Association of Indian Universities

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Concept Paper

Theme: ***Reimagining Teacher Education, Vocational Education and Professional Education***

Technical Sessions:

Technical Session–I : *A New Approach to Teacher Education*

Technical Session–II: *Skilling, Upskilling and Reskilling India*

Technical Session–III: *Revamping Professional Education*

Introduction

The Association of Indian Universities (AIU) organizes Zonal Meets of Vice Chancellors every year wherein issues relating to higher education are discussed. Recommendations of the Zonal Vice Chancellors' Meets are considered in the Annual Meeting of the Association. In the Zonal Vice Chancellors' Meet more than 200 Vice Chancellors/Directors of member Universities/Institutions apart from some educationists, representatives of UGC, MHRD and apex bodies are expected to participate.

The Governing Council of Association of Indian Universities in its 361st Meeting held on November 05, 2020, recommended the theme for 95th AIU AGBM/ National Seminar as formulating "Implementation Strategy for NEP 2020". The five zonal conferences have been planned keeping the main theme in mind.

Accordingly, the proposed theme for AIU West Zone VCs Meet is "***Reimagining Teacher Education, Vocational Education and Professional Education***". However, in view of the wide spread impact of COVID-19 Pandemic and in the interest of the safety of academic fraternity, Association of Indian Universities proposes to hold Zonal Meets of Vice Chancellors through Virtual Mode.

Technical Session I: *A New Approach to Teacher Education*

Recommendations in NEP 2020:

Teacher education is vital in creating a pool of schoolteachers that will shape the next generation. Teacher preparation is an activity that requires multidisciplinary perspectives and knowledge, formation of dispositions and values, and development of practice under the best

mentors. Teachers must be grounded in Indian values, languages, knowledge, ethos, and traditions including tribal traditions, while also being well-versed in the latest advances in education and pedagogy.

According to the Justice J. S. Verma Commission (2012) constituted by the Supreme Court, a majority of stand-alone TEIs - over 10,000 in number are not even attempting serious teacher education but are essentially selling degrees for a price. Regulatory efforts so far have neither been able to curb the malpractices in the system, nor enforce basic standards for quality, and in fact have had the negative effect of curbing the growth of excellence and innovation in the sector. The sector and its regulatory system are, therefore, in urgent need of revitalization through radical action, in order to raise standards and restore integrity, credibility, efficacy, and high quality to the teacher education system.

In order to improve and reach the levels of integrity and credibility required to restore the prestige of the teaching profession, the Regulatory System shall be empowered to take stringent action against substandard and dysfunctional teacher education institutions (TEIs) that do not meet basic educational criteria, after giving one year for remedy of the breaches. By 2030, only educationally sound, multidisciplinary, and integrated teacher education programmes shall be in force.

As teacher education requires multidisciplinary inputs, and education in high-quality content as well as pedagogy, all teacher education programmes must be conducted within composite multidisciplinary institutions. To this end, all multidisciplinary universities and colleges - will aim to establish, education departments which, besides carrying out cutting-edge research in various aspects of education, will also run B.Ed. programmes, in collaboration with other departments such as psychology, philosophy, sociology, neuroscience, Indian languages, arts, music, history, literature, physical education, science and mathematics. Moreover, all stand-alone TEIs will be required to convert to multidisciplinary institutions by 2030, since they will have to offer the 4-year integrated teacher preparation programme.

The 4-year integrated B.Ed. offered by such multidisciplinary HEIs will, by 2030, become the minimal degree qualification for school teachers. The 4-year integrated B.Ed. will be a dual-major holistic Bachelor's degree, in Education as well as a specialized subject such as a language, history, music, mathematics, computer science, chemistry, economics, art, physical education, etc. Beyond the teaching of cutting-edge pedagogy, the teacher education will include grounding in sociology, history, science, psychology, early childhood care and education, foundational literacy and numeracy, knowledge of India and its values/ethos/art/traditions, and more. The HEI offering the 4-year integrated B.Ed. may also run a 2-year B.Ed., for students who have already received a Bachelor's degree in a specialized subject. A 1-year B.Ed. may also be offered for candidates who have received a 4-year undergraduate degree in a specialized subject. Scholarships for meritorious students will be established for the purpose of attracting outstanding candidates to the 4-year, 2-year, and 1-year B.Ed. programmes.

