Approval Process 2021-22 and clarifications about reforms in the light of NEP 2020

AICTE, a Statutory Body of Government of India is executing its mandate both as a regulator and as a true facilitator for its Stakeholders. Several proactive measures for the planned and qualitative growth of technical education have been initiated over the years as well as effectively implemented. The year 2019-2020 and the period till date has been a year of great transformation in the educational scenario. NEP 2020, The New Education Policy approved by the Union Cabinet is set to bring a slew of major changes and reforms including allowing institutes turning into multi-disciplinary which is aligned with school education pattern 5+3+3+4. In the new system (in the last slot of secondary education which is for FOUR years), there are NO compartments. Disciplinary Boundaries have been removed/dissolved to promote overall development of students in different disciplines. Hard Boundaries (Physics, Chemistry, Mathematics) imposed for entry into ALL branches of engineering education (which are 367 in Diploma and 261 in Under Graduate) since long time was affecting access to higher technical education for those who had not taken these subjects. In fact industries were suggesting major revamping of the entry qualifications so that students can take major challenges as per their aptitudes.

1) Historically, AICTE was rigid in terms of entry level qualifications prescribed for courses in engineering and technology. In early years, ALL three subjects viz. Physics, Chemistry and Mathematics were COMPULSORY for pursuing education in Engineering. It has been observed that in circuit branches like Computer Science, not much application of Chemistry was required, hence AICTE removed the compulsion of Chemistry as a qualifying subject to pursue Engineering and Technology courses long back since 2010. Along with Chemistry a wide array of other subjects such as Biotechnology, Biology, Technical Vocational Subjects, Computer Science etc. had been allowed as qualifying subjects. It is worth mentioning that for Bio Technology and Bio Informatics, Biology is an essential input.

2) The Council was in receipt of many representations from Industry as well as student community to give an option to pursue technical courses such as agriculture, biotechnology information technology, electronics etc to students who did not have prior electives of PHYSICS and MATHEMATICS at +2 level, but had studied relevant portions of the same at +2 level to a certain desired extent.

3) Consequentially, CBSE in its curriculum for science stream has given the subjects of Bio-Technology, Computer Science, Engineering Graphics etc. and NIOS has also given subjects like Science and Technology in their array of science stream.

4) In line with the NEP 2020 and with a view to facilitate the aspirations of various stakeholders and students, AICTE went a step forward by providing a window of opportunity to those students who have the APTITUDE as well as the background knowledge in certain branches of engineering and technology but were constrained to pursue the higher studies due to stringent compulsions of subjects. Taking a leaf out of NEP, the Council has given flexibility to the Universities to extend their support to such willing students to pursue a career in engineering and technology who were hitherto deprived of the same owing to BARRIERS of subjects without affecting the attainment of Learning Outcomes, so the emphasis is on outcomes than mere inputs. Bridge Courses have been recommended for students entering in engineering from diverse background.

5) AICTE has been offering lateral entry to students in Diploma as well as Under Graduate courses in Engineering & Technology. A student wishing to pursue a Diploma course is normally a class X pass-out and as such in his pursuance of Diploma remains devoid of basic science courses hitherto available in the +2 level. Consequentially, such Diploma pass-outs are offered lateral entry into Under Graduate courses directly in the SECOND YEAR. Universities, which feel that there is a need of bridge courses to such students has been doing this practice since a long time for more than 25 years. Also, it is pertinent to mention

here that the lateral entry students seem to out-perform the direct entry students (+2 level) in the pursuance of such courses.

6) To facilitate entry into Under Graduate programmes in Engineering and technology w.e.f from AY 2021-22, the Council has provided a WIDER array of choice of subjects and students who can PURSUE the courses in Engineering and Technology like : -

Physics, Mathematics, Chemistry, Computer Science, Electronics, Information Technology, Biology, Informatics Practices, Biotechnology, Technical Vocational Subjects, Agriculture, Engineering Graphics, Business Studies, Entrepreneurship. (**Any of the THREE**) with a precautionary advice to the Universities to offer suitable bridge courses such as Mathematics, Physics, Engineering Drawing etc. for the students coming from diverse backgrounds to first achieve level playing field taking care of prerequisites and desired learning outcomes of the programme.

7) Multiple entry has always been there in Diploma and Under Graduate levels of Engineering and Technology through Lateral Entry. For example, an ITI passed student can take direct admission in second year of Diploma, similarly, a Diploma passed student can take admission in second year of Under Graduate course in Engineering and Technology. Taking a leaf out of NEP, the Council envisages to inculcate the option of multiple exit as in the case of Vocational courses wherein each level qualified has its individual relevance and eligibility for admission into appropriate programs/ courses as is mentioned in detail in the Approval Process Handbook in Appendix –I. NEP 2020 showcases the use of Academic Bank of Credits(ABC) which shall ensure that the level of study already completed by an incumbent does not go in vain and can be used as an eligibility to complete the desired course at a later stage. The Vocational courses have such a flexibility at present which can be incorporated in other programs/ courses in higher technical education.

8) NEP 2020 envisages the availability of higher technical education in Indian/ Regional languages at Diploma/Degree level. AICTE shall permit autonomous/accredited institutions seeking approval for running technical courses in Indian/Regional language. Council is in the process of translating courses available on SWAYAM platform into eight Indian/Regional languages and also encouraging faculty to write/translate quality text books in technical education in regional languages.

9) The Council seeks to integrate Vocational courses with conventional technical courses as a skill enhancer for students. NEP envisages no demarcation between vocational and general education by bringing the commonalities in learning outcomes at different levels. As such, the Vocational courses shall be taken by such students who want to build their capacity in a particular area of interest and increase their chance of employability.

This initiative of AICTE will enhance accessibility of technical education to students coming from diverse background and also it shall seek to reduce the pressure on students to pursue such portions which are not relevant in pursuance of higher technical education. **This is totally in line with the philosophy of NEP in terms of flexibility and multi-disciplinary courses, innovation etc.**

It is also imperative to mention that it is an OPTION given by the Council which is NOT binding on the States or Universities and for various entrance exams such as JEE, CET etc., they may continue to hold the entrance exams in Physics, Chemistry and Mathematics as is being done now and gradually decide to conduct exam in other subjects later after discussing and taking decisions in the University Senates/ Academic Councils and State Level Committees. In future when NEP shall be implemented in totality then this OPTION can be implemented in its letter and spirit.

NOTE : Due to certain typographical errors in the text and table the Approval Process Handbook 2021-22 has been removed from the website of AICTE to avoid confusion, the same shall be updated/uploaded on the website once the corrections have been finalized. Inconvenience is deeply regretted.