

MINUTES of meeting under NAVTTC regarding “Validation/ Qualification Review” of DAE in “MECHATRONICS Technology” (Non-CBT&A), on Sino-Pak CCTE (2+1) mode; Joint Education, Dual Diploma programme, through MOU/ Agreement with China-TANG & Brother college

Agenda Items:-

Sr. No.	Item(s)
1.	Validation and approval of the subject Curriculum furnished by TEVTA Punjab, as finalized through joint deliberative meetings of Pakistani College of GCT-Attock, offering relevant Mechatronics course with relevant Engg. related experts of peer faculty members from brother Chinese college (ZIBO vocational & Engg. College, Shandong, China) through following agenda item steps:- • Introduction of Participants from NAVTTC, TEVTA-Punjab, PSDA, Academia (GCT-Attock) and relevant Industry / Market. • Understanding & Brief Presentation of CCTE joint education Programme by TANG Representative & Director (Curriculum) P-TEVTA • Briefing regarding salient of Diploma of Associate Engineer (DAE) 3-Years' programme by Director (Cur.) TEVTA. • Formally presenting the Subject-wise course contents of 3-Years' curriculum • Discussion and Q&A session, alongwith minor refinements, (if required) • Consent & Grant of approval by worthy members of validation/ Qualification Review committee, alongwith List of first two years equipment and Teachers' / Instructors' qualifications.

Date & Time: 12th October, 2023 (10:00 A.M to 5:00 pm)

Venue: Conference Room of P-TEVTA Secretariat, 96-H, Gulberg-II, Lahore.

Participants:-

1. Mr. Mr. Abdul Rehman, Blow Molding Machine Technician, Haidri Beverages under PEPSI Bottlers, Co. Pvt. Ltd. Gujrat
2. Mr. Adeel Raza, Instrument Technician, Aircraft Mfg.Factory (AMF), Pakistan Aeronautical Complex (PAC), Kamra
3. Mr. Muhammad Wahid, Filter Automation Technician, Haidri Beverages under PEPSI Bottlers, Co. Pvt. Ltd. Gujrat
4. Engr. Atif Bashir, Automation & IOT Expert & Freelancer, Lahore
5. Engr. Muhammad Usman, Sr. Instructor, GCT-Taxila
6. Engr. Kanwal Waqar, Instructor, GCT-Attock
7. Engr. Furqan Waheed, Instructor, GSPCT-Gujrat.
8. Engr. Syed Waqar ud-Din, Director (Curriculum) P-TEVTA, Lahore
9. Mr. Muhammad Asim Jamal, Dy. Director (SS&C) NAVTTC, Islamabad –coordinator
10. Engr. Yasser Shakoor, Regional Coordinator (Punjab) TANG-China

The meeting started with the recitation of Holy Quran and welcoming remarks by the NAVTTC, being the host. All the participants introduced themselves to each other. The representatives from NAVTTC, TEVTA-Punjab and GCT-Attock thanked the participants from Industry and Academia for their extended support and visiting the venue for a just and noble TVET educational related cause.

TANG, China and P-TEVTA representatives briefed the house regarding their organizational support, working and main features of this joint education CCTE programme. They also highlighted the benefits of this same programme for Pakistani students in context of International exposure and opportunities, and practical training on hi-tech technology equipment at Chinese brother colleges, alongwith importance of Chinese language in first two years of study, which enables students to learn the Chinese culture and language, prior to moving to China for 3rd year study.

Director (Cur.) TEVTA furnished in-depth detail related to salient of DAE course curriculum and related features for Compulsory, Related Studies, and Allied subjects as well as pure technology specific subjects. Approval processing Mechanism was also introduced to the participants. He shared that the same curriculum has already been sent to national forum of Committee of Chairmen & Directors of Technical Education (CCDTE) Pakistan. A brief on the activities under similar CCTE programme was also presented, for better understanding of the participants.

Subsequent to the above, detailed scrutiny and deliberations were initiated by the worthy Convener / facilitator of validation. Main subjects / Skill standards starting from 1st to 3rd year were discussed w.r.t contents & sub-contents' wise, by the field related validation expert belonging to Industry & Academia.