HEIs offering teacher education programmes will ensure the availability of a range of experts in education and related disciplines as well as specialized subjects. Each higher education institution will have a network of government and private schools to work closely with, where potential teachers will student-teach along with participating in other activities such as community service, adult and vocational education, etc.

In order to maintain uniform standards for teacher education, the admission to pre-service teacher preparation programmes shall be through suitable subject and aptitude tests conducted by the National Testing Agency, and shall be standardized keeping in view the linguistic and cultural diversity of the country.

The faculty profile in Departments of Education will necessarily aim to be diverse and but teaching/field/research experience will be highly valued. Faculty with training in areas of social sciences that are directly relevant to school education e.g., psychology, child development, linguistics, sociology, philosophy, economics, and political science as well as from science education, mathematics education, social science education, and language education programmes will be attracted and retained in teacher education institutions, to strengthen multidisciplinary education of teachers and provide rigour in conceptual development.

All fresh Ph.D. entrants, irrespective of discipline, will be required to take credit-based courses in teaching/education/pedagogy/writing related to their chosen Ph.D subject during their doctoral training period. Exposure to pedagogical practices, designing curriculum, credible evaluation systems, communication, and so on will be ensured since many research scholars will go on to become faculty or public representatives/communicators of their chosen disciplines. Ph.D students will also have a minimum number of hours of actual teaching experience gathered through teaching assistantships and other means. Ph.D. programmes at universities around the country will be reoriented for this purpose.

In-service continuous professional development for college and university teachers will continue through the existing institutional arrangements and ongoing initiatives; these will be strengthened and substantially expanded to meet the needs of enriched teaching-learning processes for quality education. The use of technology platforms such as SWAYAM/DIKSHA for online training of teachers will be encouraged, so that standardized training programmes can be administered to large numbers of teachers within a short span of time.

A National Mission for Mentoring shall be established, with a large pool of outstanding senior/retired faculty – including those with the ability to teach in Indian languages – who would be willing to provide short and long-term mentoring/professional support to university/college teachers.

Proposed Implementation Strategy

Objectives to be achieved

i. To bring multidisciplinary perspective into teacher education.
ii. To locate education departments inside multidisciplinary universities rather than stand-alone teacher training institutes.
iii. To establish a network of public and private schools with the multidisciplinary university in the region to coordinate practice teaching, research, and teacher recruitment.
iv. To recruit faculty from diverse disciplinary backgrounds to the schools/department of education within the multidisciplinary university to bring multi-disciplinary perspectives into teacher education.
v. To empower regulatory system to take stringent action on dysfunctional TEIs.

vi. To raise quality standards in teacher education and teaching profession. Admission to teacher education programme to be done through standardized test by National Testing Agency.
vii. To launch 4-year bilingual integrated B.Ed. to be offered by multidisciplinary HEIs by 2030.
viii. To make it compulsory for all Fresh PhD entrants irrespective of discipline, required to take credit-based courses in teaching pedagogy/writing in their chosen PhD subject during doctoral training.
ix. To make in-service continuous professional development mandatory for college and university teachers through existing institutional arrangements and online mode through SWAYAM/DIKSHA.
x. National Mission for Mentoring to be developed with large pool of outstanding senior/retired faculty from within and outside India who have been exceptional in teacher education.

Action Points

- Legislation at the Central and State level to convert stand-alone teacher training institutes into departments/schools of education as integral part of multidisciplinary universities (Ministry of Education, Centre and States by 2022).

