

**MINUTES of meeting under NAVTTC regarding “Validation/ Qualification Review” of
DAE in “Internet of Things Application Technology” (Non-CBT&A), on Sino-Pak
CCTE (2+1) mode; Joint Education, Dual Diploma Programme, through MOU/
Agreement with Chinese College**

Agenda Items:-

Sr No	Item(s)
1.	Validation and approval of the subject Curriculum furnished by ATIN NLC as finalized through joint deliberative meetings of Information Technology/ Computer and relevant Engg. related experts of ATIN NLC with peer expert faculty members from Brother Chinese College (Jiujiang Vocational and Technical College (JVTC):- • Detail of Participants from NAVTTC, TEVTA-Punjab, PSDA, ATN NLC Mandra, NLC H/Q, Academia (University) and relevant Industry is listed below. • Understanding & Brief Presentation of the CCTE Model joint education dual diploma split education program as well as the detailed overview of collaboration/ curriculum development by the meeting convener (Manger Training Business Development & Plans HQ ATINs) • Briefing regarding salient of Diploma of Associate Engineer (DAE) 3-Year programme by Director (Cur.) TEVTA. • Formal presentation of subject-wise course contents of 3-Years curriculum • Discussion and Q&A session, along with minor refinements, (if required) • Consent and grant of approval by worthy validation/ Qualification Review committee members.

Date & Time: 25th September 2023 (10:00 A.M to 5:00 P.M)

Venue: HQ ATINs NLC, NLC Corporate Office, Herding Road, GHQ-Rawalpindi

Participants:-

1. Dr. Umer Asghar, Professor, NUST HoD (QA&NIO) Islamabad
2. Mr. Abdul Rehman Ahmed Dy. Director, Software Development & IT, CDA Islamabad
3. Mr. Malik Shah Jahan. Manager Software Development, NLC Rawalpindi
4. Engr. Kashif Mehmood, IoT Product Design & Development, M/s IT-Empire (Joined Online)
5. Mr. Muhammad Usman Awan, Software Engr. AeroThrust Systems Pvt. Ltd.
6. Engr. Syed Muhammad Waqar ud Din, Director (Curriculum) P-TEVTA, Lahore
7. Engr. Amjad Ali, Manager Training Business Dev and Plans, HQ ATINs, NLC Corporate office GHQ, Rawalpindi (Convener)
8. Mr. Muhammad Asim, Dy. Director (SS&C) NAVTTC, Islamabad (Coordinator)

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

The Meeting Convener briefed the house regarding the main features of the CCTE Model Dual Diploma Split Education Programme, phases of collaboration with Chinese counterpart institutes as well as the detailed procedure of curriculum development. The benefits of this programme for Pakistani students in the context of international exposure, employment opportunities within Pakistan and abroad, practical training on hi-tech technology equipment at Chinese brother colleges and the importance of the Chinese language (which is a part of the curriculum) were also highlighted.

Director (Cur.) TEVTA furnished in-depth detail related to the salient of the DAE course curriculum and related characteristics 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 the national forum of the Committee of Chairmen & Directors of Technical Education (CCDTE) Pakistan. A brief on the activities under a similar CCTE programme was also presented, for a 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 from 1st to 3rd year were discussed w.r.t contents & sub-contents' wise by the field-related validation expert of Industry & Academia.

Following **technical recommendations and suggestions** were made by the committee, which were incorporated in the relevant sections while all other subjects/ skill standards have been found correct as per academic and industry requirements and were **approved by the committee**, along with a compliant **Lab Equipment** and machinery list (for 1st Two years of study) and **Teachers/ Instructor Qualification:-**

1st Year

- i. The subject CIT 112 (Computer Application Software) may be replaced with the subject "Introduction to IoT" in the revised version of the curriculum (later stage)
- ii. In the subject IoT 112 (Python programming), the System Development Life Cycle (SDLC) topic has been incorporated at Sr. 1.

2nd Year

- iii. In the subject CIT 212 (Object Oriented Programming with JAVA), more programming languages (like C, C++, Python etc) may be added. It may not be only restricted to the JAVA. However, the same will be added in future revisions keeping in view the student's progress and their ability/workload to learn more languages. The validation experts principally agreed to restrict it to a single language (JAVA) in the pilot project (in the current curriculum) as the students may not be able to absorb more languages, the same may be added when the course comes under the process of Curriculum revision.
- iv. In the subject IOT 231 (Introduction to IoT Engineering following topics/ subtopics were added)
 - a. Cloud Computing Platforms and Technologies at serial 8.7
 - b. Industry 4.0 and 5.0 at serial 12.1

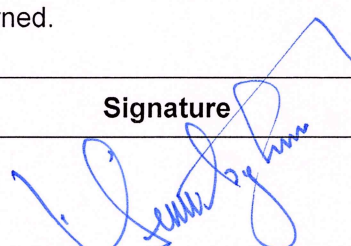
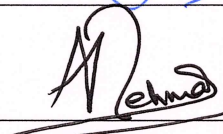
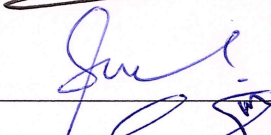
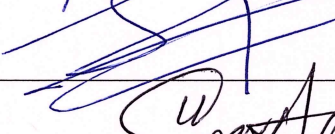
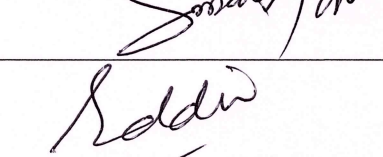
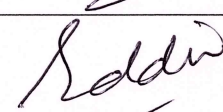
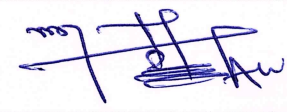
c. Cyber-Physical Systems at serial 12.2

3rd Year

- v. In the subject CIT 303 (Web Development with JAVA), more programming languages (like C, C++ and Python etc) may be added. However, the validation experts principally agreed to restrict it to a single language (JAVA) in the current curriculum, the same may be added when the course comes under the process of Curriculum revision.

Other proposals are also being furnished as under:-

- The Skill Standards as per Industry requirements 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 the qualification framework.
- The subject-wise/course-wise "Question Bank" may be developed by the Qualification Review/validation committee field-related experts (Industry & Academia/ ATIN NLC) after formal approval of this course, if desired by the quarter concerned.

Name	Designation	Signature
Dr. Umer Asghar,.	Professor, NUST, HoD (QA&NIO), Islamabad	
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Engr. Amjed Ali	Manager Training Business Development & Plans (NLC), Rawalpindi (Convener)	

Occupations/ Job Positions of Graduates in the Industry/ Market

At the successful completion of the course the students are expected to join the IT & Telecommunication, Manufacturing, Healthcare and IoT applied industries as a:-

- Assistant Computer Programmer
- Technical Support Assistant
- Junior Network Administrator
- Junior Database Administrator
- Assistant Developer
- IoT Technician
- IoT Application Development Coordinator
- Junior Database Administrator
- Operating System Support Supervisor
- Web Development Supervisor
- Assistant IT/ IoT Project Manager