

Employment through Skill



Government College of Technology, Hyderabad
Sindh Technical Education &
Vocational Training Authority (STEVTA)
Government of Sindh



NO. GCTH/ADMN /B-TECH/47 /2020

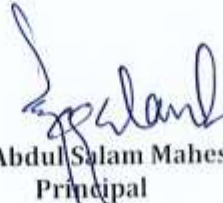
DATED/30/12/2020.

✓
The Dean, FoSTH,
Mehran University of Engineering & Technology,
Jamshoro.

Subject: - **SELF ASSESSMENT REPORT (SAR)**


Reference No. MUET/DFOSTH/20/700, dated: 09.11.2020

Please find enclosed herewith the desired reports in respect of B.Tech Civil,
Electrical and Mechanical Technologies for your kind perusal and record.



(Prof. Abdul Salam Mahesar)
Principal

C.C:-

01. The Inspector Colleges, MUET, Jamshoro.
02. Master files/ Office copy


(Prof. Abdul Salam Mahesar)
Principal



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05/01/22

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GOVERNMENT COLLEGE OF TECHNOLOGY HYDERABAD
(Affiliated with MUET Jamshoro)

SELF ASSESSMENT REPORT

B.Tech (CIVIL TECHNOLOGY) FOUR YEAR PROGRAMME

DEPARTMENT OF CIVIL TECHNOLOGY

YEAR 2019 – 20



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TITLE OF REPORT:

SELF ASSESSMENT REPORT OF B.TECH (CIVIL TECHNOLOGY) PROGRAMME

CHAIRMAN, DEPARTMENT OF CIVIL TECHNOLOGY:

Engr. Rashid Hussain Memon

PROGRAM TEAM (PT) DEPARTMENT OF CIVIL TECHNOLOGY:

1. Engr. Rashid Hussain Memon
2. Mr.Suhail Akhter Khanzada
3. Engr. Muhammad Zahid Memon

SUPPORT PROVIDED BY:

1. Prof. Sikander Ali Ghunio, Professor/Director QEC GCT Hyderabd.
2. Engr. Syed Hamid Hussain Shah, Lecturer, GCT, Hyd.

DATE OF FINALIZATION OF REPORT:

Dec.30, 2020

CRITERION 1: PROGRAM MISSION, OBJECTIVES, AND OUTCOMES

Department Vision:

To impart knowledge and excellence in Civil Technology with global perspective to our students and to make them competent technologists.

Department Mission:

To inculcate knowledge based Civil Technology education and training among the graduates to empower them with necessary skills and values required for higher education, research and industry for their acceptance at global level.

Programme Mission:

The programme aims at producing graduates so that they are able to:

- Apply knowledge, techniques, skills and modern tools of mathematics, science and technology to cope with and solve technological problems appropriate to the civil construction works.
- Apply written, oral, and graphical communication in vastly defined technical and non-technical environments and an ability to identify and use appropriate technical literature.
- Conduct standard tests, measurements, and experiments and analyze and interpret the results to improve processes.
- Function effectively as a member as well as a leader on technical teams.

Standard 1 – 1 :

The program must have documented measurable objectives that support Faculty / College and institution mission statements.

Program Objectives:

- i. Acquiring fundamental knowledge of core Civil technology disciplines and their applications in Construction Industry, Operations of various Organizations, Departments and Society.
- ii. Implementing role as Civil technologist in the sustainable development of society at the regional, national and global levels.
- iii. To have a thorough grip on best practices of Civil technology to bridge the gap between Industry and academia.

Strategic plan to achieve program mission and objectives:

The Civil Technology Department endeavors to realize its vision and accomplish the mission by adherence to the process map of academic activity and strive to make continuous improvement

by systematic assessment and feedback system and following the guidelines of the affiliating university and other stakeholders.

Academic Activity Process:

- The activity starts with the preparation of academic calendar by the In-Charge of the Section and presented to the MUET authorities for approval.
- Once the approval is granted, faculty is allocated respective courses.
- The weekly timetable of theory and practical classes is prepared in accordance with the academic calendar.
- The teaching process continues for 32 – 36 weeks of class teaching, home assignments, quizzes, practical jobs, class tests, and field/industrial visits etc.
- On completion of academic session, students are allowed for two weeks for preparation to take annual Examination.
- Simultaneously, university authorities are provided with the attendance of students and persuaded for conduct of Annual Examination and hence schedule of filling up examination forms and conduct is announced by the university.
- The eligible students fill up the examination forms and take the examination as announced by the university.

Measurement of objectives:

Objectives	How measured	When measured	Improvement Identified	Improvement made
Acquiring fundamental knowledge of core Civil technology disciplines and their applications in Construction Industry, Operations of various Organizations, Departments, and Society. Implementing role as Civil technologist in the sustainable development of society at the regional, national, and global levels. To have a thorough grip on best practices of Civil technology, ethics, managerial and leadership skills and understanding to bridge the gap between Industry and academia.	To be processed after passing out of first batch (2015) of programme through prescribed survey forms	As soon as first batch passes out (Expected during 2021)	To be processed later	To be made according to findings

Standard 1-2:

The program must have documented outcomes for graduating students. It must be demonstrated that the outcomes support the program objectives and that graduating students are capable of performing these outcomes.

Program Outcomes:

- i. Apply knowledge of mathematics, science and engineering technology to have scientific and experiment hands on exposure.
- ii. Use the technological skills and modern tools necessary for the solution of everyday problems.
- iii. Understand the impact of technological solutions in society to empower community to overcome the technological hurdles and practice professional, ethical and moral responsibilities at workplace.

Relationship between program objectives and program outcomes:

Objective	Outcome
Acquiring fundamental knowledge of core Civil technology disciplines and their applications in Construction Industry, Operations of various Organizations, Departments, and Society.	Apply knowledge of mathematics, science and engineering technology to have scientific and experiment hands on exposure.
Implementing role as Civil technologist in the sustainable development of society at the regional, national, and global levels.	Use the technological skills and modern tools necessary for the solution of everyday problems.
To have a thorough grip on best practices of Civil technology, ethics, managerial and leadership skills and understanding to bridge the gap between Industry and academia.	Understand the impact of technological solutions in society to empower community to overcome the technological hurdles and practice professional, ethical and moral responsibilities at workplace

Programme Objectives	Programme Outcomes		
	1	2	3
1. Acquiring fundamental knowledge of core Civil technology disciplines and their applications in Construction Industry, Operations of various Organizations, Departments, and Society.	⊙	•	•
2. Implementing role as Civil technologist in the sustainable development of society at the regional, national, and global levels.	•	⊙	•
3. To have a thorough grip on best practices of Civil technology, ethics, managerial and leadership skills and understanding to bridge the gap between Industry and academia.	•	•	⊙

⊙ Substantial Contribution • No Contribution

Standard 1-3:

The results of program's assessment and the extent to which they are used to improve the program must be documented.

As this is first ever assessment exercise carried out and no batch has passed out yet so many of the assessment criteria can't be assessed, only the criteria related to during studies processes and activities have been assessed. However a complete assessment in conformity with prescribed format will be carried out at the appropriate time.

Standard 1-4:

The department must assess its overall performance periodically using quantifiable measures.

Present student's status of civil technology enrolment during the last three years:

Batch	Merit	Self-Finance	Girl Students	Total Students
2015	41	34	----	75
2016	31	15	----	46
2017	61	13	1	75
Total	133	62	1	196

List of faculty members pursuing Ph.D within Country:

Nil

List of faculty members pursuing Ph.D abroad Country:

Nil

STUDENTS TEACHERS:

No of Students:	196
Dedicated Faculty:	04
Sharing Faculty:	06
Total Faculty	10
Student – Faculty Ratio:	20:1

Average time for completing the undergraduate program:

The average time for completing B.Tech (Civil) Four Year programme is four years by following the academic calendar.

Percentage of employers that are strongly satisfied with the performance of the department's graduate:

The assessment will be made in due course of time after passing out of first batch of the programme.

Median/average student's evaluation for all courses:

(Due to Covid 19, college was closed, the surveys could not be performed)

Alumni Survey

Nil

Graduate Student Survey

Nil

Faculty awarded best teacher award

Nil

Present performance measures for research activities

Nil

National conferences / Seminars / Workshops Attended

Nil

International conferences / Seminars / Workshops Attended

Nil

Performance measures for community services

Nil

CRITERION 2: CURRICULUM DESIGN AND ORGANIZATION

Title of degree program

Bachelor of Technology (Civil Technology) Four Year Programme

Definition of credit hour

One theory class per week for one year equals to two credit hours.

Three practical classes per week for one year equals to two credit hours.

Degree plan: Attach a flow chart showing the prerequisites, core, and electives courses:

The programme is offered in accordance with the scheme of studies (2010 version) and the syllabus designed by NCRC under the auspices of Higher Education Commission of Pakistan. The scheme of studies is structured and has been implemented with the approval of MUET authorities.

Table 4.3: Showing curriculum break down in terms of mathematics and Basic Sciences, major requirements, social sciences and other requirements

Year	Course Number	Core courses T+P	Category (Credit hours)			
			Math/ Basic sciences T+P	Art & Humanities T+P	Social Sciences T+P	Technical electives T+P
			1st	9	5(20+10)	2(6+2)
2 nd	12	10(38+08)	1(4+0)	1(2+0)	0(0+0)	0(0+0)
3 rd	9	9(32+12)	0(0+0)	0(0+0)	0(0+0)	0(0+0)
4 th	5	5(12+04)	0(0+0)	0(0+0)	0(0+0)	0(0+0)
Total	35	29(102+34)	3(10+2)	3(8+0)	0(0+0)	0(0+0)
Minimum requirements	No minimum requirement is documented.					

**SCHEME OF STUDIES B.TECH 4-YEAR PROGRAM
DEPARTMENT OF CIVIL TECHNOLOGY**

1ST YEAR											
S. No.	COURSE CODE	COURSE NAME	CONTACT HRS.			CREDIT HRS.			MARKS		
			TH	PR	TL	TH	PR	TL	TH	PR	TL
1	CH-111	Islamiat	1	0	1	2	0	2	50	0	50
2	CS-122	Applied Mathematics-I	2	0	2	4	0	4	100	0	100
3	CT-132	Computer Applications	1	3	4	2	2	4	50	50	100
4	CH-142	Communication Skills	2	0	2	4	0	4	100	0	100
5	CT-153	Applied Mechanics	2	3	5	4	2	6	100	50	150
6	CT-163	Civil Engineering Drawing	2	3	5	4	2	6	100	50	150
7	CT-173	Concrete Technology	2	3	5	4	2	6	100	50	150
8	CT-183	Surveying	2	3	5	4	2	6	100	50	150
9	CT-193	Material & Methods of Construction	2	3	5	4	2	6	100	50	150
Total Contact Hours/Credit Hrs/Marks			16	18	34	32	12	44	800	300	1100

2ND YEAR											
S. No.	COURSE CODE	COURSE NAME	CONTACT HRS.			CREDIT HRS.			MARKS		
			TH	PR	TL	TH	PR	TL	TH	PR	TL
1	CH-211	Pakistan Studies	1	0	1	2	0	2	50	0	50
2	CS-222	Applied Mathematics-II	2	0	2	4	0	4	100	0	100
3	CT-232	Quantity Surveying & Contract Document	2	0	2	4	0	4	100	0	100
4	CT-243	Soil Mechanics	2	3	5	4	2	6	100	50	150
5	CT-253	Fluid Mechanics	2	3	5	4	2	6	100	50	150
6	CT-263	Mechanics of Materials	2	3	5	4	2	6	100	50	150
7	CT-273	Highway & Transportation Engineering	2	3	5	4	2	6	100	50	150
8	CT-283	Water Supply & Waste Water Management	2	0	2	4	0	4	100	0	100
9	CT-293	Engineering Geology	2	0	2	4	0	4	100	0	100
10	CT-2101	Hydrology	1	0	1	2	0	2	50	0	50
11	CT-2112	Material Testing, Repair & Maintenance	2	0	2	4	0	4	100	0	100
12	CT-2122	Occupational Health and safety	2	0	2	4	0	4	100	0	100
Total Contact Hours/Credit Hrs/Marks			22	12	34	44	8	52	1100	200	1300