- Develop a composition matrix for the Department of Education at HEIs to have diversity of disciplines. This should take into consideration- Social Sciences, STEM, Language studies, to ensure holistic teacher education. Recruitment strategy to be planned and executed in sync with this composition matrix (HEIs by 2023).

- Each school/department of education should develop a network of private and government schools within their neighbourhood, where the student-teachers will receive their practical teacher's training and will be eventually recruited. Collaborations can be developed in form of - training programmes for School teachers/students, engage schools in HEI research projects, invite schools to attend conferences, seminars and workshops (HEIs by 2023).

- Initiate a programme for conducting periodic (minimum annual) workshops for teachers/school leadership training programmes in HEIs to make school campuses inclusive and welcoming for SEDGs through necessary training of school admin, teaching staff and general students (HEIs by 2023).

- Establish a phase-out policy which will define the implementation of upgradation and consolidation of existing Teacher's Training Institutes to ensure continuity. Specific continuity criteria need to be established (HECI: NHERC by 2022).

- Establish quality standards of all department/schools of education (HECI: NAC by 2022):

  - Annual Needs-Assessment by local SMCs.
  - Integration of the quality evaluation and the Needs-Assessment outcome within the NAC Accreditation Process.
  - Integration of departmental data and the Needs-Assessment outcome within the BoG Disclosure Audit Process.

- Entrance test for teacher education programme to be established and customized by National Testing agency considering the linguistic and cultural diversity of the country (Other: National Testing Agency by 2022).

- Conduct an analysis of the school education sector across the globe, to identify means to making teaching profession globally competitive. Salary, incentives and benefits of teachers should be enhanced to attract the best and the brightest into the school teaching profession nationally and globally (HECI: HEGC by 2022).

- Develop 4-year integrated B.Ed and 2 year and 1 year B.Ed programmes as per the policy defined by HECI: GEC.

    - Language teaching to be improved to be more experiential and to focus on developing the ability to converse and interact in the language and not just on the literature, vocabulary, and grammar of the language.

    - Teachers need to be trained to communicate about their respective discipline and research in local languages (HEIs by 2025).

- Develop courses on 'teaching and learning pedagogy in higher education' for all doctoral students. The thrust of technological interventions will be for the purposes of improving teaching-learning and evaluation processes, supporting teacher preparation and professional development, enhancing educational access, and streamlining educational planning, management, and administration including processes related to admissions, attendance, assessments, etc. (HEIs by 2025).

- Create new and upgrade existing online professional development programmes through SWAYAM/DIKSHA/ODL by consulting with experts in digital instructional design. Suitable digital infrastructure including hardware/software recommended by NETF will be made available to teachers at schools so that teachers can suitably integrate e-contents into teaching-learning practices (HEIs by 2025).

- Funding to be allocated for infrastructure set up of HEIs (Government, Central and Sate by 2022).

- Develop global mentoring programme by incorporating outstanding retired teachers (national and international) as members of the National Mission for Mentoring; HEI coordinating body to be created as Nodal Agency for execution (HECI-HGEC by 2025).

TECHNICAL SESSION –II: *Skilling, Upskilling and Reskilling India*

Recommendations in NEP 2020:

The 12th Five-Year Plan (2012–2017) estimated that only a very small percentage of the Indian workforce in the age group of 19–24 (less than 5%) received formal vocational education Whereas in countries such as the USA the number is 52%, in Germany 75%, and South Korea it is as high as 96%. These numbers only underline the urgency of the need to hasten the spread of vocational education in India.

One of the primary reasons for the small numbers of students receiving vocational education is the fact that vocational education has in the past focused largely on Grades 11–12 and on dropouts in Grade 8 and upwards. Moreover, students passing out from Grades 11–12 with

vocational subjects often did not have well-defined pathways to continue with their chosen vocations in higher education. The admission criteria for general higher education were also not designed to provide openings to students who had vocational education qualifications, leaving them at a disadvantage relative to their compatriots from 'mainstream' or 'academic' education. This led to a complete lack of vertical mobility for students from the vocational education stream, an issue that has only been addressed recently through the announcement of the National Skills Qualifications Framework (NSQF) in 2013.

