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the alumni association indian institute of technology madras

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THE ALUMNI ASSOCIATION
INDIAN INSTITUTE OF TECHNOLOGY
MADRAS

MESSAGE

Everytime I visit the campus of the Indian Institute of Technology, at Guindy, my mind goes back to the days when I was myself a student at the Central College, Bangalore. This, I am horrified to recollect, was half a century ago. In that college, our numbers were small. Our teachers were dedicated; but none of them, except for a couple who were expatriates, had had the advantage of meeting distinguished scientists overseas or working in laboratories abroad. The equipment in our laboratory was pretty rudimentary. By contrast, we have in the I.I.T. first class equipment and we have teachers with high academic qualifications, most of whom have had the advantage of working in great universities or research institutions overseas. The contrast. however, is much more striking when the student leaves the campus. Indian world outside the campus is infinitely more difficult to day than it was in my time. The political situation is confused; the country's economy is barely able to show its head after a severe recession; and employment opportunities, in relation to the vastly increased number of students, restricted Altogether, the times are more difficult and, therefore, more challenging. I am sure that, with the advantage of a first class training in the I.I.T. supplemented by a disciplined mind and a robust heart, the students of the Institute will play a worthy part in the future of our country.



H. V. R. IENGAR Chairman, Board of Governors



DR. A. RAMACHANDRAN Director

INDIAN INSTITUTE OF TECHNOLOGY,
Madras-36.
Director's Office
july 23, 1969

MESSAGE

My young friends,

Creative ideas or achievements can not be measured by the same units as those of absorbing capacity usually tested by a written examination. Ability to reproduce the words of others may be creditable but this is not to be compared with devising new solutions to problems. Unless one acquires the desire to do things independently, one is not aware of the scientific spirit which demands new knowledge through independent investigation.

A. RAMACHANDRAN

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Editorial

Pradeep, we were told by our friends who visited us recently, makes an interesting reading. We innocently believed that and renewed our efforts to make it more interesting.

Mr. Srikant has chosen to write about his pet topic—birthdays of ladies. You may wonder how he knows so much about the intimate details of ladies. It is a secret. If, after going through a number of quotations from famous writers, novelists and essayists, you doubt whether they are so intelligent and witty as they, judging from their quotations, seem to be and try to verify their authenticity, we request you not to do so You know why

Dr. Gopichand is a disciplined man. So naturally we expect that his article will be on discipline. His clear analysis of the ills of the nation will be helpful to many.

Mr. Karthik can rightly be called the critic's critic. In his essay 'Hail the Critic', he puts forth his ideas clearly and we believe that there won't be any criticism on his article!

Persons who know Gautam Mahajan personally will be surprised to find that his article 'Chicago Goes' is brief. Mahajan is, to borrow a journalistic term, our stringer, a part-time correspondent. We are sure that you will appreciate his style.

The problem of unemployed engineers is dealt with by Prof. Sampath in his article.

We wish to hear your review of the article 'Views and Interviews'.

Coming from a person with literary talents and vast knowledge of business administration and industrial engineering, the essay "On Career Planning" points out the facts which everyone wants to forget conveniently.

With 'News-flash from the Departments', Alumni Directory and other interesting informations, we think Pradeep serves the intended purpose.

We appeal to all the members to maintain contact with the Alumni Association and keep it informed of the latest news so that we can do better service.

We wish every one a bright future.

Birth Daze

Bv

S. SRIKANT

"One should never trust a woman who tells her real age; a woman who would tell that, would tell one any thing".—Oscar Wilde

SITTING cosily on the easiest chair, as you scan through a pictorial cine magazine, the news of the celebration of the birth anniversary of some favourite film star (of course. feminine) of the silver screen, whom certain mad young men are after today, catches your weary anxious eyes and they naturally project on the bewitching seminude photographs across the page and stare and stare—and your mind begins to question if the cine women dress like a bad photograph—overdeveloped and overexposed? But, do you see which birth day they are celebrating—whether it is their silver jubilee year, or golden or diamond? Never, never do they disclose to the public the secret of their age and this is perhaps the secret behind the success of their career! And the innumerable readers and fans, guided by the adage not to ask a woman her age, are too gentlemanly to know the age secrets of an up-and-coming glamour (clamour?) girl. To one or two inquisitive questioners, the Question Box invariably gives the answer thus; "Young enough to continue to act as a heroine". This non-declaration or incorrect declaration (if at all declared) of their age is second nature to all women and not to the cine women alone. It is because, as an English writer observed, age 'pulls down their pride.' They must, however, remember, in the words of Thomas Dekker, that "age is like love; it cannot be hid".

While calculating age, it is said, women employ the count-down method, because they are young "only once". At least the age-conscious girls do not age—they reach a certain age and the years roll by for them, thereafter, in the reverse gear. A humorous writer wrote not long ago that there are seven ages of a woman and they are: baby, infant, junior miss, young woman, young woman, young woman and young woman. In fact, it baffles one's comprehension as to why no girl is quite accurate about her age—it looks so calculating; "A girl who tells her age is either too young to lose or too old to gain". The spurt in the cosmetics market, the surging sale of the make up materials, hair-dyes, rejuvenating tonics, girth-control devices, tranquillizers and other sophisticated ensemble flooding the shops are all on account of the go-gay girls of the day. Why do they frequent the fashion promenades but for the inherent craving of these women to be looked over instead of being overlooked? Despite all these odoriferous beauty extravaganzas, there are certain girls to whom the only thing that can ever make them good is distance!

Poets, essayists, novelists and litterateurs have always been unanimous in their pronouncements while speaking of a woman's age. "Oh, Sir, I must not tell you my age; they say woman and music should never be dated"—so said Oliver Goldsmith. Charles Dickens said that a woman would ever aim and madly desire to be a youth though she shot beyond it

years ago. It was Rudyard Kipling who averred that youth has been such a habit of every woman that she cannot part with it. His contemporary Oscar Wilde believed that thirty five is a very attractive age for women and said that London society is full of women who have, of their own free choice, remained thirty five for years. The American poet, Robert Frost, confirmed this statement by saying that time and tide wait for no man, but time always stands still for a woman of thirty. Robert Louis Stevenson exclaimed that there is nothing more certain than that ego and youth are right, except, perhaps, that both are wrong. Anothor American dramatist and wit, Wilson Mizner, warned: "When a woman tells you her age, it is all right to look surprised, but don't scowl". Pope might not be correct when he opined: "For never was it given to mortal man to lie so boldly as women can"—it might be true as far as the pronouncement of their age is concerned. Byron was certainly wrong when he suggested: "Believe a woman or an epitaph or any other thing that's false"; may be, he was right if his statement refers to their age alone. "A woman is never too old to yearn", observed Addison Mizner, an American architect. W. S. Gilbert, the English playwright, said: "A woman may very well pass for forty three in the dusk with a light behind her". "Ed" Howe, the American journalist, quotes a wife who was ten years older than her husband calling him "father". He suggests a cue to know a woman's age and that is to ask her sister-in-law. Will she leak it out, out of jealousy or enmity—it is for the sisters-in law to answer. One other author concludes that a woman, who does not age beyond the 'optimum age', subtracts from her age and the years she lost are added to the ages of her sisters-in-law! "Men may come and men may go, I remain young for ever"—so the womenfolk go on saying. Women do not, naturally, agree to that old saying that age and wisdom go together and would rather prefer to remain young and unwise. Bernard Shaw suggested a novel method to extract information from persons who remain taciturn and it is to contradict them. So, if you over-estimate a woman's age, she may come down to correct you!

The consciousness or the awareness in women of their age may be profusely illustrated, some of the illustrations being by the PEN (Poets, Essayists and Novelists) themselves.

In a shindy in a shandy certain women were sued for public nuisance and brought before the court. The Magistrate could not hear them properly as there was a pellmell owing to their simultaneous howling. The Magistrate ordered: "One at a time please. Let the oldest speak first". Hushed silence prevailed in the court hall as none came forward to declare she was the oldest.

In another case, where a typist (woman of course) was approached for typing certain urgent communication, she exclamied, showing her pointer around her male colleagues in the same hall, "why don't you approach them?". When the official replied that they were 'engaged', the woman-typist suddenly burst out: "as if I am of old age". Wit apart, surely she did not want to be dubbed as one too old to be approached (or encroached upon?).

There is a case where the girl was eighteen and her husband thirty when they first met. Now when the husband is sixty, she figures that since he is twice as old as he was when they first met, she must be thirty six now. Thus, as a woman is capable of juggling figures, she will never become old!

Oliver Schreiner cites an example where a woman said she was twenty eight years old when she came and that was twenty eight still and it was for speculation as to when she would have another holiday! There is a story of a stupefied census taker who asked a housewife how old she was, and she said she could not remember whether she was forty two or forty three and so said thirty five. Another woman who had a twin brother claimed that she was practically identical with him, "except for one minor detail" in that he was forty nine and she was thirty nine.

The case of a diplomat who was complimented upon because he always remembered his wife's birthday, but never her age, may also be mentioned here. Where from the compliments could have come, but from the 'comely matron' herself? In a ceremony where the would-be groom was to see his bride-to-be, the former was astonished to hear his would-be mother-in-law hastening to tell her age which he was least worried about. Did the would-be mother-in-law want to impress on her prospective groom-to be that her daughter was definitely younger than her?

In an interesting case, a husband pleaded with his wife to have birth days again and again as he did not want to grow old alone. Instances are not wanting where women celebrate the tenth anniversary of their thirtieth birth day. As one anonymous writer remarked: "Birth days are anniversaries on which a husband takes a day off and his wife takes a year off".

"I have decided I would not be married till I'm twenty five", confided the co-ed. "And I", said her elder sister, "have decided not to be twentyfive till I'm married".

It was that French political philosopher, Voltaire, who declared that a woman can keep only one secret—the secret of her age. Policy decisions of the Government or its budget secrets may leak out, but never the age secrets of women! At least in one instance, a woman was forced by circumstances to divulge this secret. It was while she was on a safari, when she was captured by a gluttonous cannibal who never ate any one past forty five.

Commenting on the loyalty of a woman regarding her age, one author wrote: "She is very loyal; years ago she reached an age she liked and she has stuck to it". At another time he observed that when it comes to telling her age, a woman is shy—"about ten years shy". A witty writer cited the case of a lady who "finally" admitted that she was forty, but she did not say when". As one humorous writer aptly put it, if any girl were to put the right number of candles on her birth day cake, it would not be a birth day party, but a torch light procession! Another corrected it to say that there might be a fire hazard! Or, there may be no candles at all, because, "she's in no mood to make light of her age".

We note in conclusion how calculative and calculating women are in the matter of their age. Among the Jews, it is said, a birth day is no holiday, but it is the anniversary of a death that a Jew remembers. Age-conscious women should never forget that age does not wither nor custom stale. "Age is not decay; it is the ripening, the swelling of the fresh life within, that withers and bursts the husks" (George Macdonald). They forget that "women are the most fascinating between the ages of thirty five and forty after they have won a few races and know how to pace themselves. Since few women ever pass forty, maximum fascination can continue indefinitely". Let the women remember that the beau-

tiful women in the world today are those who are on the wrong side of thirty and the list includes Her Majesty the Queen of England, Jaqueline Kennedy (now Mrs. Onassis), Elizabeth Taylor and Sophia Loren.

Dr. Samuel Johnson loudly admired the ladies. "I am very fond of the company of ladies; I like their beauty, I like their delicacy, I like their vivacity and I like their silence", he said. So does every male human being. What is it he does not like then-their aging or their lying about it?



