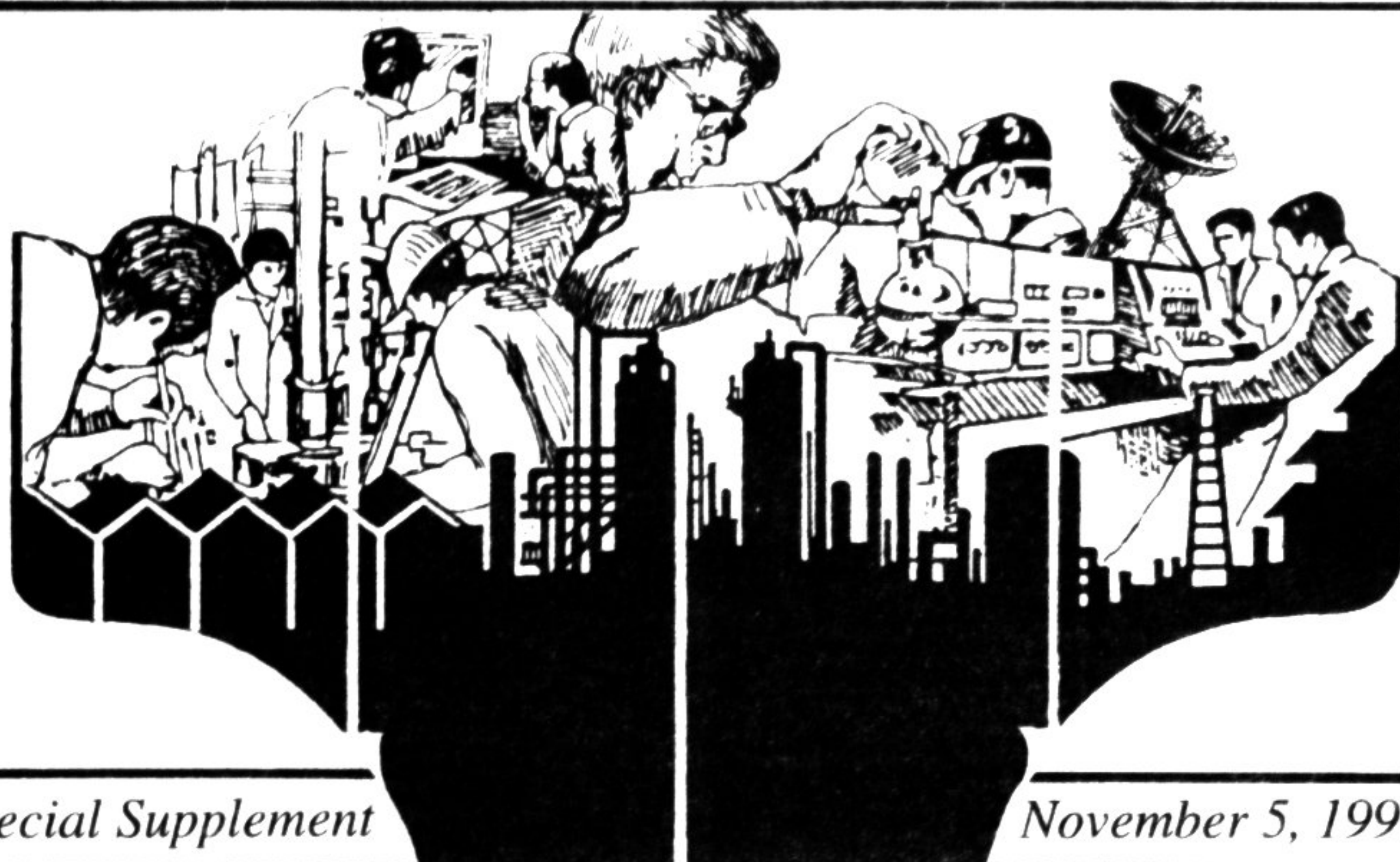


# Foundation Laying Ceremony of Engineering Staff College & International Conference on **ENGINEERING PROFESSION** In the **21** Century