3RD YEAR											
S. No.	COURSE CODE	COURSE NAME	CONTACT HRS.			CREDIT HRS.			MARKS		
			TH	PR	TL	TH	PR	TL	TH	PR	TL
1	CT-313	Irrigation & Hydraulics Structures	2	3	5	4	2	6	100	50	150
2	CT-323	Reinforced Concrete Structure	2	3	5	4	2	6	100	50	150
3	CT-332	Steel Structure	2	0	2	4	0	4	100	0	100
4	CT-342	Computer Aided Building Modeling & Design	1	3	4	2	2	4	50	50	100
5	CT-353	Pavements Design and Maintenance	2	3	5	4	2	6	100	50	150
6	CT-363	Geo-Technical Engineering	2	3	5	4	2	6	100	50	150
7	CT-373	Environmental Management	2	3	5	4	2	6	100	50	150
8	CT-382	Theory of Structures	2	0	2	4	0	4	100	0	100
9	CT-391	Introduction to Earthquake Engineering	1	0	1	2	0	2	50	0	50
Total Contact Hours/Credit Hrs/Marks			16	18	34	32	12	44	800	300	1100

4TH YEAR											
S. No.	COURSE CODE	COURSE NAME	CONTACT HRS.			CREDIT HRS.			MARKS		
			TH	PR	TL	TH	PR	TL	TH	PR	TL
1	CT-412	Foundation Engineering	2	0	2	4	0	4	100	0	100
2	CT-422	Project Management	2	0	2	4	0	4	100	0	100
3	CT-432	Engineering Economics	2	0	2	4	0	4	100	0	100
4	CT-442	Project	0	6	6	0	4	4	0	100	100
5	CT-45X	Internship	0	36	36	0	0	0	0	600	600
Total Contact Hours/Credit Hrs/Marks			6	42	48	12	4	16	300	700	1000
Total of 4-Years			60	90	150	120	36	156	3000	1500	4500

Standard 2.1:

The curriculum must be consistent and supports the program's documented objectives.

S.#	GROUPS OF COURSES	OBJECTIVES
1.	Humanities	After completion of these courses students will be well versant in oral and written communication, will have essential religious, historical knowledge and would be apt enough to fulfill social responsibilities.
2.	Basic and computer science	After successful completion of these courses the students would be able to use mathematics, computer and information technology to solve technical problems, and use modern software for completion and solution of various technical issues.
3.	Materials and Testing	After completion of the courses in this area, the students should be able to select and use different materials used in construction works efficiently, purposefully and economically.
4.	Geotechnical Engineering	After completion of this courses in this area, the students should be able to know the properties and strength of soil as a resting bed and as a construction material.
5.	Transportation Engineering	After completion of courses in this area, the students should be able to build various transportations facilities and systems.
6.	Water Resources and Environmental Engineering	After completion of courses in this area, the students should be able to efficiently apply laws of fluid mechanics to the water resources, irrigation systems, water supply and sanitary.
7.	Structures	After completion of this course the students would be able to apply technical knowledge in construction of various R.C.C. Pre-stressed Concrete and Steel Structures according to design with efficient use various technological methods.

Standard 2.2:

Theoretical background, problems analysis and solution design must be stressed within the program's core material.

Elements	Course
Theoretical background	30%
Problem analysis	30%
Solution design	40%

Table 4.5: Standard 2-2 requirement

Standard 2.3:

The curriculum must satisfy the core requirements for the program, as specified by the respective accreditation body.

The curriculum designed by HEC has been implemented and contains and satisfy all core requirement of the programme.

Standard 2.4:

The curriculum must satisfy the major requirements the as specified by the HEC, the respective accreditation body/ council.

Since the curriculum has already been designed by HEC hence fulfills all major requirement.

Standard 2.5:

The curriculum must satisfy the general education, arts and professional and other discipline requirements for the program, as specified by the respective accreditation body/ council. Examples of such requirements are given in Table A.I, Appendix A.

Address standards 2-3, 2-4, and 2-5 using information provided in Table 4-4.

Minimum requirement for program:

Program	Technology	Non-Technical
B.Tech. (Civil)	Min: 70%	Max: 30%

The curriculum is satisfying the core/general requirements of the program, as specified by the NTC/HEC. No any deviation noted.

Standard 2.6:

Information technology component of the curriculum must be integrated throughout the program.

- Computer Aided Drawing is taught in 3rd year,
- With the help of various software's and E-Book information.

Standard 2.7:

Oral and written communication skills of the student must be developed and applied in the program.

Oral and written communication skills are taught in the course of Communication Skills to the students.

CRITERION 3: LABORATORIES AND COMPUTER FACILITY:

Laboratory Title:

- a. Material and Testing Lab
- b. Surveying Lab
- c. Drawing Hall
- d. Computer lab
- e. Auto CAD Lab

Establishment of new labs in progress.

To be decided later

Location and Area

Department of Civil Technology

Objectives

To provide practical hands-on practical training for various subjects related to the prescribed courses.

Adequacy for instructions

Practical Workbooks are developed and are available at point of use.

Courses taught

As per approved curriculum.

Software Available if applicable

AutoCAD

Major Equipment:

- Electronic Total Station
- Electronic Digital theodolite
- Automatic Level
- Automatic level (OLD)
- Engg: level complete
- Dumpy level
- Zeiss reducing tachometer
- V-102 vernier theodolite
- Indian pattern clinometers
- K-e paragon transit theodolite
- Wild-t-6 tachometer theodolite

- Wild-1-A double center theodolite
- Surveyor's compass
- Km model K1-A Engr:theodolite
- Small dumpy level
- Theodolite TH.20 pentex Japan
- Watt standard vernier theodolite
- Electronic Level System (Rotating Laser)
- Telescope alidade
- Digital Plano meter
- E.D.MSokia
- Plane table
- Pantograph of wood
- Leveling instruments
- Abney level English
- Level B.N.A
- Level B.N.L
- Chain (Different Sizes)
- Binocular
- Ranging Rod
- Leveling Staves
- Plumbing Fork
- Cross staff
- Trough compass
- Staff folding Types
- Different Tapes
- Sprit level
- Brass alidade
- Steel bend chain 300ft
- Prismatic compass
- Sextant
- Alidad Instrument
- Electronic Total Station
- Electronic Digital theodolite
- Automatic Level
- Automatic level (OLD)
- Drawing board 24" x 36"
- Tee square
- Rotring pen

- Drawing box
- Wooden Stool
- Drawing table wooden
- Table Sharper
- Pantograph
- Drafting machine
- Elect:sieve shaker
- Compression test machine
- Abrasion machine
- Slump cone apparatus steel
- Slump cone mould
- Cube mould
- Cylindrical mould
- Vibrator compact
- Concrete mixer
- Vicat apparatus
- Flackinessguage
- Hammer control
- Hammer tester
- Sieve control
- Sieves
- Electronic w/scale
- Tray diff: sizes
- Specific gravity apparatus
- Ring ball apparatus
- CBR testing machine
- Triaxial test machine with trolley (comp)
- Oven
- Casagrande apparatus
- Consolidation apparatus
- Ductility
- Sand cone apparatus
- Core cutter (acce)
- Space disc 151 mm
- Annular surcharge 2.27kg
- Annular surcharge 4.54 kg
- Annular surcharge 9.08 kg
- Split surcharge 4.54 kg

- Standard proctor
- Reamer complete
- Standard proctor mould
- Modified proctor reamer complete
- Modified proctor mould
- Flow test apparatus
- Hand compactor
- Balloon density apparatus
- Penitro meter
- Pyohomotor
- Direct shear apparatus without shear box
- Unconfined compression apparatus
- Computer Desktop 10 Nos
- Safety equipment
- Laboratories are equipped with the firefighting cylinders

CRITERION 4: STUDENT SUPPORT AND ADVISING

Support facilities for students and other components:

Residential Accommodation:

There is a facility of hostel for the student having 70 rooms capacity, but presently occupied by law and forcemeat agency.

Medical Assistance:

A dispensary is available for the students which is manned by a qualified dispenser. Adequate quantity of essential medicine are also available for the emergency mishap. Meanwhile services hospital is adjacent to the college.

Transport Facility:

College has one bus (60 Seats) and one coaster (26 Seats) for commuting students and staff and ply on various locations of the city area.

Sports facility:

The college has sports complex which consist the facilities of indoor sports and gymnasium. Also, a vast playground is available for cricket and football etc

Standard 4.1:

Courses must be offered with sufficient frequency and number for students to complete the programme in the timely manner:

The department offers programme in the light of requirements of Higher Education Commission (HEC) and completed in due course of time by following yearly academic calendar.

Courses offered:

All courses offered for B.Tech Four Year Degree programme are compulsory. No any choice is given to students to elect any course of his choice.

Standard 4.2:

Courses in the major area of the study must be structured to ensure effective interaction between students, faculty, and teaching students:

Close coordination is observed between students and faculty during the courses through ensuring regular attendance of students, by providing guidance through class advisers. Also, teaching plan is provided to students prior to start of session and various assignments and tasks are given to students during academic year. The delivery of course material is given to the students through respective class representatives.

Standard 4.3:

Guidance on how to complete the programme must be available to all students and access to academic advising must be available to make course decision and career choices.

Information about program requirements:

Students are informed about the programme requirements through newspapers, FM radio and notice board.

Advising system:

Students advisers provide the students essential information and advice pertaining to academic affairs, rules and regulations, pursue the studies and guidelines regarding their stay at college.

Professional counseling and interaction with practitioners:

The curriculum of Final year contains essential 32 – 36 weeks industrial training. The students are placed in various industries by the Industrial Coordinator to seek hands on training and experience in the field of their choice.

CRITERION 5: PROCESS CONTROL

The process by which students are admitted to the program must be based on quantitative and qualitative criteria and clearly documented. This process must be periodically evaluated to ensure that it is meeting its objectives.

Standard 5.1:**Criteria for admission:**

Admissions to the first year for the degree program is made according to the policies and rules framed by the STEVTA from time to time. Number of seats are fixed under different categories covering all the divisions of Sindh.

Admission Process:

Notice for admission in first year is published in daily newspapers for inviting applications. The schedule of issue and submission of application form is given in the advertisement.

Submission of Admission Forms:

The candidates are required to submit application form completed in all respect along with required documents in admission branch of the college. After the scrutiny all the eligible candidate are sent admission slips for entry to the pre-admission test.

Pre-admission Test:

All the eligible candidate are required to appear in the pre-admission test organized by the MUET. Candidates having secured less than 30% marks in the pre-admission test shall not be eligible for admission.

Eligibility:

The eligible candidates should have :

- i. Secure at least 50% marks in the HSSC (Pre-Engg.) /DAE Examination for all technologies and intermediate (P.E).
- ii. Appeared in pre-admission test and obtained at least 30% marks.
- iii. Produced domicile and PRC (form-C) of Sindh province.
- iv. Candidate must fulfil age bracket, approved by the competent authority.

Interviews:

Selected candidates will have to appear for interview before the Admission Committee for verification of documents.

