



AKHIL BHARTIYA SHIKSHA SAMAGAM

BACKGROUND NOTES OF THEMATIC SESSIONS

JULY 2023
GOVERNMENT OF INDIA

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Introduction

Government of India announced the National Education Policy (NEP 2020) to outline the vision of India's new education system. NEP, 2020 recognizes the need to prepare for the demographic dividend; create skilled/workforce with multidisciplinary abilities to meet the challenges of dramatic scientific and technological advances, address climate change, increasing pollution, depleting resources, growing emergence of epidemics and pandemics; education system to move towards less content and more towards learning how to think critically and solve problems, etc.

NEP, 2020, while recognizing the development that has taken place since the last policy (NPE 1986), addresses the current challenges, problems, issues prevailing in education sector in the country; assesses the futuristic requirements with the aspirational goals of 21st Century education; envisions the goals to meet future challenges; illustrates various strategies to meet 21st century challenges through equitable access to the highest quality education; multidisciplinary and holistic education integrated with skills; outstanding research; developing critical and creative thinking; strong connect with Indian Knowledge System; re-establishing teacher as the most respected and essential member of society etc. ; and lays down the vision and sets the targets/timelines to achieve the same

Implementation of NEP, 2020 will require multiple initiatives and actions which will have to be taken by multiple bodies in a synchronized and systematic manner. Also, implementation of this Policy will be led by various bodies including Ministry of Education, Union and State Governments, education-related Ministries, State Departments of Education, Boards, NTA, the regulatory bodies of school and higher education, NCERT, SCERTs, schools, and HEIs along with timelines and a plan for review, in order to ensure that the policy is implemented in its spirit and intent, through coherence in planning and synergy across all these bodies involved in education. As education is a concurrent subject, it will need careful planning, joint monitoring and collaborative implementation between the Center and States.

In line with the stipulation of NEP, 2020 Ministry of Education has carried out implementation of the NEP, 2020 in collaboration with the various stake holders including States / UTs. In continuation with these collaborative efforts, an Akhil Bhartiya Shiksha Samagam (ABSS) was organized from 7th to 9th July, 2022 at Varanasi on the implementation of NEP 2020 with objective to create scope for all stakeholders to come together for effective; smooth and timely implementation of the NEP 2020; establish strong linkages among various higher educational institutions; discuss challenges being faced by HEIs and articulated solutions.

In the first ABSS, emphasis was laid on importance of practical experience and field work, evidence based research, education system to focus on producing more job creators; Universities / HEIs to take initiatives to implement, NEP, 2020; and faculty / teachers to be future ready / info-updated. After conclusion of the ABSS, UGC and AICTE continued the process of its efforts of issuing regulation / guidelines in furtherance of the deliberations held in ABSS. ABSS, in 2022, has boosted the pace of implementation and opened new horizons of academic best practices for all.

Further, after announcement of National Education Policy 2020 (NEP 2020), several initiatives have been taken in both School and Higher Education in the last 3 years. In School Education sector viz. National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN Bharat) for ensuring foundational literacy and numeracy by the end of Grade 3, Vidya-Pravesh-Guidelines for Three-month Play-based School Preparation Module; PM e-VIDYA to unify all efforts related to digital/online/on-air education to enable coherent multi-mode access to education, DIKSHA (Digital Infrastructure for Knowledge Sharing) as One Nation One Digital Platform having e-Books and e-Contents, launch of National Curriculum Framework for

Foundational Stage (NCF FS) and Jadui Pitara: Learning Teaching Material (Jadui Pitara) based on NCF FS which is play-based learning teaching material tailored for children between the age group of 3 to 8 years. Indian Sign Language as a Subject at secondary level by National Institute of Open Schooling; NISHTHA (National Initiative for School Heads' and Teachers' Holistic Advancement) 1.0, 2.0 and 3.0 Integrated Teacher Training Programme for different stages of school education for Teachers, Head Teachers/Principals and other stakeholders in Educational Management; National Digital Education Architecture (NDEAR) for creating a unifying national digital infrastructure to energize and catalyze the education ecosystem, implementation of a scheme "New India Literacy Programme or ULLAS" targeting all non-literates age 15 years and above, etc.

Similarly, in Higher Education, various initiatives / reforms have been carried out such as National Credit Framework (NCrF) and National Higher Education Qualification Framework (NHEQF) in conjunction with guidelines / regulations like Curriculum and Credit Framework for Undergraduate Programme; Multiple Entry and Exit in Academic Programme offered by Higher Education Institutions; Transforming HEIs into multi-disciplinary Institutions; pursuing two Academic Programme simultaneously; Academic Bank of Credit; revised regulation of ODL / Online Education permitting up to 40% credits of courses using SWAYAM platform; guidelines on Professor of Practice to enable HEIs to work with industry experts; regulations on Academic Collaboration between Indian & foreign HEIs; regulations on conferment of Autonomous Status to colleges; guidelines for admission & supernumerary seats for students from abroad in UG & PG in Indian HEIs, regulations on Minimum Standards and procedures for award of Ph.D. degree. For promotion of Indian Knowledge, Guidelines for Incorporating Indian Knowledge in Higher Education Curricula; Guidelines for Training/Orientation of Faculty on Indian Knowledge System (IKS); Guidelines for the introduction of courses based on Indian heritage and culture; Guidelines for Empanelment of Artists/Artisans-in-Residence in Higher Educational Institutions; 32 IKS centres have been set up to catalyze original research, education and dissemination of IKS; 64 high end inter-disciplinary research like ancient metallurgy, ancient town planning and water resource management, ancient rasayanshastra etc. projects are undergoing. Around 3227 internships on IKS have been offered.

On the occasion of 3rd Anniversary of announcement of NEP, 2020, a two-day Akhil Bhartiya Shiksha Samagam 2023 on 29.07.2023 to 30.07.2023, is being held covering all aspects of education i.e. School, higher and Skill.

The objective is to brainstorm and identify various approaches and methodologies to implement NEP, 2020; effectively articulate the roadmap and implementation strategies, fostering knowledge exchange, discuss challenges; provide a common platform for all stakeholders to come together and network for effective, smooth, and timely implementation of the NEP 2020; and to deliberate, and share best practices for the implementation of NEP, 2020.

In furtherance of the above objective, after the inaugural session on 29.07.2023, 16 Thematic Sessions on various themes of School Education, Higher Education and Skill Education are to be held which will be led by eminent and distinguished panelists from amongst the academicians, researchers, policy makers, regulators, industry experts / representatives, Officers of GoI / State & UT Governments etc.

Thematic Session-1

Access to Quality Education and Governance -Higher Education

1. Session Brief

Quality education is one of the main Sustainable Development Goals of the United Nations. Quality education and access to it ensures that the population of a country is literate and competent in fundamental knowledge components and skillsets. Quality education can be achieved through transparent, effective, and comprehensive governance mechanisms.

NEP envisions complete overhaul and re-energizing of the higher education system to deliver high quality education with equity and inclusion. Some suggested key changes include:

- (a) Moving towards a higher educational system consisting of large, multidisciplinary universities and colleges, with at least one in or near every district, and with more HEIs across India that offer medium of instruction or programmes in local/Indian languages.
- (b) Moving towards a more multidisciplinary undergraduate education
- (c) Moving towards faculty and institutional autonomy
- (d) Revamping curriculum, pedagogy, assessment, and student support for enhanced student experiences
- (e) Reaffirming the integrity of faculty and institutional leadership positions through merit appointments and career progression based on teaching, research, and service
- (f) Establishment of a National Research Foundation to fund outstanding peer-reviewed research and to actively seed research in universities and colleges
- (g) Governance of HEIs by high qualified independent boards having academic and administrative autonomy
- (h) “Light but tight” regulation by a single regulator for higher education
- (i) Increased access, equity, and inclusion through a range of measures, including greater opportunities for outstanding public education
- (j) Scholarships by private/philanthropic universities for disadvantaged and underprivileged students
- (k) Online education, and Open Distance Learning (ODL)
- (l) All infrastructure and learning materials accessible and available to learners with disabilities.

NEP 2020 stipulates that by 2040 all HEIs shall aim to become multidisciplinary institutions and shall aim to have larger student enrolments preferably in the thousands, for optimal use of infrastructure and resources, and for the creation of vibrant multidisciplinary communities. More HEIs shall be established and developed in underserved regions to ensure full access, equity, and inclusion. There shall, by 2030, be at least one large multi-disciplinary HEI in or near every district. Steps shall be taken towards developing high-quality higher education institutions both public and private that have medium of instruction in local/Indian languages or bilingually. Policy also provides that Single-stream HEIs will be phased out over time, and all will move towards becoming vibrant multidisciplinary institutions or parts of vibrant multidisciplinary HEI clusters, to enable and encourage high-quality multidisciplinary and cross-disciplinary teaching and research across fields. Single-stream HEIs will add departments across different fields that would strengthen the single stream that they currently serve. Through the attainment of suitable accreditations, all HEIs will gradually move towards full autonomy - academic and administrative - to enable this vibrant culture.