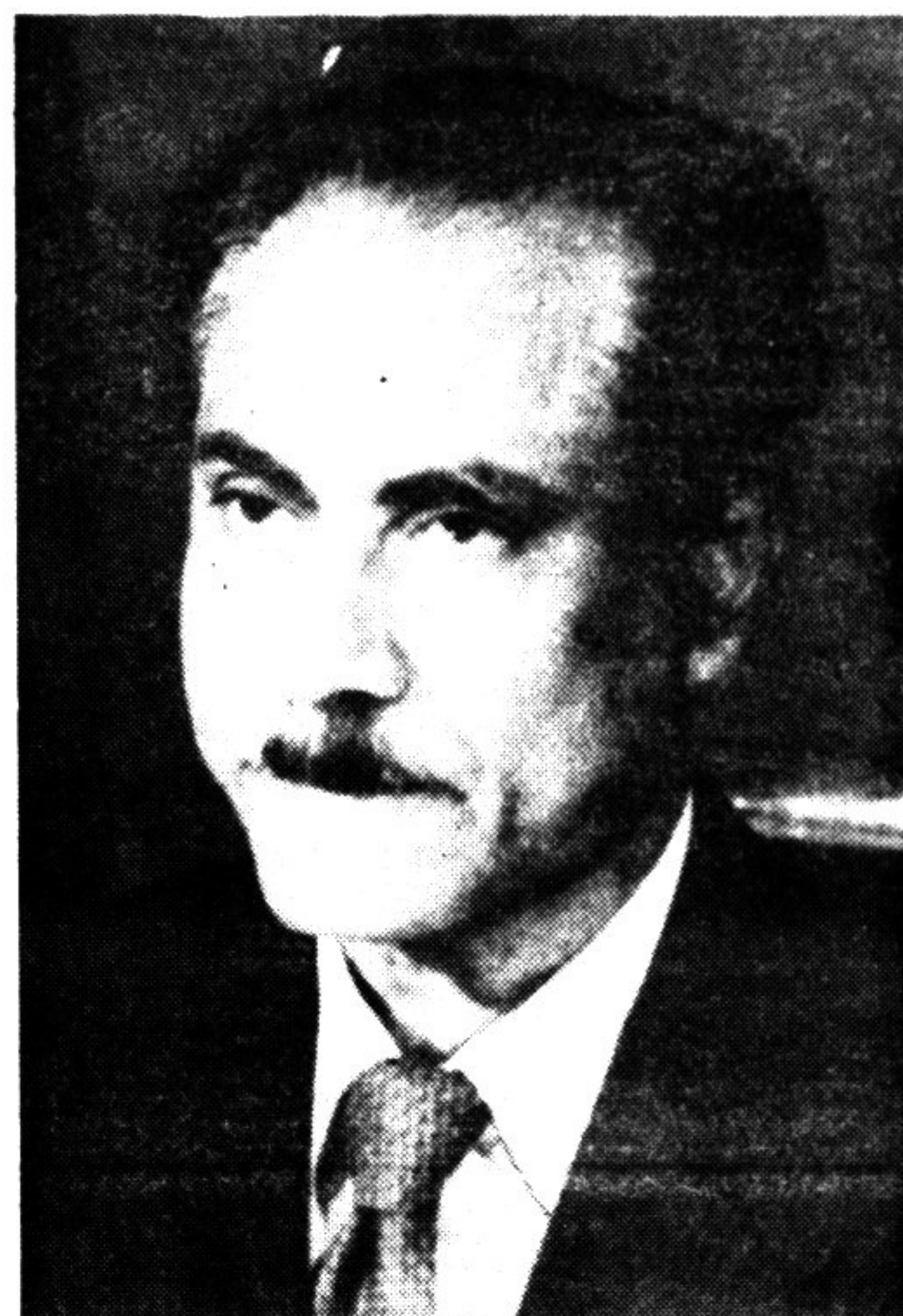
**THE INSTITUTION  
OF ENGINEERS,  
BANGLADESH**

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## Message

I welcome the initiative of the Institution of Engineers, Bangladesh for organizing an international Conference on "Engineering Profession in the 21st Century".