Allocation of seats:

Category wise distribution of seats (For each of Civil, Electrical and Mechanical technology) for Boys and Girls.

Allocation of seats:

Category wise distribution of seats (For each of Civil, Electrical and Mechanical technology) for Boys and Girls.

S.#	CATEGORY/ Region	% of Total Seats	DAE		H.S.C (P.Engg:)		No. of seats
			(%)	No. of seats	(%)	No. of seats	
01	Open Merit (Hyderabad &Mirpurkhas Divisions)	60% i.e. 48 Seats	80%	39	20%	09	48
02	All Sindh Basis (Larkana, Sukkur&KarachiDi visions).	20% i.e. 16 Seats	80%	13	20%	03	16
03	Reserved Seats						
03(a)	Member of Teaching staff of STEVTA.						
03(b)	Real Sons/ Daughters of STEVTA Employees.	20% i.e. 16 Seats	80%	13	20%	03	16
03(c)	Extra-Curricular Activities/ Disabled						
03(d)	Children of armed personnel/defense						
03(e)	Other Provinces on Reciprocal basis						
03 (f)	Transgender (She- male)						
	Total	100% i.e. 80 Seats		65		15	80

Note: 50 seats are available under Self Help Basis Program in evening shift for each Technology)

Note: 50 seats are available under Self Help Basis Program in evening shift for each Technology)

Note:

- I. In case of non-availability of eligible candidates in the category of DAE the remaining vacant seats could be merged in HSC& vice-versa.
- II. Vacant Seats in any Category will be filled on Open Merit
- III. For Admission to Self Help Basis Evening Program, first preference will be given to those candidates who initially opt for and then to the candidates from Hyderabad and Mirpurkhas Divisions.

S #	Percentage of Marks obtained in	Multiplying Weight age
A	Matriculation (SSC or TSC)	0.10
B	Higher Secondary School Certificate (Pre-Engg / General Science) OR Diploma of Associate Engineer (DAE) in relevant technology.	0.40
C	Pre-Admission Test	0.50

Policy Regarding Program/credit transfer

- i) The admission for session will be closed at the end of **FOURTH** week from the date of Commencement of classes. After this period the seats fallen vacant will not be filled up at any stage.
- ii) If any student wants to withdraw his admission after depositing full fees, he may be allowed till the closing of admission. Refund of fees will be as per college policy.

Transfer on Reciprocal Basis

There is no provision for transfer of students admitted in this college.

Migration

If any student desires to migrate from GCT, Hyderabad to any other GCT, he has to pay migration processing fee of amounting to Rs.20,000/= to the GCT, Hyderabad and amount equal to fee of self-financing scheme to the desired College. Migration is not allowed in first & final year of the studies.

Evaluate and improve / readmission Criteria

The admission criterion is evaluated every year by the STEVTA authority and the recommendation are sent to the MUET authorities for approval.

Standard 5.2:

Student's registration:

After the selection of each student is provisionally offered admission and later on completion of due process the students are required get them registered with MUET registration office. A prescribed form is filled by every student which is forwarded to the University accompanying the requisite documents. After scrutiny the University formally registers the students for studies in the programme.

Monitoring the Academic Progress:

The Chairman, In Charge of the section, Principal, Inspector Colleges and other University officers monitor and review the performance of teachers and observe the pace of the course and ensure its conformity with teaching plan.

The subject teachers are required to submit the class attendance sheets of the students along with topic covered in the class to the In Charge MIS Cell of the college. Also the attendance is observed by the University Officials from time to time.

Review Non-conformity:

The Chairman of the department and the In Charge of the section reviews the non-conformity and reports to the Principal of the college, who initiates necessary measures and takes appropriate decision.

Verification of the corrective actions taken on Non-Conformity:

As per decisions of Principal, the Chairman or In Charge takes the corrective measures against the non-conformity and reviews in the next departmental meeting.

Evaluation of registration and monitoring process:

The registration is reviewed by the Registrar, Admission Committee, Director (Admissions) MUET.

Standard 5.3:

The process of recruiting and retaining highly qualified faculty members must be in place and clearly documented. Also processes and procedures for faculty evaluation, promotion must be consistent with institution mission statement. These processes must be periodically evaluated to ensure that it is meeting with its objectives.

Faculty appointment:

Appointment of Faculty is domain of the Government of Sindh/ Sindh TEVTA through Sindh Public Service Commission or competent recruitment committees. However, visiting faculty is engaged by the Principal after following due procedure.

Faculty evaluation:

Evaluation of faculty is made according to Sindh Civil Servants' Rules /Sindh TEVTA Rules by the In Charge/Principal through Annual Confidential Reports.

Teacher evaluation through customer feedback System:

The system will be put in place soon.

Training Awareness and Competency:

Limited training opportunities are provided to the faculty to be acquainted with latest technological and teaching trends by the College/Sindh TEVTA authorities.

Methods used to retain excellent faculty members:

The posting of faculty is made by STEVTA authorities and college authorities are not involved in the process.

Indicate how evaluation and promotion process are in line with institution mission statement:

The promotions are made as Sindh Govt./STEVTA policy.

Standard 5-4:

The process and procedures used to ensure that teaching and delivery of course material to the students emphasizes active learning and that course learning outcomes are met. The process must be periodically evaluated to ensure that it is meeting its objectives.

To achieve excellence in teaching and learning regular monitoring and evaluation is made. Modern teaching methods and use of latest tools like Audio Visual facilities, Computer animations, industrial and field visits are in vogue for providing excellent learning approaches to the students.

Standard 5-5:

The process that ensures that graduates have completed the requirements of the program must be based on standards, effective and clearly documented procedures. This process must be periodically evaluated to ensure that it is meeting its objectives.

The evaluation system will in place very soon.

CRITERION 6: FACULTY

Standard 6.1:

There must be enough full time faculty who are committed to the program to provide adequate coverage of the program areas/courses with continuity and stability. The interests and qualifications of all faculty members must be sufficient to teach all courses, plan, modify and update courses and curricula. All faculty members must have a level of competence that would normally be obtained through graduate work in the discipline. The majority of the faculty must hold a Ph.D. in the discipline.

Program areas and number of faculty in each area

Program area of Specialization	Courses in the area and average number of sections per year	Numbers of faculty members in each area	Number os faculty with PhD degree.
Area.1. Humanities	1. Applied Mathematics 2. Communication skills. 3. Occupational health & safety. 4. Engineering Economics. 5. Project management.	04	N/A
Area.2. Basic Computer & Science	1. Computer applications. 2. Computer aided building modeling & Design	01	N/A
Area.3. Material & testing.	1. Material & Methods of construction 2. Mechanics of materials. 3. Material testing, repair & Maintenance	02	N/A
Area. 4. Geotechnical Engineering.	1. Engineering Geology 2. Introduction to earthquake Engg. 3. Soil Mechanics 4. Geotechnical Engineering 5. Foundation Engineering	03	N/A
Area.5. Transportation Engineering	1. Highway & Transportation Engineering 2. Pavement Design & Maintenance	01	N/A
Area.6. Water resources and Environmental Engineering	1. Hydrology 2. Water supply and wastewater management. 3. Fluid Mechanics 4. Irrigation and hydraulic structures 5. Environmental management.	03	N/A
Area.7. Structures	1. Civil engineering drawing 2. Reinforce concrete structures 3. Steel structures 4. Theory of structures	02	N/A

Standard 6-2:

All faculty members must remain current in the discipline and sufficient time must be provided for scholarly activities and professional development. Also, effective programs for faculty development must be in place.

Periodical training of the faculty are carried out by STEVTA, GIZs, NAVTTC and other organizations.

Standard 6-3:

All faculty members should be motivated and have job satisfaction to excel in their profession.

Faculty Survey

The system will be put in place soon.

CRITERION 7: INSTITUTIONAL FACILITIES

Standard 7-1:

The institution must have the infrastructure to support new trends in learning such as e-learning.

All facilities will be established gradually subject to available of resources.

Standard 7-2:

The library must possess an up-to-date technical collection relevant to the program and must be adequately staffed with professional personnel.

Main Library: Contains 16803 no of Civil Technology Books.

Seminar Library: Seminar library will be established very soon.

Standard 7-3:

Class-rooms must be adequately equipped and offices must be adequate to enable faculty to carry out their responsibilities.

The adequate classrooms equipped with multimedia etc.

Adequacy of the classrooms

Four class rooms are provided with one classroom containing multimedia.

CRITERION 8: INSTITUTIONAL SUPPORT

Standard 8-1:

There must be sufficient support and financial resources to attract and retain high quality faculty and provide the means for them to maintain competence as teachers and scholars.

Faculty is paid as per Govt. Policy.

Standard 8-2:

There must be an adequate number of high quality graduate students, research assistants and Ph.D. students.

No batch of students has passed the final year at yet.

Standard 8-3:

Financial resources must be provided to acquire and maintain Library holdings, laboratories and computing facilities.

Promotion of education, research and extension

Adequate funds are available and utilized to increase the books in library, upgrade and enhance laboratory equipment and computer facilities.



GOVERNMENT COLLEGE OF TECHNOLOGY HYDERABAD
(Affiliated with MUET Jamshoro)

SELF ASSESSMENT REPORT

B.Tech (**MECHANICAL TECHNOLOGY**) FOUR YEAR PROGRAMME

DEPARTMENT OF MECHANICAL TECHNOLOGY

YEAR 2019 – 20



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TITLE OF REPORT:

SELF ASSESSMENT REPORT OF B.TECH (MECHANICAL TECH.) PROGRAM

CHAIRMAN, DEPARTMENT OF MECHANICAL TECHNOLOGY:

Engr. Abdullah Laghari

PROGRAM TEAM (PT) DEPARTMENT OF MECHANICAL TECHNOLOGY:

1. Engr. Abdullah Laghari
2. Engr. Mirza Irshad Ali Baig
3. Engr. Roshan Ali Gadahi

SUPPORT PROVIDED BY:

1. Prof. Sikander Ali Ghunio, Professor/Director QEC GCT Hyderabad.
2. Engr. Syed Hamid Hussain Shah, Lecturer, GCT, Hyd.

DATE OF FINALIZATION OF REPORT:

Dec.30,2020

CRITERION 1: PROGRAM MISSION, OBJECTIVES, AND OUTCOMES

Department Vision:

To produce highly qualified person which can understand complicated designs and to implement and create them to physical positions on the ground.

Department Mission:

To inculcate knowledge based Mechanical Technology education and training among the graduates to empower them with necessary skills and values required for higher education, research and industry for their acceptance at global level.

Program Mission

To produce experienced and knowledgeable technologists which can understand the information given to them in design and layout of any project or industry and construct it as per design and to achieve the sustainable socio-economic development through enterprises.

Standard 1 – 1:

The program must have documented measurable objectives that support Faculty / College and institution mission statements.

Program Objectives:

- i. Acquiring fundamental knowledge of core Mechanical technology disciplines and their applications in Construction Industry, Operations of various Organizations, Departments and Society.
- ii. Implementing role as Mechanical technologist in the sustainable development of society at the regional, national and global levels.
- iii. To have a thorough grip on best practices of Mechanical technology to bridge the gap between Industry and academia.

Strategic plan to achieve program mission and objectives:

The Mechanical Technology Department endeavors to realize its vision and accomplish the mission by adherence to the process map of academic activity and strive to make continuous improvement by systematic assessment and feedback system and following the guidelines of the affiliating university and other stakeholders.

Academic Activity Process:

- The activity starts with the preparation of academic calendar by the In-Charge of the Section and presented to the MUET authorities for approval.
- Once the approval is granted, faculty is allocated respective courses.
- The weekly timetable of theory and practical classes is prepared in accordance with the academic calendar.
- The teaching process continues for 32 – 36 weeks of class teaching, home assignments, quizzes, practical jobs, class tests, and field/industrial visits etc.