Vocational education is perceived to be inferior to mainstream education and meant largely for students who are unable to cope with the latter. This is a perception that affects the choices students make. It is a serious concern that can only be dealt with by a complete re-imagination of how vocational education is offered to students in the future.

This policy aims to overcome the social status hierarchy associated with vocational education and requires integration of vocational education programmes into mainstream education in all education institutions in a phased manner. Beginning with vocational exposure at early ages in middle and secondary school, quality vocational education will be integrated smoothly into higher education. It will ensure that every child learns at least one vocation and is exposed to several more. This would lead to emphasizing the dignity of labour and importance of various vocations involving /Indian arts and artisanship.

By 2025, at least 50% of learners through the school and higher education system shall have exposure to vocational education, for which a clear action plan with targets and timelines will be developed. This is in alignment with Sustainable Development Goal 4.4 and will help to realize the full potential of India 's demographic dividend. The number of students in vocational education will be considered while arriving at the GER targets. The development of vocational capacities will go hand-in-hand with the development of 'academic' or other capacities. Vocational education will be integrated in the educational offerings of all secondary schools in a phased manner over the next decade. Towards this, secondary schools will also collaborate with ITIs, polytechnics, local industry, etc. Skill labs will also be set up and created in the schools in a hub and spoke model which will allow other schools to use the facility. Higher education institutions will offer vocational education either on their own or in partnership with industry and NGOs. The B.Voc. degrees introduced in 2013 will continue to exist, but vocational courses will also be available to students enrolled in all other Bachelor's degree programmes, including the 4-year multidisciplinary Bachelor 's programmes. HEIs will also be allowed to conduct short-term certificate courses in various skills including soft skills. 'Lok Vidya', i.e., important vocational knowledge developed in India, will be made accessible to students through integration into vocational education courses. The possibility of offering vocational courses through ODL mode will also be explored.

Vocational education will be integrated into all school and higher education institutions in a phased manner over the next decade. Focus areas for vocational education will be chosen based on skills gap analysis and mapping of local opportunities. MHRD will constitute a National Committee for the Integration of Vocational Education (NCIVE), consisting of experts in vocational education and representatives from across Ministries, in collaboration with industry, to oversee this effort.

Individual institutions that are early adopters must innovate to find models and practices that work and then share these with other institutions through mechanisms set up by NCIVE, so as to help extend the reach of vocational education. Different models of vocational education,

and apprenticeships, will also be experimented by higher education institutions. Incubation centres will be set up in higher education institutions in partnership with industries.

The National Skills Qualifications Framework will be detailed further for each discipline vocation and profession. Further, Indian standards will be aligned with the International Standard Classification of Occupations maintained by the International Labour Organization. This Framework will provide the basis for Recognition of Prior Learning. Through this, dropouts from the formal system will be reintegrated by aligning their practical experience with the relevant level of the Framework. The credit-based Framework will also facilitate mobility across 'general' and vocational education.

Proposed Implementation Strategy

Objectives to be achieved

i. Integration of Vocational Education into mainstream education (at school and university level).
ii. Offer Vocational Education & Training based on empirical evidence to enhance skills of students, unskilled workers, and skilled workers in sync with requirements of the economy.
iii. Encourage collaboration among stakeholders to create an efficient and effective ecosystem to significantly enhance vocational skills of current pool of employees and students (future employees).

Action Points

- Merge existing regulators [Technical (AICTE) and VET (DGET) with representation from NCERT for school level integration]. New Regulator (housed within HECI) to create framework for integration of existing (post-school) VET structures with General Higher Education and Technical Education to allow cross-utilsation of infrastructure and learning of students (Credits earned) via option of flexible crediting of courses across departments/schools within university (HECI 2021).