On Discipline

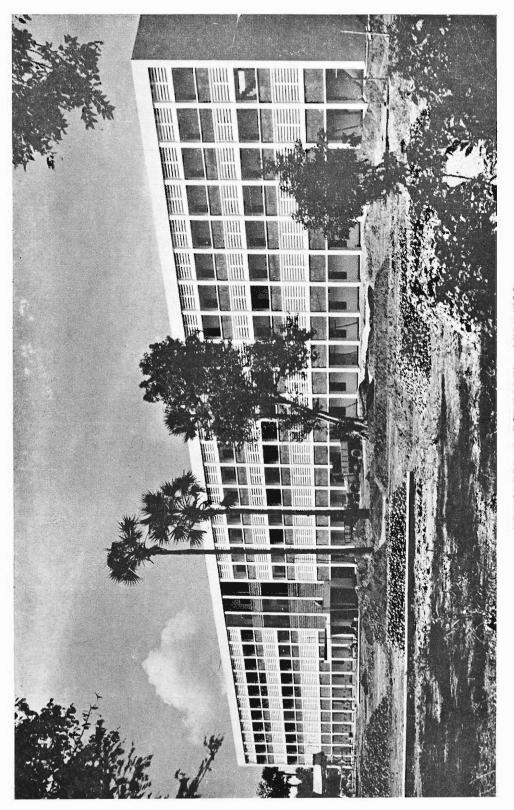
By

Dr. T. GOPICHAND

The word 'discipline' raises a peculiar nausea, in some minds. For instance, the discipline imposed by weilding the cane in high schools, the discipline of militaristic hegemonies, the discipline to believe in proper etiquette and manners and in matters of dress, behaviour and appearance, though still practised, have all fallen in to disrepute. What I intend to discuss in this article is discipline of a different kind which is badly needed in our nation, to save it from many ills devouring its vitality.

We have become a free nation. We have had the misconception that when once the British people leave India, the nation will find itself in heavenly existence. This belief is slowly falling apart provoking many a man to think hard about what is wrong with us. Watch individuals or groups in our society; they are not basically different from societies of other human beings. Why is it that what we achieve is insignificant—at least not commensurate with our needs? We are not able to provide the basic needs like food, shelter and clothing to our multitudes. Our sterling reserves are gone, our foreign debt is increasing, and the internal taxation levels are almost getting saturated; but our problems still glare at us.

We tried to ape foreign methods (be it American, Continental, Russian, Japaneese or even Chinese origin) to seek solutions to our problems and we find that either the transplanted idea does not grow, or the mixed adaptations do not work. This is true almost in every walk of life—democracy, education, industry, agriculture etc—almost without exceptions Many explanations are given by political pundits, economic, social and other experts, which are more consolatory in nature if given by those who like status quo, or of a destructive nature, if given by those who want to put themselves on the bandwagon.



ELECTRICAL SCIENCES BUILDING

WORKSHOPS

If one thinks hard and looks around in an objective way, one can not miss the basic malaise. Everyone from the politician to common man, is more vocal about his rights than duties. In our anguish to be outspoken, to elicit recognition and sympathy, there is undue emphasis on rights rather than on duties. No one cares to question himself, as whether he has done any justice to the job he is supposed to do, for which he is paid. Is it not criminal, whatever may be the defects in our society, or even to be more specific, in one's own boss, to neglect the work on hand? A clear-cut understanding of the fact, that a disciplined way of behaviour on the part of the citizens is a pre-requisite for the progress of the nation, is the need of the day.

Let me try to amplify the idea further. If an industrial worker feels that his capabilities are being overlooked for promotion, should it be a cause for shoddy work? Is it not necessary to do the amount of work commensurate with the money he receives?

Suppose the students of a University have got grievances. Whatever may be their relevance, is it not their first duty to work hard, study and gather knowledge? I do not say that they should only study and do nothing else. But all I am suggesting is that there is a limit to which they can indulge in spending time to press for their demands and that first things should come first.

Consider the various white-collared workers in any office. How often does one hear these days that matters are not properly attended to, unless somebody pushes the papers? How often does one hear complaints of all sorts against X or Y and how scarcely does one encounter persons dedicated to work! Even in a noble profession like teaching it is dis-heartening to meet groups of people discussing all kinds of things other than academic matters.

It is needless to assert that what we need badly and urgently to survive as a nation is to discipline ourselves and to realise here and now that no nation achieved glory without sustained hard work, co-operation of many at the cost of placing country before self. In short, a disciplined behaviour on the part of all citizens. Grievances at every level would be there, even if we, as a nation, achieve levels of production as in USA, but the duties of work to ensure soundness in our activities should be given first preference.

Two prominent questions should be answered at this stage. First, what constitutes disciplined behaviour? Second, how far should one sacrifice self interests? I shall try to be brief to attain logical consistency. One knows in his heart of hearts what is one's duty whether a person is educated or not. Only, a person ought to feel patriotic enough to avoid doing what is harmful to the society. Regarding how far one should practise it, I want to say that it depends upon the ability of a person to undergo privations of a material nature. How many should try this, is a matter of speculation. But one should realise that a totalitarian state like China, with a population of about 700 million, was not able to progress with an estimated party membership of 5 to 6 million. I feel that since only one percent of our population has been educated at a great cost and if every educated person realises and behaves in a disciplined way, there will be a tremendous impact on the morale in our country.

The second important question is, who is to bell the cat? Who should try to inculcate this idea of discipline? Certainly our political system in its present state cannot do it. Even

a party like the communist party is breaking up into pieces on attaining power. On the one hand, the magnitude of the problem is big and on the other hand, the political system in the country, which should rise to the occasion to develop leaders who can instill discipline in those whom they are supposed to lead, is in a turmoil.

In a situation of this kind, I believe, teachers of all kinds should take up the task of putting matters in their proper perspective. They alone are in a position to state facts in an objective manner without fear or prejudice and they alone are in a position to talk to youth who will inherit this country and will eventually solve its problems. This will provoke the politicians to do their duty, to keep their lives and activities in order, and to raise leaders in due course who practise what they preach

To conclude this article I would like to quote an article by Shri H V.R. Iyengar, "Some reasons for failure" which appeared in Indian Express dated 26th June 1969. This article gives in an excellent manner the importance of disciplined behaviour in revival of Japan as a nation.



Hail! The Critic

R. KARTHIK

Quite often the critic is responsible for accelerated social progress. Man and his social order frequently react to critics and irritants, even as the oyster responds to discomfort from a grain of sand by bringing into being the cherished pearl. Written communications are no exception. It takes a mild critic to add spice and zest to routine communications. Repetitious reporting of events, devoid of humour, may result in mediocre results At the same time, humour, introduced at the expense of a dissenting minority, may cause irritation. Whether this irritation produces progress or merely a widening breach and bruised feelings, depends on the attitudes of the irritator as well as the irritated.

Built—in bias and ignorance of the facts can lead to destructive rather than constructive criticism. To be constructive, criticism should have a purpose. It should not be the result of a thoughtless reaction or emotional outburst.

To be able to criticise constructively is a challenge to communication skills. When any communication criticises, the self-centeredness, which is the greatest single barrier to any form of communication, can become almost impenetrable. Constructive criticism must permit change in methods without admission of wrong, rather than spark defence from the criticised. If one cares to stop and consider before criticising, it is quite likely that irritation will be dispersed, if not depleted. For example, "Why the hell did you do that" may well be replaced by "I wonder whether that was the best way of doing it."

There may be numerous motivations for criticising. The critic may want to show off his ability, or ensure adherence to standards, or even point out what is wrong around the place. But in the world of business, the only good reason to criticise is to get better future results. This requires careful timing, tactful wording and clear thinking. Logic and reasoning often appear to be only secondary in achieving success!

The test for constructive criticism is rather pragmatic. Quite often, the critic would say that the one criticised ought to benefit The question is—Does he?

The tone and form of the critical communication decide its acceptance more than the content. However, unless the psychological barriers are overcome, it is difficult to get any idea (critical or not) across from one mind to another.



Chicago Goes

GAUTAM MAHAJAN

Everything here is different from what I expected while I was at Madras. We were probably starry-eyed and perhaps slightly taken up with the material affluence of the Americans, and the big way in which they do everything. This last is perhaps the secret of their economic success. Friends of mine (ex IITians), who work in this country tell me that the workers are slightly worse than in India, and that everyone takes things easy. Whether this is true at the higher executive levels, I doubt very much.

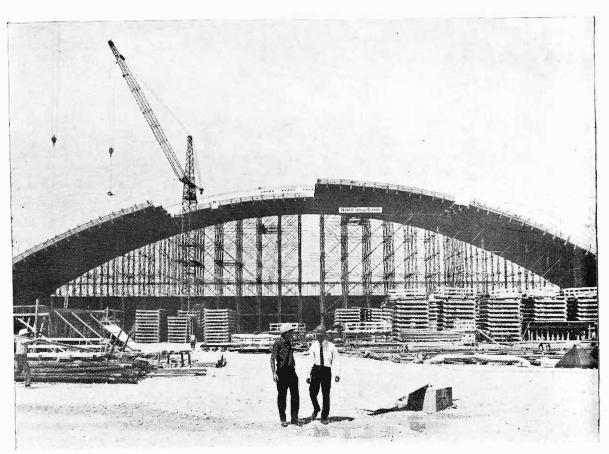
Academically speaking, IIT Madras compares very favourably with IIT Chicago. Of course, here one is forced to work hard because of home work. The standard is not all that fantastic. My undergraduate studies at IIT Madras have stood me in good stead. The reason why I said everything was different from what I had expected was becuase I was told the teaching methods in this country were revolutionary—no exams etc. This is just a myth. In fact, for one's M. S. & Ph. D. there is a quaiffying exam and a comprehensive exam—which is worse than the degre exam of our Universities or the Indian Engineering Services Exams, because a good deal of proofs etc. must be known; moreover the system is highly personalised—grades are a function of the lecturer and the other guys in the class, and not dependent on absolute merit or worth.

I read somewhere of Dr. Ramachandran's remarks on IIT Chicago's laying more emphasis on research. This is very true. Because of the very close relation with industry and the Government, IIT Chicago can get so much money. Moreover, in academic circles, people are not so lax as in India. Here everyone is on a contract. Merely standing lst at the Engineering College, Tumkur, does not qualify one to teach. Till one keeps on doing meaningful research, dynamically qualifying one's notes, one is not fit to teach. Moreover, if one is not willing to take criticism, one is facing stagnation tantamount to academic ruin. I remember the awe-filled reverence given to teachers; I remember a friend pointing out to a lecturer that there was a mistake in Dally's 'Experimental Stress Analysis', and being told, 'How can you think that Dally could make a mistake'? When I took the course under Dr. Dally, he pointed out the same mistake and acknowledged it. Here, in the graduate school, a teacher feels honoured if his students can ask him questions that can floor him or keep him on his toes.

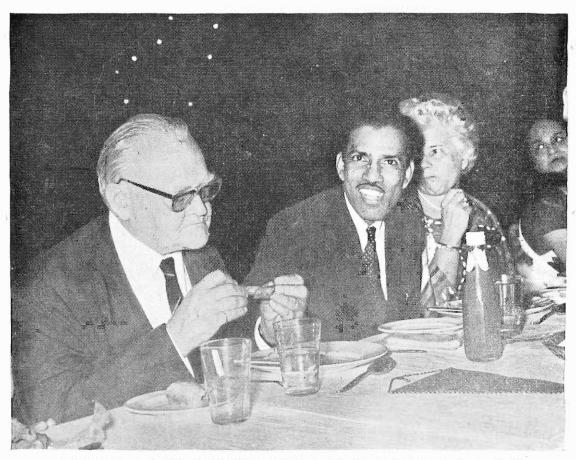
I think what plagues us in our country is the "chalta hai" attitude. This is because of the strict control one has to exercise in one's social life. One is so subject to pressure in social life in India that one tends to relax in one's professional life. The reverse is true here. This might not be exactly true in all cases as pointed out earlier but is very true in academic circles. The other thing here is the degree of utilisation of equipment. This I have spoken of often, as old timers at I. I. T. M will remember. Things are meant to be used—they are not show pieces to impress visitors. Our equipment was fantastic, but one does not run a museum at I.I.T.M., does one? One thing that always worried me was the pride we took in the largest non-productive workshops in Asia. That they are non-productive I can vouch for -but should we not feel ashmed of this?