- On completion of academic session, students are allowed for two weeks for preparation to take annual Examination.
- Simultaneously, university authorities are provided with the attendance of students and persuaded for conduct of Annual Examination and hence schedule of filling up examination forms and conduct is announced by the university.
- The eligible students fill up the examination forms and take the examination as announced by the university.

Measurement of objectives:

Objectives	How measured	When measured	Improvement Identified	Improvement made
Acquiring fundamental knowledge of core Mechanical technology disciplines and their applications in Construction Industry, Operations of various Organizations, Departments, and Society.	To be processed after passing out of first batch (2015) of programme through prescribed survey forms	As soon as first batch passes out (Expected during 2021)	To be processed later	To be made according to findings
Implementing role as Mechanical technologist in the sustainable development of society at the regional, national, and global levels.				
To have a thorough grip on best practices of Mechanical technology, ethics, managerial and leadership skills and understanding to bridge the gap between Industry and academia.				

Standard 1-2:

The program must have documented outcomes for graduating students. It must be demonstrated that the outcomes support the program objectives and that graduating students are capable of performing these outcomes.

Program Outcomes:

- i. Apply knowledge of mathematics, science and engineering technology to have scientific and experiment hands on exposure.
- ii. Use the technological skills and modern tools necessary for the solution of everyday problems.
- iii. Understand the impact of technological solutions in society to empower community to overcome the technological hurdles and practice professional, ethical and moral responsibilities at workplace.

Relationship between program objectives and program outcomes:

Objective	Outcome
Acquiring fundamental knowledge of core Mechanical technology disciplines and their applications in Construction Industry, Operations of various Organizations, Departments, and Society.	Apply knowledge of mathematics, science and engineering technology to have scientific and experiment hands on exposure.
Implementing role as Mechanical technologist in the sustainable development of society at the regional, national, and global levels.	Use the technological skills and modern tools necessary for the solution of everyday problems.
To have a thorough grip on best practices of Mechanical technology, ethics, managerial and leadership skills and understanding to bridge the gap between Industry and academia.	Understand the impact of technological solutions in society to empower community to overcome the technological hurdles and practice professional, ethical and moral responsibilities at workplace

Programme Objectives	Programme Outcomes		
	1	2	3
1. Acquiring fundamental knowledge of core Mechanical technology disciplines and their applications in Construction Industry, Operations of various Organizations, Departments, and Society.	⊙	•	•
2. Implementing role as Mechanical technologist in the sustainable development of society at the regional, national, and global levels.	•	⊙	•
3. To have a thorough grip on best practices of Mechanical technology, ethics, managerial and leadership skills and understanding to bridge the gap between Industry and academia.	•	•	⊙

⊙ Substantial Contribution • No Contribution

Standard 1-3:

The results of program's assessment and the extent to which they are used to improve the program must be documented.

As this is first ever assessment exercise carried out and no batch has passed out yet so many of the assessment criteria can't be assessed, only the criteria related to during studies processes and activities have been assessed. However a complete assessment in conformity with prescribed format will be carried out at the appropriate time.

Standard 1-4:

The department must assess its overall performance periodically using quantifiable measures.

Present student's status of Mechanical technology enrolment during the last three years:

Batch	Merit	Self-Finance	Girl Students	Total Students
2015	39	14	-----	53
2016	20	----	1	21
2017	53	----	1	54
Total	112	14	2	128

List of faculty members pursuing Ph.D within Country:

Nil

List of faculty members pursuing Ph.D abroad Country:

Nil

STUDENTS TEACHERS:

No of Students: 128
Dedicated Faculty: 09
Sharing Faculty: 08
Total Faculty 17
Student – Faculty Ratio: 5.55:1

Average time for completing the undergraduate program:

The average time for completing B.Tech (Mechanical) Four Year programme is four years by following the academic calendar.

Percentage of employers that are strongly satisfied with the performance of the department's graduate:

The assessment will be made in due course of time after passing out of first batch of the programme.

Median/average student's evaluation for all courses

(Due to Covid 19, college were closed, survey reports was not performed)

Alumni Survey

Nil

Graduate Student Survey

Nil

Faculty awarded best teacher award

Nil

Present performance measures for research activities

Nil

National conferences / Seminars / Workshops Attended

Nil

International conferences / Seminars / Workshops Attended

Nil

Performance measures for community services

Nil

CRITERION 2: CURRICULUM DESIGN AND ORGANIZATION**Title of degree program**

Bachelor of Technology (Mechanical Technology) Four Year Programme

Definition of credit hour

One theory class per week for one year equals to two credit hours.

Three practical classes per week for one year equals to two credit hours.

Degree plan: Attach a flow chart showing the prerequisites, core, and electives courses:

The programme is offered in accordance with the scheme of studies (2010 version) and the syllabus designed by NCRC under the auspices of Higher Education Commission of Pakistan. The scheme of studies is structured and has been implemented with the approval of MUET authorities. .

Table 4.3: Showing curriculum break down in terms of mathematics and Basic Sciences, major requirements, social sciences and other requirements for Mechanical technology.

Year	Course Number	Category (Credit hours)				
		Core courses	Math/ Basic sciences	Art & Humanities	Social Sciences	Technical electives
		T+P	T+P	T+P	T+P	T+P
1 st	10	6(18+10)	2(6+2)	2(6+0)	0(0+0)	0(0+0)
2 nd	9	7(24+12)	1(4+0)	1(2+0)	0(0+0)	0(0+0)
3 rd	9	9(32+10)	0(0+0)	0(0+0)	0(0+0)	0(0+0)
4 th	4	4(08+04)	0(0+0)	0(0+0)	0(0+0)	0(0+0)
Total	32	26(82+36)	3(10+2)	3(8+0)	0(0+0)	0(0+0)
Minimum requirements	No minimum requirement is documented.					

**SCHEME OF STUDIES B.TECH 4-YEAR PROGRAM
DEPARTMENT OF MECHANICAL TECHNOLOGY**

1ST YEAR											
S. No.	COURSE CODE	COURSE NAME	CONTACT HRS			CREDIT HRS			MARKS		
			TH	PR	TL	TH	PR	TL	TH	PR	TL
1	MH 111	Islamiat	1	0	1	2	0	2	50	0	50
2	MS 122	Applied Mathematics-I	2	0	2	4	0	4	100	0	100
3	MT 132	Computer Application-I	1	3	4	2	2	4	50	50	100
4	MS 142	Communication Skills	2	0	2	4	0	4	100	0	100
5	MT 152	Geometrical Drawing	1	3	4	2	2	4	50	50	100
6	MT 162	Material Handling	2	0	2	4	0	4	100	0	100
7	MT 173	Heat Engines	2	3	5	4	2	6	100	50	150
8	MT 183	Mechanics of Materials	2	3	5	4	2	6	100	50	150
9	MT 193	Basic Electronics	2	3	5	4	2	6	100	50	150
10	MT 1101	Workshop Practice	0	3	3	0	2	2	0	50	50
Total Contact Hrs/Credit Hrs/Marks			15	18	33	30	12	42	750	300	1050

2ND YEAR

S. No.	COURSE CODE	COURSE NAME	CONTACT HRS			CREDIT HRS			MARKS		
			TH	PR	TL	TH	PR	TL	TH	PR	TL
1	MH 211	Pakistan Studies	1	0	1	2	0	2	50	0	50
2	MS 222	Applied Mathematics-II	2	0	2	4	0	4	100	0	100
3	MT 232	Electrical Technology	2	3	5	4	2	6	100	50	150
4	MT 242	Material Science	2	0	2	4	0	4	100	0	100
5	MT 253	Fluid Mechanics	2	3	5	4	2	6	100	50	150
6	MT 263	Applied Thermodynamics	2	3	5	4	2	6	100	50	150
7	MT 273	Manufacturing Processes	2	3	5	4	2	6	100	50	150
8	MT 282	Metrology & Gauging	1	3	4	2	2	4	50	50	100
9	MT 292	Computer Aided Drafting (CAD)-I	1	3	4	2	2	4	50	50	100
Total Contact Hrs/Credit Hrs/Marks			15	18	33	30	12	42	750	300	1050

3RD YEAR											
S. No.	COURSE CODE	COURSE NAME	CONTACT HRS			CREDIT HRS			MARKS		
			TH	PR	TL	TH	PR	TL	TH	PR	TL
1	MT 313	Refrigeration & Air Conditioning	2	3	5	4	2	6	100	50	150
2	MT 323	Machine Design	2	3	5	4	2	6	100	50	150
3	MT 331	Plant Maintenance	1	0	1	2	0	2	50	0	50
4	MT 342	Production Planning & Control	2	0	2	4	0	4	100	0	100
5	MT 352	Instrumentation & Control	1	3	4	2	2	4	50	50	100
6	MT 363	Production Automation	2	3	5	4	2	6	100	50	150
7	MT 373	Mechanical Vibration	2	3	5	4	2	6	100	50	150
8	MT 382	Energy & Environmental Technology	2	0	2	4	0	4	100	0	100
9	MH 392	Occupational Health & Safety	2	0	2	4	0	4	100	0	100
Total Contact Hrs/Credit Hrs/Marks			16	15	31	32	10	42	800	250	1050

4TH YEAR											
S. No.	COURSE CODE	COURSE NAME	CONTACT HRS			CREDIT HRS			MARKS		
			TH	PR	TL	TH	PR	TL	TH	PR	TL
1	MT 412	Total Quality Management	2	0	2	4	0	4	100	0	100
2	MT 422	Industrial Management	2	0	2	4	0	4	100	0	100
3	MT 432	Thesis & Project	0	6	6	0	4	4	0	100	100
4	MT 44X	Internship	0	36	36	0	0	0	0	600	600
Total Contact Hrs/Credit Hrs/Marks			4	42	46	8	4	12	200	700	900
Total of 4-Years			50	93	143	100	38	138	2500	1550	4050

DETAIL OF COURSES

Standard 2.1:

The curriculum must be consistent and supports the program's documented objectives.

S.#	GROUPS OF COURSES	OBJECTIVES
1.	Humanities	After completion of these courses students will be well versant in oral and written communication, will have essential religious, historical knowledge and would be apt enough to fulfill social responsibilities.
2.	Basic and computer science	After successful completion of these courses the students would be able to use mathematics, computer and information technology to solve technical problems, and use modern software for completion and solution of various technical issues.
3.	Materials engineering and Science	After completion of the courses in this area, the students should be able to select and use different materials used in construction works efficiently, purposefully and economically.
4.	Design engineering	After completion of this courses in this area, the students should be able to design various machine components with the help of state of arts design software's.
5.	Thermo Fluids science and Environmental Tech.	After completion of courses in this area, the students should be able to understand various thermo fluid systems along with environmental issues in order to treat world engineering problems to improve their performance.
6.	Industrial engineering management science	After completion of this course the students should be able to understand & apply management functions for optional production of various industries.
7.	Electromechanical system	After completion of this course the students should be able to develop synergistic integration of mechanical, electrical & electronic systems with intelligent computer control to introduce automation in production technologies.

Standard 2.2:

Theoretical background, problems analysis and solution design must be stressed within the program's core material.

Elements	Course
Theoretical background	30%
Problem analysis	30%
Operation & maintenance	40%

Table 4.5: Standard 2-2 requirement

Standard 2.3:

The curriculum must satisfy the core requirements for the program, as specified by the respective accreditation body.

The curriculum designed by HEC has been implemented and contains and satisfy all core requirement of the programme.