According to NEP 2020, the four pillars of governance to ensure quality education are – regulations, accreditation, funding, and training. Each of these four pillars plays an instrumental role in ensuring that education being imparted is up to the universally accepted quality standards and norms:

- (a) Regulations ensure compliance of educational institutes to the laws and standards
- (b) Accreditation ensures that the institutes satisfy the requisite conditions and minimum standards of quality education
- (c) Funding ensures that institutes have the means of day-to-day operations, providing newer and improved courses and curriculum, infrastructure, and facilities, hiring of qualified faculty, and focusing on research, development, and innovation.
- (d) Training ensures that faculty, teachers, and administrators are up to date with the latest improvements in educational pedagogy, technology, subjects, and curriculum.

In order to achieve the vision of NEP 2020, following initiatives have been taken to improve the quality of education and to streamline governance which have shown promising results:

- **Guidelines for Optimal Utilization of Resources by Higher Education Institutions** was released on 11.01.2023 to guide institutes on the best ways of utilizing their resources through cooperation and collaboration in terms of sharing of academic and infrastructural resources leading to a more accessible and equitable distribution of educational resources to people.
- **Redressal of Grievances of Students Regulation** was released on 11.04.2023 to provide opportunities for redressal of certain grievances of students already enrolled in any institution, as well as those seeking admission to such institutions, and a mechanism thereto.
- **Conferment of Autonomous Status Upon Colleges and Measures for Maintenance of Standards in Autonomous Colleges Regulations** was released on 03.04.2023 to confer the status of autonomous college to colleges affiliated to universities, seeking autonomy. The regulations allow colleges that are over 10 years old and be accredited by either NAAC or NBA.
- **Guidelines for Transforming Higher Education Institutions into Multidisciplinary Institutions** was released in September 2022 to transform single-stream institutions into large multidisciplinary universities and autonomous degree-awarding HEIs and to strengthen institutional infrastructure necessary for multidisciplinary education and research.
- **Innovative Pedagogical Approaches and Evaluation Reforms** was released on 22.12.2022 to suggest innovative pedagogies and develop the linkage of Graduate Attributes, as listed in National Higher Education Qualifications Framework (NHEQF), with learning needs and pedagogical approaches to better serve towards achieving the NEP 2020 vision.
- At present around **436 Universities** and **9306 HEIs** are accredited.
- The participation of Universities and HEIs have considerably increased in NIRF 2023 and the total applications for ranking in various categories have increased to **8686**.
- Ranking of Indian HEIs at global stage has been on the rise since last 9 years and around **45 Indian HEIs/ Universities ranked in QS 2024** out of which **11 Indian Universities / HEIs featured in top 500**. Also **44 courses**, in their respective subject categories, have been ranked among the **Global top 100** in QS Rankings 2023.

It is envisioned that to improve quality of higher education, with a target of increasing the accreditation rate from 20% to 80% of the HEIs by 2030 and followed by gradual shift to binary accreditation by 2047.

1.1 Expected Outcomes of the Session

The Session would provide a forum where in the Institutions and stakeholders can collaborate to foster and formulate action plans for improving the quality of education being imparted and to streamline their governance strategies:

- (a) Strategy to be adopted to enhance quality of the higher education and access to the same
- (b) Guidance for institutes to transform themselves into multidisciplinary educational institutes through collaborations
- (c) Leveraging SWAYAM courses to make education more accessible and increase the variety of courses available to learners
- (d) Moving towards institutional autonomy and creating a strong leadership team in the institutes.
- (e) Improved understanding of the NAAC and NBA accreditation process and the eligibility criteria for institutes
- (f) Improved understanding and roadmap for improvement of the ranking of institutes
- (g) Guidance for foreign universities regarding the requirements for opening campuses in India

1.2 Roadmap for the Institutes

Some of the steps that can be taken by institutes to improve the quality of education imparted and to streamline governance are:

- (a) All institutes must be encouraged to set up internal quality assurance cells (IQAC) to monitor all quality assurance activities such as getting accredited and participating in national and international rankings.
- (b) Institutes should be given requisite guidance to get themselves accredited by the National Accreditation and Assessment Council (NAAC) to ensure that the minimum education quality standards are adhered to. Funding incentives may be attached to accreditation grades to encourage institutes to get accredited and improve their existing accreditation grades.
- (c) All technical institutes should be encouraged to accredit their programme offerings by the National Board of Accreditation (NBA) to ensure that the technical programmes in India are in line with the industrial standards and the requirements of the technical industries.
- (d) A light but tight regulatory framework should be adopted by reducing the compliance burden on the institutes through lesser paperwork, allowing self-disclosures, and reducing processing fees.
- (e) Guidance should be provided to institutes to help them formulate their institutional development plans (IDP) to better guide the administration of their institutes.
- (f) Proliferating the use of digital enterprise resource planning systems (ERP) such as the indigenously developed SAMARTH ERP system for effective and easy administration and governance of institutes.
- (g) Faculty development programmes and trainings should be organised on a regular basis to enable professors, teaching assistants, scholars, and administrators to stay updated with the latest pedagogical trends, changes in syllabus, and constantly evolving educational technology.

Thematic Session-2

Access to Quality Education and Governance – School Education

2. Session Brief

Access to quality education and effective governance are foundational pillars of the progress of any country. India faces critical challenges in providing access to quality education and effective governance to all. India's education landscape is diverse, with disparities existing across states and UTs, rural-urban areas, and socio-economic backgrounds. While there has been significant increase in enrollment rates in schools across the stages, challenges persist in providing quality education. Issues such as lack of quality ECCE programmes, shortage of trained teachers, inadequate infrastructure, outdated curricula, focus on English as a medium of instruction and regional disparities, have been recognised by the NEP 2020 as hinderance in ensuring quality and effectiveness of the school governance system.

The National Education Policy (NEP) 2020, which was introduced by the Government of India to overhaul the education system, plays a crucial role in addressing these issues. As per this policy, access and governance are critical for the socio-economic development and overall well-being of the nation. Providing universal access to quality education is the key to India's continued ascent, and leadership on the global stage in terms of economic growth, social justice and equality, scientific advancement, national integration, and cultural preservation. Universal high-quality education is the best way forward for developing and maximizing our country's rich talents and resources for the good of the individual, the society, the country, and the world. Further, our ability to provide high-quality educational opportunities to young population of Indian will determine the future of our country.

By providing access to quality education from early childhood through secondary education (across foundational, preparatory, middle, and secondary stages), the policy aims to ensure equitable opportunities for all children through multiple pedagogies including play-based and discovery-based pedagogy to improve learning outcomes and promote holistic development. A significant aspect of NEP 2020 is ensuring equitable access to education for all sections of society, including marginalized communities, children with disabilities, and those living in remote areas. The policy aims to bridge the digital divide and promote digital literacy to ensure access to online resources and education in the era of technology. It envisions integration of vocational education to enhance employability.

Multilingualism is an inherent part of India's cultural fabric and represents its rich linguistic diversity. The NEP 2020's focus on early education in mother tongue, and development bilingual textbooks and making available children's literature in multiple languages are steps in the right direction to ensure high-quality education.

Quality education largely relies on well-trained and motivated teachers. The NEP 2020 emphasizes the importance of continuous professional development for teachers, encouraging them to adopt innovative teaching practices and stay updated with evolving pedagogical methods.

The Department of School Education and Literacy is implementing an initiative of Vocationalisation of School Education under the umbrella of the Centrally Sponsored Scheme "Samagra Shiksha" for integrating Vocational Education with general academic education in all

Secondary/Senior Secondary schools; enhancing the employability and entrepreneurial abilities of the students , providing exposure to work environment; and generating awareness amongst students about various career options so as to enable them to make a choice in accordance with their aptitude, competence and aspirations. Under the scheme, National Skill Qualification Framework (NSQF) compliant vocational courses are offered to the students from 9th to 12th in the schools covered under the scheme.

NEP 2020 proposes the revision and revamping of all aspects of the education structure including its regulation and governance to create a new system that is aligned with the aspirational goals of 21st century education including SDG4, while building upon India's traditions and value systems. It focuses on creating School Complexes, School Management Committees (SMCs), and strengthening the role of local communities in school administration.

2.1 Expected Outcomes of the Session

Understanding the issues related to access to quality education and governance with special focus on:

- (i) ECCE [Early Childhood Care and Education]
- (ii) Teacher Professional Development
- (iii) Outdated Curricula
- (iv) Quality learning-teaching material (in print and e-form)
- (v) Inclusion
- (vi) Multilingual education
- (vii) Getting acquaintance about new and innovative methods to provide quality education in schools?
- (viii) Sharing of strategies including use of ICT to strengthen governance in school education?

2.2 Roadmap for Institutes

In view of strengthening foundational learning, the NEP 2020 has emphasized upon strengthening of Foundational Literacy and Numeracy (FLN) with the help of a National Mission on FLN. Further, it also recommends provisioning quality ECCE by developing a National Curricular and Pedagogical Framework for Early Childhood Care and Education (NCPFECCE) for children up to the age of 8 by the NCERT which is aligned with the guidelines of the NEP 2020, the latest research on ECCE, and national and international best practices. The framework will serve as a guide both for parents and for early childhood care and education institutions. The Ministry of Education, in collaboration with NCERT, has already launched NIPUN Bharat Mission for strengthening FLN.