There are many I. I. Tians in the US and many more Indians. Some departments at IITC are running only because of the Indians. The IITians from an elite group here. The IITM spirit is quite high, I must say, and it is a pleasure to come across one here.

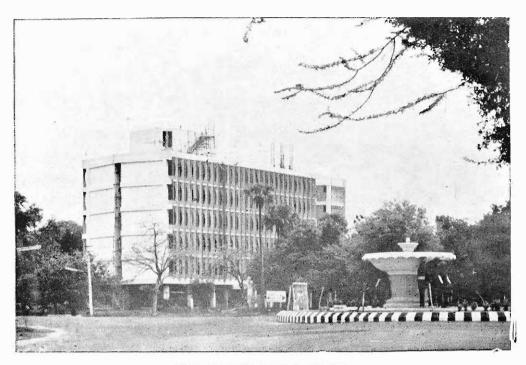




Guess What?



Director, Dr. A. Ramachandran with Dr. Lehnartz, President, D. A. A. D. (German Academic Exchange Service)—Seminar held at the Institute.



The Administrative Block



German Team Entertaining the Audience

Views And Interviews

JOSHY PAUL, THE HERO OF CENTRAL SCHOOL STUDENTS

Not far away from the entrance gate to Central School, we can see a group of ladies waiting for their children, and discussing perhaps about the latest movie in the City or the multi-storied Rasi Silk Emporium or Karuppanna Silk House. In front of us is the office. We search for familiar faces. The clerks are busy, too busy to look at us. To our left, one Sanskrit pundit is surrounded by ten or twelve kids. It seems obvious from his gestures that he is attempting a joke. On the black board is written 'Note Books are sold'. We remember our boyhood days, those golden days. We are interrupted by the peon. 'Summa Ponga', he encourages. We step into the Principal's room. Somebody is sitting before him. One Miss is showing some papers and asking for his advice. The telephone rings and amidst all this, he welcomes us. We look around. One almira is full of trophies and cups. Gandhiji, Nehruji and Tagore on the walls look benevolent and saintly. The artists have done a good job.

"Yes", he begins. Tall, slim and spectacled, he talks slowly. Words flow without repetition and he never hesitates to give his frank opinion.

Many parents think that by admitting their children in I. I. T. Central School they can easily get a seat in I. I. T. Ofcourse many of his students pass the entrance examination and get seats but it is because of the training given in the school. What do the boys staying in the hostel feel about the Campus? The students love it. In fact, many of his Delhi friends prefer to admit their children here eventhough they have a Central School at Delhi.

Does he think that his students have many opportunities to move with I. I. Tians? There are not many. But his students go to O. A. T. every saturday night, never miss Intercollegiate literary and entertainment competitions. They read regularly 'Campastimes' and are so much inspired by it that they brought out recently a publication and sprang a surprise on him.

He searches his table and takes out a volume with the title 'Tavern Talk'. The boys have the same types of jokes as we, I. I. Tians, have and their caricatures are good. Mr. N. Vaideeswaran, Principal of the Central School, feels happy that his students are good in group discussion and debate. He agrees that the styles and manners of I. I. Tians attract the younger minds.

We know that Joshy Paul is a hero among us. But it is pleasant to note that Joshy is an idol too for these children. In fact, if you want anything to be done by these boys you tell them that Joshy also does the same. If you want to prevent them doing something, you simply say, "Joshy does not like this". It works like magic.

With the preface "Please don't misunderstand us", we want to clarify whether the general impression, that the students of the Central Schools are introduced to Western thoughts and culture and not to Indian culture, is correct. 'How can it be right?', he wants to know. Sanskrit and Hindi are compulsory and if one says that reading English means following Western culture, well nobody can help him.

His students prefer O. Henry stories. They devour the books of Wodehouse.

What does he feel about 4.40 p.m. bus? He appreciates the duty-conscious driver and the conductor. Even after taking nearly 100 children, they go to the Admn. Building and pick up some more. The sky is the limit for accommodation.

A quick glance through our pocket note book convinces us that we have collected enough material. We thank him and come out with a feeling of satisfaction.

* * * * *

Students Of Marriage

Two or three kids are playing. We enter the house and are announced. Mr. Henkel, S. S. A. of the Physics Department, greets us with a pleasant smile. Strong, well built and looking like a Hollywood star, he extends his hand to us. We explain the purpose of our visit and give him last year's Pradeep. He turns the pages. Is the Alumni Directory complete? Our answer is in the affirmative. Not content with this, he calculates the number of Convocations held and counts the names in each column. There are fifty names in each page and the total number of pages is twenty. 'You are right', he assures us and prepares himself for the interview.

Fumbling for words, we ask him whether he likes the Campus. Certainly he likes it. Does he have any difficulties? Not many, but may be one or two. For example, many Germans in the Campus get ill after drinking water. We ask why. He is ready with an explanation. In Germany, they are accustomed to a different type of bacetria in water. Any comment on our restaurants? Oh! That is another problem. If they visit our restaurants it is almost certain that they will be sick for the next two or three days. He tells us a funny story.

Recently a group of journalists from Germany visited I. I. T. His friends wanted to have a practical joke at the expense of the journalists. Instead of serving the guests German food, his friends took them to a restaurant in the City. Knowing fully well the after-effects and feeling confident that they themselves are immune, his friends ordered lunch for all. Do you know what happened? Among those who fell ill afterwards, five were his friends who played host.

Enjoying his story, he offers us drinks. Avoiding temptation, we prefer coffee. The servant-maid brings us coffee. Helping ourselves, we proceed with our questions. Does he want to say anything about German quarters? He finds his house good and he is satisfied. But the point is this: He wants to know more about India during his stay here. He knows that if he stays at Mylapore or T' Nagar he will have more opportunities to observe the habits and behaviour of Indian families. "I want to know", he says, "what my neighbour's reactions are when I request him to stop playing records at midnight." We wish him a good neighbour!

His five-year old son comes out and informs his daddy that he has a telephone call. "Just a minute", he tells us and attends to it.

Now we turn our attention to the education of German children in the Campus. He informs us that these kids easily learn Tamil, speak fluently in English and know well Sanskrit and Hındi but lose touch with German. So, a school for them was started recently to teach lessons in German.

We remember an American Professor's statement that most of the girls in U. S. A. attend colleges not because they are interested in studies but because they like to select their husbands. Is this true in Germany also? Yes, he agrees. As a matter of fact, while a student of Engineering is called Stud-Ing and Stud-Phys means a student of Physics, a girl student is always known as Stud-Heirat. Cursing ourselves for not attending regularly the German classes held in Max Mueller Bhavan, we manage to look unperturbed. Guessing our trouble, he tells us that Heirat means marriage. We enjoy the joke. He adds that most of the girls marry before they finish their studies.

Again a telephone call and with an apologetic face he rises and takes the receiver. A busy man indeed. After the conventional are-we-taking-much-of-your time-sir approach, we try to focus our attention on a different direction. Can he compare Indian students with German students? Well, it is difficult for many reasons. What most of the Indian students read at the college level, German students finish at the high school level. A German student is older when he comes to college. Is this an advantage? Yes, for he knows what to learn and how to think.

We see one or two Volkswagen cars approaching his house. Our watches tell us that we have spent more time than scheduled. We thank him and come out.

* * * * *

I.I.T. Students Are Shy

With a Warren Beatty smile and Richard Burton accent, we meet the receptionist. We are asked to be seated. Thirty yards away an old man, perhaps an outsider, stares at us. Somebody wants to know the bus timings. We wait patiently to begin the interview. Seen from our seats, the enquiry counter looks like a sales counter.

Why did she choose this job? Mrs. Roja Devi thinks for a few minutes. We put it in a different way. The nurses say that in their profession they get pleasure when they see the sick cured of illness. They are proud to tell the world that they work for the welfare of human beings. Can she say anything like that? She can. You know, when you are a receptionist, you are not merely doing your duty but are helping every one. Added to this, is the feeling that you have chances to speak to big wigs. That is why she likes her job very much.

Has she anything to say about I. I. T. students? She feels that I. I. T. students are very shy. They hesitate to put enquiries to her. What is the impression of outsiders when

they visit I. I. T.? They like the Campus very much. In fact, they go to the extent of saying that there is no need for a receptionist for, once they enter I. I. T. campus everything becomes familiar and homely.

Does she remember any funny incidents? Oh! There are a good number of them. Some time back, one foreigner came here and gave the names of some persons whom he wanted to meet On enquiry, it turned out that this man mistook I. I. T. for King's Institute. Often she meets persons who think this is C. L. R. I.

On an average, she gets fifty telephone calls a day. If Symposia are held, she gets more enquiries from visitors. She will have an assistant soon.

The queue waiting at the counter grows bigger and bigger. Impatient eyes convey the message clearly. We know it is time for us to thank the good hearted and jovial receptionist. We present her Pradeep and say goodbye.



On Career Planning

S. RAMANI

Engineering students as well as engineering curricula, professors and even teaching techniques are quite different today as compared to those of ten years ago. There is an increasing trend for engineering students to go in for post-graduate qualifications, particularly in business administration. This could be due to decreasing job opportunities for fresh engineering graduates, or due to the attractive stipend awarded to all post-graduate engineering scholars, or due to increased specialisation demanded by jobs or due to a combination of the above factors. It is even rumoured that students of engineering look upon the post-graduate course as a mere postponement of the problem of having to find a good job.

In any case, an engineering graduate of today has to face the 1969 realities of employers' demands. Ability to analyse, synthesize and make decisions, are insisted upon by potential employers as the ingredients of a successful young engineer. The problem here is to define the word 'success'. In whichever way it is defined, the way the young engineer applies analysis, synthesis and decision-making, while coming to conclusions about his job, will forecast his on-the-job performance subsequently. And the greatest of these abilities is 'decision-making'.

Today, management specialists can claim that decision-making is more of a science than an art—particularly, decision-making under risk and under uncertainty. The essence of decision-making lies in generating the various alternatives and weighing the facts with a view to reducing them to tangible terms.

Decisions which foresee only negative results and therefore try to maintain status-quo do not contribute towards success. The decider should have a positive aim and refuse to have his vision clouded by aversion and temporary set-backs. The aim should be realistic. For example, an oft-quoted aspiration of young engineers, "maximum income and maximum job satisfaction", is just meaningless. Maximun job satisfaction need not (and will not) occur at maximum income. If one doubts this statement, one has just to draw the two curves and see for himself. In the words of a manager, one has to "optimise the combination of income and satisfaction". Having decided to take up a job, young engineers have often complained that the jobs are dull and uninteresting. A sound decision in such situations may be to change the job but not the employer (particularly in these days of mass unemployment). One should try to mould the job to permit expression of one's aptitudes. For example, there could be several approaches to handling a job, all of them with almost an equal degree of success. Atleast one of these approaches will require maximum application of one's talents. This approach may well prove to be the one that makes dull jobs exciting! Rather than escape from troubles one has to seek satisfaction from jobs.

