay-54.  
Mr. Kulkarni Mahesh Nagesh, 'Anandalaya', Ranade Road, Dadar, Bombay-28.  
Mr. Chutke Nitin Vasant, A 1/2, Glaxo Staff Colony, Ind Pokharan Road, Thane.  
Mr. Agall Prasen Sitaram, 6, Padma Nagar, Mithchowk, Malad (W), Bombay-400 064.  
Mr. Patel Dhansukhbhai Babubhai, R.C.BK. 8/88, Chembur Colony, Bombay-400 007.  
Mr. Paranjpe Sandeep Arun, 8, Jamnabai Nivas, 80, Kansai section, Ambarnath-421 501.  
Mr. Umraikar Sandeep Bhimrao, 154/16, Jai Ambe, Garodia Nagar, Bombay-77.

#### 1989-90—PRODUCTION ENGINEERING

- Mr. Aniruddha Kannappan, Ramesh Niwas Shrikhande wadi, Dombivli.  
Mr. Arora Adarshvir Singh, 252, Juptiter Apts., 41, Cuffe parade, Bombay-5.  
Mr. Arora Neeraj Krishan kumar, 3/9 Santacruz Mansion Santacruz, Bombay-55.  
Mr. Bhat Dinesh, 7 Prasad Co-op. Hsg. Society, Devi Chowk, Shastri Nagar, Dombivli (W).  
Mr. Chidanand Rajesh B.N., A/23, Highway Darshan, Wagle estate, Thana-604.  
Mr. Chodankar Jitendra Chandrakant, 4, Enns Co.-op. Hus. Society, Sunder Nagar, Malad, S.V. Road, Bombay-64.  
Mr. Danke Vinay Rajaram, 7/156, Rammanand Society, Subhash Road, Vile Parle (E), Bombay-57.  
Mr. Deshpande Anand Kurubgalkish, 3/43, Chandarmahal Thakurdwar, Bombay-2.  
Mr. D'soza Jagan E., E/2 Kripanagar, Irla, S.V. Road, Vile Parle, Bombay-56.  
Mr. Fernandes Savio, M.H.B. 7/129/2373, Tagare Nagar, Vikhroli (E)-83.  
Mr. Gaonkar Vivek Vasant, 3/28, Sachin Society, Miathagar Road, Mulund-81.  
Mr. Gupta Akshay Kumar Mahendra Kumar, 22/29, Jawahar Nagar, S.V. Road, Goregaon-62.  
Mr. Gurjar Deepak Prabhakar, Type IV/9/52, R.C.F. Colony, Chembur-14.  
Mr. Jain Dinesh B., 8, Malharao Wadi, Mahendra Narinon, 1st floor, R.H., Bombay-8.  
Mr. Joshi Mahesh Manohar, 2/7, Chandrakar Co.ops., S.V. Road, Andheri (E), Bombay-69.  
Mr. Joshi Rajaram D., 6, Mooncraft Apts., Opp. Carter Road, Bandra, Bombay-50.  
Mr. Kacholia Ashish Ramesh, 44, Vaikunth Society, Andheri (W), Bombay-58.  
Mr. Kochhar Parambir Singh, 'The Emblem', 63-C, West Avenue, Santacruz (W), Bombay-54.  
Mr. Joshi Viren Shivashankar 56A, Gold coin, V 407, Tardeo Road, Bombay-34.  
Mr. Lobo Harold Deepak, 4 /31, Shanti Kunj, Asalpai Village, Ghatkopar.  
Mr. Khokarale Sunil Dnyaneshwar, Dongre Chawl, R.N.1, Parashiwadi, Ghatkopar.  
Mr. Malani Ravindra Kanhaialal, 17, Jayashree, 65 Pestom Sagar, Chembur, Bombay-89.  
Mr. Malpani Narayanlal Ganpatlal, A-3/16, Mahesh Nagar, S.V. Road, Goregaon (W), Bombay-62.  
Mr. Mahajan Surinder Harikishan, c/o Maden Lal Gupta, 270, Dhomankar Nake, Bhiwandi.  
Mr. Mehta Ashish Dharendra, 107, Prabhasadan- Sangita Apts. Datta Mandir Road Malad (E).  
Mr. Mehta Rajesh Kumdanlal, 44, Rajpuria Baug, N.P. Thakkar Road, Vile Parle (E) Bombay-57.  
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Mr. Nalawade Nitin Madhukar, Gulabhi chawl, P.P. Dias Compound, Natwar nagar, Road No 1, Jogeshwari (E), Bombay- 60.





