FY 2021-22

National Technology Council

Annual Report
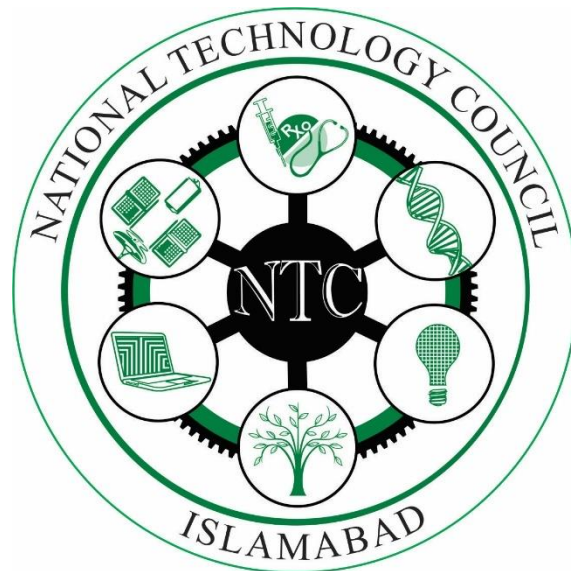
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Message from the Chairman

Imtiaz H. Gilani

I have been at NTC for over two years now. Our performance for 24 months has been, well, a mixed bag. While there are successes which we are happy about, there are still tall administrative and legal mountains to climb before we can say "we have arrived", viz a viz the technologists. With each passing day, however, there is clarity about issues that were obfuscated for long in a toxic mix of undefined roles, confused interpretation of laws and adversarial positions held by protagonists, i.e., engineers and technologists. Today we are ready to chart a new direction that bolsters technology, strengthens technologists, and benefits Pakistan. The government's sharp pivot towards technology -- and technologists as professionals -- is now showing results. It has generated a rational discussion at multiple levels and is in sync with a major global shift from pure knowledge to usable skills.

Now, even laymen understand that engineering practice includes engineers, technologists and technicians who complement each other with unique skill sets to achieve desired results. Engineers cannot perform their functions without technologists, and technologists without technicians are incomplete. These professionals have different skills sets that are not replaceable, but for employment and upward mobility, they must have equitable opportunities.

HEC and NTC are working closely with the government for a sustainable policy framework that 1) Creates an autonomous National Technology Council through an Act of Parliament, and 2) separates career paths for engineers and technologists in sectors where both are employed. Of late, the PEC is striving to redefine its role that will impact the future of technologists directly. Be that as it may, it is our earnest endeavor to define a career path for technologists with the same entry-point-pay-scale as their colleagues, and similar promotions, albeit in a parallel service track.

To enhance skill sets of technologists, HEC has offered 200 overseas scholarships for MTech. and Ph. D programs. In the first round 34 scholars were selected and their placement in universities is in progress. NTC is working with universities running accredited B. Tech programs to start M. Tech and Ph.D. (Tech) programs after meeting HEC criteria. We are trying to create space for cross-fertilization where a technologist can move laterally into an engineering slot after going through an assessment process. Similarly, we are encouraging engineering universities to allow B. Tech graduates for admissions in M. Eng. programs after assessment.

I am happy that more and more institutions running bachelor's in technology programs are applying for accreditation, and graduates are registering themselves in increasing numbers. Only with a robust regulatory framework and stringent quality assurance protocols can we wash the societal stigma that is often attached to these professional. Universities are "factories" where skilled manpower is produced under the regulatory framework set by HEC and NTC. The success of our endeavors is measured on the touchstone of quality of graduates.

To raise standards, NTC undertook a major exercise to develop curriculum for engineering technology programs based on OBE and OBA models that are in substantial compliance with the Sydney Accord. With the help from HEC, we have finalized curriculum for 10 (ten) streams, and I am pleased to say that these are state-of-the-art documents.