It was also recognised that with the lack of universal access to ECCE, a large proportion of children already fall behind within the first few weeks of Grade 1. Thus, to ensure that all students are school ready, an interim 3-month play-based 'school preparation module' for all Grade 1 students, consisting of activities and workbooks around the learning of alphabets, sounds, words, colours, shapes, and numbers, and involving collaborations with peers and parents, was developed by NCERT and SCERTs. An emphasis has also been given on the development of a national repository of high-quality resources on foundational literacy and numeracy and its availability on the Digital Infrastructure for Knowledge Sharing (DIKSHA). A concerted national effort will be made to ensure universal access and afford opportunity to all children of the country to obtain quality holistic education—including vocational education - from pre-school to Grade 12.

The credibility of Government schools shall be re-established, and this will be attained by upgrading and enlarging the schools that already exist, building additional quality schools in areas where they do not exist, and providing safe and practical conveyances and/or hostels, especially for the girl children, so that all children can attend a quality school and learn at the appropriate level. Alternative and innovative education centres will be put in place in cooperation with civil society to ensure that children of migrant labourers, and other children who are dropping out of school due to various circumstances are brought back into mainstream education.

All efforts will be made in preparing high-quality bilingual textbooks and teaching-learning materials for science and mathematics, so that students are enabled to think and speak about the two subjects both in their home language/mother tongue and in English.

High-quality textbook materials will be developed by NCERT as a follow-up of the National Curriculum Framework for School Education in conjunction with the SCERTs. States will prepare their own curricula (which may be based on the NCFSE prepared by NCERT to the extent possible) and prepare textbooks (which may be based on the NCERT textbook materials to the extent possible) incorporating State flavour and material as needed. The availability of such textbooks in all regional languages will be a top priority so that all students have access to high-quality learning.

In view of providing barrier free access to quality education for all children including children with disabilities, assistive devices and appropriate technology-based tools as well as adequate and language-appropriate teaching-learning materials (e.g., textbooks in accessible formats such as large print and Braille) need to be made available to help children with disabilities.

In view of improving quality of teachers, NCTE has been implementing Integrated Teacher Education Programmes and in the process of finalising National Professional Standards for Teachers.

2.3 Best Practices

Quality Education

The National Education Policy, 2020 is in the process of implementation. In view of implementing the NEP 2020 and addressing the expectations of our society for our future learners, following major initiatives have been undertaken to provide access to quality education which are being practiced across the states and UT within their own contexts:

A. NISHTHA “National Initiative for School Heads’ and Teachers’ Holistic Advancement

NEP 2020 emphasises on Continuous Professional Development (CPD) of teachers. It recommends 50 hrs CPD for every teacher in a year. NISHTHA – National Initiative for School Heads’ and Teachers’ Holistic Advancement – is an integrated teacher training programme designed by the NCERT to build the capacities of around 42 lakh elementary teachers and Heads of Schools at the elementary stage, faculty members of SCERTs and DIETs and Block Resource Coordinators and Cluster Resource Coordinators. This programme has been expanded to cover teachers at different stages. So far NISHTHA Elementary, Secondary, Foundational Literacy and Numeracy, ECCE has been introduced for different stages of school education for Teachers, Head Teachers/Principals and other stakeholders in Educational management.

NIPUN initiative:

National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN Bharat) has been launched under Samagra Shiksha for ensuring that every child in the country necessarily attains foundational literacy and numeracy (FLN) by the end of Grade 3. Learning Outcomes for the Secondary level have also been notified.

B. Digital Initiatives

Following digital initiatives taken under the implementation of NEP, 2020 have been helping in realisation of the goal of reaching out to every learner of the country and providing equitable and inclusive education.

PM e-VIDYA has been initiated which unifies all efforts related to digital/online/on-air education to enable multi-mode access to education. The programme envisions digital mode of learning for children under the major heads: DIKSHA- One nation, One digital platform for school education, One class, One channel- 2 Channels for PM e-VIDYA, Use of radio, community radio and podcast, digital education for the differently abled. Sign language videos are also developed and disseminated. The 12 DTH TV Channels cover NCERT's textbook chapter-based video resources for Classes 1-12.

DIKSHA - One Nation, One Digital Platform

The DIKSHA portal currently houses 6,068 QR coded-energized textbooks, including 361 NCERT textbooks. There are 307,475 lakhs e-contents (in the form of videos) contributed by States/UTs and Autonomous bodies that are currently live on DIKSHA. There are 8,740+ e-courses available on DIKSHA till date. Till now 954 Indian Sign Language (ISL) based videos for class 1 to 5 are uploaded on DIKSHA and simultaneously telecast on PM e-VIDYA channels. The virtual lab vertical on DIKSHA houses 218 simulations and the Vocational Education vertical on DIKSHA provides e-content in the form of audios, videos on 19 sector wise job roles for grade 9-12.

C. Inclusive Education –Development of Accessible Content

National Education Policy (2020) has emphasized developing UDL (Universal Design of Learning) based accessible teaching-learning material on holistic development of students with special needs studying in inclusive classrooms. For the first time, NEP 2020 has recognized Indian Sign Language (ISL) as a language and advocated the development of curriculum-based material in ISL. A lot of accessible content has been developed to provide educational e-Content to every nook and corner of the country through online as well as offline modes, and to sustain inclusive and equitable education. These e-Content is developed by a well-skilled and trained team of academicians, special educators, ISL experts, teachers, production team as an in-house project. ISL advocacy is being done through live interactive sessions on PMeVIDYA DTH TV Channels, "Teaching Learning Interventions in Inclusive Classrooms. - Ask the Expert".

D. Toy-based Pedagogy (Experiential Learning)

Handbook on Toy-based Pedagogy

The NEP 2020 has given much importance to experiential and play-based learning. Toys, Games and Puppets are at the core of experiential learning for across the stages. Given this perspectives, Ministry of Education has launched a Handbook on Toy-based Pedagogy developed by the NCERT on the occasion of Shikshak Parva, 2022, which will be helpful in integrating toys and games in the curriculum across the stages and promote use of not only available indigenous toys,

games and puppetry across the schools in all the regions, but also inspire teachers and students to design innovative toys with indigenous material across the stages for the development of competencies and skills mapped with these toys. It will also enhance the need for variety of indigenous toys for schools and teacher education institution. The Handbook on Toy-based pedagogy provides many examples of mapping of competencies in all the subject areas and in multidisciplinary manner with toys across the stages. It also elaborates upon the importance and benefits of toys at the foundational, preparatory, middle, and secondary stages.

Modules on Toy-based Pedagogy

Two modules on Toy -base pedagogy, one for the NISHTHA (secondary stage teachers) and other for the NISHTHA for teachers dealing with the foundational stage have been developed. Around 7.5 lakh secondary stage teachers and 9.5 lakh teachers dealing with foundational stages have completed module on toy-based pedagogy at DIKSHA portal.

National and International Webinars on Toy-based Pedagogy

National and International Webinars on Toy-based Pedagogy have been conducted in 2021-22 and learning from these webinars have been incorporated in the Handbook and in the modules on toy-based pedagogy.

Vidya Pravesh

Guidelines for three-month play-based school preparation module for Grade-I children has been released on 29th July 2021 to ensure that all children are exposed to a warm and welcoming environment when they enter Grade-I.

E. Implementation of NCF-FS (Access to quality Learning -Teaching Material)

Jaadui Pitara : As a follow-up of the NCF-FS, keeping play at the core of learning, a collection of Learning- Teaching Material for the foundational stage titled as Jaadui Pitara has been launched on 20th February 2023 by the MoE.

Textbooks for Classes 1 and 2: Based on the syllabus, textbooks for Hindi, English, Mathematics and Urdu for Classes 1 and 2 have been developed and launched by Hon'ble Education Minister on 04.07.2023. The textbooks focus on play based, discovery based, story based pedagogical approaches rooted in our culture for curriculum transaction.

2.4 Governance

A 70 indicator based matrix Performance Grading Index (PGI) has been developed to grade the States/UTs.

A. Rationalisation of Schools -

Many states in India have undertaken rationalisation of schools to optimize the education system and improve quality of education. Some of these states include Haryana, Uttar Pradesh, Rajasthan, Andhra Pradesh, Karnataka, Madhya Pradesh, and Odisha.

B. Vidya Samiksha Kendra

Vidya Samiksha Kendra set up in Gujarat for monitoring school education at the State Level is the first of its kind initiative in the country. As part of the initiative, Vidya Samiksha Kendra was established to be the nerve centre for all transformational interventions. It has been instrumental to conceptualize, plan, implement, nurture, monitor, and evaluating the initiatives to ensure 'Schooling to Learning'. It has been established to ensure seamless communication and coordination across stakeholders and to improve the quality of data reported through Quality assurance and data triangulation.

Vidya Samiksha Kendra would be a key enabler for the State in enabling its mission to shift from schooling to learning. Vidya Samiksha Kendra will focus on objective data analysis and actionable insights, predictive analysis for future readiness, and technology for seamless communication among stakeholders. It will fix accountabilities and provide tailor-made support to the stakeholders for bridging identified gaps.

The Structured Assessment for Analyzing Learning Levels (SAFAL) framework has been developed by CBSE schools for grades 3, 5 and 8 focusing on testing for core concepts, application based questions and higher order thinking skills.

C. Improving Classroom Transactions through inclusion of technology and enabling digital learning:

Smart Classes, ICT Labs and Tablets: To enhance the quality of learning, more than 12,000 smart classes has been setup in the State, with an additional 18,000 smart classes and 800+ ICT labs under commissioning.