- HEIs to modify credit requirements to allow VET students to take courses in Technical and General Education and vice-versa. (subject to fulfilment of basic prerequisites for each course) **a)** Joint projects involving VET and Technical/General Education students focused on solving locally relevant challenges. **b)** VET Faculty engagement in Technical Education for Skill-focused components (e.g. Lab work) or specific theory components, and of Technical and General Faculty for improving VET students' theoretical understanding (HEIs 2022).

- NSQF to be expanded and brought in sync with ILO standards and Technical Education Skills Framework to enable credit transfers for horizontal/vertical upgradation of qualifications and recognition of prior learning (GEC by 2021).

- Set up a system for recognizing industry veterans or highly skilled Crafts Persons (recognized via NSQF) as Master Crafts Persons (MCP) to enable them to teach at HEIs (VET and Technical Students, as well as other students opting for vocational courses) after brief training in pedagogical elements (Other: NSDC by 2021).

- Remuneration structure for VET Instructors and MCPs to be in sync with faculty at Universities with an aim to attract best candidates to the field and remove bias against VET (HECI by 2022).

- For marketing basic vocational courses, link MCP courses to DIY (Do It Yourself) movement and passion; Use courses for tapping into creative potential and collaboratively create products relevant to individuals or local communities; Create virtual and physical avenues for exchange of products and ideas (HEIs by 2021).

- Skill Gap Analysis and mapping of local opportunities: **a)** National, State, and District level committees comprising of relevant Ministry representatives in collaboration with National, State, and local industry bodies to conduct skill gap analysis (present and projected). **b)** Sector-specific and skill-specific mapping of local, regional, and national opportunities. c)Mapping of existing training and education infrastructure at district and state level to impart relevant skills training to labour force (Other: NCIVE by 2021).

- High-quality VET Institutions and HEIs to create and offer modular Skill Development and Skill Certification Programmes in sync with Skill-Gap analysis with help of NSDC and NCIVE (HEIs by 2022).

- NSDC and HEIs eligible to conduct ODL courses to setup a process to offer Online/blended courses in collaboration with VET or Technical Institutions recognised as Centres of Excellence and with regional/national Industry bodies on a trial basis with rigorous empirical research to estimate efficacy of such ODL Skill Development (HEIs by 2022).

- HEIs to develop and offer Modular courses (on-campus, blended learning, and purely online) to different stakeholders. NSDC to create platform to offer courses leveraging its existing network, especially to manage enrolment of learners and mapping of skills in these courses: **a)** In conjunction with industry bodies and NSDC, HEIs to have mechanisms to recognize prior learning and offer courses to move individuals to skilled domain of work (to receive payment for each worker trained or certified). **b) Short to medium term courses** for Skill Upgradation for skilled workers employed in industry in collaboration with respective employers or industry/sector bodies. **c)** Arrangement for long duration apprenticeship and internships for all VET students in local and regional industries (HEIs by 2022).

- Advance labs in Engineering Departments of HEIs and VET Centres of Excellence to establish a training and exposure programme for ITI/Polytechnic/VET institution students in collaboration with regional Industries using latest technologies. This will be applicable to any HEI with an Engineering Department/ Vocational Training Polytechnic, or HEIs which will offer vocational training as a part of their vision of being a multidisciplinary University, as per the criteria defined (HEIs by 2022).

- CoE and HEI departments to work collaboratively with industry to develop R&D and prototyping capabilities to meet industry requirements (HEIs by 2022).

- For School students, ITIs and Polytechnics to develop and offer Advanced training and offer exposure visits (HEIs - ITI/VET Institutions by 2022).

- District/Regional Centres of Excellence and top HEIs of the region to develop and offer training programmes with most advanced tools and technologies to all VET and Technical Students in region (HEIs by 2022).

- Focus on Lifelong Learning for MCP, VET Trainers, and Alumni: **a)** Self-financed or employer-financed short modules for skill upgradation. **b)** Focus on re-training of VET Trainers through Industry visits and short stints in industries using advanced tools and equipment in exchange for greater collaboration for employee training at VET CoE and R&D projects (HEIs by 2022).