NTC's singular purpose is to strengthen the technology sector with robust quality assurance protocols that helps produce skilled graduates to become powerful factors of production in Pakistan's development. It is heartening to note that technologists have acted professionally and given NTC strength to address their concerns in different forums more effectively. We are a family. Pulling in unison we can achieve great results. Together we shall clear the historic debris and afford you fair opportunities to excel in your areas of expertise. For this I need your continuous support!

I would like to thank HEC, Ministry of Education and Professional Training and Planning Commission of Pakistan for their support in our efforts. And finally, I thank technologists for the trust and support they have given NTC.

Thank you and God bless you all!

Statement of Compliance

In accordance with Section II – 18 of the By-laws of the National Technology Council, I submit to the Controlling Authority, the Annual Report of the National Technology Council for the period 1 July 2021 to 30 June 2022.

Imtiaz H. Gilani
Chairman NTC
Dated: August 1st, 2022

Introduction

National Technology Council (NTC) is a subsidiary of HEC with a mandate to regulate technology education at graduate and post-graduate levels in Pakistan and register engineering technologists on its roster. Through an intense Accreditation process, the regulatory framework ensures that defined standards are met by HEI's running technology programs. It is ascertained that technology education curricula are aligned with NTC and HEC guidelines, have substantial equivalence with international standards, ensure Continual Quality Improvement (CQI) protocols, and are based on Outcome Based Education defined by the Sydney Accord.

Vision Statement

Transform Pakistan through technology by ensuring high quality teaching and training, to develop Technologists for the benefit of society.

Mission Statement

To accredit higher education programs for graduate technologists, stimulate quality, innovation in teaching and training self-evaluation and accountability in higher education. Help Higher Education Institutions (HEIs) to realize their academic objectives to produce high quality professional technologists for the benefit of society and maintain National Register of Technologists.

Code of Ethics

Technologists shall advance and uphold honor, integrity, and dignity of the profession by:

- Using their knowledge and skills for improvement of health, safety, and welfare of people
- Being honest and impartial and serve with fidelity the public, and their employers
- Striving to enhance competence and prestige of the technology profession, and supporting professional and technical societies of their disciplines

Technologists, in the fulfillment of their professional duties, shall:

- Hold paramount the safety, health, and welfare of the public
- Perform services only in areas of their competence
- Issue public statements only in an objective and truthful manner
- Act for each employer or client as faithful agents or trusties
- Avoid deceptive acts

- Conduct themselves honorably, responsibly, ethically, and lawfully to enhance the honor, reputation, and usefulness of the profession
- Perform at their highest level
- Participate only in honest enterprise
- Live and work according to the divine and universally acceptable laws and the highest standards of professional conduct, and
- Place service before profit, the honor and standing of the profession before personal advantage, and the public welfare above all other considerations.

NTC's Engineering Technology Education Framework

- Engineering Technologists have skills that use science and mathematics to install, test, operate and maintain finished engineering products and processes.
- Engineering Technologists education requires spending minimum 70% of contact hours in laboratories, field work, or supervised industrial training, and 30% in face-to-face classroom studies.
- The metrics used to measure %age time spent in classrooms learning or laboratory and SIT is contact hours and not credit hours.
- In addition to technology-specific courses, curriculum for all technology programs should cater to compulsory common courses (General Education Requirements) taught face-to-face, preferably to mixed classes across disciplines, and as defined in the Curriculum.
- Academic programs should be flexible and allow students to graduate with any of the following options:
    - Course work, laboratory practice, credit earning project/s, and credit earning supervised and verifiable industrial training for a minimum of one semester, provided further that this option shall require prior approval of NTC.
- Curriculum Design Committees (CDCs) include 1) HEC, 2) NTC and, 3) HEI's along with coopted subject specialists from academia and industry.
- NTC shall strive to provide scholarships to technology graduates for Master's and PhD programs from HEC, HEI's, international agencies and industry.