- Access to world class educational content
- Online classes in collaboration with experts from India's most prestigious institutes
- Providing state of the art smart classes & ICT Labs even to the most rural and remote parts of the state

With these trendsetting initiatives, India aims to provide high quality education to all. Close collaboration between stakeholders including government, policymakers, civil societies, industry, and NGOs will be crucial for accelerated impact of the same in the country. It will also help in collaborative action and allow for calibration by leveraging the expertise offered by the institutions outside of Governments.

Thematic Session-3

NCrF and APAAR (Academic Account Registry)

3. Session Brief

The principles of the NEP, 2020 states that a good education institution is one in which every student feels welcomed and cared for, where a safe and stimulating learning environment exists, where a wide range of learning experiences are offered, and where good physical infrastructure and appropriate resources conducive to learning are available to all students. Attaining these qualities must be the goal of every educational institution. However, at the same time, there must also be seamless integration and coordination across institutions and across all stages of education.

Further one of the fundamental principles of the policy that will guide the education system at large, is flexibility, so that learners can choose their learning trajectories and programmes, and thereby choose their own paths in life according to their talents and interests. A flexible education system provides students with multiple options of entering and exiting their academic programme of choice as per their needs and convenience. NEP 2020 also envisions an education system that focuses not only on academics but also on skill development through vocational education that is integrated with academic education.

In order to realize these visions of NEP 2020, the National Credit Framework (NCrF) has been developed. The NCrF provides a framework for the creditisation of all levels of learning that a student goes through. It is an amalgamation of the National Higher Education Qualification Framework (NHEQF), the National Skills Qualification Framework (NSQF) and the upcoming National Curriculum Framework (NCF). While the NHEQF, NSQF, and NCF decide the learning outcomes at each level, the NCrF decides the credit requirements as well as the notional learning hours of each of the levels. NCrF along-with NHEQF will enable multi-disciplinary education, lifelong learning, recognition of prior learning in cohesion with multiple exit/entry, mobility across streams, national and international equivalence and comparability, multiple learning pathways, lifelong learning, ensures confidence of Public in HE System

The **Academic Bank of Credits (ABC)** goes hand-in-hand with the NCrF and enables students to accumulate the credits allotted on the basis of NCrF and transfer them across courses and academic institutes. Students who wish to take a break can utilize their accumulated credits to pursue their studies after taking the break. Additionally, students who wish to transfer from one institute to another due to their interests or due to necessity, can transfer their credits through the National Academic Depository (NAD) to their institute of choice. The option of multiple entry and exit provided by NCrF and ABC is a stepping stone in ensuring that all students get access to educational opportunities and are able to pursue their studies without any hindrance.

APAAR (Automated Permanent Academic Account Registry) - In line with the NEP 2020, National Digital Education Architecture (NDEAR) has been formed as a unifying National Digital infrastructure to energize and catalyze the education ecosystem. One of the core building blocks under NDEAR is student/faculty registry. National Education Technology Forum (NETF) Cell has conceptualized an APAAR (Automated Permanent Academic Account Registry) framework to operationalize this aspect of NDEAR. Such an effort would bring together key public data & technology platforms such as All India Survey for Higher Education (AISHE), Unified District Information System for Education (UDiSE), Academic Bank of Credit (ABC) etc and ensure a seamless student education journey from early childhood to an adult learner. APAAR would be an authenticated unique “Single Sign on Federated Registry” of Students/Learners,

Teachers/Faculty, Educational Institutes, and skill providers across DoHE, DoSEL, MoSDE and State Govt which will be coordinated by the NETF.

In order to operationalize NCrf and ABC and to realize NEP 2020's goal of flexible education, the Government of India formulated the following regulations which have shown promising results:

- **Guidelines for Multiple Entry and Exit in Academic Programmes Offered in Higher Education Institutions** was released in July 2021 to remove rigid boundaries, curtail the dropout rate, offer creative combinations of disciplines, and enable credit accumulation and transfer.
- **Guidelines on Establishment and Operation of Academic Bank of Credits in Higher Education Regulations** was released on 28.07.2021 and further amended on 28.12.2021 to allow students to learn at their own pace and to facilitate multiple entry and exit.
- **Curriculum and Credit Framework for Undergraduate Programmes** was released in December 2022 to facilitate the adoption of flexibility for learners to move from one discipline/institution to another to enable them to have multi/interdisciplinary learning and switch to alternative modes of learning (offline, ODL, and online learning, and hybrid modes of learning).
- **National Credit Framework** was released in April 2023 to act as an inclusive one single meta framework to seamlessly integrate the credits earned through school education, higher education, and vocational & skill education. It provides for assignment, accumulation, storage, transfer, and redemption of credits.
- As of now **1440 Universities/INIs/HEIs** are onboarded on ABC with **1.20 crore ABC ID**.

3.1 Expected Outcomes of the Session

- (a) Improved understanding of the synergy between NCrf, NHEQF, NSQF, and NCF
- (b) Dissemination of strategies to increase ABC adoption
- (c) Guidance for registering both institutes and students on the ABC portal
- (d) Understanding the increasingly important role of digital public infrastructure in education
- (e) Strategies to make higher education more flexible for learners through multiple entry and exit.

3.2 Roadmap for the Institutes

Some of the ways in which the adoption of NCrf and ABC can be increased are:

- (a) Encouraging or mandating all institutes to adopt the NCrf by introducing the Four-Year Undergraduate Programme (FYUP) and adopting the credit system if it is not in place.
- (b) Encouraging or mandating all institutes and students to register on the ABC portal.
- (c) Guiding institutes on the credit allocation norms and the process of awarding the credits, storing/accumulating them, and transferring them across other institutes.
- (d) Encouraging institutes to collaborate with each other to streamline the process of transferring credits smoother.
- (e) Institutes can consider offering internship-embedded degrees or awarding credits for internships and apprenticeships to uphold the vocational education component of the NEP 2020.
- (f) Institutes can consider hosting workshops and orientation for students to help them understand the Multiple Entry and Exit pathways available to them which would encourage them to register on the ABC portal.

Thematic Session-4

Equitable and Inclusive Education: Issues of Socio-Economically Disadvantaged Groups (SEDGs)

4. Session Brief

In the year 2015, India adopted the 2030 agenda for sustainable development. The goal 4 of SDG mentioned to “**ensure inclusive and equitable quality education and promote lifelong learning opportunities for all by 2030 (NEP 2020)**”. One of the fundamental principles of the NEP 2020 that will guide the education system stipulates full equity and inclusion as the cornerstone of all educational decisions to ensure that all students are able to thrive in the education system. The ultimate aim of the NEP is to increase the Gross Enrollment Ratio (GER) at both the school and higher education levels and bring it at par with the developed countries in the world.

Equitable and inclusive education refers to a system in which all individuals, regardless of their socio-economic background, have equal access to quality education and opportunities for academic success. It aims to address the disparities faced by socio-economically disadvantaged groups and ensure that everyone has an equal chance to learn, grow, and thrive.

NEP recognises that while policies have made steady progress towards bridging gender and social category gaps in all levels of school education, large disparities still remain - especially at the secondary level - particularly for socio-economically disadvantaged groups that have been historically underrepresented in education. Socio-Economically Disadvantaged Groups (SEDGs) can be broadly categorized based on gender identities (particularly female and transgender individuals), socio-cultural identities (such as Scheduled Castes, Scheduled Tribes, OBCs, and minorities), geographical identities (such as students from villages, small towns, and aspirational districts), disabilities (including learning disabilities), and socio-economic conditions (such as migrant communities, low income households, children in vulnerable situations, victims of or children of victims of trafficking, orphans including child beggars in urban areas, and the urban poor).

Exclusion and inequity that SEDGs face is only amplified for the women in these SEDGs. The policy additionally recognizes the special and critical role that women play in society and in shaping social mores; therefore, providing a quality education to girls is the best way to increase the education levels for these SEDGs, not just in the present but also in future generations. The policy thus recommends that the policies and schemes designed to include students from SEDGs should be especially targeted towards girls in these SEDGs.

NEP also recognises that there are certain facets of exclusion, that are substantially more intense in higher education. These must be addressed specifically which include lack of knowledge of higher education opportunities, economic opportunity cost of pursuing higher education, financial constraints, admission processes, geographical and language barriers, poor employability potential of many higher education programmes, and lack of appropriate student support mechanism.

Access to education is also a gender problem wherein female students are often restricted from education. Several forms of learning and physical disabilities also hinder students from getting uninterrupted access to learning in safe environments. NEP 2020 also recognises the issues related to access of education to Divyang and suggests measures to be taken.

According to U-DISE 2016-17 data, about **19.6%** of students belong to **Scheduled Castes** at the primary level, but this fraction falls to **17.3%** at the higher secondary level. These enrolments drop offs are more severe for **Scheduled Tribes students (10.6% to 6.8%)**, and **differently abled children (1.1% to 0.25%)**, with even greater declines for female students within each of these categories. The decline in enrolment in higher education is even steeper with the **total GER standing at 27.3% with GER for scheduled castes and scheduled tribes falling to 23.1% and 18.9% respectively.**

In the vision 2047 for education, it is targeted that GER for Higher Secondary which in 2021-22 is 53.79% to be increased to 75.5% by 2030 and 100% by 2047. Similarly, GER for Higher Education which in 2020-21 is 27.3% is targeted to be increased to 41% by 2030 and 65+% by 2047.