The rapid technological changes of the present day have confronted the challenges for the engineering profession. The Engineers who are identified with the progress of mankind cannot shut their eyes on the economic and social conditions of our people, a vast portion of which live at subsistence level. Their socio-economic conditions have to be improved at any cost. They have to be provided with food and better way of life. Engineers are identified with the progress of mankind and they must dedicate them to this stimulating task with zeal and enthusiasm. The Engineers, I hope, can do a lot in this respect.

I wish every success of the Conference.

Justice Shahabuddin Ahmed

PRIME MINISTER  
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF  
BANGLADESH

## Message

I am happy to know that a three-day International Conference on 'Engineering Profession in the 21st Century' is going to be held in Dhaka from November 5 under the auspices of the Institution of Engineers, Bangladesh.

We are now on the brink of the 21st Century and the pace of development throughout the world is very high. The technological advancement in the forthcoming century will attain a speed what, probably we can not conceive of at the moment. But it is the engineers who are to prove their worth equal to the task.

With this backdrop the International Conference on 'Engineering Profession in the 21st Century' is a timely one. I am optimistic, the recommendations of the conference will contribute to the process of our national development and help us take steps to face the challenges of the next century.

I wish the conference every success.

Joy Bangla, Joy Bangabandhu  
May Bangladesh live forever

Sheikh Hasina



## The Challenge to the National Development in the 21st Century and the Engineering Staff College

society - people in general, turns to him for solutions. He must convince them that he is familiar with the current state-of-the-art and would be able to use the most recent knowledge to tackle the problem on hand. This necessarily requires that he must perpetuate his knowledge by involving himself in self-renewal at repeated intervals. What he therefore needs is re-education from time

to time which can lead out his potential through flexible, interacting programmes of study and on the job experience suited to his specific interests. This quest demands of him an inter-disciplinary approach which alone can direct him into a vertical penetration and at the same time, a lateral exploration of engineering knowledge and enable him to closely interact with it in his professional

environment.

An engineer in a developing country like Bangladesh is faced with a complex situation - when managing say a fertilizer factory built in early sixties with technologies available at that time is transferred to a factory built in nineties with latest available technologies will be in deep sea, if he did not keep himself updated with technological advancements between sixties & nineties, Juniors under him would like to get solutions to the problems through a Computer Programme, when

the man at the top having all planning & management skills may not have seen a computer when he had his engineering education. So obviously, opportunities must be created so that the engineer of yesterday can acquire the knowledge of today. This is not only required for Engineers but also for all professionals working in development sectors.

Priorities to the development approaches of the developed and the developing nations will not be understandably the same. We, being a developing

one have our own compulsions and constraints as well as the prospects and potentials in reaching our cherished goal. There is no harm to have ambitious plans but it is always better and wiser to have plans and measures which could be implemented and executed with less efforts and monetary involvement. The next millennium is about to unfold its enormous potential

and unending growth in all fields of human endeavor, dominated mostly by technology. Globalization of economy will continue to grow, more jobs will be created. Communications Technology shall expand, satellite network shall become common place, time and space shall shrink as a result. New industries and industrial processes will emerge and efficient methods

to minimize end of the pipe pollutants to help preserve environment. Infrastructure and services sector shall expand to keep pace with growing economy or vice versa putting strain on technologists and engineers to keep ahead of this dichotomy.