Standard 2.4:

The curriculum must satisfy the major requirements the as specified by the HEC, the respective accreditation body/ council.

Since the curriculum has already been designed by HEC, hence fulfills all major requirement.

Standard 2.5:

The curriculum must satisfy the general education, arts and professional and other discipline requirements for the program, as specified by the respective accreditation body/ council. Examples of such requirements are given in Table A.I, Appendix A.

Address standards 2-3, 2-4, and 2-5 using information provided in Table 4-4.

Minimum requirement for program:

Program	Technology	Non-Technical
B.Tech. (Mechanical)	Min: 70%	Max: 30%

The curriculum is satisfying the core/general requirements of the program, as specified by the NTC/HEC. No any deviation noted.

Standard 2.6:

Information technology component of the curriculum must be integrated throughout the program.

- Computer Aided Drafting (CAD) is taught in 2nd year,
- With the help of various software's and E-Book information.

Standard 2.7:

Oral and written communication skills of the student must be developed and applied in the program.

Oral and written communication skills are taught in the course of Communication Skills to the students.

CRITERION 3: LABORATORIES AND COMPUTER FACILITY:

Laboratory Title:

- a. Machine Lab/Shop
- b. Welding Shop
- c. Hydraulic & Material Testing Lab
- d. Drawing Lab/hall
- e. Auto & Diesel Shop
- f. Refrigeration and Air Conditioning Lab
- g. Computer lab (Sheared Lab)

- h. Auto CAD Lab (Sheared Lab)
- i. Physics Lab (Sheared Lab)
- j. Chemistry Lab (Sheared Lab)
- k. Electronics Lab (Sheared Lab)
- l. Electrical Lab (Sheared Lab)

Establishment of new labs in progress.

To be decided later

Location and Area

Department of Mechanical Technology (In the college premises)

Objectives

To provide practical hands-on practical training for various subjects related to the prescribed courses.

Adequacy for instructions

Practical Workbooks are developed and are available at point of use.

Courses taught

As per approved curriculum.

Software Available if applicable

AutoCAD

Major Equipment:

List of Equipment (Machine Shop)	
Sr. No.	Name of equipment/workstation
1.	Lathe Machine (Nishamori)
2.	Lathe Machine Beco CL-160
3.	Lathe Machine Beco BL-115
4.	Lathe Machine Boxford
5.	Lathe Machine Matra.
6.	Lathe Machine Takahashieki
7.	Peco Heavy Drill UD-50
8.	Drill Machine PD-20
9.	Pedestal Grinder
10.	Power Hacksaw HS 160
11.	Milling Machine Richmond
12.	Milling Machine Takahashiki
13.	Milling Machine Ellite
14.	Vertical Milling Machine
15.	Bridge port milling Machine
16.	Surface Grinder.
17.	Hydraulic Surface Grinder
18.	Planner Machine Kaneko
19.	Radial Drill machine
20.	Shaper Beco SH-460

List of Equipment (Testing Lab)

S.No	Name of equipment/workstation
1	Brinell Hardness testing machine

List of Equipment (Welding Shop)

Sr. No.	Name of equipment/workstation
1.	Sheet Cutter machine.
2.	Sheet bending machine.
3.	Rolling machine.
4.	Hydraulic bending machine
5.	Black & Dackewr 10" Grinder.
6.	Bar Bender.
7.	Grinder Solid
8.	Pipe circle Bending machine
9.	Power Hacksaw machine
10.	Hand Folding machine
11.	Power Shearing machine
12.	Universal 3 in 1 Sheet metal forming machine
13.	Electric Slip Rolling Machine
2	CNC Machine with computer.
3	Hydraulic bench with accessories
4	Four stroke diesel cycle model

List of Equipment (Refrigeration & Air-conditioning Lab)

1	Thermodynamic air compressor
2	Refrigeration cycle trainer.

List of Equipment (Auto & Diesel Shop)

1	EFI engine
2	Air Condition Toyota Corolla
3	Anti-lock Brake system
4	Four cylinder Petrol Engine Toyota (Simulator)
5	Four cylinder diesel engine 1500 cc (IC) {Simulator}
6	Manual Transmission with clutch (MP 6220)

List of Equipment (Auto CAD Lab)

1	PCs (Core 2 Duo)
2	LED, 50"
3	Plotter (hp-design jet 500 pcs)
4	Printer (HB Laser Jet)

List of Equipment (Electronics Lab)

- 1 Communication training Kit
- 2 Digital Oscilloscope
- 3 Function Generator
- 4 DC Power supply
- 5 PLC Trainer
- 6 Microprocessor (8085) training kit

List of Equipment (Electrical Workshop)

- 1 Equipment/Tools for wiring

List of Equipment (Drawing Hall)

- 1 Drawing Board
- 2 T-squares

CRITERION 4: STUDENT SUPPORT AND ADVISING

Support facilities for students and other components:

Residential Accommodation:

There is a facility of hostel for the student having 70 rooms capacity, but presently occupied by law and forcemeat agency.

Medical Assistance:

A dispensary is available for the students which is manned by a qualified dispenser. Adequate quantity of essential medicine are also available for the emergency mishap. Meanwhile services hospital is adjacent to the college.

Transport Facility:

College has one bus (60 Seats) and one coaster (26 Seats) for commuting students and staff and ply on various locations of the city area.

Sports facility:

The college has sports complex which consist the facilities of indoor sports and gymnasium. Also an open playground is available for cricket and football etc.

Standard 4.1:

Courses must be offered with sufficient frequency and number for students to complete the programme in the timely manner:

The department offers programme in the light of requirements of Higher Education Commission (HEC) and completed in due course of time by following yearly academic calendar.

Courses offered:

All courses offered for B.Tech Four Year Degree programme are compulsory. No any choice is given to students to elect any course of his choice.

Standard 4.2:

Courses in the major area of the study must be structured to ensure effective interaction between students, faculty, and teaching students:

Close coordination is observed between students and faculty during the courses through ensuring regular attendance of students, by providing guidance through class advisers. Also, teaching plan is provided to students prior to start of session and various assignments and tasks are given to students during academic year. The delivery of course material is given to the students through respective class representatives.

Standard 4.3:

Guidance on how to complete the programme must be available to all students and access to academic advising must be available to make course decision and career choices.

Information about program requirements:

Students are informed about the programme requirements through newspapers, FM radio and notice board.

Advising system:

Students advisers provide the students essential information and advice pertaining to academic affairs, rules and regulations, pursue the studies and guidelines regarding their stay at college.

Professional counseling and interaction with practitioners:

The curriculum of Final year contains essential 32 – 36 weeks industrial training. The students are placed in various industries by the Industrial Coordinator to seek hands on training and experience in the field of their choice.

CRITERION 5: PROCESS CONTROL

The process by which students are admitted to the program must be based on quantitative and qualitative criteria and clearly documented. This process must be periodically evaluated to ensure that it is meeting its objectives.

Standard 5.1:**Criteria for admission:**

Admissions to the first year for the degree program is made according to the policies and rules framed by the STEVTA from time to time. Number of seats are fixed under different categories covering all the divisions of Sindh.

Admission Process:

Notice for admission in first year is published in daily newspapers for inviting applications. The schedule of issue and submission of application form is given in the advertisement.

Submission of Admission Forms:

The candidates are required to submit application form completed in all respect along with required documents in admission branch of the college. After the scrutiny all the eligible candidate are sent admission slips for entry to the pre-admission test.

Pre-admission Test:

All the eligible candidate are required to appear in the pre-admission test organized by the MUET. Candidates having secured less than 30% marks in the pre-admission test shall not be eligible for admission.

Eligibility:

The eligible candidates should have:

- i. Secure at least 50% marks in the HSSC (Pre-Engg.) /DAE Examination for all technologies and intermediate (P.E).
- ii. Appeared in pre-admission test and obtained at least 30% marks.
- iii. Produced domicile and PRC (form-C) of Sindh province.
- iv. Candidate must fulfil age bracket, approved by the competent authority.

Interviews:

Selected candidates will have to appear for interview before the Admission Committee for verification of documents.

Allocation of seats:

Category wise distribution of seats (For each of Civil, Electrical and Mechanical technology) for Boys and Girls.

S.#	CATEGORY/ Region	% of Total Seats	DAE		H.S.C (P.Engg:)		No. of seats
			(%)	No. of seats	(%)	No. of seats	
01	Open Merit (Hyderabad &Mirpurkhas Divisions)	60% i.e. 48 Seats	80%	39	20%	09	48
02	All Sindh Basis (Larkana, Sukkur & Karachi Divisions).	20% i.e. 16 Seats	80%	13	20%	03	16
03	Reserved Seats						
03 (a)	Member of Teaching staff of STEVA.						
03 (b)	Real Sons/ Daughters of STEVA Employees.						
03 (c)	Extra-Curricular Activities/ Disabled	20% i.e. 16 Seats	80%	13	20%	03	16
03 (d)	Children of armed personnel/defense						
03 (e)	Other Provinces on Reciprocal basis						
03 (f)	Transgender (She- male)						
	Total	100% i.e. 80 Seats		65		15	80

Note: 50 seats are available under Self Help Basis Program in evening shift for each Technology.

Note:

- I. In case of non-availability of eligible candidates in the category of DAE the remaining vacant seats could be merged in HSC& vice-versa.
- II. Vacant Seats in any Category will be filled on Open Merit
- III. For Admission to Self Help Basis Evening Program, first preference will be given to those candidates who initially opt for and then to the candidates from Hyderabad and Mirpurkhas Divisions.

S #	Percentage of Marks obtained in	Multiplying Weight age
A	Matriculation (SSC or TSC)	0.10
B	Higher Secondary School Certificate (Pre-Engg / General Science) OR Diploma of Associate Engineer (DAE) in relevant technology.	0.40
C	Pre-Admission Test	0.50

Policy Regarding Program/credit transfer

- i) The admission for session will be closed at the end of **FOURTH** week from the date of Commencement of classes. After this period the seats fallen vacant will not be filled up at any stage.
- ii) If any student wants to withdraw his admission after depositing full fees, he may be allowed till the closing of admission. Refund of fees will be as per college policy.

Transfer on Reciprocal Basis

There is no provision for transfer of students admitted in this college.

Migration

If any student desires to migrate from GCT, Hyderabad to any other GCT, he has to pay migration processing fee of amounting to Rs.20,000/= to the GCT, Hyderabad and amount equal to fee of self-financing scheme to the desired College. Migration is not allowed in first & final year of the studies.

Evaluate and improve / readmission Criteria

The admission criterion is evaluated every year by the STEVTA authority and the recommendation are sent to the MUET authorities for approval.

Standard 5.2:**Student's registration:**

After the selection of each student is provisionally offered admission and later on completion of due process the students are required get them registered with MUET registration office. A prescribed form is filled by every student which is forwarded to the University accompanying the requisite documents. After scrutiny the University formally registers the students for studies in the programme.

Monitoring the Academic Progress:

The Chairman, In Charge of the section, Principal, Inspector Colleges and other University officers monitor and review the performance of teachers and observe the pace of the course and ensure its conformity with teaching plan.

The subject teachers are required to submit the class attendance sheets of the students along with topic covered in the class to the In Charge MIS Cell of the college. Also the attendance is observed by the University Officials from time to time.

Review Non-conformity:

The Chairman of the department and the In Charge of the section reviews the non-conformity and reports to the Principal of the college, who initiates necessary measures and takes appropriate decision.

Verification of the corrective actions taken on Non-Conformity:

As per decisions of Principal, the Chairman or In Charge takes the corrective measures against the non-conformity and reviews in the next departmental meeting.