It is envisioned that for equitable and inclusive access to education, following roadmap of activity for **2022-30** shall be adopted:

- Developing inclusive, equitable infrastructure: Augmenting physical (such as ramps and washrooms for CWSN) and human infrastructure (equip faculty to support students from vulnerable backgrounds)
- Revamping pedagogy to make learning inclusive: Deliver in-class instruction in the students' mother tongue, especially in the formative years, and then pivot to bilingual instruction (English and the State's language), with the mother tongue continued to be taught as a language
- Enabling open and distance learning: Leveraging the private sector for large-scale high-quality, inclusive online content creation, such as multi-sensory input/output, and deliver through digital platforms/universities, such as DIKSHA/SWAYAM
- Developing financial support mechanisms: Creating structured scholarship programs to enable all students to continue learning especially focussed on higher education, through both public and private philanthropic channels

For the period from **2030-47** the following activity roadmap shall be adopted:

- Establishing and universalising robust infrastructure: Set up of best-in-class inclusive physical infrastructure across all districts and equipping all faculty, even from remote areas to mentor and teach students from vulnerable backgrounds. Offering all programs, across domains and disciplines, in Indian languages to make learning possible for all
- Making higher education accessible to all: Establishing high quality, multi-disciplinary higher education institutes in all districts, focussed especially on increasing women's participation across disciplines, including science, technology, engineering, and mathematics
- Streamlining digital access: Expanding access to digital universities and develop high-quality teaching-learning resources in all formats, including print, audio, video, digital, AR, VR, Haptics, etc. in all spoken languages, delivered through easily open digital platforms
- Making learning affordable for all: Deploying and universalizing access to financial tools to provide scholarships, loans, and innovative financing instruments to students to enable learning across all levels and disciplines of learning

In order to increase access and proliferation of education and to address the needs of the most vulnerable groups of learners, the government of India has formulated the following regulations which have yielded promising results:

- Towards ensuring quality education for the visually impaired, 'Talking Books' has been developed by NIOS to aid Divyang students with NCERT course on platforms like e-Pathshala & DIKSHA.

- **Accessibility Guidelines and Standards for Higher Education Institutions and Universities** was released in June 2022 to suggest the institutes to make provisions for persons with disabilities and to provide them an accessible environment for their barrier-free participation in all respects. It also aims to assist institutes in developing an effective accessible mechanism at their premises for the persons with disabilities ranging from the admission process till the completion of the course.
- **Basic facilities and amenities for a safe, secure environment for Women and Women Cell for sensitization, policy implementation, monitoring, and grievance redressal in HEIs** was released on 22.12.2022 to provide guidelines and solutions to the most pressing issues for women in educational institutes: infrastructural facilities and amenities for a safe and secure environment, and the establishment of women cells to act as centers for gender sensitization, policy formulation and implementation and grievance redressal.
- **Minimum Standards and procedures for award of Ph.D. degree Regulations, 2022** which inter alia, provides that female Ph.D. scholars and Persons with Disabilities (having more than 40% disability) may be allowed an additional relaxation of two (2) years. Female Ph.D. Scholars may be provided Maternity Leave/Child Care Leave for up to 240 days in the entire duration of the Ph.D. programme.
- **Guidelines for Promotion of Physical Fitness, Sports, Students' Health, Welfare, Psychological and Emotional Well-Being at HEIs of India** was released on 12.04.2023 to set encourage an attitude of physical fitness and to set up Student Services Centres (SSC) in institutes to deal and manage the problems related to stress and emotional adjustment of students, especially from rural backgrounds, female students, students from divergent cultural backgrounds, and students with special needs.

4.1 Expected Outcomes of the Session

- (a) Understanding the issues faced by the most vulnerable groups with special focus on:
 - i. Female learners
 - ii. Learners from marginalized communities
 - iii. Learners with physical or learning disabilities
- (b) Formulating new and innovative methods to increase the accessibility of both school and higher education
- (c) Leveraging the role of digital means such as online classes and exams as a method of bridging the educational gap

4.2 Roadmap for the Institutes

The NEP 2020 emphasizes on ensuring that all children have access to quality ECCE, which is crucial for **bridging learning gaps** and promoting early development, especially for children from socio-economically disadvantaged backgrounds. The policy recognizes the importance of foundational literacy and numeracy skills for all children and aims to ensure that every child achieves these fundamental skills by grade 3. This focus on early literacy and numeracy is particularly important for children from socio-economically disadvantaged groups, therefore, inclusive learning is provided in classrooms under **NIPUN Bharat Program**. The Government of India constitutes a '**Gender-Inclusion Fund**' to build the nation's capacity to provide equitable quality education for all girls as well as transgender students. Similar 'Inclusion Fund' schemes shall also be developed to address analogous access issues for other socio-economically disadvantaged students, and other marginalized groups. **Kasturba Gandhi Balika Vidyalayas** is being strengthened and expanded to increase the participation in quality schools (up to Grade 12) of girls from socio-economically disadvantaged backgrounds. This Policy is in complete

consonance with the provisions of the **RPWD Act 2016** and endorses all its recommendations regarding school education. **Barrier free access** for all children with disabilities is developed as per the RPWD Act under **Samagra Shiksha Scheme** along with **Assistive devices** and appropriate technology-based tools, as well as adequate and language-appropriate teaching-learning materials (**e.g., textbooks in accessible formats such as large print and Braille**) are made available to help children with disabilities. NIOS has developed high-quality modules to teach **Indian Sign Language** and to teach other basic subjects using Indian Sign Language. Assessment and certification agencies, including the proposed new National Assessment Centre, **PARAKH**, will formulate guidelines and recommend appropriate tools for conducting such assessment, from the foundational stage to higher education (including for entrance exams), to ensure equitable access and opportunities for all students with learning disabilities. The **home-schooling option** is available for children with severe disabilities. The NEP 2020 recommends an increase in **scholarships and other financial support mechanisms** to ensure that socio-economically disadvantaged students can access higher education and educational opportunities without financial barriers.

With these trendsetting initiatives, India aims to create a more inclusive and equitable education system. Close collaboration between stakeholders including government, policymakers, civil societies, industry, and NGOs will be crucial for accelerated impact of the same in the country. It will also help in collaborative action and allow for calibration by leveraging the expertise offered by the institutions outside of Governments.

Thematic Session-5

Innovation and Entrepreneurship

5. Session Brief

Innovation and entrepreneurship are key drivers of economic growth, social progress, and environmental sustainability in the 21st century. One of the fundamental principles of NEP 2020 for guiding the education system is the nurturance of creativity and critical thinking in learners to harbour innovation. It insists on that Higher Education must form the basis for knowledge creation and innovation thereby contributing to a growing national economy. HEIs will focus on research and innovation by setting up start-up incubation centres, technology development centres, centres in frontier areas of research, greater industry-academic linkages, and interdisciplinary research including humanities and social sciences. Given the scenario of epidemics and pandemics, it is critical that HEIs take the lead to undertake research in areas of infectious diseases, epidemiology, virology, diagnostics, instrumentation, vaccinology, and other relevant areas. HEIs will develop specific hand holding mechanisms and competitions for promoting innovation among student communities.

The NEP 2020 aims to establish an educational landscape that caters to the overall development of students to create industry ready work force to meet global industry requirements and emphasis on entrepreneurship and start-ups ecosystem. NEP 2020 also promotes entrepreneurship amongst students with the exposure to vocational education in partnership with industry and in alignment with the Sustainable Development Goal 4.4 (SDG).

One of the principles driving the NEP 2020 is creativity and critical thinking to encourage logical decision making and innovation. Teaching innovations is necessary for:

- i. Adapting to the changing needs of the evolving job market
- ii. Fostering creativity and critical thinking skills
- iii. Encouraging collaboration and problem-solving abilities
- iv. Addressing the unique learning needs of each student

Some of the initiatives by the Government to nurture innovation in students are as follows:

- (a) Establishment of Institution's Innovation Councils (IICs) to systematically foster the culture of innovation and start-up ecosystem. Applied research, innovation and entrepreneurship are integral to IICs. HEIs to ensure a multidisciplinary interaction and partnership approach for boosting IP generation, enhancing innovation and start-up outputs from academic institutions.
- (b) AICTE- IDEA (Idea Development, Evaluation & Application) Labs with prototyping facilities being set-up in institutions with a view to encourage students for application of STEM fundamentals towards enhanced hands-on experience and learning by doing. Also, to impart training on 21st century skills, like critical thinking, problem solving and design thinking, collaboration and communication that can enhance their employability. AICTE approved engineering colleges with at least 10 years of existence and active accreditation to one course/programme course are eligible to apply under this scheme.
- (c) Through related provisions of NEP 2020, integration of vocational education with educational offerings in institutions and mapping of local opportunities has been helpful in developing entrepreneurial competencies besides capacities and has helped make vocational education a part of the larger vision of holistic education.

- (d) Some of the key achievements over the past 3 years that indicate the scale of implementation are setting up of **7265 Institution Innovation Councils (IICs)** in 28 States & 8 UTs, and the funding of **106 IDEA labs** since its inception in 2022. Overall, India's rank in the Global Innovation Index (GII) has leapfrogged to **40th position in 2022** from 52nd position prior to NEP release.