One has to be a realist to make a success of a career. The materialists and the idealists seldom make a sound approach to career planning. The realist accepts change as a norm of professional life. In the variable environment, change is the only constant. The man who can successfully manage change, can manage any job. After all, the twentieth century concept of leadership is nothing but "the ability of an individual or a group to manage change in a dynamic environment". Students of Engineering often find it difficult to decide precisely the kind of career they want to pursue. Very few students seem to do what they like to do instead of what they think will be required of them. This is partly due to the fact that engineers leaving colleges do not have opportunities to learn enough about the needs of the several jobs that come on their way. Nor are they aware of their own talents and shortcomings. This results in improper matching of aptitutes and job requirements Careers selected in terms of acquired rather than natural talents, are seldom 'successful'.



Care To Know The I.I.T. Campus?*

Human population: 5000 (approx.)

Student population: 2000 (nearly)

Deer population: 2820 (1968 census)

Hare: two numbers

Snakes: watch where you step

Campus area: 635 acres

Occupied area: 35 acres at least it seems

Unoccupied area: 600 acres so

Lakes: two numbers (but you can walk in them these dry days)

If you really want to enjoy the Campus, walk a mile in any random direction and try coming back to your starting point—for that matter, any one's starting point.

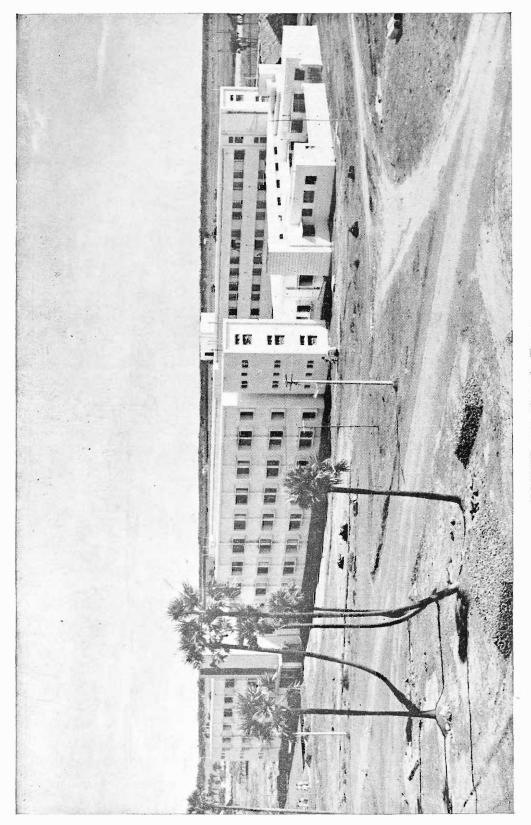
Madras, April, 1969

Dear Delegate,

Much as we would like to roll out the red carpet and let the din of brass bands drown our cheers of welcome, our hands are tied. I. I. Tians are essentially humble hosts who hate to make a show of anything. Our welcome springs from the depths of our hearts and is innocently reflected in our benevolent looks and noble deeds. An iota in our efforts to make your stay here a comfortable and memorable one, is this pocket companion. It contains simple solution to your possible non-technical problems on the Campus.

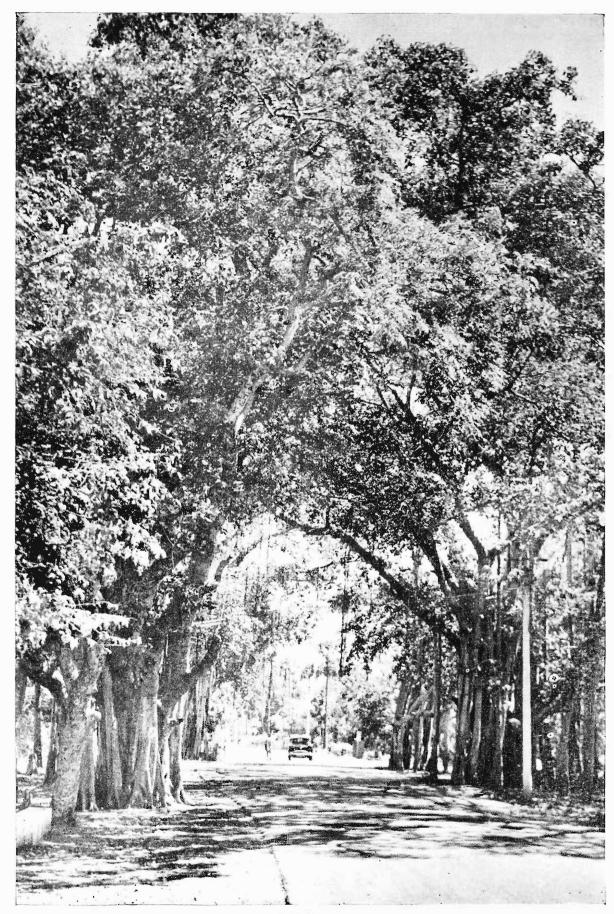
^{*} Taken from a booklet issued to the Delegates of the Aeronautical Conference held at I.I.T. Madras recently.

HOSTEL (Open Type)



HOSTEL (Quadrangle Type)

I. I. T. means beauty



I. I. T. !

Destination: Hostel Mandakini

If unlike us students, money isn't your problem, let the cab driver know that you are to be driven right up to Mandakini Hostel exactly 2.103 miles from the IN gate.

If money is your problem, or spendthrifts are your opposites, nothing like the I.I.T. bus. (Frequency: one every 20 minutes. Terminal points: Adayaru and Mandakini Hostel.) The bus obviously passes through the gate. The drive takes 15 minutes and only one of the six drivers employed is the Grand Prix type.

If you've forgotten your wallet at home or do not wish to take even the 16.67% chance of risking the Grand Prix type, then we're afraid you'll have to walk, since you wouldn't have a bicycle. However, passing motorists shall graciously consider your lift-thumbing-signals. Inconsiderate motorists are to be rebuked vehemently. (An IITian principle of the road).

If you travel light, and have a passion for pleasant walks, we strongly recommend your footing it to the hostel. On an average you will encounter 232 trees, 57 deer, 19 monkeys and many IITians.

Caution: If you hear a far-away roar, treat it as an emergency and hit the road side. A whizz should confirm the passing of the devil's motor bike; after all, boys will be boys.

A Word of Warning To Those With Weak Hearts

German cars which roam the Campus in plenty are known for their stealthy approach and suddenly blaring horns; many a victim has broken the walking high jump record.

The Hospital is open during your most healthy hours.

PRESUMING YOU'VE MADE IT TO THE HOSTEL: If you have anything to say about the rooms, (we're certain it can't be nice) just remember that we have to live in them for five long years, without the option.

If you like attached bathrooms, pick the room at the end of the corridor. But then don't complain about having not one but six bathrooms attached.

Messing Arrangements: If excellent food is amongst your cherished values, then the mess is for your friends only. However, the first few meals can be thoroughly enjoyed by having side bets as to what confronts you on the plate. If you can make out our sambar from rasam, you've been talking with the cook. To offset minor disappointments, a spectrum of rice shall be served.

Telephone Facilities: (More truthfully, telephone difficulties). There are two telephones in your hostel office. (The hostel office is in the hostel). One, the RAX, is for domestic calls; the other PABX, for calls both inside and outside the Institute. It is customary not to deprive the exchange of overhearing your juicy conversation. So kindly dial 9 on the PABX, and ask for the outside number. Since domestic calls are invariably boring, you needn't bother the exchange. Simply dial the 3-digit number on the RAX.



The Alumni Association

Indian Institute Of Technology, madras-36

Annual Report For The Year 1968-1969

Any careful reader of annual reports will arrive at the conclusion that the title best suited is 'Annual Complaint'. Every year the annual report starts on a high note and ends with bitter complaints. I hope this year there will be some change.

Actually there can never be any spectacular achievements, for, the aims of the Alumni Association are not stuff from which sensational news is made. If, suppose, we request that 10% of the members of the Board of Governors of I.I.T. M. should be our alumni, this idea may be considered as revolutionary by some, premature by a few and would be rejected totally by many. To demand that the Alumni Association should be consulted on every matter concerning the welfare of the students, will mean that we are ambitious. So we come to face the reality that the sphere of our activities is very limited. With justifiable pride, I am glad to say that this year the Executive Committee and Editorial Committee did a wonderful job. Everywhere we hear the cry that President's rule should be imposed. So far as the Alumni Association is concerned, there is true team spirit and not President's rule. That, perhaps, explains why we were able to achieve so much within a short time.

This year we have had two Presidents and two Treasurers. Naturally, our activities were also doubled. Prof. R. G. Narayanamurthy's dynamic personality, Prof. P. Venkata Rao's ability to take quick decisions and act upon them and Dr. P. Srinivasa Rao's sincerity combined together and the result was, we put Rs. 5000 in a fixed deposit scheme.

I am sure that our new Treasurer Dr. B. Ramaswamy in his turn will see that we deposit more money in the coming years.

This year we conducted the membership campaign so remarkably well that 350 students were enrolled as members, the highest number on record so far. I wish to express my gratitude to all the Heads of Departments and the students for their cooperation.

We have done our best to help our alumni in all possible ways, ofcourse legal, on receiving letters from them.

There are many reasons for not bringing out the second issue of News Letter. Some of them can be easily explained and others can't be because I do not know them!

As I am determined not to complain, I do not want to mention the fact that we are not getting up-to-date information from most of our alumni.

I am grateful to the members of the Editorial Committee, especially to Prof. S. Sampath, for their help.

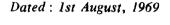
I will be failing in my duty if I do not place on record the services rendered by the Executive Committee and I do not want to fail.

It gives me great pleasure to know that I. I. Tians form the elite of the society when they go to foreign Universities. From Canada and United States, we get letters informing that I. I. Tians are preferred. The Alumni Association keeps in touch with foreign Universities and the information we collect is very useful to the students.

Before concluding, let me thank the President and the Office-bearers of the Association, the Staff and the students of this Institute and all the alumni who have helped a lot for the rapid growth and prosperity of the Association.

"Let us not relax with a feeling of satisfaction and fulfilment but keep on moving".

M. R. SRIDHARAN
Secretary





Unemployed Engineers And Industrial Development

PROF. S. SAMPATH

The demand for individuals who have high ability and are trained in various professions is now so familiar to us that we take it for granted but its emergence constitutes one of the most profound changes in the stream of human affairs. Throughout the millennia of history, it was given only to a few individuals in society to develop their gifts and contribute to the progress of society. The critical importance of human resources did not force itself on public attention till recently when nations began to experience dramatic shortages in strategic professions like teaching, medicine, science and engineering. According to Bernard Lovell, the rate of accumulation of knowledge is now 100 times faster than at the turn of the century, scientific activities are doubling every 10 years and there will be 2 million scientists at work by the end of this century.

In India, for centuries, the pursuit of knowledge was for its own sake and remained unrelated to our social needs. The Indian renaissance in the latter half of the nineteenth century, which caused a literary and cultural upsurge, brought to the fore a few leaders of science around whom centres of excellence began to emerge. This, to some extent, repudiated the view, popular in the West, that the oriental mind is essentially metaphysical and unsympathetic to science and technology. After the dawn of independence, public support began to materialize for the institutional growth of science and an era of substantial investment began with the adoption of the often-quoted Scientific Policy Resolution of the Government of India of 1958.

Technical education remained static and undeveloped. An appreciation of the importance of scientific and technical personnel at various levels came as an aftermath of World War II experiences. The Govt. of India established in 1946 an All-India Council

for Technical Education to advise it on the improvement and co-ordinated development of technical education at the national level. It also appointed a Scientific Man-Power Committee in 1947 for the purpose of assessing and forecasting the requirements of various categories of scientific and technical personnel in the context of the country's economic growth.