Evaluation of registration and monitoring process:

The registration is reviewed by the Registrar, Admission Committee, Director (Admissions) MUET.

Standard 5.3:

The process of recruiting and retaining highly qualified faculty members must be in place and clearly documented. Also processes and procedures for faculty evaluation, promotion must be consistent with institution mission statement. These processes must be periodically evaluated to ensure that it is meeting with its objectives.

Faculty appointment:

Appointment of Faculty is domain of the Government of Sindh/ Sindh TEVTA through Sindh Public Service Commission or competent recruitment committees. However, visiting faculty is engaged by the Principal after following due procedure.

Faculty evaluation:

Evaluation of faculty is made according to Sindh Civil Servants' Rules /Sindh TEVTA Rules by the In Charge/Principal through Annual Confidential Reports.

Teacher evaluation through customer feedback System:

The system will be put in place soon.

Training Awareness and Competency:

Limited training opportunities are provided to the faculty to be acquainted with latest technological and teaching trends by the College/Sindh TEVTA authorities.

Methods used to retain excellent faculty members:

The posting of faculty is made by STEVTA authorities and college authorities are not involved in the process.

Indicate how evaluation and promotion process are in line with institution mission statement:

The promotions are made as Sindh Govt./STEVTA policy.

Standard 5-4:

The process and procedures used to ensure that teaching and delivery of course material to the students emphasizes active learning and that course learning outcomes are met. The process must be periodically evaluated to ensure that it is meeting its objectives.

To achieve excellence in teaching and learning regular monitoring and evaluation is made. Modern teaching methods and use of latest tools like Audio Visual facilities, Computer animations, industrial and field visits are in vogue for providing excellent learning approaches to the students.

Standard 5-5:

The process that ensures that graduates have completed the requirements of the program must be based on standards, effective and clearly documented procedures. This process must be periodically evaluated to ensure that it is meeting its objectives.

The evaluation system will in place very soon.

CRITERION 6: FACULTY

Standard 6.1:

There must be enough full time faculty who are committed to the program to provide adequate coverage of the program areas/courses with continuity and stability. The interests and qualifications of all faculty members must be sufficient to teach all courses, plan, modify and update courses and curricula. All faculty members must have a level of competence that would normally be obtained through graduate work in the discipline. The majority of the faculty must hold a Ph.D. in the discipline.

Program areas and number of faculty in each area

Program area of Specialization	Courses in the area and average number of sections per year	Numbers of faculty members in each area	Number os faculty with PhD degree.
Area.1. Humanities	1. Communication Skills. 2. Islamiat 3. Pakistan Studies.	04	N/A
Area.2. Basic Computer & Science	1. Applied Mathematics 2. Computer Applications. 3.Computer Aided Drafting (CAD) 4.Occupational Health & Safety.	01	N/A
Area.3. Material &Science.	1. Materials Science 2. Material Handling 3. Mechanics of Materials	01	N/A
Area. 4. Manufacturing & Production Engineering	1. Workshop Practice 2. Manufacturing Processes 3. Production Planning & Control 4. Metrology & Gauging	02	N/A
Area.5. Design Engineering	1. Geometrical Drawing. 2. Machine Design 3. Mechanical Vibration	01	N/A
Area.6. Thermal Fluid Science and Energy & Environment al Tech.	1. Applied Thermodynamics 2. Fluid Mechanics. 3. Refrigeration &Air Conditioning 4. Heat Engines 5. Energy & Environmental Technology	03	N/A
Area.7. Industrial Engineering Management Science	1. Industrial Management 2. Plant Maintenance 3. Total Quality Management	02	N/A
Area.8. Electro Mechanical System	1. Basic Electronics 2. Instrumentation & Control 3. Electrical Technology 4. Production Automation	02	N/A

Standard 6-2:

All faculty members must remain current in the discipline and sufficient time must be provided for scholarly activities and professional development. Also, effective programs for faculty development must be in place.

Periodical training of the faculty are carried out by STEVTA, GIZs, NAVTTC and other organizations.

Standard 6-3:

All faculty members should be motivated and have job satisfaction to excel in their profession.

Faculty Survey

The system will be put in place soon.

CRITERION 7: INSTITUTIONAL FACILITIES

Standard 7-1:

The institution must have the infrastructure to support new trends in learning such as e-learning.

All facilities are established very soon

Standard 7-2:

The library must possess an up-to-date technical collection relevant to the program and must be adequately staffed with professional personnel.

Main Library: Contains 5379nos. of Mechanical Technology Books are available.

Seminar Library: Seminar library will be established very soon.

Standard 7-3:

Class-rooms must be adequately equipped and offices must be adequate to enable faculty to carry out their responsibilities.

The adequate classrooms are available equipped with necessary equipment.

Adequacy of the classrooms

Three dedicated class rooms are available.

CRITERION 8: INSTITUTIONAL SUPPORT

Standard 8-1:

There must be sufficient support and financial resources to attract and retain high quality faculty and provide the means for them to maintain competence as teachers and scholars.

Faculty is paid as per Govt. Policy.

Standard 8-2:

There must be an adequate number of high quality graduate students, research assistants and Ph.D. students.

No batch of students has passed the final year at yet.

Standard 8-3:

Financial resources must be provided to acquire and maintain Library holdings, laboratories and computing facilities.

Promotion of education, research and extension

Adequate funds are available and utilized to increase the books in library, upgrade and enhance laboratory equipment and computer facilities.



GOVERNMENT COLLEGE OF TECHNOLOGY HYDERABAD
(Affiliated with MUET Jamshoro)

SELF ASSESSMENT REPORT

B.Tech (ELECTRICAL TECHNOLOGY) FOUR YEAR PROGRAMME

DEPARTMENT OF ELECTRICAL TECHNOLOGY

YEAR 2019 – 20

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TITLE OF REPORT:

SELF ASSESSMENT REPORT OF B.TECH (ELECTRICAL TECH.) PROGRAM

CHAIRMAN, DEPARTMENT OF ELECTRICAL TECHNOLOGY:

Engr. Naeem Ahmed Daudpoto

PROGRAM TEAM (PT) DEPARTMENT OF ELECTRICAL TECHNOLOGY:

- Engr. Naeem Ahmed Daudpoto
- Engr. Lutuf Ali Khaskheli

SUPPORT PROVIDED BY:

- Prof. Sikander Ali Ghunio, Professor/Director QEC GCT Hyderabad.
- Engr. Syed Hamid Hussain Shah, Lecturer, GCT, Hyd.

DATE OF FINALIZATION OF REPORT:

Dec. 30. 2020

CRITERION 1: PROGRAM MISSION, OBJECTIVES, AND OUTCOMES

Department Vision:

To provide quality technical education to prepare globally competent and ethically strong Electrical Technologists with power of innovation to contribute the knowledge for the betterment of society.

Department Mission:

The mission of the Department is to provide high quality and effective education in the field of electrical technology; Materialize the partnership with industry by meeting the ever changing needs of the market for future Technologists; Immunize the students with knowledge and experience in their field of specialization to contribute in the making of professional leaders.

Program Mission

B. Tech program in electrical technology is designed to meet or exceed the requirements of electrical industry. The program aims to train individuals in industrial, power distribution, commercial utilization and allied fields.

Standard I – 1:

The program must have documented measurable objectives that support Faculty / College and institution mission statements.

Program Objectives:

- Apply the concepts of basic sciences as well as technical knowledge and skills to effectively solve real life problems in the broad field of electrical power technology.
- Comprehend, adapt to and contribute to the rapid and continuous changes of technology for the sake of professional promotion, occupational mobility and adherent to leadership in their chosen technical fields.
- To initiate entrepreneurship and contribute in corporate enterprises with technical hands-on experience.

Strategic plan to achieve program mission and objectives:

The Electrical Technology Department endeavors to realize its vision and accomplish the mission by adherence to the process map of academic activity and strive to make continuous improvement by systematic assessment and feedback system and following the guidelines of the affiliating university and other stakeholders.

Academic Activity Process:

- The activity starts with the preparation of academic calendar by the In-Charge of the Section and presented to the MUET authorities for approval.
- Once the approval is granted, faculty is allocated respective courses.

- The weekly timetable of theory and practical classes is prepared in accordance with the academic calendar.
- The teaching process continues for 32 – 36 weeks of class teaching, home assignments, quizzes, practical jobs, class tests, and field/industrial visits etc.
- On completion of academic session, students are allowed for two weeks for preparation to take annual Examination.
- Simultaneously, university authorities are provided with the attendance of students and persuaded for conduct of Annual Examination and hence schedule of filling up examination forms and conduct is announced by the university.
- The eligible students fill up the examination forms and take the examination as announced by the university.

Measurement of objectives:

Objectives	How measured	When measured	Improvement Identified	Improvement made
Acquiring fundamental knowledge of core Electrical technology disciplines and their applications in Construction Industry, Operations of various Organizations, Departments, and Society.	To be processed after passing out of first batch (2015) of programme through prescribed survey forms	As soon as first batch passes out (Expected during 2021)	To be processed later	To be made according to findings
Implementing role as Electrical technologist in the sustainable development of society at the regional, national, and global levels.				
To have a thorough grip on best practices of Electrical technology, ethics, managerial and leadership skills and understanding to bridge the gap between Industry and academia.				

Standard 1-2:

The program must have documented outcomes for graduating students. It must be demonstrated that the outcomes support the program objectives and that graduating students are capable of performing these outcomes.

Program Outcomes:

Program Outcomes:

- Be able to apply the knowledge, skills and practices in building, testing, operation and maintenance of electrical systems, appropriately and innovatively with the capability to utilize modern tools including professional equipment in the field of Electrical Power Engineering Technology.
- Be able to apply written, oral and graphical communication in both technical and non-technical environments; and identify and use of technological standards, datasheets and manuals appropriately.

Relationship between program objectives and program outcomes:

Objective	Outcome
<ul style="list-style-type: none">• Apply the concepts of basic sciences as well as technical knowledge and skills to effectively solve real life problems in the broad field of electrical power technology.	<ul style="list-style-type: none">• Be able to apply the knowledge, skills and practices in building, testing, operation and maintenance of electrical systems, appropriately and innovatively with the capability to utilize modern tools including professional equipment in the field of Electrical Power Engineering Technology.
<ul style="list-style-type: none">• Comprehend, adapt to and contribute to the rapid and continuous changes of technology for the sake of professional promotion, occupational mobility and adherent to leadership in their chosen technical fields.	<ul style="list-style-type: none">• Be able to apply written, oral and graphical communication in both technical and non-technical environments; and identify and use of technological standards, datasheets and manuals appropriately.
<ul style="list-style-type: none">• To initiate entrepreneurship and contribute in corporate enterprises with technical hands-on experience.	<ul style="list-style-type: none">• Understand the impact of technological solutions in society to empower community to overcome the technological hurdles and practice professional, ethical and moral responsibilities at workplace

Programme Objectives	Programme Outcomes		
	1	2	3
1. Acquiring fundamental knowledge of core Electrical technology disciplines and their applications in Construction Industry, Operations of various Organizations, Departments, and Society.	•	•	•
2. Implementing role as Electrical technologist in the sustainable development of society at the regional, national, and global levels.	•	•	•
3. To have a thorough grip on best practices of Electrical technology, ethics, managerial and leadership skills and understanding to bridge the gap between Industry and academia.	•	•	•

- Substantial Contribution
- No Contribution

Standard 1-3:

The results of program's assessment and the extent to which they are used to improve the program must be documented.

As this is first ever assessment exercise carried out and no batch has passed out yet so many of the assessment criteria can't be assessed, only the criteria related to during studies processes and activities have been assessed. However a complete assessment in conformity with prescribed format will be carried out at the appropriate time.