To actualise the vision of India as global education hub, it is intended to promote innovations in the HEIs through partnership with industry players. Similarly, to actualise the vision of 'Well rounded leaders for the 21st Century' it is intended that by 2030 to establish Institutions as hubs of innovation, create pathways for strengthened industry and academia linkages through 'Professor of Practice' model, allowing industry experts to teach and mentor students, and promote on-campus incubation of the start-ups. By 2047, aim is to create a culture of innovation across institutions by launching co-created /joint programmes with the industry across HEIs.

The vision is to make HEIs centres of innovations which can propel India's GII ranking from current 40th (2022) to 35 by 2030 and within 20 by 2047.

5.1 Expected Outcomes of the Session

The session would provide a platform for engaging with stakeholders on the various aspects of Innovation and Entrepreneurship and its implementation, such as:

- (a) Improvements in key indicators and indices for measuring Innovation and Entrepreneurship, including better parity with global benchmarks and top performers
- (b) An understanding of scope of convergence of various schemes to foster innovation and entrepreneurship across school and higher education.
- (c) Pathway to improving the scale, quality, and output of RDCs in supporting industries.
- (d) Opportunities for collaboration of HEIs within the ecosystem of S&T Clusters and Start-up Hubs.

5.2 Roadmap for the Institutes

Innovation and entrepreneurship cannot be promoted within a small-time frame, but it requires a collective effort from all segments of the society. NEP 2020 has laid an important path towards this. Further, the recent success of Indian start-ups has also help kindle the entrepreneurial spirit not just in youth but also in the overall society wherein entrepreneurs are now being celebrated.

Institutes need to create an environment where out of the box and innovative thinking are encouraged and this can be done only when our instructors are trained accordingly. Training of Trainer programmes need to be accordingly organized and curriculum for the existing trainings should be revised. The training programmes for trainees should focus on development of problem-solving skills and should inculcate more case studies even in technical programmes.

Some of the other activities that should be undertaken are:

- (a) **Developing and introducing of curriculum on Entrepreneurship Development:** Incorporating entrepreneurship training by Introduction of an entrepreneurship module covering all major facets of business. The module may cover aspects such as incorporation, legal frameworks, finance and accounting, Marketing, and promotion etc. The module may also create awareness about various government initiatives to undertaken to encourage entrepreneurship which shall help candidates understand opportunities and benefits of entrepreneurship.

- (b) **Creation of Incubation Centres:** Formation of incubation cells for development of business ideas at a regional or state level to assist trainees in formulation and fruition of their plans may also be undertaken. Being embedded in an institution, an effective entrepreneurship and incubation support cell may provide assistance to cover plethora of activities for development and promotion of entrepreneurship. The cell may guide and assist prospective entrepreneurs on various aspects such as preparing project reports, obtaining project approvals, loans, and facilities from agencies of support systems and information on various technologies.
- (c) **Conducting state and national level competitions:** Conducting innovation and idea-based competitions coupled by mentorship support may foster the spirit of entrepreneurship among students.
- (d) **Encouraging collaboration with the private sector:** Institutes may focus towards partnering with corporates, foundations, and other research-intensive institutions. This will enable trainees and instructors to exchange ideas inside and outside the institutes, thereby help to prepare students to be citizens of a rapidly changing world. The institutes can provide a platform for interaction with entrepreneurs via guest lectures and industry visits.
- (e) **Promoting diversity and inclusion:** A more diverse group of trainees shall lead to broadening the trainee exposure, peer to peer learning and provide different ideas.
- (f) **Mandatory NIEBUD trained instructor at each institute:** Availability of NIESBUD trained instructor who can promote entrepreneurship by introducing it at an early stage.

Thematic Session-6

Empowering the Institutions and strengthening academic linkages through the SCERTs and DIETs

6. Session Brief

The inter-institutional linkages are crucial for the effective functioning of every institution because they simultaneously operate in differential contexts. Three significant aspects for streamlining such linkages are functional, administrative and financial which encompass all levels of institutional structures from School to Block Level Institute of Teacher Education (BITEs)/Cluster Level Resource Center (CLRCs) through DIETs to SCERTs and SCERTs to the National level. The correlation in all these three aspects should be active at the functional levels. These should be adhered to, not so much as regulatory channels, but for mutual supplementation and enrichment.

State Institute of Education (SIEs) was established in mid-60s for qualitative improvement of elementary education. Their functions envisaged organisation of in-service training programmes for teachers and supervisory personnel, conduct of conferences and seminars for senior officers (district level and above) of Education Department. In 1973, the Ministry of Education and Social Welfare recommended the merger of all such units/institutions and agencies in the State Education Department into a single organisation named State Council of Educational Research and Training.

The National Policy on Education 1986 and 1992 further recommended the strengthening of State Council of Educational Research and Training (SCERT) in each State as a measure of decentralization of functions of quality education, research and training. Therefore, a *Centrally Sponsored Scheme of Teacher Education* was launched in 1987 by the Govt. of India to create a sound institutional infrastructure for pre-service and in-service training of teachers and for academic resource support to elementary and secondary schools.

Again, during Xth five-year plan, the scheme was revised for the first time and then in 2012 was named as *Guidelines for Implementation of 'Re-structuring and Re-organisation of the Centrally Sponsored Scheme on Teacher Education'*.

At present, there are 31 SCERTs and One SIE (Andaman & Nicobar Island) in the country. The Union Territories of Daman & Diu and Dadra & Nagar Haveli, Ladakh, Lakshadweep and Puducherry do not have either SCERT or SIE. The functions related to SCERTs in these union territories are performed by State Departments of Education/DIETs.

The District Institutes of Education and Training (DIETs) were envisioned in the National Policy on Education, 1986, and were created by the Government of India, Ministry of Human Resource Development (presently, Ministry of Education) in the early 1990s. It aimed to strengthen elementary education and support the decentralization of education to the district level. The Right to Education (RTE) directs the state to address the need to invest in quality schools- through adequate and child friendly infrastructure, curriculum and school practices.

The RTE mandates qualified teachers who are able to engage in providing education which supports the development of all children. DIETs are being involved in many in-service and pre-service teacher

education programmes along with supporting Schools, CRCs and BRCs in implementation of state level as well as national level initiatives.

DIETs were conceived as the third district level- tier to support the system which would be closer to the field, and therefore more alive to its problems and needs. The core institutional focus of a DIET was Continuous Professional Development of teacher and head teachers, which would directly/indirectly impact on school improvement programmes.

6.1 Roles & Functions of SCERT & DIETs:

The role of SCERTs as a state resource institution has expanded to provide academic support at all stages of education, undertake co-ordination of all academic matters relating to school education, maintain appropriate linkages with other educational organizations and provide supervision/support to the district and sub-district level institutions.

The SCERTs are also supposed to contribute to the development of curriculum, instructional material, and textbooks, conduct research programmes, provide guidance and support to state department of education and provide supplementary materials to address the need of all children including children with Special Needs (CwSN) and teachers.

Further, SCERTs are also expected to perform a variety of roles for the national level institutions such as NCERT, NIEPA and NCTE, in the conduct of state level studies and surveys as well as take the lead in some major national Initiatives such as Digital Drive, Skill India and Clean India, and other in collaboration with state level institutions/organizations working in the area.

With the implementation of the NEP-2020, the role of the SCERT has increased manifold. With the development of the National Curriculum Frameworks for ECCE, SE, TE and AE by the NCERT, SCERTs will setup Syllabus and Textbook Development Teams to work on ensuring the contextualization according to local or State level needs and reduction of Curriculum content in each subject to its core essentials, to make space for critical thinking and more holistic, discovery-based, discussion-based, and analysis-based learning.

6.2 Other key tasks of the SCERT as the academic authority in the State/UT include:

Development of Online and blended teachers training platforms and modules/teaching-learning materials; development of e-content resources for all grades on DIKSHA; Strategic planning and implementation of reinvigoration of BRCs, CRCs and DIETs; Translation of textbooks in home language/mother tongue & NISHTHA modules in local languages for alternate forms of schools, etc.

6.3 Expected Outcome of the session:

Understanding the issues and suggesting /action points for SCERTs and DIETs to take up new roles in light of NEP-2020. Suggests ways to empower SCERT/DIETs to perform instrumental role for providing quality school and teacher education. To empower academic, functional, administrative and financial aspects of linkages among all levels of institutions from local level to state level and to national level. Suggest ways to build capacity to develop curriculum, syllabus, textbook, learning-teaching materials, resource books, worksheets etc. in digital or print form. Make them competent to conduct research/survey/action research/case studies/dipstick survey/achievement survey etc. at State level and District level. Devising ways to organise effective CPD programmes through face-to-face, online or blended mode at State level and District level. Gear up to support implementation of vocational education, adult education, ICT education, Inclusive education and other emerging concerns in NEP-2020.

6.4 Roadmap for SCERTs & DIETs:

In light of NEP-2020, the SCERTs and DIETs have to spearhead the States/UTs in providing quality education, for this, DIETs must change the capacity and work culture of these institutions in 3 years, developing them into vibrant institutions of excellence. Meanwhile, certification of competencies of students at the school-leaving stage will be handled by the Boards of Assessment/Examination in each State.