Major Activities During 2021-2022

7th Meeting of National Technology Council

The 7th Meeting of National Technology Council (NTC) was held on 14th October 2021 at 11:00AM in Lecture Hall, HEC HQ, Islamabad. The salient decisions taken were:

- HEC announced overseas scholarships for Master's in Technology programs for Bachelor of Engineering Technology graduates. The Council appointed a Sub-Committee to help place B.E.Tech. Graduates in engineering technology programs at Master's level.

- HEI's can conduc Supervised Industrial Training in summer semesters with prior approval from Chairman NTC and the Accreditation Committee.

- The following amendments in the Byelaws were approved:

  a. F.Sc. Pre-medical students shall be allowed admission in Biomedical Engineering Technology Program with additional mathematics course to be taken at undergraduate level (B.E.Tech. level).

b. Change in Clause 6 'c': In case of vacancy occurring in the office of the Chairperson, instead of Member of Commission to be nominated by Chairman HEC to look after the duties, the Vice-Chairperson NTC, or in his absence, HOD of QAA-HEC may look after the duties of the Chairperson.

c. F.Sc. General Science students who have studied Computer Science shall be allowed admission in Information, Cyber Security, Computer, Electronics, Telecommunications and Avionics Engineering Technology Programs.

- It was proposed that HEI's should be strongly advised to appoint Engineering Technology (B.E. Tech) graduates in BPS-17 or equivalent as demonstrators to conduct experiments in laboratories.

- It was proposed that UET's be advised to start Master's Programs in technology.

8th Meeting of National Technology Council

The 8th Meeting of National Technology Council (NTC) was held on 10th February 2022 at 11:00 AM in the Committee Room of National Skills University, Islamabad. The Meeting was presided by Mr. Imtiaz H. Gilani, Chairman NTC.

The salient decisions taken were:

- The Council standardized nomenclature of engineering technology programs to, say:
  - <u>Long version</u>: Bachelor of Electrical Engineering Technology, or
  - <u>Short version</u>: BET (Electrical).

- National Curriculum Revision Committee (NCRC) meetings for 10 programs are under way. NTC plan to develop curricula for the 10 additional programs being run in the country in Phase 3 and Phase 4.

- The Council agreed to issue cards to registered technologists.

2nd Meeting of Accreditation Committee of NTC was held online on 29th November 2021 (Online)

3rd Meeting of Accreditation Committee of NTC was held online on 7th April 2022 (Online)

6th Registration Committee Meeting

The 6th Registration Committee Meeting of National Technology Council (NTC) was held at NTC Secretariat Islamabad on 29th December 2021 at 11:00 AM.

One Days OBE/A Training to faculty members of Government College of Technology (GCTs) at GCT, Peshawar on 1st January 2022

The National Technology Council (NTC) Islamabad collaborated with Technical Education and Vocational Training Authority Khyber Pakhtunkhwa (TEVTA-KP) and conducted a one-day training on "Outcome Based Education & Assessment" for the faculty and staff of Government College of Technologies (GCTs) offering the 4-years bachelor's degree program in the discipline of Civil, Electrical, and Mechanical Engineering Technology.

Two Days OBE/A training to faculty members of Government College of Technology (GCTs) from 14th to 15th April 2022, at GCT, Lahore

The National Technology Council (NTC) Islamabad collaborated with Technical Education and Vocational Training Authority, Punjab (TEVTA-Punjab) and conducted a two-day training on "Outcome Based Education & Assessment" for the faculty and staff of Government College of Technologies (GCTs) offering the 4-years bachelor's Engineering Technology Programs.