Standard 1-4:

The department must assess its overall performance periodically using quantifiable measures.

Present student's status of electrical technology enrolment during the last three years:

Batch	Merit	Self-Finance	Girl Students	Total Students
2015	29	22	nil	51
2016	38	11	nil	49
2017	52	05	nil	57
Total	119	38	nil	157

List of faculty members pursuing Ph.D within Country:

Nil

List of faculty members pursuing Ph.D abroad Country:

Nil

STUDENTS TEACHERS:

No of Students:	157
Dedicated Faculty:	09
Sharing Faculty:	05
Total Faculty	14
Student – Faculty Ratio:	17.44 : 1

Average time for completing the undergraduate program:

The average time for completing B.Tech (Electrical) Four Year programme is four years by following the academic calendar.

Percentage of employers that are strongly satisfied with the performance of the department's graduate:

The assessment will be made in due course of time after passing out of first batch of the programme.

Median/average student's evaluation for all courses

(Due to Covid 19, college were closed, survey reports was not performed)

Alumni Survey

Nil

Graduate Student Survey

Nil

Faculty awarded best teacher award

Nil

Present performance measures for research activities

Nil

National conferences / Seminars / Workshops Attended

Nil

International conferences / Seminars / Workshops Attended

Nil

Performance measures for community services

Nil

CRITERION 2: CURRICULUM DESIGN AND ORGANIZATION

Title of degree program

Bachelor of Technology (Electrical Technology) Four Year Programme

Definition of credit hour

One theory class per week for one year equals to two credit hours.

Three practical classes per week for one year equals to two credit hours.

Degree plan: Attach a flow chart showing the prerequisites, core, and electives courses:

The programme is offered in accordance with the scheme of studies (2010 version) and the syllabus designed by NCRC under the auspices of Higher Education Commission of Pakistan. The scheme of studies is structured and has been implemented with the approval of MUET authorities. .

Table 4.3: Showing curriculum break down in terms of mathematics and Basic Sciences, major requirements, social sciences and other requirements for Electrical technology.

Year	Course Number	Category (Credit hours)				
		Core courses	Math/ Basic sciences	Art & Humanities	Social Sciences	Technical electives
		T+P	T+P	T+P	T+P	T+P
1 st	9	5(18+10)	2(6+2)	2(6+0)	0(0+0)	0(0+0)
2 nd	10	7(28+12)	1(4+0)	1(2+0)	0(0+0)	0(0+0)
3 rd	8	8(32+12)	0(0+0)	0(0+0)	0(0+0)	0(0+0)
4 th	4	4(08+04)	0(0+0)	0(0+0)	0(0+0)	0(0+0)
Total	31	24(86+36)	3(10+2)	3(8+0)	0(0+0)	0(0+0)
Minimum requirements	No minimum requirement is documented.					

SCHEME OF STUDIES B.TECH 4-YEAR PROGRAM

1ST YEAR											
S. No.	COURSE CODE	COURSE NAME	CONTACT HRS			CREDIT HRS			MARKS		
			T	PR	TL	TH	PR	TL	TH	PR	TL
1	EH-111	Islamiat	1	0	1	2	0	2	50	0	50
2	ES-122	Applied Mathematics-I	2	0	2	4	0	4	100	0	100
3	ET-132	Computer Applications	1	3	4	2	2	4	50	50	100
4	EH-142	Communication Skills	2	0	2	4	0	4	100	0	100
5	ET-152	Electrical Drawing	1	3	4	2	2	4	50	50	100
6	ET-163	Basic Mechanical Technology	2	3	5	4	2	6	100	50	150
7	ET-173	Basic Electronics	2	3	5	4	2	6	100	50	150
8	ET-183	Network Analysis-I	2	3	5	4	2	6	100	50	150
9	ET-193	Electrical Machines-I	2	3	5	4	2	6	100	50	150
Total Contact Hrs/Credit Hrs/Marks			15	18	33	30	12	42	750	300	1050

2ND YEAR

S. No.	COURSE CODE	COURSE NAME	CONTACT HRS			CREDIT HRS			MARKS		
			T H	PR	TL	TH	PR	TL	TH	PR	TL
1	EH-211	Pakistan Studies	1	0	1	2	0	2	50	0	50
2	ES-222	Applied Mathematics-II	2	0	2	4	0	4	100	0	100
3	ET-232	Data & Computer Communication	1	3	4	2	2	4	50	50	100
4	ET-242	Microprocessor Theory & Interfacing	1	3	4	2	2	4	50	50	100
5	ET-253	Digital Electronics	2	3	5	4	2	6	100	50	150
6	ET-263	Electrical Instrumentation & Measurement	2	3	5	4	2	6	100	50	150
7	ET-273	Network Analysis-II	2	3	5	4	2	6	100	50	150
8	ET-283	Electrical Machines-II	2	3	5	4	2	6	100	50	150
9	ET-292	Electrical Power Generation System	2	0	2	4	0	4	100	0	100
10	ET-2102	Electrical Power Transmission	2	0	2	4	0	4	100	0	100
Total Contact Hrs/Credit Hrs/Marks			17	18	35	34	12	46	850	300	1150

3RD YEAR											
S. No.	COURSE CODE	COURSE NAME	CONTACT HRS			CREDIT HRS			MARKS		
			TH	PR	TL	TH	PR	TL	TH	PR	TL
1	ET-312	Occupational Health & Safety	2	0	2	4	0	4	100	0	100
2	ET-323	Power & Industrial Electronics	2	3	5	4	2	6	100	50	150
3	ET-333	Communication Technology	2	3	5	4	2	6	100	50	150
4	ET-343	Switchgear & Protective Devices	2	3	5	4	2	6	100	50	150
5	ET-352	Power System Analysis	2	0	2	4	0	4	100	0	100
6	ET-363	Electrical Power Distribution & Utilization	2	3	5	4	2	6	100	50	150
7	ET-373	Control Technology	2	3	5	4	2	6	100	50	150
8	ET-383	High Voltage Technology	2	3	5	4	2	6	100	50	150
Total Contact Hrs/Credit Hrs/Marks			16	18	34	32	12	44	800	300	1100

4TH YEAR											
S. No.	COURSE CODE	COURSE NAME	CONTACT HRS			CREDIT HRS			MARKS		
			TH	PR	TL	TH	PR	TL	TH	PR	TL
1	ET-412	Total Quality Management	2	0	2	4	0	4	100	0	100
2	ET-422	Industrial Management	2	0	2	4	0	4	100	0	100
3	ET-432	Thesis & Project	0	6	6	0	4	4	0	100	100
4	ET-44X	Internship	0	36	36				0	600	600
Total Contact Hrs/Credit Hours / Marks			4	42	46	8	4	12	200	700	900
Total of 4-Years			52	96	148	104	40	144	2600	1600	4200

DETAIL OF COURSES

Standard 2.1:

The curriculum must be consistent and supports the program's documented objectives.

S.#	GROUPS OF COURSES	OBJECTIVES
1.	Humanities	After completion of these courses students will be well versant in oral and written communication, will have essential religious, historical knowledge and would be apt enough to fulfill social responsibilities.
2.	Basic Sciences and computer	After successful completion of these courses the students would be able to use mathematics, computer and information technology to solve technical problems, and use modern software for completion and solution of various technical issues.
3.	Generation, transmission systems and distribution.	After completion of the courses in this area, the students should be able to understand, operate and maintain the generation and transmissions systems.
4.	Electronics circuits and systems	After completion of this courses in this area, the students should be able to understand, interface the electronics systems to electrical systems.
5.	Electrical Machines	After completion of the courses in this area, the students should be able to understand, operate and maintain the electrical machines.
6.	Industrial Engineering Management Sciences	After completion of this course the students should be able to understand & apply management functions for optional production of various industries.
7.	Instrumentation and Control Technology	After completion of this course the students should be able to understand, operate and maintain the instrumentation and control system of a plant.

Standard 2.2:

Theoretical background, problems analysis and solution design must be stressed within the program's core material.

Elements	Course
Theoretical background	30%
Problem analysis	30%
Operation and maintenance	40%

Table 4.5: Standard 2-2 requirement

Standard 2.3:

The curriculum must satisfy the core requirements for the program, as specified by the respective accreditation body.

The curriculum designed by HEC has been implemented and contains and satisfy all core requirement of the programme.

Standard 2.4:

The curriculum must satisfy the major requirements the as specified by the HEC, the respective accreditation body/ council.

Since the curriculum has already been designed by HEC, hence fulfills all major requirement.

Standard 2.5:

The curriculum must satisfy the general education, arts and professional and other discipline requirements for the program, as specified by the respective accreditation body/council. Examples of such requirements are given in Table A.I, Appendix A.

Address standards 2-3, 2-4, and 2-5 using information provided in Table 4-4.

Minimum requirement for program:

Program	Technology	Non-Technical
B.Tech. (Electrical)	Min: 70%	Max: 30%

The curriculum is satisfying the core/general requirements of the program, as specified by the NTC/HEC. No any deviation noted.

Standard 2.6:

Information technology component of the curriculum must be integrated throughout the program.

- Electronics workbench (on line)
- With the help of various software's and E-Book information.

Standard 2.7: Oral and written communication skills of the student must be developed and applied in the program.

Oral and written communication skills are taught in the course of Communication Skills to the students.

CRITERION 3: LABORATORIES AND COMPUTER FACILITY:

Laboratory Title:

- Electrical Machine Lab
- Electrical Wiring/ Comprehensive Workshop
- Electronics Lab
- Computing Labs (03) (Shared)

Establishment of new labs in progress.

To be decided later

Location and Area

Department of Electrical Technology (In the college premises)

Objectives

To provide practical hands-on practical training for various subjects related to the prescribed courses.

Adequacy for instructions

Practical Workbooks are developed and are available at point of use.

Courses taught

As per approved curriculum.

Software Available if applicable

NA

Major Equipment:

1. Experiment bench for electrical measurements & machines
2. Set of 21 interchangeable modules for general electrical measurement on electrical
3. DC Generator with separate excitation
4. Three Phase Synchronous Generator rotating indicator
5. Three Phase Squirrel cage Induction Motor
6. Single Phase Asynchronous Motor with running capacitor
7. DC Electrodynamometer brake dynamo
8. Generator shunt field rheostat tipo RC1a-5000 ohm, 500W
9. Motor Shunt field rheostat tipo RC1b-200 ohm, 500 W
10. Motor Shunt field rheostat tipo RC1c-08 ohm, 500 W

11. Three Phase rotor starting rheostat tipo RC-9T
12. Oscilloscope (Goldstar)
13. Bench top Power Supply
14. Table top Vertical frame for experiment modules
15. Set of 21 interchangeable modules for general electrical measurement on electrical
16. Single Phase Transformer
17. Three Phase Transformer
18. EV kit for training along with Module: I-IV
19. Communication training kit
20. Digital Oscilloscope
21. Function Generator
22. Dc power supply
23. PLC trainer
24. Microprocessor (8085) training kit
25. Equipment/Tools for wiring

CRITERION 4: STUDENT SUPPORT AND ADVISING

Support facilities for students and other components:

Residential Accommodation:

There is a facility of hostel for the student having 70 rooms capacity, but presently occupied by law and forcemeat agency.

Medical Assistance:

A dispensary is available for the students which is manned by a qualified dispenser. Adequate quantity of essential medicine are also available for the emergency mishap. Meanwhile services hospital is adjacent to the college.

Transport Facility:

College has one bus (60 Seats) and one coaster (26 Seats) for commuting students and staff and ply on various locations of the city area.

Sports facility:

The college has sports complex which consist the facilities of indoor sports and gymnasium. Also an open playground is available for cricket and football etc.