DIETs may integrate both formal and informal agency of elementary education so as to ascertain and ensure equal level or standard. DIETs may also coordinate its functions with the functions of other district level departments who have active role for the cause of elementary education in terms of monitoring.

The SCERT being the academic authority is ultimately responsible for ensuring that quality at all levels of school education is provided in an equitable and inclusive manner. In order to ensure this, SCERT should proactively take the responsibility for setting up the benchmarks for quality educational outcomes across all levels, based on the findings of national and international research studies on quality improvement.

They should also be equipped and alert in making changes in these benchmarks from time to time as required. NEP-2020 envisaged the SCERTs need to lead a “change management process”.

SCERTs need to work under the Department of School Education and have a common nomenclature. SCERTs need to function as Autonomous Institutions. They need to visualise their role under RTE Act and recognised as a Nodal Agency for In-service Teacher Education and other Quality Initiatives in the States.

The National Education Policy, NEP-2020 has recommended many structural and curricular changes to improve quality of teacher education. It has emphasized in-service continuous professional development for teachers along with the continuing initiatives. NEP-2020 also highlighted the importance of institutions such as SCERTs and DIETs in the implementation of these recommendations at state and district levels.

The SCERTs need to drive equity interventions in the state working towards building social equity across all facets of education, specifically in textbooks, training design and implementation, and implicit educational practices within the classroom and school in more focused way.

Community and Children’s outreach program and network keeps the SCERTs rooted to the experience and issues at the ground level. SCERTs (and DIETs) should have a system for more frequent interactions with the children in place.

The SCERT should be the nodal agency in the state and establish proper coordination and collaboration with various statutory bodies like Board of Textbooks, Board of Secondary Education and Board of Elementary Education. The SCERT as the academic authority has the responsibility of developing learning outcomes, appropriate teaching-learning materials, and modules for teacher preparation, etc.

NEP-2020 emphasizes upon providing-vocational exposure to all children from class 6 to 8 by integrating it in the curriculum. In this context, NEP-2020 also recommends bag less days and internships. In view of building capacity of the schools to smoothly implement these recommendations of the policy, SCERT has to play an important role.

To strengthen the SCERTs and DIETs in terms Infrastructure, Competent faculty with supporting Staff with UGC pay scale, functional digital (ICT) infrastructure, adequate funds, autonomy for decision making and utilization for resources towards quality school and teacher education are imperative.

DIET may take steps reorganize its staff around the core functions in alignment with the recommendations of NEP-2020.

In order to change the existing work culture of the DIETs, the following steps may be taken to improve the organizational climate:

- (i) Technology may be leveraged to ensure transparency and accountability in functioning of DIETs.
- (ii) Providing of input for tracking of every Child through Vidya Samiksha Kendra (VSK).
- (iii) Monitoring Learning Outcomes (LOs) at the BRC/CRC and School level.
- (iv) Capacity Building and Mentoring of Teachers through convergence with Higher Education Institutions.
- (v) Focused plan on overall role and stepwise implementation plan to ensure better functioning.
- (vi) Creating interactive digital platforms for better interaction, sharing best practices and devising new strategies for improvement.
- (vii) Benchmarking of DIETs through a performance Grading Index (PGI) for ranking of DIETs to ensure quality assurance.
- (viii) Devising new strategies for forging better linkages with SCERTs, BRCs and Community in order to develop strong synergy.
- (ix) Providing Resource Support to Non-Formal Education Sector by extending DIET expertise in developing curriculum and supplementary Learning Materials to adult learners.

Designing and developing of trainer manuals for Anganwadi workers and for addressing Social concerns such as Crisis and Disaster Management, Gender Sensitivity, Leadership Manual for School Heads etc. Facilitating Collaborative Action Researches to enable practising teachers to address class room issues.

6.5 Best practices:

a) In Amreli DIET, Toy Inclusive Education Training

Prime Minister Narendra Modi shared his views in the 98th “Mann ki Baat” on indigenous toys. By taking inspiration from his vision, the faculties of the DIET of Amreli conducted the ‘Toy Inclusive Education Training’ through which students learn the concepts of different subjects. This gives them opportunities to practice social skills like communication. It also helps them understand emotions – both their own and others. Toys help children in holistic development of children including cognitive, physical, socio-emotional, and language development.

b) In Korba DIET, Student Participation in Soap Bank

Minimata Saheli Bank has been operating since 2019. Minimata Saheli Bank has been established in the school with community participation. The main purpose of this is to arrange sanitary pads, soaps through the amount of this bank, this helps poor girl students and those girl students who have been dropouts to bring them to the mainstream of education, and provide support in the construction of the Saheli Room for girls in secondary schools. Anyone from community can voluntarily donate money to Minimata Saheli Bank.

c) In Pendra DIET, Pot making activity

The students of this DIET have taken up Pot making activity. Engaging in the art of pot making offers students a profound and transformative learning experience. This hands-on activity goes beyond the surface of creating beautiful clay pots and delves into the heart of Indian culture, heritage, and craftsmanship. By partaking in this traditional craft, students can gain invaluable insights and skills that extend far beyond the realm of pottery. Firstly, the process of pot making instills a deep sense of patience and focus in students. As they mould and shape the clay with their own hands, they learn to embrace the concept of delayed gratification, understanding that masterpieces are not created overnight. The ability to concentrate on the intricate details of each pot fosters mindfulness and cultivates a meditative state of mind, enhancing their overall mental well-being. Furthermore, engaging in this time-honoured craft enables students to connect with the rich history of India.

6.6 Conclusion:

Empowering institutions and strengthening academic linkages through the State Councils of Educational Research and Training (SCERTs) and District Institutes of Education and Training (DIETs) is a pivotal strategy in fostering a robust educational ecosystem. SCERTs serve as apex bodies at the state level, responsible for curriculum development, teacher training, and educational research. By equipping these institutions with adequate resources, cutting-edge technologies, and expert faculty, we can enhance their capacity to design innovative and relevant curricula tailored to the needs of diverse learners. Simultaneously, bolstering the collaboration between SCERTs and DIETs, play a crucial role at the district level and creates a seamless flow of knowledge and expertise. Such synergies enable DIETs to implement state-of-the-art teaching methodologies and effectively disseminate the latest pedagogical practices to grassroots-level educators. This collaborative approach ensures that the education system remains adaptive, inclusive, and at the forefront of educational advancements, ultimately empowering students and educators alike to thrive in an ever-evolving world.

Thematic Session-7

Creating Synergy between education and Skilling Future of Work

7. Session Brief

Introduction:

The rapid advancements in technology and the changing nature of work have transformed the employment landscape. To ensure individuals are equipped with the necessary skills to thrive in the future, it is crucial to establish a strong synergy between education and skilling initiatives. This panel discussion aims to explore the challenges and opportunities in bridging the gap between education and the requirements of the future workforce.

The Current State of Education and Skilling in India:

- i. Education System: According to the Annual Status of Education Report (ASER) 2019, only 44% of children in Class 8 in rural India can read a text meant for Class 2 students in their regional language. This highlights the need for quality education that focuses on foundational skills and prepares students for higher levels of learning.
- ii. Skilling Landscape: As of September 2021, the Pradhan Mantri Kaushal Vikas Yojana (PMKVY), a flagship skilling scheme by the Indian government, has trained over 13 million individuals in various sectors. However, there is still a significant gap in skilling the workforce to meet the demands of the future job market.

7.1 Future of Work: A Global View

1. The Changing Nature of Work:
 - a. According to the World Economic Forum, by 2025, the division of labor between humans, machines, and algorithms is projected to shift significantly, with machines performing more tasks than humans in several industries.
 - b. Automation and artificial intelligence (AI) are expected to replace routine and repetitive tasks, while the demand for skills such as critical thinking, creativity, and complex problem-solving is expected to rise.
2. Skill Mismatch and Job Market Disruptions:
 - a. Research by McKinsey Global Institute suggests that by 2030, up to 375 million workers globally may need to switch occupational categories due to automation and digitization.
 - b. The International Labour Organization estimates that around 267 million young people are not in education, employment, or training (NEET), often due to a lack of relevant skills.
3. The Role of Education in Skill Development:

- a. Education plays a crucial role in building a strong foundation of knowledge, fostering critical thinking, and developing social and emotional skills.
- b. However, there is a need to adapt education systems to ensure they are aligned with the changing demands of the future job market.
4. Importance of Vocational and Technical Skills:
 - a. Vocational and technical skills training programs can provide individuals with industry-specific skills and hands-on experience, enhancing their employability.
 - b. A study by the OECD reveals that countries with well-developed vocational education and training (VET) systems have lower youth unemployment rates.
5. Closing the Gap: Public-Private Partnerships:
 - a. Collaboration between educational institutions, governments, and the private sector is essential for addressing the skills gap and fostering a future-ready workforce.
 - b. The private sector can contribute by actively participating in curriculum development, offering apprenticeships and internships, and providing funding for skilling initiatives.
6. Lifelong Learning and Continuous Upskilling:
 - a. With technology evolving at an unprecedented pace, individuals need to embrace lifelong learning to stay relevant in the job market.
 - b. According to the Pew Research Center, 87% of workers believe it will be essential for them to get training and develop new skills throughout their career.
7. Embracing Emerging Technologies in Education:
 - a. Technologies such as virtual reality (VR), augmented reality (AR), and artificial intelligence can revolutionize education by creating immersive and personalized learning experiences.
 - b. Adaptive learning platforms can provide personalized content, assessments, and feedback tailored to individual student needs.
8. Inclusive and Equitable Access to Education and Skilling:
 - a. To ensure equal opportunities, it is essential to address barriers to access, such as gender disparities, socioeconomic inequalities, and geographic limitations.
 - b. UNESCO estimates that closing the gender gap in education could generate significant economic benefits, including an increase in GDP.