- Mr.Panchal Deepak Manilal, 13/443, Tilak Nagar, Chembur B'bay-400 089.  
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Mr.Phatak Rajendra Chandrakant, 151/5063, Nehrunagar, Kurla (E), Bombay-24.  
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Mr.Raje Vinit Ashok, B-4, Devikripa, Gavanpada Road, Mulund (E), B'bay-81.  
Mr.Samel Abhay Nandakumar, C-3/1, Jeevan Nagar Co.-op. Hsg. Soc., Mithagar Road, Mulund (E), Bombay-81.  
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Mr.Adarkar Manoj Sharadchandra, 1/6, Union Bank Qtrs., Parijat, Near Water Tank, Dombivli (E).  
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Mr.Uabra Sunilkumar, A/29, Ranjit Society Mulund (W), Bombay-80.  
Mr.Shetty Viswanand Shivaram, B/8, Navyog, Nehru Road, Mulund, Bombay-80.  
Mr.Shriram Subramaniam, 8588, Shell Colony, Chembur, Bombay-71.  
Mr.Singh Arvind Kumar, S.M. Shukla Chawl, Room No. 13, Shankarwadi, Jogeshwari, Bombay-60.  
Mr.Vasani Rajesh Jayantilal, Satvant Villa, Room No. 1, Array Road, Goregaon, Bombay-62.  
Mr.Mathukia Sanjiv, A-1-36, Ashok Samrat, Daftary Road, Malad, Bombay.  
Mr.Bhagat Ajay Nagindas, B/10, New Chandrodoy, Bhanushali Marg, Tilak Road, Ghatkopar (E).  
Mr.Jadhav Anil Yashwant, 181/17, IInd Kumbharwada Girgaum B'bay-400 004.  
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Mr.Phondge Tushar Sadanand, A/2, Anjali Society, 20/21, M.G. Marg, Thane.  
Mr.Soman Nitin Pandurang, 2/8, Jayas Society, Jay prakash nagar, Goregaon (E), B'bay-400 063.  
Mr.Bondale Millind Thorad, 208-5639, Pant nagar, Ghotkopar, Bombay-78.  
Mr.Galkwad Amol Nagraj, A/26, Pool Top Co.-op. Hsg. Society, Mahakali Cares Road, Andheri (E), Bombay-93.  
Mr.Pandya Hitesh B., C/o. B.R. Pandya, Ram Niwas, Bharampole, Dako, Dist. Kheda, Guharat.  
Mr.Malwankar Prasad Laxmikant, Swapna Safalya Society, C/6, Temkar Marg, Worle, Bombay-400 025.  
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Mr.Nerurkar Abhijit Ramakrishna, B/21 Chirantan Co.-op.Housing Society, Shivrushit, S.G.Barve Marg, Kurla (E), B'bay-400 024.  
Mr.Wagle Ramchandra Narayan, 10/13, Visawa, Saraswati Baug, Jogeshwari (E), Bombay-400 060.  
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Mr.Pendse Ajit Ganesh, Vaidyawadi, Karve Road, Thane-400 602.  
Mr.Joshi Ashutosh Madhusudan, 9, Haripad Society, Sahar Road, Bombay-99.  
Mr.Mehta Sanjay Dinkerral, 21, Shree Sadan, Vallabaugh lane, Ghatkopar (E), Bombay-400 077.  
Mr.Limaye Parag Arun, 6/132, Vijaynagar Soc., Sahar Road, Andheri (E), Bombay-400 069.

\* \* \* \* \*

#### Answers:

- Across:**—1. Novel 4. Roc 5. Snob 8. Mandela 10. Enchant 12. Sagging 13. Art 15. Nun 16. Sir 18. Ichthyology 22. Team 24. NO 25. IG 26. MARIE 28. Poison 31. US 32. Seance 34. Memo 35. Tower 36. Anglers  
**Down:**—1. Nemesis 2. Vinegar 3. Lie 6. Batman 7. Anarchy 9. Lend 11. AVON 14. Rates 17. Ire 19. CRUISE 20. Onion 21. Logic 22. Ton 23. Acme 27. Rum 28. Pagan 29. Sea 30. Nexus 32. Sow 33. Apt



# Ha! Ha!!

Kakey da hotel is a very popular eating-place in DELHI. It started of as a humble Kakey da Dhaaba with stools and charpaees laid out on the pavement and the tandoor, handees and pateelas placed in the open. With prosperity the kitchen went into the rear and a dining room was furnished with tables, chairs and wash basin. One evening a patron having finished his meal went to rinse his mouth in the wash basin. He proceeded to do so with great vigour, gargling, spitting thoo thoo and blowing his nose. This ruined the appetites of other diners who protested to the proprietor. Kakaji went to the rinser-spitter and admonished him. "Haven't you ever eaten in a good hotel before?", he demanded.