Following **technical recommendations & suggestions** were made by the committee, while all other subjects/ skill standards have been found correct as per Academia & Industry requirements and were approved by the committee, alongwith compliant Lab.Equipment & Machinery (for 1st Two Years of study) and Teachers/ Staff Qualification :-

- i. "Computer Graphics & Effects" were deleted from the Employability areas, while "Food & Beverage" and "Construction & cement sector" were added, being relevant. Teacher / Instructor related employment in TVET sector were also deliberated and added, accordingly in the Job positions / Occupations.
- ii. Few Practicals and sub-contents were added in subject of "CompC-112".
- iii. It was suggested that "Python" be added as programming language in next future revision.
- iv. Preference to be given to pure "Mechatronics" related faculty over other relevant qualifications of Electrical, Mechanical and Electronics.

Other proposals are also being furnished as under:-

- The Skill Standards as per Industry requirement have been validated for the subject course, as annexed at "Annex-A"
- As a process of "Reverse Engg. regarding subject matter, NAVTTC may develop the formal detailed "Skill standards" for the same course, regarding future facilitation in qualification framework.
- The subject wise / course wise "Question Bank" may be developed by the Qualification Review / validation committee field related experts (Industry & Academia/ GCT) after formal approval of this course, if desired by the quarter concerned.

Name	Designation	Signature
Mr. Mr. Abdul Rehman,	Blow Molding Machine Technician, Haidri Beverages under PEPSI Bottlers, Co. Pvt. Ltd. Gujrat	ONLINE
Mr. Adeel Raza,	Instrument Technician, Aircraft Mfg.Factory (AMF), Pakistan Aeronautical Complex (PAC), Kamra	ONLINE
Engr. Atif Bashir	Automation & IOT Expert & Freelancer, Lahore	ONLINE
Mr. Muhammad Wahid,	Filter Automation Technician, Haidri Beverages under PEPSI Bottlers, Co. Pvt. Ltd. Gujrat	ONLINE
Engr. Muhammad Usman	Sr. Instructor, GCT-Taxila	ONLINE
Engr. Kanwal Waqar,	Instructor, GCT-Attok	ONLINE
Engr. Furqan Waheed	Instructor, GSPCT-Gujrat.	ONLINE
Engr. Syed Waqar ud-Din	Director (Curriculum) P-TEVTA, Lahore	ONLINE
Mr. Muhammad Asim Jamal	Dy. Director (SS&C) NAVTTC, Islamabad --coordinator	ONLINE

“Annexure-A”

1st Year

Basic Engineering Drawing & CAD-I
Introduction to Computer Studies & Programming
Introduction to Mechatronics
Electrical Essentials
Workshop Practice; a) Metal Work and Machining, b) Wood Working , c) Welding
Occupational Health Safety & Environment

2nd Year:

Business Communication & Report Writing
Engineering Materials
Drives & Linkages
Sensors & Actuators
Motors & Generators
Measuring Instruments
Electronic Devices & Circuits
Digital Logic Design

3rd Year:

Intelligent production and management
Digital Design and Simulation of Production Line
Hydraulics& Pneumatics
Programmable Logic Controllers
Micro controller Application Technology
Fundamentals of Industrial Robotics
Overview of Artificial Intelligence
Programming and practical training of CNC machine tools
Mechanical and Electrical Comprehensive Training
Project

PROGRESSION ROUTE FOR EMPLOYMENT / CAREER in Industry/ Market

The students holding DAE qualifications in ***Mechatronics*** can seek employment in firms/companies/industry dealing in any of the following Areas / Sectors:

Mechanical, Electrical, Electronics, Computer & Controls Engineering	Industrial Automation and Controls
Electromechanical systems	Digital and Embedded Systems
Industrial robots / Robotics	Instrumentation
Medical devices	Programming or Control Networks
Aircraft simulators, Aircraft & Space craft manufacturing	Control and Network System / Control System Integration
Automated assembly lines	Innovative Product Development
Building control systems,	Embedded Systems Development
Automated vehicles	Food & Beverage
Construction & Cement sector	PLC based Automated system

Starting with Supervisory Job- position, the vertical mobility for this qualification holders is shown below:

- i. *Asstt. Technician*
- ii. *Technician*
- iii. *Senior Technician*
- iv. *Supervisor*

OR

- i. *Skilled Mechanic*
- ii. *Charge man*
- iii. *Foreman*
- iv. *Principal Foreman*

This pass-out graduate may also get job opportunity of teacher / instructor in TVET sector as Junior Instructor with vertical mobility upto Senior Instructor.