- A process to be set up for VET Institution leaders' training and exposure visit to top countries known for robust VET systems (e.g. Germany, South Korea, Singapore). Rigorous research to evaluate changes in outcomes achieved by leaders trained vis-à-vis those who did not receive training (Ministry of Education, Centre and State by 2022).

- Establish a system to provide exposure of at least one vocation to 50% School[1] and University students by 2025 ((Ministry of Education, Centre and State by 2022).

- Along with electives and DIY modules, all HEIs and VET Institutions (Polytechnics and it is) to offer a diverse range of basic vocational courses. Each student needs to mandatorily take any two such basic courses before graduating from any course. Students to be allowed to take course of their interest at any institution of their choice within the district (HEIs by 2021).

TECHNICAL SESSION –III: *Professional Education*

Recommendations in NEP 2020:

Preparation of professionals must involve an education in the ethic and importance of public purpose, an education in the discipline, and an education for practice. It must centrally involve critical and interdisciplinary thinking, discussion, debate, research, and innovation. For this to be achieved, professional education should not take place in the isolation of one's specialty.

Professional education thus becomes an integral part of the overall higher education system. Stand-alone agricultural universities, legal universities, health science universities, technical universities, and stand-alone institutions in other fields, shall aim to become multidisciplinary institutions offering holistic and multidisciplinary education. All institutions offering either professional or general education will aim to organically evolve into institutions/clusters offering both seamlessly, and in an integrated manner by 2030.

Agricultural education with allied disciplines will be revived. Although Agricultural Universities comprise approximately 9% of all universities in the country, enrolment in agriculture and allied sciences is less than 1% of all enrolment in higher education. Both capacity and quality of agriculture and allied disciplines must be improved in order to increase agricultural productivity through better skilled graduates and technicians, innovative research, and market-based extension linked to technologies and practices. The preparation of professionals in agriculture and veterinary sciences through programmes integrated with general education will be

increased sharply. The design of agricultural education will shift towards developing professionals with the ability to understand and use local knowledge, traditional knowledge, and emerging technologies while being cognizant of critical issues such as declining land productivity, climate change, food sufficiency for our growing population, etc. Institutions offering agricultural education must benefit the local community directly; one approach could be to set up Agricultural Technology Parks to promote technology incubation and dissemination and promote sustainable methodologies.

Legal education needs to be competitive globally, adopting best practices and embracing new technologies for wider access to and timely delivery of justice. At the same time, it must be informed and illuminated with Constitutional values of Justice - Social, Economic, and Political - and directed towards national reconstruction through instrumentation of democracy, rule of law, and human rights. The curricula for legal studies must reflect socio-cultural contexts along with, in an evidence-based manner, the history of legal thinking, principles of justice, the practice of jurisprudence, and other related content appropriately and adequately. State institutions offering law education must consider offering bilingual education for future lawyers and judges - in English and in the language of the State in which the institution is situated.

Healthcare education needs to be re-envisioned so that the duration, structure, and design of the educational programmes need to match the role requirements that graduates will play. Students will be assessed at regular intervals on well-defined parameters primarily required for working in primary care and in secondary hospitals. Given that people exercise pluralistic choices in healthcare, our healthcare education system must be integrative meaning thereby that all students of allopathic medical education must have a basic understanding of Ayurveda, Yoga and Naturopathy, Unani, Siddha, and Homeopathy (AYUSH), and vice versa. There shall also be a much greater emphasis on preventive healthcare and community medicine in all forms of healthcare education.