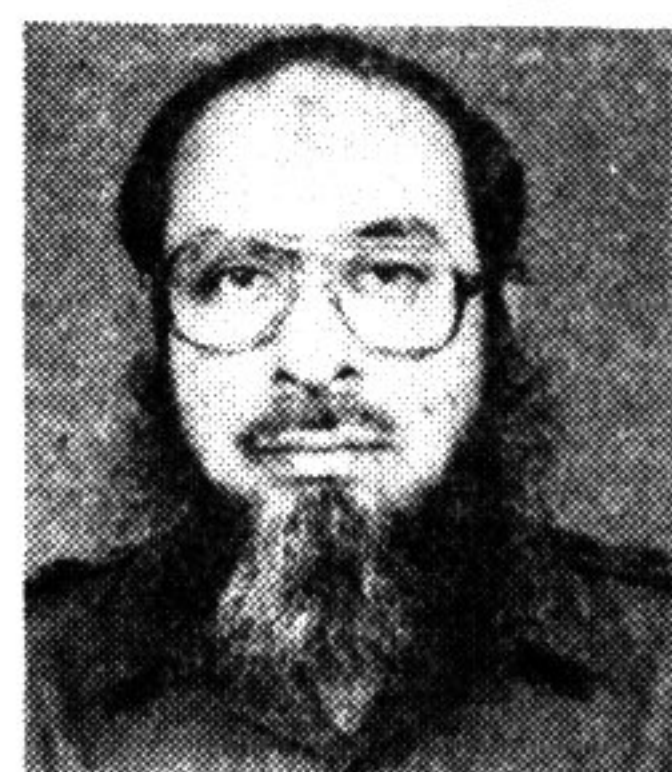
We are ushering in a new world when poverty will be a matter of the past, material comforts will become reachable for common citizenry. All these shall rest on the surreal services and advanced knowledge of the engineers.

In the above backdrop, it is quite obvious that to attain sustainable development for Bangladesh Engineers who play the key role in all development activities will need to have continuous education to keep them updated. The theoretical knowledge obtained in undergraduate courses and subsequent on - the job experience will be no where near to what will be required to face the challenges of the 21st century.

Accordingly, like in most countries of the world including our neighbouring countries, we need to have an institution where such continuous education through training & courses can be imparted to the practicing engineers and the most ideal solution is an **ENGINEERING STAFF COLLEGE**.

Continuing education programme will be co-ordinated by the Engineering Staff College purposely designed to help engineers combat the obsolescence malady, to offer a wide range of practical, creative, in-depth learning, problem solving programmes bring the engineers abreast of the significant advances in knowledge and breakthroughs in engineering and technology. point out the field engineers need to watch most closely in the complex milieu of to-day as also in the days ahead and equip engineers with the best possible technological tools to enable engineers to get the most from the hours available

## Message



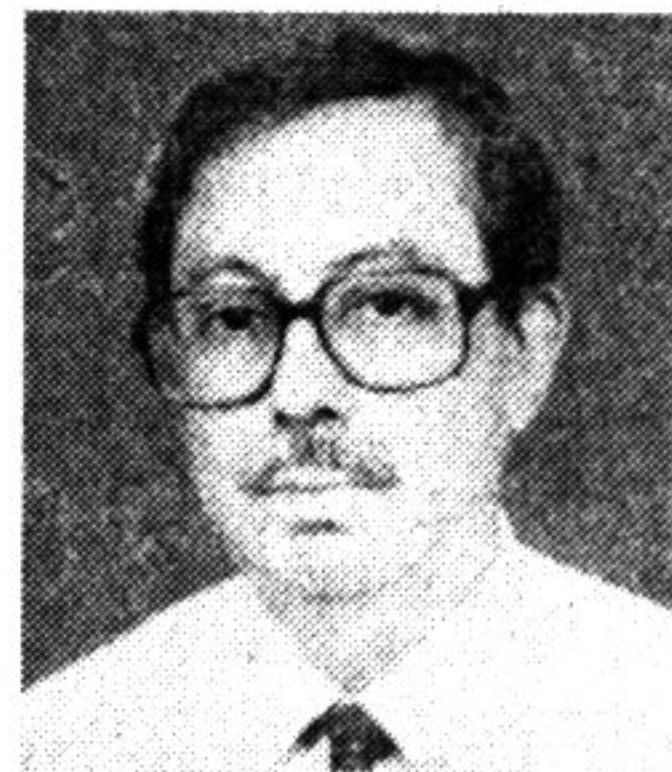
The 21st Century is at our door steps. All nations, small or big, rich or poor, developed or developing are expecting radical and rapid changes in this millennium. Some nations will be winners, some losers. Those countries will be winners, which can understand the factors changing the world and which then prepare themselves accordingly. Rapid technological development, Uruguay Round Agreements, Ecology etc. are some such factors. These will cause rapid changes in the engineering profession. Many new professions will emerge, some will go into oblivion. It is encouraging and heartening to note that 50 experts representing seven countries of the region will exchange their opinion and research findings during International Conference on