National Curriculum Development Meetings

National Technology Council held National Curriculum Revision Committee (NCRC) Meetings, to develop curriculum of 10 bachelor of engineering technology programs of 4 years (8 Semesters) duration. The list of programs is given below:

National Curriculum Revision Committee Meetings – Phase 1			
Sr. No	**BSc Engineering Technology Program(s)**	**Date and Venue**	
1	Electrical Engineering Technology	20-22 Oct 21 UET, Taxila	13-15 Jan 22 UET, Taxila
2	Civil Engineering Technology	27-29 Oct 21 NED, Karachi	20-22 Jan 22 Indus University, Karachi
3	Mechanical Engineering Technology	03-05 Nov 21 UET, Lahore	10-12 Jan 22 UET, Lahore
4	Computer Engineering Technology	10-12 Nov 21 BBSUTSD, Khairpur Mirs	17-19 Jan 22 HEC RC, Karachi
5	Electronics Engineering Technology	17-19 Nov 21 KFUEIT, RYK	24-26 Jan 22 KFUEIT, RYK
National Curriculum Revision Committee Meetings – Phase 2			
Sr. No	**BSc Engineering Technology Program(s)**	**Date and Venue**	
1	Aircraft Maintenance Engineering Technology	16-18 Feb 22 NUTECH, Islamabad	18-20 May 22 NUTECH, Islamabad
2	Agro Industrial Engineering Technology	02-04 March 22 MNS UoA, Multan	15- 17 June 22 MNS UoA, Multan
3	Automotive Engineering Technology	23-25 February 22 UET, Taxila	23 – 25 May 22 Superior College, Lahore
4	Biomedical Engineering Technology	09-11 March 22 Superior University, Lahore	08-10 June 22 UET, Taxila
5	Textile Engineering Technology	16-18 March 22 NTU Faisalabad	30 May - 1 June 22 NTU Faisalabad

The curriculums are being designed on OBE and OBA system of Engineering Technology Education, having substantial equivalence with curriculum of member countries of the Sydney Accord.

National Curriculum Revision Committee Meeting for B.E.Tech. Electrical Program at UET Taxila

National Curriculum Revision Committee Meeting for B.E.Tech. Mechanical Program at UET Lahore

National Curriculum Revision Committee Meeting for B.E.Tech. Civil Program at Indus University, Karachi

National Curriculum Revision Committee Meeting for B.E.Tech. Computer Program at BBSUTSD, Khairpur

National Curriculum Revision Committee Meeting for B.E.Tech. Electronics Program at KFUEIT, RYK

National Curriculum Revision Committee Meeting for B.E.Tech. Aircraft Maintenance Program at NUTECH, Islamabad

National Curriculum Revision Committee Meeting for B.E.Tech. Automotive Program at Superior University, Lahore

National Curriculum Revision Committee Meeting for B.E.Tech. Biomedical Program at Superior University, Lahore

National Curriculum Revision Committee Meeting for B.E.Tech. Agro-Industrial Program at MNS UoA, Multan

National Curriculum Revision Committee Meeting for B.E.Tech. Textile Program at NTU, Faisalabad

Registration of Engineering Technologists

Sr. No	Name	Professional	Graduate
1	Civil	309	1,978
2	Electrical	214	866
3	Mechanical	183	776
4	Electronic(s)	74	108
5	Chemical	12	70
6	Biomedical	-	15
7	Petroleum	-	12
8	Aircraft Maintenance	-	10
9	Aviation	2	8
10	Textile	-	4
11	Automotive	-	2
12	Instrumentation and Control Systems	-	2
13	Mechatronics	-	1
	Total	**794**	**3,852**

Accreditation of Engineering Technology Programs (July 2021 - June 2022)

Nature of visit	HEI Visited	Programs	HEI Visits Pending	Programs Pending
Zero	25	58	12	28
Interim	20	56	8	13
Accreditation	9	20	8	15
Total	**54**	**134**	**28**	**56**

Annual Audit Report FY 2021-22

Balance as on 1-7-2021	**PKR 48.51 million**
Receipts:	
• Accreditation Fees	28.77
• Registration Fee	34.00
• Grant from HEC	<u>3.00</u>
Total	65.77
Expenditures (Total)	25.59
Balance as on 30-6-2022	**PKR 88.68 million**