Technical education includes degree and diploma programmes in, engineering, technology, management, architecture, town planning, pharmacy, hotel management, catering technology etc., which are critical to India ’s overall development. There will not only be a greater demand for well qualified manpower in these sectors, it will also require closer collaborations between industry and higher education institutions to drive innovation and research in these fields. Furthermore, influence of technology on human endeavours is expected to erode the silos between technical education and other disciplines too. Technical education will, thus, also aim to be offered within multidisciplinary education institutions and programmes and have a renewed focus on opportunities to engage deeply with other disciplines. India must also take the lead in preparing professionals in cutting-edge areas that are fast gaining prominence, such as Artificial Intelligence (AI), 3-D machining, big data analysis, and machine learning, in addition to genomic studies, biotechnology, nanotechnology, neuroscience, with important applications to health, environment, and sustainable living that will be woven into undergraduate education for enhancing the employability of the youth.

Proposed Implementation Strategy

Objectives to be achieved

i. Convert single stream professional education institutions into multidisciplinary institutions.
ii. Improve skills of students to make them ready for employment with a focus on global competitiveness and local relevance.
iii. Ensure that teaching and research within professional degree institutions is contributing to local, regional, and national objectives.

Action Points

For all HEIs (Applicable to All)

- Standalone HEIs to conduct internal audit to identify new areas in which they can organically expand their degree offerings (HEIs by 2021).

- Expand physical infrastructure and hire faculty and staff to enable rollout of new courses on phases (HEIs 2022).

- Standalone institutions to engage with other institutions in the region and create a cluster to allow students to credit courses that individual HEI cannot offer via organic expansion (HEIs by 2021).

- HEIs to provide latest pedagogical training to all faculty (new recruits to senior faculty) (HEIs by 2021).

- Initiate interdisciplinary projects to document local traditional knowledge in collaboration with other HEIs in the region (HEIs by 2021).

- Translation of study material into regional language with help of regional HEIs and Institutions of Translation and Interpretation (HEIs by 2022).

- Create research internships for PG and Ph.D. students with top research institutions in India and international partner institutions (HEIs by 2022).

- Engage UG students in long duration field exposure via apprenticeships with progressive practitioners in the region (HEIs by 2021).

- Track, measure, and publicize the research output at individual faculty member, department, and university level (including no. of patents; no. of articles published in high impact journals, citation index, successful technology transfer, etc.) (HEIs by 2021).

- Engage with other HEIs in the region to increases cross utilization of research infrastructure (HEIs by 2021).

- Upgrade lab infrastructure by providing funding to all state and central agriculture universities (Central and State governments by 2021).

- Improve intra-university collaboration among departments to design and execute research projects meaningful for meeting regional and national needs (HEIs by 2021).

- HECI-GEC to do benchmarking of Indian universities' PG and Ph.D. program structure, curriculum, pedagogies, and assessments against best programs in the world (HECI by 2022).

- Make it mandatory for students to work on projects focused on locally/regionally relevant problems (HEIs by 2021).

Specifically, for Agricultural Universities

- Move agriculture education from state list to concurrent list to enable Central government to provide greater support to state agricultural institutions (Ministry of Law, Govt. of India by 2021).

- For UG/PG: Agriculture Universities to conduct self-audit and diversify course offerings by starting new programs (e.g. Environmental Science, Chemistry, Microbiology, Zoology, Botany, Baking, etc.) (HEIs by 2022).

- For UG/PG: Market Agriculture degrees, especially in Tier-2 & Tier-3 cities and rural institutions (HEIs by 2021).

- For UG: State HEIs to start bilingual/regional language UG programs focused on catering to needs of local students and local farming community (HEIs by 2022).

- For Ph.D.: Agriculture Universities to explore Industry Research Scholarships from agribusiness corporations to engage Ph.D. students for working on in specific research areas (HEIs by 2021).

- For Ph.D.: Explore possibility of joint research projects with foreign universities with part of student's Ph.D. research at partner institution to make research in agriculture sector more attractive for aspirants (HEIs by 2022).

- Provide additional funds to create new infrastructure (including labs, hostels, classrooms etc.) to accommodate higher student intake in phases (MoE (GoI & States); Ministry of Agriculture (GoI & States) by 2022).

- Create and fill additional faculty and staff positions to ensure adequate student-teacher ratio as student intake increases over years (MoE (GoI & States); Ministry of Agriculture (GoI & States) by 2022).