Engineering Profession in the 21st Century. We very much hope that the deliberation of the conference will lead to definitive recommendations, which will be helpful in the preparation of the nations for the future.

As the technology will be changing very rapidly, the technology life cycle will be shorter. In other words, a technology, being used now will not be there in 2-5 years time. A different technology will be used then. This demands a continuous training of the engineers, so that they remain up-to-date. Engineering Staff College of Institution of Engineers, Bangladesh bears a milestone in this direction. Everybody related to the engineering activity - be it a degree or diploma engineers, a mason, a science graduate will get opportunity to update their knowledge at the Engineering Staff College. The nation hopes that the college will contribute significantly in this direction and thereby play a dominant role in the national development.

Prof. Dr. Ing. M. Anwarul Azim  
President  
The Institution of Engineers, Bangladesh

## Message



The need for training in practical life toward skill development needs no emphasis. This is more so for those who are engaged in engineering profession. Vigorous & sustained training, updating of knowledge, exposure to the latest development and technological knowhow, those

are happening round the globe is a must for engineers & other associated to meet the challenges of the 21st century wherein a great revolution are going to take place.

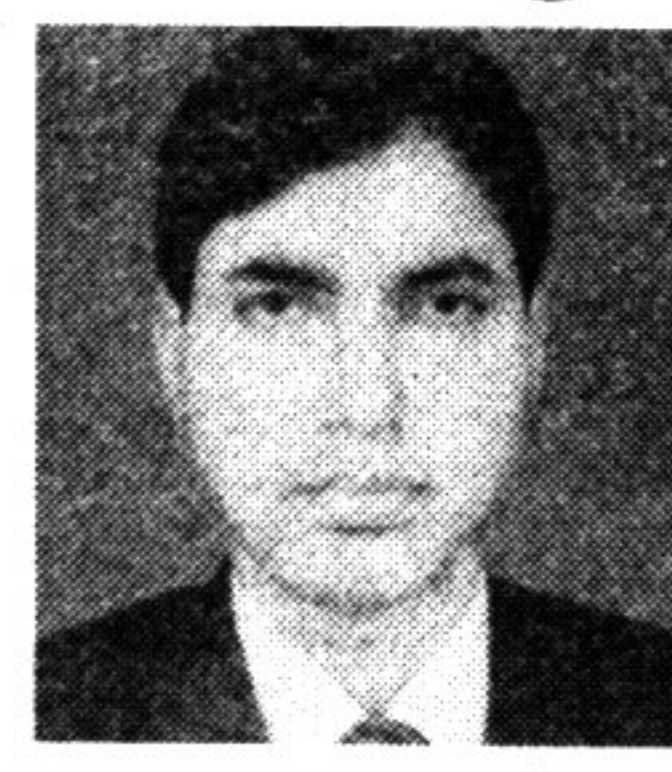
The establishment of the Engineering Staff College is a milestone towards this end. We must congratulate the present government, specially the Prime Minister Sheikh Hasina for her foresightedness, wisdom and quick decision in establishment of the Engineering Staff College. Engineers shall remain ever grateful to her for this historical event. I also thank those engineers who were associated with us since long in making all efforts towards establishment of Engineering Staff College in this country.