M/S Zia Masood Kiani & Co, Chartered Accountants based in Islamabad, were engaged for annual audit of 2020-2021 and their report is attached below:

ZIA MASOOD KIANI & Co.
Chartered Accountants

Building No, H - 1, Street 8,
Abu Bakar Market,
Sector G11/1, Islamabad
Pakistan
t : + 92 51 2308271 - 72
e : info@thezmk.com
w : https://thezmk.com

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF NATIONAL TECHNOLOGY COUNCIL

Opinion

We have audited the financial statement of National Technology Council for the year ended June 30, 2022 which comprise the Receipt and Expenditure Statement (here-in after referred to as the financial statement) for the year then ended, and notes to the financial statement, including a summary of significant accounting policies.

In our opinion, the accompanying financial statement of the National Technology Council is prepared, in all material respects, in accordance with cash receipts and expenditure basis of accounting as described in note 3 to the financial statements.

Basis for Opinion

We conducted our audit in accordance with the International Standards on Auditing (ISAs) as applicable in Pakistan. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the 'National Technology Council' in accordance with the International Ethics Standards Board for Accountants' Code of Ethics for Professional Accountants as adopted by the Institute of Chartered Accountants of Pakistan (the Code) and we have fulfilled our other ethical responsibilities in accordance with the Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibilities of Management and Those Charged with Governance for the Financial Statement

The Management is responsible for the preparation of the financial statement in accordance with cash receipts and expenditure basis of accounting described in note 3 to the financial statement, and for such internal control as the Management determine is necessary to enable the preparation of the financial statement that is free from material misstatement, whether due to fraud or error.

In preparing the financial statement Management is responsible for assessing the National Technology Council ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless Management either intends to liquidate the National Technology Council or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the National Technology Council financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statement

Our objectives are to obtain reasonable assurance about whether the financial statement as a whole is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with ISAs as applicable in Pakistan will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of this financial statement.

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an association of legally independant accounting firms

Targeting Success >> audit and advisory | taxation | company secretarial | corporate finance | payroll | financial planning | outsourcing | forensic

As part of an audit in accordance with ISAs as applicable in Pakistan, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statement, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the National Technology Council internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by Management.

- Conclude on the appropriateness of Management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the National Technology Council ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statement or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the National Technology Council to cease to continue as a going concern.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

ISLAMABAD

Date: December 12, 2022

UDIN: AR2022101370XEmHlzyV

(Chartered Accountants)

Engagement Partner

ZIA ULLAH - FCA

NATIONAL TECHNOLOGY COUNCIL
RECEIPTS AND EXPENDITURE STATEMENT
FOR THE YEAR ENDED JUNE 30, 2022

	Note	2022 (Rupees)
Receipts	5	65,773,450
Expenditure		
Staff Salaries and Benefits		6,350,368
Printing and stationery		843,789
Office Supplies		18,675
Publicity and advertisement		227,830
TA/DA		14,155,621
Meeting and seminars		3,446,241
Bank charges		19,170
Miscellaneous expenses		145,636
Audit fee		33,230
Communication expenses		129,171
Capital expenditure	7	226,735
		25,596,465
Excess of Receipts over Expenditure		40,176,985

The annexed notes from 1 to 10 and annexure A form an integral part of these financial statements.

CHAIRMAN
Syed Imtiaz Hussain Gilani

ACCOUNTS OFFICER
Hafiz Muhammad Ghulam

NATIONAL TECHNOLOGY COUNCIL
NOTES TO THE RECEIPTS AND EXPENDITURE STATEMENT
FOR THE YEAR ENDED JUNE 30, 2022

Note 1
Council and its Operations

National Technology Council (hereby referred to as 'Council') was established by Higher Education Commission (HEC) via notification No.19-3 /HEC/HRM/2015/9721 dated 7th September 2015, published in the Gazette of Pakistan on October 2, 2015. The objective of Council is to accredit Higher Education Institutions Programs for graduate technologists by stimulating quality, innovation in teaching and training, self-evaluation & accountability and helping Higher Education Institutions (HEI's) to realize their academic objectives to produce high quality professional technologists for the benefit of society.