The latter Committee visualized a pattern of economic development for the decade 1947-57 and estimated the man-power need, for this ten-year period, to be 30,000 persons possessing first degrees in various fields of engineering and technology and 33,000 diplomaholders. The Committee outlined various measures to reach this goal.

It is of interest to note that doubts were raised in certain quarters about this estimate on the ground that the country's economic development was unlikely to proceed on a scale as large or as speedily as envisaged by the Committee.

In 1947, engineering institutions in the country had an admission capacity for 3000 students per year for first degree Courses and polytechnics for 3,700 for diploma Courses. By the end of the First Plan Period (1956), these capacities had risen to 6000 and 10,500 respectively. Those who formulated the Second Five Year Plan proposed that the admission capacities should be stepped up to 7,400 and 13,000 respectively. At this time, many voiced the feeling that this order of technical man-power would be wholly inadequate for the implementation of the various planned projects. An Engineering Personnel Committee, appointed by the Planning Commission, gave its finding in May 1956 that about 26,000 diploma-holders would be the minimum need by 1960-61. The targets were revised twice during the Second Plan period, and, by 1961, the admisson capacities had risen to 14,000 first-degree students and 26,000 diploma-students. The annual output in 1961 rose to 6000 from 1300 in 1947, in respect of engineering graduates, and to 8000 from 1450 in 1947, in respect of diplomaholders. No serious shortages of technical personnel were anticipated during the Third Plan Period. To meet the Fourth Plan requirements, it was proposed to increase the admissions to 20,000 for graduate Courses and 40,000 for diploma Courses and to provide all over the country the requisite institutional facilities and support. In 1962, the Govt. of India established an Institute of Applied Man Power Research that would conduct research into the nature, characteristics and utilization of human resources in India, provide a perspective of the national requirements of trained man-power and evolve a plan for the improved training and development of the available work-force, and techniques for the educational preparation for employment, vocational guidance etc.

If one takes an over-all view, there has been no dearth of Committees, Councils and Commissions or critical appraisals and clear statements of our aspirations. But something has gone wrong in our implementation of schemes. Not a day passes without the newspapers speaking of the acute state of unemployment of graduates and diploma-holders. To-day's estimate is that there are around 56,000 engineering graduates and 75,000 diploma-holders desparately looking for jobs. The Labour Minister in the Central Government makes this ominous declaration: "The number of educated unemployed is rising fast. The employment opportunities are not rising fast enough".

The malady is a deep one and calls for heart-searching and a reappraisal of our fundamental attitudes.

In an address delivered in 1966, Dr. Atma Ram, Director-General of the Council of Scientific and Industrial Research, drew attention to the inadequate rapport between

educationists and scientists on the one hand and industrialists on the other and cautioned that if this state of affairs is allowed to continue, the nation's progress would grind to a halt. In his address to the Indian Science Congress in January 1968. Dr. Atma Ram again spoke of the hiatus that exists because, in our country, research and development are confined to Government-sponsored institutions and the results have to be utilized in the industrial sphere and there is a dichotomy between research and productive utilization. He registered the complaint that, inspite of tax incentives and the C.S.I.R. offer to contribute to co-operative research through the medium of industrial research associations, industry had taken no significant steps in the matter of research.

Inaugurating a Summer Institute on Laboratory Training and Instruction, in May 1966, Shri H.V.R. lengar drew attention to the importance of evolving schemes of instruction in which, apart from theory, first-hand practical experience, based on the use of laboratory tools and working models, would receive strong emphasis. He had no hesitation in putting the blame for the failure of the present system on the teacher who taught theory but, being himself the product of a by-gone, defective educational system, possessed little or no practical skill or industrial experience.

The teaching institutions are by and large unmindful of the pressing day-to-day problems of our industrial organizations. Managers of industrial set-ups find the fresh recruits good-for-nothing on the shop-floor and have to devise programmes to train them from elemental beginnings. The technical institutions adopt the all-too familiar defensive attitude that their task is to provide basic training and it is up to the industrial establishments to organize the requisite on-the-job specialized training.

In technical universities in Germany, no student is allowed to embark on his study programme unless he has put in a period of apprenticeship in industry. The project-work that he does—an important component of his curricular programme—is invariably industry—based and industry—supported. No one is considered fit to be assigned a teaching job in a technical University unless he has a few years of meritorious work to his credit in an industrial establishment.

Prof. Whitehead, the noted authority on education, said: "Education must impart both technique and intellectual vision. The purpose of education is to produce a pupil with something that he knows well and something that he does well". We, in this country, have not been true to this dual aspect of education, at least in the field of technical education.

In 1947, when we attained independence, the expenditure on scientific research was of the order of a crore of rupees. Today it is in the neighbourhood of 50 crores of rupees per annum. It is paradoxical and sad that in a country, which provides challenging opportunities to educationists, scientists and industrialists, they should be at cross-purposes and working in isolation and that the best of our talented men have to look elsewhere and plan to go abroad for the betterment of their careers

As of 1954, the rate of production of engineering graduates in the U.S.S.R. was 260 per million of population and in the U.S.A. around 140. Our rate was 9 per million. The figures for the U.S.S.R. and U.S.A. have doubled by now. By 1961, our figure was 12 per million. With an annual output of 20,000 graduates, our rate will still be about 40 per million. It is again paradoxical that, with so much yet to be achieved in our economic

regeneration and with such little technical manpower at our disposal, there should be the sadness of unemployment, want and frustration.

The Bhabha Committee Report of 1966—a blueprint for a decade of development in Electronics—proposes that the production value of electronic equipment, which stood at a figure of Rs. 26 crores in 1964, should be stepped up to annual figure of Rs. 305 crores by 1975, at a suitable growth rate. The Committee envisages an over-all investment of Rs. 170 crores, in a ten-year period, to reach this target. The wage-bill, by 1975, would reach Rs. 115 crores, involving the employment of a task-force of 330,000 of whom 250,000 will be skilled workers, technicians and engineers. The related components industry will require 40,000 persons of whom 35,000 will be of the skilled category. For research and development work outside the manufacturing plants, an additional force of 15,000 scientists and 30,000 supporting technical staff will be required. The total task-force of about 400,000—of whom 300,000 will be in the class of engineers, scientists and skilled workers—will be geared to an investment of Rs 170 crores. The investment per man will be approximately Rs 4000 to Rs. 5000. as against Rs. 1,50,000 which is the corresponding figure for the Steel Industry wherein a large part of the manpower employed is unskilled. There is thus a tremendous scope for the employment of skilled men and women in large numbers if the Electronics Industry is properly nurtured and brought up.

We have a Scientific Policy Resolution. Some industrial policies have been outlined. But there is no clear enunciation of the strategy of development from the technological point of view. Economic development presupposes capital technological expertise, managerial skills and the will to work hard. Except for capital, the rest revolve on human resources. To quote Whitehead again: "In the conditions of modern life, the race which does not value trained intelligence is doomed".

Education is the tool with which we may build the system of skills and capabilities that will change our physical resources into economic wealth. The task of training scientists, engineers, technologists, craftsmen, managers and administrative personnel and a host of professional and non-professional men of skills must go on with zeal and unabated vigour. Fragmentary solutions of the past should be replaced by a concerted attack on our national problems. It is not want of understanding of the issues at stake that has hindered our progress but our lack of co-ordination at a day-to-day working level, our chronic inability to pool our national resources and our tendency to go it alone in whatever we undertake to do either as individuals or in small groups.

It is within our hands, in the next decade or so, to convert our backwardness into our major advantage. With willpower and vision, we may by-pass many of the early phases of industrial advancement that advanced countries have gone through, and set up our house on a new foundation of modern technology and progressive ideas. We, as a nation, have the intellectual capacity for doing this. It is up to us to generate the requisite manpower and press it into service, in the country's interests, in a disciplined manner and with a sense of direction. We may then live to see the dreams of men like Jawaharlal Nehru and Homi Bhabha come to fruition.

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MECHANICAL SCIENCES BUILDING

OFFICERS' HOSTEL

# News-Flash From The Departments DEPARTMENT OF AERONAUTICS AND APPLIED MECHANICS

In addition to the conventional facilities for testing, such as testing machines, loading frames, load cells and strain and deflection gauge instrumentation, there exist special items such as a network analyser, a membrane analogy apparatus, photoelastic equipment, and a column testing apparatus which have been designed and fabricated by the Staff. A Bi-axial testing machine has been designed and is under fabrication.

The research projects under active investigation in this field are; Buckling of Anisotropic plates and shells (experimental and theory); Vibration of Anisotropic plates, shells and structures; Development and implementation of general purpose computer programmes for structural and elastic problems; Limit analysis of anisotropic plates and shells; Buckling of shells of lamination under axial loading; Ultimate load analysis of steel and R C. model slabs with cut outs; R.C. rings subjected to diametral loads; Analysis of structures for creep; Plastic behaviour of metals like steel and aluminium under certain conditions; and stress analysis of the junction of a cylindrical and conical shells.

As a result of generous West German Aid, it has been possible to install major items of equipment in this laboratory such as (i) Open test section closed-circuit low-speed wind tunnel of nozzle diameter 1.5 m with an installed power of 180KW, a maximum flow velocity of 60 m/second, equipped with a semi-automatic six-component balance; (ii) An open circuit low speed wind-tunnel with closed test section of 0.6 m x 0.6 m; (iii) a diffuser test stand with 75 KW installed power.

The current research activities in the field of Fluid Mechanics are—

Experimental investigation of incompressible 3-dimensional turbulent boundary layers on yawed flat plate; Experimental investigation of incompressible axi-symmetric turbulent boundary layers; Aerodynamic interference between fuselage and nacelles in case of rear mounted engines; Theoretical computation and experimental investigation of the incompressible flow in annular diffusers: Theoretical computation of the aerodynamic characteristics of swept wings and delta wings in compressible subsonic flow; Experimental investigation of the drag and lift coefficients of sphere rotating in a uniform flow about its axis normal to the flow.

This Laboratory is also assisted by West German Aid and some of the major items of equipment from West Germany include various types of mechanical and electrical shakers and transducers, static and dynamic strain measuring equipment, frequency counters and recording instruments, noise and random vibration measuring equipment and spectra analysers. Besides, the Laboratory possesses a number of indigeneous general purpose electrical and electronic instruments used in vibration studies.

The Mechanisms Laboratory has a considerable number (about 130) of mechanism models, link motions, mechanical harmonic analysers and function generators. A model of lobe pump has been fabricated for demonstration, while a Dynamic Balancing Machine has been designed and is under fabrication.

Current research programme consists of Vibrational analysis of swept back air-craft wing with masses attached; Electrical analogue networks of mechanical vibrating systems; Design of ultrasonic machine tool; Response of elastic structures to random noise loading; Damping characteristics of welded joints; Characteristics of indigenous vibration isolation materials; Experimental verification of scale model principle in vibrations; Design of a Torsional vibration exciter; Design and Calibration of a vibration table; Development of a shock testing machine; Pneumatic springs; Theoretical and experimental studies of instabilities due to fluid film in journal bearings; Deterioration of contact surfaces; Mechanics for computation; and Development of screw conveyers.

The Aircraft Structures Laboratory and the Departmental Machine shop have been set up in a separate building of the Department of Aeronautical Engineering. Arrangements for conducting about 25 experiments are under way in the structures laboratory. Efforts are being made to procure a variety of aircraft components for instructional purposes, through the Hindustan Aeronautics Ltd. and Indian Air Force.