"Indeed, I have", replied the errant mouth-rinser, "I have eaten at the Taj, Maurya, Oberoi, Imperial, Hyatt."

What did they say to you when you rinsed your mouth making all these unpleasant sounds?"  
"They asked: 'You think this is Kakey da Hotel?' And threw me out."

A greenhorn not familiar with the manners of the city folk happened to be spending his holidays with his uncle in Lucknow. During his stay, there was a death in the neighbouring house. The uncle took his nephew to the bereaved family to offer condolences. In proper Lucknavi style the uncle began to extol the virtues of the dead man: "He was a great soul. He was not only your chachaji but the chachaji of our entire mohalla. May his soul rest in peace." Our greenhorn maintained a stiff-lipped silence.

Back home the uncle reprimanded his nephew. "Don't they teach you manners at home? You should also have said something about the dead man being like your own chachaji."

The lad apologised saying he had never been to condolence meetings with anyone but would bear the advice in mind.

A few weeks later a friend of the greenhorn lost his wife and he decided to offer his condolences in the formula prescribed. "She was a great soul. She was not only your wife, but the wife of all of us in our mohalla."

## Cashing in on controversies:—

A cinema in a small Karnataka town put up this ad for a thriller.

More mysterious than BOFORS

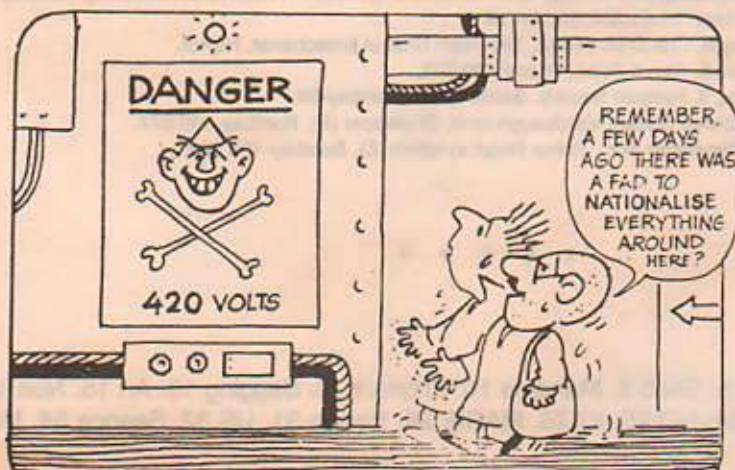
More suspense-filled than the THAKKER REPORT

More challenging than THE HINDU

And with more revenge and action than the raids on the EXPRESS

## Lingua franca:—

Apparently, most of the people scrambling for visas at the US Consulate in Bombay are Gujaratis. Notices on the consulate's walls are in English and Gujarati. Not in Hindi or Marathi. Occasionally one can also hear a Yankee voice over the public address system calling "Shantibhai Patel, baari number trun"

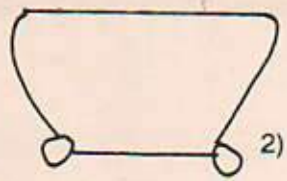
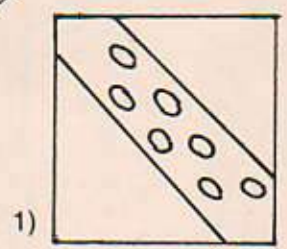


Errors & Omissions if any are sincerely regretted.

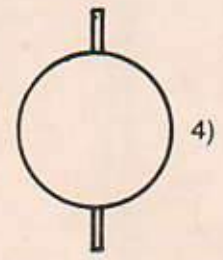
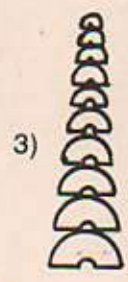


4) Mexican driving a bicycle

3) A multi storied Igloo



GUESS, WHAT IS IT?



2) Fat woman cleaning the floor

1) Giraffe seen from a window

# Our heartfelt thanks .....

- Principal (In-Charge) G.K.Sashte for his concern & interest.
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—K.J.S.C.E. Magazine committee-1989-90