Standard 4.1:

Courses must be offered with sufficient frequency and number for students to complete the programme in the timely manner:

The department offers programme in the light of requirements of Higher Education Commission (HEC) and completed in due course of time by following yearly academic calendar.

Courses offered:

All courses offered for B.Tech Four Year Degree programme are compulsory. No any choice is given to students to elect any course of his choice.

Standard 4.2:

Courses in the major area of the study must be structured to ensure effective interaction between students, faculty, and teaching students:

Close coordination is observed between students and faculty during the courses through ensuring regular attendance of students, by providing guidance through class advisers. Also, teaching plan is provided to students prior to start of session and various assignments and tasks are given to students during academic year. The delivery of course material is given to the students through respective class representatives.

Standard 4.3:

Guidance on how to complete the programme must be available to all students and access to academic advising must be available to make course decision and career choices.

Information about program requirements:

Students are informed about the programme requirements through newspapers, FM radio and notice board.

Advising system:

Students advisers provide the students essential information and advice pertaining to academic affairs, rules and regulations, pursue the studies and guidelines regarding their stay at college.

Professional counseling and interaction with practitioners:

The curriculum of Final year contains essential 32 – 36 weeks industrial training. The students are placed in various industries by the Industrial Coordinator to seek hands on training and experience in the field of their choice.

CRITERION 5: PROCESS CONTROL

The process by which students are admitted to the program must be based on quantitative and qualitative criteria and clearly documented. This process must be periodically evaluated to ensure that it is meeting its objectives.

Standard 5.1:

Criteria for admission:

Admissions to the first year for the degree program is made according to the policies and rules framed by the STEVTA from time to time. Number of seats are fixed under different categories covering all the divisions of Sindh.

Admission Process:

Notice for admission in first year is published in daily newspapers for inviting applications. The schedule of issue and submission of application form is given in the advertisement.

Submission of Admission Forms:

The candidates are required to submit application form completed in all respect along with required documents in admission branch of the college. After the scrutiny all the eligible candidate are sent admission slips for entry to the pre-admission test.

Pre-admission Test:

All the eligible candidate are required to appear in the pre-admission test organized by the MUET. Candidates having secured less than 30% marks in the pre-admission test shall not be eligible for admission.

Eligibility:

The eligible candidates should have:

- i. Secure at least 50% marks in the HSSC (Pre-Engg.) /DAE Examination for all technologies and intermediate (P.E).
- ii. Appeared in pre-admission test and obtained at least 30% marks.
- iii. Produced domicile and PRC (form-C) of Sindh province.
- iv. Candidate must fulfil age bracket, approved by the competent authority.

Interviews:

Selected candidates will have to appear for interview before the Admission Committee for verification of documents.

Allocation of seats:

Category wise distribution of seats (For each of Civil, Electrical and Electrical technology) for Boys and Girls.

S.#	CATEGORY/ Region	% of Total Seats	DAE		H.S.C (P.Engg:)		No. of seats
			(%)	No. of seats	(%)	No. of seats	
01	Open Merit (Hyderabad &Mirpurkhas Divisions)	60% i.e. 48 Seats	80%	39	20%	09	48
02	All Sindh Basis (Larkana, Sukkur & Karachi Divisions).	20% i.e. 16 Seats	80%	13	20%	03	16
03	Reserved Seats	20% i.e. 16 Seats	80%	13	20%	03	16
03 (a)	Member of Teaching staff of STEVTA.						
03 (b)	Real Sons/ Daughters of STEVTA Employees.						
03 (c)	Extra-Curricular Activities/ Disabled						
03 (d)	Children of armed personnel/defense						
03 (e)	Other Provinces on Reciprocal basis						
03 (f)	Transgender (She- male)						
	Total	100% i.e. 80 Seats		65		15	80

Note: 50 seats are available under Self Help Basis Program in evening shift for each Technology.

Note:

- In case of non-availability of eligible candidates in the category of DAE the remaining vacant seats could be merged in HSC& vice-versa.
- Vacant Seats in any Category will be filled on Open Merit
- For Admission to Self Help Basis Evening Program, first preference will be given to those candidates who initially opt for and then to the candidates from Hyderabad and Mirpurkhas Divisions.

S #	Percentage of Marks obtained in	Multiplying Weight age
A	Matriculation (SSC or TSC)	0.10
B	Higher Secondary School Certificate (Pre-Engg / General Science) OR Diploma of Associate Engineer (DAE) in relevant technology.	0.40
C	Pre-Admission Test	0.50

Policy Regarding Program/credit transfer

- The admission for session will be closed at the end of fourth week from the date of Commencement of classes. After this period the seats fallen vacant will not be filled up at any stage.
- ii) If any student wants to withdraw his admission after depositing full fees, he may be allowed till the closing of admission. Refund of fees will be as per college policy.

Transfer on Reciprocal Basis

There is no provision for transfer of students admitted in this college.

Migration

If any student desires to migrate from GCT, Hyderabad to any other GCT, he has to pay migration processing fee of amounting to Rs.20,000/= to the GCT, Hyderabad and amount equal to fee of self-financing scheme to the desired College. Migration is not allowed in first & final year of the studies.

Evaluate and improve / readmission Criteria

The admission criterion is evaluated every year by the STEVTA authority and the recommendation are sent to the MUET authorities for approval.

Standard 5.2:

Student's registration:

After the selection of each student is provisionally offered admission and later on completion of due process the students are required get them registered with MUET registration office. A prescribed form is filled by every student which is forwarded to the University accompanying the requisite documents. After scrutiny the University formally registers the students for studies in the programme.

Monitoring the Academic Progress:

The Chairman, In Charge of the section, Principal, Inspector Colleges and other University officers monitor and review the performance of teachers and observe the pace of the course and ensure its conformity with teaching plan.

The subject teachers are required to submit the class attendance sheets of the students along with topic covered in the class to the In Charge MIS Cell of the college. Also the attendance is observed by the University Officials from time to time.

Review Non-conformity:

The Chairman of the department and the In Charge of the section reviews the non-conformity and reports to the Principal of the college, who initiates necessary measures and takes appropriate decision.

Verification of the corrective actions taken on Non-Conformity:

As per decisions of Principal, the Chairman or In Charge takes the corrective measures against the non-conformity and reviews in the next departmental meeting.

Evaluation of registration and monitoring process:

The registration is reviewed by the Registrar, Admission Committee, Director (Admissions) MUET.

Standard 5.3:

The process of recruiting and retaining highly qualified faculty members must be in place and clearly documented. Also processes and procedures for faculty evaluation, promotion must be consistent with institution mission statement. These processes must be periodically evaluated to ensure that it is meeting with its objectives.

Faculty appointment:

Appointment of Faculty is domain of the Government of Sindh/ Sindh TEVTA through Sindh Public Service Commission or competent recruitment committees. However, visiting faculty is engaged by the Principal after following due procedure.

Faculty evaluation:

Evaluation of faculty is made according to Sindh Civil Servants' Rules /Sindh TEVTA Rules by the In Charge/Principal through Annual Confidential Reports.

Teacher evaluation through customer feedback System:

The system will be put in place soon.

Training Awareness and Competency:

Limited training opportunities are provided to the faculty to be acquainted with latest technological and teaching trends by the College/Sindh TEVTA authorities.

Methods used to retain excellent faculty members:

The posting of faculty is made by STEVTA authorities and college authorities are not involved in the process.

Indicate how evaluation and promotion process are in line with institution mission statement:

The promotions are made as Sindh Govt./STEVTA policy.

Standard 5-4:

The process and procedures used to ensure that teaching and delivery of course material to the students emphasizes active learning and that course learning outcomes are met. The process must be periodically evaluated to ensure that it is meeting its objectives.

To achieve excellence in teaching and learning regular monitoring and evaluation is made. Modern teaching methods and use of latest tools like Audio Visual facilities, Computer animations, industrial and field visits are in vogue for providing excellent learning approaches to the students.

Standard 5-5:

The process that ensures that graduates have completed the requirements of the program must be based on standards, effective and clearly documented procedures. This process must be periodically evaluated to ensure that it is meeting its objectives.

The evaluation system will in place very soon.

CRITERION 6: FACULTY**Standard 6.1:**

There must be enough full time faculty who are committed to the program to provide adequate coverage of the program areas/courses with continuity and stability. The interests and qualifications of all faculty members must be sufficient to teach all courses, plan, modify and update courses and curricula. All faculty members must have a level of competence that would normally be obtained through graduate work in the discipline. The majority of the faculty must hold a Ph.D. in the discipline.

Program areas and number of faculty in each area

Program area of Specialization	Courses in the area and average number of sections per year	Numbers of faculty members in each area	Number os faculty with PhD degree.
Area.1. Humanities	<ul style="list-style-type: none"> • Islamiat • Pakistan Studies. • Communication Skills. 	03	N/A
Area.2. Basic Computer & Science	<ul style="list-style-type: none"> • Computer Applications. • Applied Mathematics • Occupational Health & Safety. 	03	N/A
Area.3. Generation, transmission systems & distribution.	<ul style="list-style-type: none"> • Electro-Magnetic Fields • Power Generation Systems • Electrical Power Transmission • Electrical Power Distribution and Utilization • High Voltage Technology 	02	N/A
Area. 4. Electronics circuits and systems	<ul style="list-style-type: none"> • Basic Electronics • Digital Electronics • Power and Industrial Electronics • Communication technology • Data & computer communication • Microprocessor Theory & Interfacing 	02	N/A
Area. 5. Electrical machines	<ul style="list-style-type: none"> • Electrical machines-I • Electrical machines-II 	01	N/A
Area.6. Industrial Engineering Management Science	<ul style="list-style-type: none"> • Industrial Management • Total Quality Management 	01	N/A
Area.7. Instrumentation and control technology	<ul style="list-style-type: none"> • Instrumentation & measurement • Control Technology • Switchgear & Protective devices 	01	N/A

Standard 6-2:

All faculty members must remain current in the discipline and sufficient time must be provided for scholarly activities and professional development. Also, effective programs for faculty development must be in place.

Periodical training of the faculty are carried out by STEVTA, GIZs, NAVTTC and other organizations.

Standard 6-3:

All faculty members should be motivated and have job satisfaction to excel in their profession.

Faculty Survey

The system will be put in place soon.

CRITERION 7: INSTITUTIONAL FACILITIES

Standard 7-1:

The institution must have the infrastructure to support new trends in learning such as e-learning.

All facilities are established very soon

Standard 7-2:

The library must possess an up-to-date technical collection relevant to the program and must be adequately staffed with professional personnel.

Main Library:

Total Number of Book of Electrical Engg. Tech. 1860 nos.

Total Number of Books in the Library: 16803 nos. are available.

Seminar Library: Seminar library will be established very soon.

Standard 7-3:

Class-rooms must be adequately equipped and offices must be adequate to enable faculty to carry out their responsibilities.

The adequate classrooms are available equipped with necessary equipment.

Adequacy of the classrooms

Three dedicated class rooms are available.

CRITERION 8: INSTITUTIONAL SUPPORT

Standard 8-1:

There must be sufficient support and financial resources to attract and retain high quality faculty and provide the means for them to maintain competence as teachers and scholars.

Faculty is paid as per Govt. Policy.

Standard 8-2:

There must be an adequate number of high quality graduate students, research assistants and Ph.D. students.

No batch of students has passed the final year at yet.

Standard 8-3:

Financial resources must be provided to acquire and maintain Library holdings, laboratories and computing facilities.

Promotion of education, research and extension

Adequate funds are available and utilized to increase the books in library, upgrade and enhance laboratory equipment and computer facilities.