The current research programme in the field of Aircraft Structural Mechanics, Aerodynamics and Propulsion comprises of Elastic and Plastic stress analysis of Plates and Shells; Vibration of Orthotropic Shells; Thermal Stress analysis problems; Structural analysis of Toroidal shell of elliptical cross-section under static and dynamic loading condition; Experimental and theoretical investigation of grid works, composite beam, orthotropic materials, multi-layered shells; Non-linear vibrations of plates and shell; Elastic Stability of conservative and non-conservative systems; Stability problem of superposed fluids; Boundary layer stability: Non-linear problems in aerodynamics; Low-speed aerodynamics; and supersonic combustion.

# LIAISON WITH INDUSTRY

The following projects are taken in collaboration with industry.

- (i) Efficiency and Performance Characteristics of a STOCK BRIDGE damper; Experimental and analytical study for Messrs. Crompton Engineering Ltd., Madras.
- (ii) Vibration of a coolant inlet pipe for M. A. P. P., Kalpakkam; Experimental study at I. R. S., Poondi.
- (iii) Tractor seat spring suspension; Experimental and Anlaytical study for Messrs.

  Tractors and Farm Equipment, Madras.
- (iv) Manufacture of vibration transducer, collaboration (design and testing of equipment) with Messrs. Hygrodyn Private Ltd., Madras.
- (v) Vibration study of a heavy electric motor of SNAM PROGETTI Ltd, supplied to Madras Refineries Ltd., Manali.
- (vi) Testing of a rocket fin for the Space Science and Technology Centre, Trivandrum, with whom close contacts already exist. Contacts have also been established with the Hindustan Aeronautics Ltd. and National Aeronautical Laboratory with a view to orient the research and teaching programme of the Department so as to be of great benefit to these establishments by way of supplying proper personnel in the technological field in the future.

The following staff members have recently joined the Department:

# Aeronautics

- 1. Mr. K. A. Damodaran, Assistant Professor
- 2. Mr. P. Venkateswarlu, Assistant Professor
- 3. Mr. S. Sampath, Associate Lecturer

# Applied Mechanics.

- 1. Dr. Vincent X. Kunukkasseril
- 2. Mr. J. Lakshminarasimban, S. T. A

Professor T. N. Krishnaswamy, Department of Aeronautics, Indian Institute of Science, Bangalore, has delivered the following lectures on February 7th and 8th, 1969.

- 1. Model Testing
- 2. Wind Tunnel Balances (Strain Gauge Type)

Professor Anatol Loshko of the Department of Aeronautics, California Institute of Technology, Pasadena, U. S. A., gave a lecture on "Fluid Mechanics—Separated Flows" on February 14th, 1969 and on "Shock Tubes" on February 15th, 1969.

# CHEMICAL ENGINEERING DEPARTMENT

Fifty students of V/5 and III/3 B. Tech. in Chemical Engineering branch visited the following factories in Kerala state during the winter vacation in December 1968, accompanied by Mr. A. Baradarajan and Mr. V. Muthukrishnan.

- (a) Fertilisers and Chemicals, Travancore Ltd., Udyogamandal
- (b) Travancore-Cochin Chemicals Ltd., Udyogamandal
- (c) Hindusthan Insecticides Ltd., Udyogamandal
- (d) FACT Engineering and Design Organisation, Udyogamandal
- (e) Indian Rare Earths Ltd., Udyogamandal
- (f) Premier Tyres Ltd., Kalamasseri
- (g) Travancore Ogale Glass manufacturing Co. Ltd., Kalamasseri
- (h) Tata Oil Mills, Tatapuram
- (i) Cochin Refineries Ltd., Ambalamugal
- (j) Indian Aluminium Ltd., Alupuram.

Eight students of the D. I. I. T. course in Chemical Engineering Practice, accompanied by Dr. V. Nagarajan, visited the following Chemical factories and institutions during winter vacation in December 1968.

- (a) Swastik Rubber works, Poona
- (b) National Chemical Laboratory, Poona
- (c) Hindusthan Antibiotics, Poona,
- (d) Century Rayon and Chemicals, Bombay
- (e) Polychem Ltd., Bombay
- (f) National Organic Chemicals of India, Ltd., Bombay

- (g) J K Chemicals, Bombay
- (h) Sandoz Ltd, Bombay
- (1) Calico Chemicals and Plastics Ltd., Bombay
- Dr. V. G. Kubair joined this Department as Assistant Professor.

Prof. Dr. Ing. H. Brauer, visiting Professor from West Germany, joined this Department for a stay of two months.

Dr. Albrecht Seifert, joined this Department as Associate Professor for a period of one year.

Prof. Dr. Ing. H Brauer delivered a series of lectures on "Advances in Chemical Engineering" from February 10 to 21, 1969.

Representatives from chemical industry have attended the course besides the staff members of the Department.

# DEPARTMENT OF CIVIL ENGINEERING

The annexe building of the Hydraulic Laboratory is almost completed. Towing tank building of length 95 m and width 11 m is also nearing completion and the towing equipment from West Germany is expected to arrive shortly.

The new building for housing the Structures Laboratory is nearing completion and will be ready for occupation from next academic year. The first consignment of equipment from the Federal Republic of Germany is expected to arrive in a short time.

Dr. Bieger, Professor of Civil Engineering at the Technical University of Hannover, was in the Department as Guest Professor from 10th February to 20th March and gave a series of talks on "Special Structures."

Consultancy and Investigations for few projects, in and around Madras, have been undertaken.

The Civil Engineering Association, whose activities for 1968-69 were inaugurated in September 1968, has conducted many Seminar talks both for students and staff.

Seminar programmes in various sections have also been actively arranged.

Structures Laboratory: The following equipments have been added.

- 1. Displacement Transducer
- 2. Facit Cl-13 Mechanical Calculator

# Hydraulics Laboratory:

- 1. Oscillating gate with variable speed motor for study of roll wave in the tilting flume has been installed and studies are in progress
- 2. The Hele-shaw model has been completed
- 3. States of flow model is in progress

The members of the staff in Structural Engineering attended the International Conference on Shear, Torsion and bond in Reinforced and Prestressed Concrete held at the P. S. G. College of Technology, Coimbatore from 14. 1. 1969. to 17. 1. 1969. Four papers were presented at the conference.

Dr. M. H. Abdul Khader attended the 11th Conference on Hydraulics and Hydraulic Structures in Genova, Italy and presented a paper.

Two papers have been contributed to the symposium on "Computer applications in Civil Engineering" at Trivandrum during Jan. 69 and to the Fluid Mechanics Conference at Jadavpur, Calcutta during March, 1969.

Dr. Ing. H. Cordes has joined the Structural Engineering section on the 10th of December, 1968 as Senior Scientific Assistant.

Dr. Shanmugam and Dr. Radhakrishnamurthy have joined the Department as Pool Officers.

- Mr. A. V. Gopalakrishna has joined as full time Research Scholar.
- Mr. S. Subramanian has joined as Junior Research Fellow under the C. S. I. R. Scheme.
  - Mr. K. Gopalakrishnan has joined as Associate Lecturer.

# DEPARTMENT OF ELECTRICAL ENGINEERING

The tempo of activity relating to testing, consultancy and fabrication jobs undertaken by the different laboratories of the department has been on the increase.

Arrangements are being made for visits of senior under-graduate and post-graduate students to industrial plants in and around Madras. A group of III/3 B. Tech. students recently visited some industries in Bangalore, Poona and Bombay.

Work on the installation of the transformer yard and switching station in the Department has been completed. Installation work in the High Voltage Laboratory is fast progressing.

The recent addition to the equipment in the Department has been the A. L. Network Analyzer used for simulating large power systems. It is hoped that this will give an impetus not only to research work in power Systems Stability in the Department, but also be a valuable tool for the Electricity Boards of the Southern States of the Country.

Two additional specializations, namely (i) Radar Technology and (ii) Traction Technology have been envisaged as part of the M. Tech. programme in this Department.

Admissions to the new post-graduate M.S. Degree Course have been made in January this year.

A Sequential Summer School in Electrical Engineering will be run by this Department for three summers starting from May to July, 1969.

The post—graduate seminar continues to be held on Saturday mornings, and provides opportunities for the post-graduate students to gain experience in technical exposition and to be exposed to subjects outside their own fields of specialization.

This year, Dr. K. S. Narendra, a Visiting Professor from Yale University, Prof. B. M. Tareev, Prof. V K. Gausakov, Prof. M. D. Karasev and Prof. V. A. Kozlov (all Visiting UNESCO Professors) from Regional Engineering College, Warangal and Dr. Dros,

Director, Components Division, Philips-Holland addressed the staff and students of the Department.

Dr. Y. Narayana Rao and Dr. C. Dattatreyan have joined as Assistant Professors. Dr. M. Mukunda Rao joined as Lecturer. Mr S. Raman joined as Associate Lecturer. Messrs. V. Venkateswara Rao, N. Narasimha Raju and V. C. V. Pratapa Reddy joined the Department as Senior Technical Assistants.

Mr. A. Chandrasekharan, Lecturer has left for training in West Germany. Dr. G. N. Garud, Asst. Prof. left the Dept. to join the Visweswaraiya Regional Engg. College, Nagpur as Professor.

# DEPARTMENT OF MECHANICAL ENGINEERING INSTRUMENTATION SECTION

Instrumetation Elective students are in the final stage of fabrication of components for the different projects. Research is being done on friction and wear in sintered bearings.

# PRODUCTION ENGINEERING AND MACHINE TOOL SECTION

The general activities of the section have been Laboratory work (Machine Tools and Metrology) for the under graduates and post graduate students. The Post-graduate students are carrying out projects on Machine Tool Design.

Four staff members of this section are carrying out Ph. D. work on the following:

- 1. Study of surface deterioration of Contact Surface gears.
- 2. Investigation of the Secondary Shear Phenomena in Metal cutting.
- 3. Study of Hot machining.
- 4. Study of Optimum conditions in Ultrasonic machining.

# Research Project at Post—graduate level are:

- 1. Design, and Development of Press tools for forming Loudspeaker frames for a local industry.
- 2. Design and fabrication of cams for use on our Automat for manufacture of components for a local industry.
- 3. Improvement and adoption of the presently developed oscillating tool, for use on our Automat with the object of chip breaking.
- 4. Design, development and fabrication of hydraulically operated horizontal drilling machine.
  - 5. Design, development and fabrication of hydraulic copying device.
  - 6. Electrolytic grinding.
  - 7. ECM Machining.

A Spark erosion machine has been received.

# HEAT TRANSFER AND THERMAL POWER LABORATORY

- Dr. R. C. Raichura joined as Asst. Professor on 28-11-'68
- Dr. M. Nagaraj joined as Post Doctoral Fellow on 15-2-1969.
- Dr. L. Narjes gave three lectures at I. I. Sc. Bangalore on 17, 18 and 19-2-'69 on the topics mentioned below.
  - (a) Application of Energy to Combustion and Heat Transfer.
  - (b) Energy and optimization procedures for airconditioning and refrigeration units.
  - (c) Optimization methods for jet propulsion with respect to Energy.

# I. C. Engines Laboratory:

With the introduction of the Master's Degree Course in heat power, the internal combustion engines laboratory is offering new courses in thermodynamics and gas and vapour cycle analysis. The section has added to its roll three research scholars in the M. S. Programme introduced in the Institute this semester. The courses offered by the section are backed up by laboratory courses, which are oriented mainly towards measuring techniques.

Professors P. S. Myers and O. A. Uyehara of the University of Wisconsin, U.S.A. gave a series of lectures on topics pertaining to I. C. Engine research. The lectures were well received by both academic and industrial I. C. Engineers.