Note 2
Statement of Compliance

The Receipts and Expenditures Statement has been prepared in accordance with the basis of accounting as described in Note 3.

Note 3
Basis Of Preparation

The Receipts and Expenditure Statement has been prepared under the cash receipts and expenditure basis of accounting. In cash receipts and expenditure basis of accounting revenue is recognized when received rather than when earned and expenses are recognized when payments are made rather than when expense is incurred.

Note 4
SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Significant accounting policies applied in the preparation of these financial statements are setout below. These policies have been consistently applied to all the years presented.

4.1 Income Recognition
Income/Receipts are recognized when cash and cash equivalent is received.

4.2 Functional and presentation currency
The Receipts and expenditure statement is presented in Pakistani Rupees, which is the Council' functional and presentation currency.

4.3 Cash and cash equivalents
Cash and cash equivalents comprises of cash in hand and cash at bank.

Note 5
Receipts

	Note	2022 Rupees
Income from accreditation fee		28,750,000
Income from registration fee		34,003,700
Support income from HEC		3,000,000
Other Income		19,750
		65,773,450

Note 6
Variance Analysis

	Budgeted Rupees	Actual Rupees	Variance Rupees	Variance Percentage
Staff Salaries and Benefits	7,000,000	6,350,368	649,632	9%
Printing and stationery	1,000,000	843,789	156,211	16%
Office Supplies	100,000	18,675	81,325	81%
Publicity and advertisement	500,000	227,830	272,170	54%
TA/DA	15,000,000	14,155,621	844,380	6%
Training & orientation	100,000	-	100,000	100%
Publication & Printing	400,000	-	400,000	100%
Meetings / seminars	4,000,000	3,446,241	553,760	14%
Audit expenses	40,000	33,230	6,770	17%
Legal & professional	200,000	-	200,000	100%
Bank charges	30,000	19,170	10,830	36%
Membership fees	800,000	-	800,000	100%
Vehicle running & maintenance expenses	700,000	-	700,000	100%
Miscellaneous expenses	400,000	145,636	254,364	64%
Communication expenses	150,000	129,171	20,829	14%
Computer and office equipment	510,000	192,012	317,988	62%
Furniture and fixtures	360,000	34,723	325,277	90%
Vehicle	800,000	-	800,000	100%
	32,090,000	25,596,465		

Note 7
Capital Expenditure

	Note	2022
		Rupees
Computer equipment		192,012
Furniture and fixtures		34,723
		226,735

Note 8
General Fund

	Note	2022
		Rupees
Balance at the beginning of the year		48,512,322
Surplus/(Deficit) for the year		40,176,985
Balance at the year end		88,689,307

General Fund is being represented by Cash and Cash equivalents at the year end June 30, 2022

Note 9
Cash and cash equivalents

	Note	2022
		Rupees
Cash in hand		5,698
Cash at bank		
- Balance as per current a/c (PKR)		90,404,832
Less: Unpresented cheques		(1,721,223)
		88,683,609
Total Cash and cash equivalents		88,689,307

Note 10
General

10.1 Figures in these financial statements have been rounded off to the nearest rupee.

10.2 These financial statements were authorized for issue by the Council on 12-12-2022

CHAIRMAN
Syed Imtiaz Hussain Gilani

ACCOUNTS OFFICER
Hafiz Muhammad Ghulam

Glossary of Photos

Interim Visit of KFUIET, Rahim Yar Khan

Accreditation visit of Benazir Bhutto Shaheed University of Technology and Skills Development Khairpur Mirs