- Engage progressive local farmers/fishermen/animal breeders etc. and industry professionals as practitioners to teach students about local practices, experiments, and challenges (HEIs by 2021).

- Design courses to provide non-agriculture background Ph.D. students to gain exposure to the field practices (e.g. M.Sc. Biotechnology student joining PhD (Biotech) in an agriculture university) (HEIs by 2022).

- At least one course each semester for UG/PG students to have a significant component of extension to help farmers/community improve productivity and incomes (HEIs by 2021).

- Agriculture Extension work to be included as a formal part of performance indicators for all faculty (HEIs by 2021).

- Research of all faculty to specifically focus on improving farmer productivity and income in the local area (HEIs by 2021).

Specifically, for Law Universities

- BCI to engage top university researchers to benchmark UG legal curriculum of top law colleges in the world and make it mandatory to have certain compulsory elements as part of LLB curriculum for all legal institutions in India (BCI by 2021).

- BCI Committee to invite the best legal pedagogues of India and world and conduct training workshops for Indian legal educators with a focus on UG teaching (BCI by 2022).

- HEIs to self-audit own curriculum and pedagogies and benchmark against BCI's global legal curriculum report parameters (HEIs by 2022).

- BCI to bring together Expert Committee of top faculty and practitioners to benchmark All India Bar Examination against the most reputed Bar examinations across the world in terms of standard of exam and quality of candidates (including their employability) (HEIs by 2022).

- HEIs to conduct training workshops for all faculty by engaging nation's top legal educators (HEIs by 2022).

- BCI to engage top legal educators to create online courses on foundational subjects (and improve existing courses) that will be made available freely to all law students via SWAYAM to ensure good understanding of subjects irrespective of HEI where one is enrolled (BCI by 2022).

- Conduct open house sessions with local community members to let them seek support of HEI faculty and students in resolving their legal issues (HEIs by 2021).

- Provide pro-bono legal services to the poor individuals or communities (HEIs by 2022).

- Allow students to credit two independent study courses to research a local relevant legal issue and a global legal challenge of their choice (HEIs by 2021).

Specifically, for Medical Universities

- NMC to discuss the design, structure, and duration of current medical education programs and need to modify it (NMC by 2021).

- NMC to suggest curriculum for new core courses to be introduced as part of Integrative Healthcare System (i.e. Allopathy + AYUSH) (NMC by 2021).

- Introduce compulsory courses on preventive healthcare and community medicine for all students (HEIs by 2022).

- Engage with preventive healthcare and community medicine experts (educators and practitioners) to offer online and blended learning courses in the subjects (HEIs by 2022).

Specifically, for Technological Universities

- Student Learning: Each course to have at least one guest lecture from an industry practitioner (HEIs by 2021).

- Student Learning: Introduce physical, online, or blended courses to be conducted by industry practitioners (HEIs by 2021).

- Student employability: Engage UG/PG students in live research projects involving faculty and industry practitioners (HEIs by 2021).

- Student employability: Engage students in at least one semester long internship, with mentorship from faculty and guide from industry, to ensure application of knowledge. Embed apprenticeship into all technical education programs (HEIs by 2022).

- Student employability: Offer core/elective courses offered jointly by faculty and practitioners, full credit research/industry projects, and internships in cutting edge areas like Artificial Intelligence, Machine Learning, Data mining, etc. (HEIs by 2021).

- Research and Innovation: HEI faculty and PhD students to work with local industries for product prototyping, new product development, consulting, R&D, etc. (HEIs by 2021).

- Technical departments to collaborate with faculty from other departments, especially from Social Sciences, to offer new interdisciplinary courses that bring together perspectives from diverse fields like Sociology, Psychology, Technology, Management, etc. (HEIs by 2021).

- Initiate joint student projects with interdisciplinary focus in cross-disciplinary courses (e.g. Design, Engineering, Management, and Psychology students coming together for a new technical product design) (HEIs by 2021).