The section has received an NSU—Wankel rotary piston engine. The engine is being erected in the new test cubicles of this laboratory.

The first of the four test cubicles of the laboratory is nearing completion. The Daimler Benz manifold injection (petrol) engine coupled to Schenk eddy current dynamometer is erected in the first cubicle; the remote control and instrument panel are situated in a sound proof air-conditioned observation room.

The laboratory has successfully completed an industrial project for M/s. Carburettors India Ltd., Madras. A carburettor of indigenous make was tried in place of the imported ones on the Ambassador passenger car. The laboratory has successfully developed this carburettor.

# Changes in Staff:

- 1. Mr. S. Duraiswamy, S.T.A., left the Institute and has taken up higher studies in the U.S.A.
- 2. Mr. G. John Sundar Rao has successfully completed his Technical Teacher Training course in our laboratory and has taken up a position with Military Engineering College, Secunderabad.

# MACHINE ELEMENTS & MECHANICAL HANDLING LABORATORY

The new laboratory for Machine Elements & Mechanical Handling was inaugurated on 24-1-1969 by Dr. Bechtloff who left IIT on 26-1-69 for Germany.

Machine tools and test stands have been shifted from metal forming laboratory to the new laboratory. The new laboratory is expected to be ready for occupation in 3 months.

A new M. Tech. course majoring in Mechanical handling has been started. Two M. S. Degree students have joined.

# Research activities:

- (a) Testing of cast and welded wheels under axial loading, with a view to ultimately develop rational design procedures; equipment for the purpose has been constructed and is in use.
- (b) Characteristics of brakes and brake-linings; equipment is under construction.
- (c) Design and construction of a wire rope fatigue testing machine; the machine is currently being designed.
- (d) Investigation of strains and contact stresses in wire ropes wound over pulleys; equipment is under construction.
- (e) Characteristics of foam springs.
- (f) Efficiency studies on planetary gear drives.
- (g) Design of linkages to generate functions of two variables; practical design procedures have been developed.
- Sri V. V. N. Rayudu, Asst. Professor, left for Germany on 2nd Dec., 1968.
- Dr. Bechtloff left for Germany after the end of his contract period on 26-1-1969.
- Sri M. A. Parameswaran, joined on 20-12-1968 as Asst. Professor.
- Sri M. Madhusudana Rao, joined on 16-10-1968 as Associate Lecturer.

Prof. Dr. Ing. Kurt Talke (Technical University, Stuttgart) has delivered lectures on "Involute Gear" during the month of November, 1968.

# TURBOMACHINES LABORATORY

In the Laboratory the stationary and rotating axial-flow cascades testing bed (medium air) is completed except the stator blades which are under production now. The rotating axial flow testing bed (medium: water) is also completed except the blades which are under production.

Apart from the normal instructional activities connected with the undergraduate and post-graduate classes, the laboratory is concentrating on the following projects:

# Basic research:

- (1) Investigation of the flow condition in the vane channels of radial flow pumping machines with reference to dead zones.
  - (2) Axial flow pump-turbines.
  - (3) Investigation of performance of Radial blower with reference to the Boundary Layer growth.

# Industrial Research:

- (1) Studies on the performance of Turbine blades profiles.
- (2) Studies on the exhaust casing of a steam turbine.

- (3) Testing of a trailer pump from Eastern Safety Engineering Company, Madras.
- (4) Testing of a Monoblock pump from M/s Mouli & Sons, Coimbatore.
- (5) Design and manufacturing of two Stage blower for M/s Schnebel Industries, Madras.
  - (6) Testing of deep well pump for M/s Jothi Engineering Works, Madurai.
  - (7) Designing of axial flow fan for an airconditioning unit for Prof B. Sengupto

# M. Tech. Projects

- (1) Influence of the free rotating or pre-guide blades on the characteristic of pumping turbomachines.
- (2) Influence of shapes of stationary head of hubs on the flow pattern and velocity distribution.
  - (3) Study of the flow condition in radial impellers with tandem vanes.

Two students have joined the newly started M. S course in the Department of Mechanical Engineering taking Turbomachines as their elective.

Mr. Thom: Mathew, who had earlier joined the Laboratory as a Teacher Trainee, left the Laboratory for a job outside the I. I. T.

Dr. D. Prithvi Raj, who was on study leave, returned from U. K. in December, 1968 and joined the laboratory as Assistant Professor.

A series of seminars on important topics are arranged in the Laboratory from the second half of March, 1969.

In the third sequential summer school during May-June 1969, Prof. W. J Fezereisen from the University of Wisconsin participated and delivered lectures on the "Applications of principles of thermodynamics and fluid mechanics to the design and analysis of gas turbines and turbomachines in general".

# DEPARTMENT OF METALLURGY

The main event during this period is the visit of two German Professors, Dr. Ing. W. Panknin of the Institute for Metal Forming of the Technical University, Berlin and Dr. Ing. Jurgen Ruge, Director, Instut fur Schweisstechnik, Technical University, Braunschweig, West Germany. Dr. Ing. Panknin is delivering a series of lectures since 17th Feb., 1969 on "some aspects of metal forming". Prof Dr. Ing. Jurgen Ruge has given a eleven-lecture series between 24th February and 15th March 1969. The lecture topic is "some aspects of Welding Metallurgy."

A new academic programme leading to the degree of Master of Science (MS) has been started. Scholars are working presently in the fields of welding metallurgy, process metallurgy hot and cold forming of metals and foundry science.

The sixth National Metallurgists' Day was celebrated by the I.I.T, Madras Chapter of the Indian Institute of Metals at this Department. A special lecture entitled "C is for

Chromium" was delivered by Dr. S. Ramaseshan, Deputy Director, Material Sciences Division, National Aeronautical Laboratory, Bangalore. Dr. A. Ramachandran, Director, 11.T., Madras, presided over the function.

Prof. E. G. Ramachandran returned in November, 1968 from his visit to West Germany and England, where he visited many leading teaching, research and development establishments in metallurgy.

The following staff members have joined the Department.

- Sri D.R. Gopalakrishna Achar as Associate Lecturer on 8-11-1968.
- Sri B. Natarajan as S.T.A. on 1-11-1968.
- Sri S. Annamalai as Foreman on 2-12-68.
- Sri R. Ranga Raju as Technical Assistant on 6-2-1969.
- Sri G. Jothinathan as Technical Assistant on 17-2-1969.

# DEPARTMENT OF HUMANITES & SOCIAL SCIENCES

Equipment for psychology Laboratory has been received and is being installed. The Industrial Engineering Laboratory is also expected to be ready by the beginning of next academic year.

Mr. C. Ramachandran has commenced his series of lectures on 'History of Economic Thought' in connection with his Ph. D. programme.

Some of the lectures arranged by the Department, a talk on Tragedy by Prof. A. L. Krishnan, two lectures on 'Technological Progress—Curse or Blessing' by Prof, Friedrich Weltz, Sociologist, West Germany, proved very popular with the students.

Dr. V. Anantaraman who was away at Harvard, U. S. A. on International Teachers Programme, has just returned to the Institute.

Miss Padma Shastri and Mr. Abraham Kurian have joined the Economics and English faculties of the Department. Dr. Y. Nagendra has joined the Faculty as a Lecturer in Statistics.

# DEPARTMENT OF CHEMISTRY

The usual tempo of research work has been maintained in the various sections of this Department. The necessary civil works have started in the special analytical instruments laboratory to house the mass spectrometer, which is expected to arrive shortly.

The high pressure catalytic flow reactor and its auxiliary units received from Germany a few months back have been put into operation. The German aid in the form of equipment is in the final stages of planning.

Mr. V. R. Satyanarayana Rao, Senior Technical Assistant and Mr. D. Venkappayya, Mr. M. Santhanam, Mr. S. V. Kannan and Mr. B. Viswanathan, Research Scholars of this department, have submitted their doctoral theses during the last few weeks. Five new doctoral research scholars have joined the Department recently.

The Department arranged special lectures for Post-graduate and Research workers on Co-ordination chemistry and Metal Ion catalysis, Photochemistry and Solid State Reactions by Dr. M. M. Taqui Khan, Dr. V. Ramakrishnan and Prof. G. Butenuth respectively.

Under the auspices of the Chemistry Seminar and Colloquium, lectures were delivered by Dr. R. Srinivasan of IBM, Rochester, New York, Prof. H. Strauss, Visiting Professor at Indian Institute of Technology, Kanpur, Dr. K. P. Gopinathan of Tata Institute of Fundamental Research, Bombay, Prof. M. Anantharaman, Government Veterinary College, Madras and Dr. B. Motlag of the University of Madras.

- Dr. V. Srinivasan gave a special lecture for the participants of the High Vacuum Technology course organised jointly by Bhaba Atomic Research Centre, Bombay and I. I. T. Madras. Mr. R. P. Viswanath, Technical Assistant and Miss R. Uma, Research scholar, were deputed by this Department to participate in the course.
- Dr. C N. Pillai and Dr. V. Ramakrishnan presented papers in the Chemical Research Convention organized by the C. S. I. R. at Hyderabad during February 1969. Dr. R. Narayan presented a paper in the Seminar on Electrochemistry organised by the Central Electrochemical Research Institute, Karaikudi during December, 1968.
- Dr. T. V. Ramakrishna has joined this Department as a Pool Officer. Dr. J. Gopalakrishnan has joined this Department as a Senior Technical Assistant. Mr. C. S. Venkatachalam has been promoted as Senior Technical Assistant.
- Mr. R. Ramaswamy, Senior Technical Assistant has gone on leave to West Germany for higher studies at the Nuclear Research Station, Julich.
- Dr. Ing. Farkes from Hungary, an Organic Chemist, and Dr. R. D. Anderson of United Kingdom, a polymer Chemist and Dr. Atma Ram, Director-General of C. S. I. R., visited this Department and held discussions on the topics of their interest.

# **DEPARTMENT OF MATHEMATICS**

- Dr. K. M. Das and Dr. (Miss) Jyoti Chaudhuri joined the Department as Assistant Professors.
- Dr. N. E. Joshi (Reader, Nagpur University) delivered a series of lectures on "The Theory of Distributions and Partial Differential Equations".

Dr V Subba Rao re-joined the Department after spending 16 months in Germany under the DAAD Scholarships programme.

Mr A. V. Gopalakrishna, after completing the requirements for Ph.D., has left for the Iowa State University of Science and Technology to take up research and training.

Two further issues of the "Journal of Mathematical and Physical Sciences" have been brought out,

# DEPARTMENT OF PHYSICS

The tempo of research and development activities in the various laboratories of the Department has been on the increase. Number of papers are published in standard journals in India and abroad More than a dozen Staff and Research scholars of the Department participated in the International Symposium on the Nonmetallic Solids at Delhi and the Solid State Physics Symposium at Bombay and presented papers.

Sri S. Natarajan, Research Scholar of the Department was awarded the Ph. D. degree for his these titled "Crystal structure of some thiourea complexes of cadmium".

A short term course for three weeks on High Vacuum Technology, organised jointly by the Institute and the Bhabha Atomic research centre, was started at this Department in December, 1968 and a good number of Staff members took part in the organisation of this Course. For the first time, the I and II Year M.Sc. students went on an educational tour to various Industries and research institutions in the South. The tempo of activity in the Physics Seminar continues to be maintained. Seminar talks on various topics of current interest in Physics are given by the II Year M.Sc. students.

The following distinguished scientists from abroad visited the Department and gave a series of lectures in their fields of specialisation.