MD. RUHUL MATIN  
VICE-PRESIDENT  
(ACADEMIC & INTERNATIONAL)

## PROGRAMME OF INTERNATIONAL CONFERENCE ON ENGINEERING PROFESSION IN THE 21ST CENTURY

| DATE    | TIME   | PROGRAMME   |
|---------|--|---|
| 5.11.97 | 1000 HRS<br>1415 - 1600 HRS<br>1610 HRS                          | INAUGURATION BY HON'BLE PRIME MINISTER<br>SESSION-I: COUNTRY PAPERS<br>* BANGLADESH * INDIA * NEPAL * PAKISTAN * SRI LANKA<br>8TH GENERAL ASSEMBLY OF FEISCA  |
| 6.11.97 | 0900-1100 HRS<br>1115-1330 HRS<br>1430-1530 HRS<br>1545-1645 HRS | SESSION-II: INSTITUTION PAPERS<br>* BANGLADESH * INDIA * NEPAL * PAKISTAN * SRI LANKA<br>SESSION-III: ENGINEERING EDUCATION<br>SESSION-IV: LOOKING INTO THE FUTURE<br>SESSION V: TECHNOLOGICAL ISSUES |
| 7.11.97 | 0900-1100 HRS<br>1115-1215 HRS                                   | SESSION-VI: ENGINEERING PROFESSION<br>CONCLUDING SESSION  |

## Message



Necessity of continuous training is of utmost importance to build up proper professionals. But in Bangladesh no system has yet been tailored to enhance the professional knowledge of the engineers. Though some scattered arrangements are there, nothing significant has so far been done considering national perspective. The establishment of an Engineering Staff College hence, is a great step towards that end. Every year more than a thousand students receive bachelor degree in engineering from various universities and institutions. But lack of sufficient opportunities force most of them to lead a disgraceful life at the start of their career. As a result, once a brilliant student finds himself in a mess of practical life. This is an area

where ESC can help fresh engineers with practicalities. Continuous Professional Development is another area where ESC can play a significant role for professional enrichment of the working engineers. With the establishment of this ESC, a long cherished dream of the engineers of the country will come true. Technological development has brought about major changes in the 20th century. Its development in the coming century would be much more prominent. The challenges that are posed by the technological advancements deserve proper attention of the social scientists as well as of the engineers. In this backdrop, the international conference on Engineering Profession in the 21st Century is a timely event where professionals of the region will work on fixing strategies to meet the forth coming challenges. Under the umbrella of The Institution of Engineers, Bangladesh, the engineers of the country are united to face the challenges of 21st century and to build a better Bangladesh.

Engr. Md. Nurul Huda  
Honorary General Secretary  
The Institution of Engineers, Bangladesh

As we are approaching the 21st Century, the world is experiencing revolutionary changes in the field of engineering & technology. New dimensions are being added in the field of science & technology, helping the civilisations move faster than imagination. Behind any technological innovation or its subsequent applications, the most common character is an Engineer. Even the latest Medical Equipment, which Doctors are using to give better health to the public, is the result of research work by medical scientists transformed into reality by an Engineer. In fact, in the present day world no development activities goes without the input of a professional Engineer. With free market economy side by side with rapid technological changes, the challenges before the professionals are becoming tough day by day. Challenges are more acute for the professionals more particularly the Engineers of developing nation like Bangladesh. To survive in the changing world, we will need to update ourselves with the changing technology. A technological innovation to-day is becoming obsolete to-morrow and same is the case with our knowledge. The Engineering industries in Bangladesh, is expanding considerably (in a small scale though) over years, in as much as large industrial complexes of diversified nature are being progressively set up. These industries are mostly run by engineers who had their engineering education a few decades ago. While they have gained practical experience during their long involvement with field work, they can not be conversant with latest technical developments that have and are taking place, unless there is opportunity for continuous education. Engineering education of yester years are of practically no use to-day. Without proper updating from time to time, it would not be possible to meet the challenges of manning the revolutionary changes in technology. An engineer must with confidence continue to contribute his share when