- 1. Dr. Frederick C. Brown, University of Illinois, USA.
- 2. Dr. J. Gibson Winans, State University of New York, USA.
- 3. Dr. Chik, Max. Planck Institute, Germany.
- 4. Dr. A. B. Seot, Orgoan University, USA.
- 5. Dr. A. B. Liddiard, A.E.R.E. Harwell, UK.
- 6. Dr. Runciman, A.E.R.E. Harwell UK.
- 7. Dr. Robin, Naval Research Lab, Washington, USA.

Prof. C. Rama Sastry, Head of the Department of Physics, returned after a very successful trip to various Universities in West Germany. Dr. B. Sivaram joined the Department as a Lecturer.

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Jayaraman (B.Sc., B.Tech. Mech. 1964) with Seetha

at Tirupattur on 24th January, 1969.

Ravi Dutt Sharma (B.Sc., B.Tech. Mech. 1967) with Saroj

Sharma at Dharmkot on 20th February, 1969.

Subramaniam (B.Tech. Mech. 1966) with Valliammai

at Karaikudi on 1st May, 1969.

Bhajan Paul Singh Sethia Bhajan Paul Singh Sethia (PGDIE 1967) with Raminder at

New Delhi on 3rd May, 1969.

Mothiram Patil K. Mothiram Patil (B. Tech. Mech. 1965) with Pushpa at

Belgaum on 7th May, 1969.

Viswanathan (B.Sc., B.Tech. Met. 1966) with Vijaya-

lakshmi at Bombay on 21st May, 1969.

Kripapuri G. Kripapuri (B. Tech. Chem. 1966) with Shyamala at Trichy

on 22nd May, 1969.

Sampathkumaran M. R. Sampathkumaran (B. Tech. Civil 1964) with Sabitha

at Trichy on 22nd June, 1969.

Viswanathan (B.Tech. Civil 1964) with Vijayalakshmi at

Madras on 22nd June, 1969.

Angamuthu A. Angamuthu (B.Tech. Mech. 1966) with Gomathi at

Tiruchengodu on 25th June, 1969.

Eswaran (M.Tech. Elec. 1968) with Saraswathi at

Coimbatore on 4th July, 1969.

Venkatasubramanian T. L. Venkatasubramanian (B.Sc., B.Tech. Mech. 1967)

with Savithiri at Madras on 6th July, 1969.

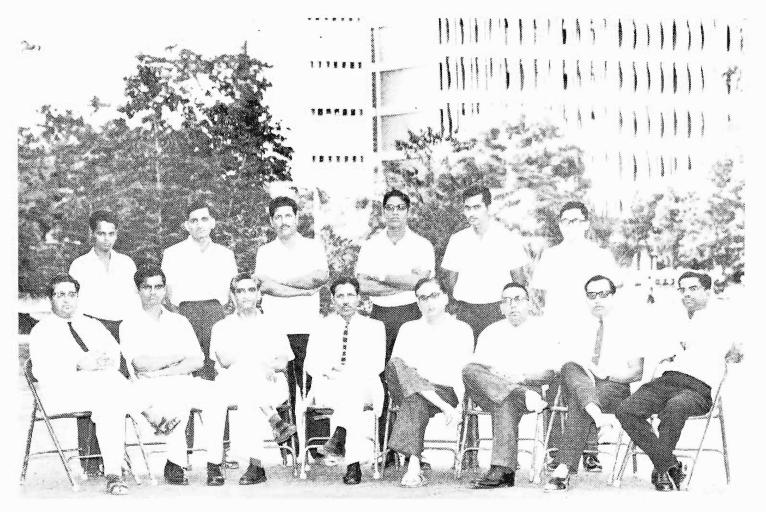


# **ALUMNI PLACEMENT POSITION**

Consolidated statement showing placement position of students belonging to 1964, 1965, 1966, 1967 and 1968, batches as on 31st May, 1969.

| Year  | Total pas-<br>sed out | Studying<br>in India | Studying abroad. |                  |                   | Posi-            | T-1             |                                |   |
|-------|-----------------------|----------------------|------------------|------------------|-------------------|------------------|-----------------|--------------------------------|---|
|       |                       |                      |                  | Employed abroad. | Private<br>Sector | Public<br>Sector | Unemp-<br>loyed | tion Expi-<br>NOT red<br>KNOWN |   |
| 1964  | 106                   | 13                   | 19               | 5                | 33                | 36               |                 |                                |   |
| 1965  | 163                   | 21                   | 34               | 14               | 42                | 52               |                 |                                | _ |
| 1966  | 246                   | 33                   | 40               | 7                | 85                | 76               | 3               | 1                              | 1 |
| 1967  | 319                   | 60                   | 38               | 7                | 81                | 84               | 15              | 33                             | ı |
| 1968  | 383                   | 85                   | 54               | 4                | 71                | 60               | 8               | 100                            | 1 |
| Total | 1217                  | 212                  | 185              | 37               | 312               | 308              | 26              | 134                            | 3 |

# THE EXECUTIVE COMMITTEE AND THE EDITORIAL COMMITTEE FOR THE YEAR 1968-1969



Sitting: (L to R) Prof. S. Sampath, M. R. Sridharan, Prof. R. G. Narayanamurthi, Dr. A. Ramachandran, Prof. P. Venkata Rao, Dr. B. Ramaswami, S. Ramani, V. D. Muthiah.

Standing: (L to R) P. S. Rajagopalan, V. S. Kumar, P. Natarajan, M. Santhanam,

C. S. Sastry, D. Venkappayva.



The Hon'ble Chief Minister of Tamil Nadu inaugurated Summer Schools.



# ALUMNI DIRECTORY

- Abdul Hameed (1967 B. Tech. Chemical)
  Engineer Trainee, M/s. Orient Paper Mills Ltd.
  Brojrajnagar, Sambalpur Dist., Orissa.
- Abdul Khader M.A. (1967 B Tech. Civil) Consulting Engineer, Alwaye.
- Abdul Wahab (1968 M. Tech Mechanical)
  Particulars not received.
- Abdur Rahim Khan (1967 B. Tech Civil)
  Particulars not received.
- Abimany Neogi (1967 B. Tech. Mechanical)
  Particulars not received.
- Achutha Pai, G. (1966 B. Tech Mechanical)
  Graduate Apprentice, M/s. Ashok Leyland Ltd.
  Ennore—Madras-51.
- Achutha Ramiah, S. (1967 B. Tech Electrical)
  Indian Air Force, Technical Branch (Signals)
- Achyutha, H. (1965 M. Tech Civil)
  Associate Lecturer, Department of Civil,
  Engineering, I. I. T. Madras-36.
- Achuthan, T. G. (1967 B. Tech. Electrical)
  Particulars not received.
- Advani, S. D. (1967 D. I. I. T.)

  Asst. Professor, Victoria Jubilee Technical Institute, Bombay.
- Agatheeswaran, J. (1968 B. Tech. Mech.) G. E. T. HAL, Bangalore,
- Ajai Kumar Dikshit (1967 B. Tech. Mechanical) M. S. Student, Univ., of B. C. Canada.
- Ajai Kumar Mithal (1967 B. Tech. Met.)
  Metallurgist, M/s Saru Swelling & Refinery
  Corporation, Sardhara Road, Meerut.
- Ajay Shankar (1968 B. Tech. Elec.)
  Studying M S. Programme in Industrial Engg. at I. I. T. Chicago, U.S.A.
- Ajit Kumar (1968 B. Tech. Mech.) Employed in USA.
- Ajit Singh Grewal (1968 B. Tech. Mech.) PGDIE student, I. I. T. Madras-36.
- Akshaya Kumar, S. (1965 M Tech. Civil)

  Jr. Engineer, (Design) Office of the Supdt. Engineer
  Irrigation North Circle. Calicut, (Kerala).
- Albert D. A. D. (1968 B. Tech. Flec.)

  Associate Lecturer, Dept. of Elec. Engg.
  Valivalum Polytechnic, Nagapattinam,

- Aleem, S. A. (1965, B. Tech. Elec.)

  Factory Administration Trainee, The Indian Cable
  Company Ltd., Jamshedpur.
- Alex Jacob (1966, M. Tech. Civil)
  M. S. Student, Univ. of Sidney, Australia.
- Alex Philipose Joseph (1967, B. Tech. Mech.)

  Management Trainee, M/s. Poysha Industrial Co,

  d. Kalwa Industrial Area, Belapur Road, Thana,

  Maharashtra State-
- Aloke Kumar Paul. (1967, B. Tech. Mech)
  Graduate Trainee, TISCO, Jamshedpur.
- Amal Krishna Biswas (1965, B. Tech. Civil)
  Technical Assistant. Rural Health Unit Training
  Centre, Singhur Post, Singhur, Hugly District,
  W. Bengal
- Amarjit Singh Lakra (1968, B. Tech. Mech.)
  Trainee H.A L., Bangalore.
- Amit Kumar Ghosh (1968, B. Tech. Aero)
  Joined I.I.T. Madras for M S.
- Amitva Patnaik (1965, B. Tech. Met)
  Particulars not received.
- Amitava Ray (1966, B. Tech. Elec.)
  Graduate Apprentice, M/s Andrew Yale & Co.
  P. O. Sitarampur, Burdwan Dist, W. Bengal.
- Amitava Saha (1967, B. Tech. Elec.) Student, I.J.M. Ahemadabad.
- Amudachari, V (1964, B. Tech. Mech.)
  Graduate Apprentice, Ashok Leyland Ltd.,
  Ennore, Madras 51.
- Anand Kumar Agarwal (1967, B. Tech. Chem.)
  Particulars not received.
- Anand Swaminathan (1966, B. Tech. Civil)
  Particulars not received.
- Ananda Bhat, P. (1964, B. Tech. Chem.)
  Particulars not received.
- Anantharama Iyer. A. (1966, B. Tech. Electrical)
  Sales Engineer, Associated Battery Makers (Easter)
  Ltd, Savoi Chambers, Wallace St, Bombay-1.
- Ananthanarayanan, G. (1967, B Tech. Elec.) Jr. Engineer, Larsen & Toubro, Bombay.
- Ananthanarayanan, P. (1967, M. Tech. Chemical)
  Engineer, Fertilizer & Chemicals, Travancore Ltd.
  Alwaye, Kerala.
- Ananthasubramanian, R. V (1966 B. Tech. Mech.)
  Graduate student, Mech. Engg. Dept., Univ. of
  Ottawa, Ontario, Canada.

- Ananthasubramanian, S. (1967, B. Tech. Mech.)
  Particulars not received.
- Ananthu, T.S. (1965, B. Tech. Elec.)

  M.S. Operations Research Analyst., M/s. ESSO,
  Mathematics & Systems, Inc. U.S.A.
- Andrew Swamy (1968, B. Tech. Mech.)
  Employed in Madura Mills.
- Angamuthu, A. (1966, B. Tech. Mech.) Senior Tech. Asst. I.I.T. Madras-36.
- Anil Kumar Gupta (1967, B. Tech. Civil)
  Particulars not received.
- Anil Kumar Mithal (1964, B Tech. Met.)

  Senior Officer (Metallurgy), Central Plant Laboratory, Tech. Services Dept, Bharat Heavy Electricals Ltd., Hardwar, U P.
- Anil Kumar Shenoy (1966, B. Tech. Electrical)
  Abroad. (studying).
- Anil Saxena (1968, B. Tech. Elec.)

  Customer Engineer, I.B.M. World Trade Corporation, Madras.
- Anil Thadani (1968, B. Tech. Chem.) M.S. at the Univ. of Wisconsin.
- Anirudha Lahiri (1968, B Tech. Chem) Employed in I.C.I., Calcutta.
- Anjaneya Durgaprasad, G. (1968, B. Tech. Elec.)
  Particulars not received.
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