7.2 Challenges to Education and Skilling synergia for the Future of Work

- I. Mismatch between Education/Skilling and Industry: According to the World Economic Forum's "Future of Jobs" report, by 2025, 85 million jobs may be displaced by automation in India. However, at the same time, 97 million new jobs may emerge, which will require different skill sets. The existing education and skilling system are not in consonance to this transition, leading to a **mismatch between the skills acquired through formal education and the skills required by the industry.**

- II.** Lack of Industry-Academia Collaboration: According to the All India Council for Technical Education (AICTE), only around 40% of engineering graduates in India are employable. One of the reasons for this low employability is the lack of collaboration between educational institutions and industries. As per a survey by the Confederation of Indian Industry (CII), only 29% of employers in India believe that educational institutions are adequately preparing students for the workforce.
- III.** Limited Access to Quality Education and Skilling: According to the 2018 National Sample Survey (NSS) report, about 32% of the population aged 15 years and above in rural areas of India is illiterate. Moreover, there is a significant disparity in accessing quality education and skilling opportunities between urban and rural areas, as well as among different socio-economic groups. This limited access hinders inclusive growth and widens the skills gap.
- IV.** Perception Bias towards Skilled Trades: The societal bias towards traditional academic careers in India often undermines the importance of skilled trades and vocational careers. As a result, there is a lack of interest and awareness among individuals to pursue skilling programs. According to a report by the National Skill Development Corporation (NSDC), only 2.3% of the Indian workforce has undergone formal skill training.

7.3 Potential Solutions

- I.** Curriculum Reforms and Skill Integration: To bridge the gap between education and skilling, curriculum reforms are crucial. The National Education Policy (NEP) 2020 emphasizes the integration of vocational education from the secondary level, enabling students to develop practical skills alongside academic knowledge. This integration can equip students with relevant skills and make them job-ready.
- II.** Strengthening Industry-Academia Collaboration: Enhancing collaboration between educational institutions and industries is essential for aligning education with industry needs. The government's initiative of establishing Sector Skill Councils (SSCs) aims to bring together industry stakeholders, academia, and training providers to develop industry-relevant curriculum and ensure the quality of skilling programs.
- III.** Digital and Technological Integration: Digital technologies can play a transformative role in enhancing access to education and skilling opportunities. According to the Telecom Regulatory Authority of India (TRAI), as of March 2021, India had over 624 million internet subscribers, making online learning platforms and Massive Open Online Courses (MOOCs) viable options for providing skilling opportunities to a wider population. Integration of emerging technologies such as artificial intelligence, data analytics, and robotics in educational programs can prepare students for future job roles.
- IV.** Promoting Entrepreneurship and Innovation: Encouraging entrepreneurship and innovation can foster a culture of self-employment and job creation. The Atal Innovation Mission (AIM) and Startup India are government initiatives that support the establishment of incubation centers, provide mentorship, and facilitate funding for startups. Entrepreneurial education

and support ecosystems can nurture students' creativity, problem-solving skills, and business acumen.

- V.** Focus on Lifelong Learning: To address the evolving needs of the future job market, promoting a culture of lifelong learning is crucial. The government's initiative of the National Skills Qualifications Framework (NSQF) aims to provide recognition and certification for skills acquired through formal and informal learning. Upskilling and reskilling programs for the existing workforce should be emphasized to ensure their employability in the face of technological disruptions.
- VI.** Emerging areas that will require skill training like green jobs, green hydrogen, semiconductors, etc. aligned with the priorities of the Indian economy.

Creating synergy between education and skilling is vital for preparing India's workforce for the future world of work. By addressing the challenges through curriculum reforms, industry-academia collaboration, digital integration, entrepreneurship promotion, and a focus on lifelong learning, India can bridge the gap between education and skilling. These solutions, backed by data, can empower individuals, enhance employability, and drive the nation's progress in the ever-evolving job market. It requires concerted efforts from the government, educational institutions, industries, and society as a whole to foster a strong collaboration between education and skilling in India.

Thematic Session-8

Internationalization of Education

8. Session Brief

National Education Policy, 2020 (NEP 2020), inter-alia, focuses on internationalization of education in India. The goal of NEP 2020 is to achieve “Internationalisation” by making the Indian education system self-reliant and compliant to global standards & norms which would enable India to attract a greater number of students from abroad. It facilitates research/teaching collaborations and faculty/student exchanges with high-quality foreign institutions, and mutually beneficial MOUs with foreign countries. High performing Indian universities will be encouraged to set up campuses overseas, and similarly, selected universities those among the top ranking 100 universities in the world would be facilitated to operate in India. Furthermore, research collaboration and student exchanges between Indian institutions and global institutions will be promoted through special efforts like providing financial assistance and fellowships. Credits acquired in foreign universities will be permitted, as per the requirements of each HEI, that shall be counted for the award of a degree. NEP 2020 aims to achieve its goal of internationalization at home by creating a variety of courses and programmes revolving around Indian culture and sciences such as Yoga, AYUSH, Indian languages, Indology, Folk Art and Folk Music, History, etc. This would help in capitalizing the trend of increased interest of several countries in Indian traditions. To coordinate and facilitate the activities related to internationalization, HEIs shall establish an International Students Office.

To realize these goals of NEP 2020, a number of activities have been undertaken by the Ministry of Education, Regulatory Bodies (UGC & AICTE) and HEIs. Some of the initiatives are as follows:

- (a) Guidelines for Internationalisation of Higher Education were issued on 29.07.2021. Accordingly, about 700 HEIs have established office of International Affairs at their campuses.
- (b) Academic Collaboration between Indian and Foreign Higher Educational Institutions to offer Twinning, Joint Degree and Dual Degree Programmes Regulations have been issued on 02.05.2022. This, inter-alia, promotes enhanced academic collaboration with foreign higher educational institutions leading towards academic and research excellence in the Indian HEIs. It also aims to provide global exposure to students, internationalisation at home, multi-disciplinary education with an internationally relevant curriculum and enhance employability. It will also attract foreign students and improve the standards of Indian universities as internationalization is an important parameter in rankings. Around 49 HEIs are offering programmes out of 230 eligible Indian Universities.
- (c) Guidelines for admission and creation of supernumerary seats for international students in undergraduate and postgraduate programmes in HEIs in India has been issued on 30.9.2022 for harnessing opportunities to attract international students, academics, and funding, and to increase their outreach. It will create a favorable environment for attracting international students to Indian HEIs, thereby making India a preferred destination for students from abroad.
- (d) The footprint of the Indian HEIs at global stage has been on the rise which is evident from the fact that about 45 HEIs/Universities were ranked in QS 2024, with 11 placed in top 500. 44 courses, in their respective subject categories, have been ranked among the Global top 100 in QS Rankings 2023.
- (e) Our Institutions have established their reputation in the global arena which has resulted in high performing Indian HEIs setting up campuses in other countries. IIT Madras is setting

up campus in Zanzibar, Tanzania and the academic program will be started in October 2023. Similarly, IIT Delhi, another top performing Indian HEIs will setup Campus in Abu Dhabi, UAE. These measures will further enhance India's reputation globally and result in internationalization of Indian HEIs.

In the 1st National Conference of the Chief Secretary in June 2022, one of the decisions was to study methodology for ranking of HEIs and ranking parameters, based on which an appropriate roadmap be drawn to improve ranking of Indian HEIs subject and university wise both nationally and globally

Further it is envisioned to establish India as a global education and research hub with globally competitive academic institutions that attract learners from across world. It is targeted by 2030, 10 Indian HEIs should be in top 200 in world ranking [QS or THE] and by 2047 the number is targeted at 20 (with 10 Institutions in top 100). Similarly at present around 50,000 students are enrolled in India, which is targeted at 2 lakhs in 2030 and 5 lakhs in 2047.

8.1 Expected Outcomes of the Session

The Session would provide a forum where the Institutions and stakeholders can collaborate to foster successful internationalization initiatives in higher education.

- (a) Achieving global standards of quality in HEIs through accreditation and international collaborations.
- (b) Roadmap to improve ranking of Indian HEIs subject-wise and university wise both nationally and globally
- (c) Measures to be adopted to attract more and more inbound foreign students
- (d) Ensuring diversity in the classroom and campus
- (e) Sharing of teaching-learning- research best practices, and gradually evolving into universities with global enhancement in standards in teaching-learning-research, community engagement and pastoral services.
- (f) Achieving economic expansion, global outreach, and knowledge acquisition from global sources
- (g) Development of internationally relevant curriculum framework with specific initiatives under student, faculty, programme, and institutional mobility.

8.2 Roadmap for the institutes

Some of the ways in which institutes can achieve internationalization are:

- (a) Encouraging Indian institutes to collaborate with foreign institutes to offer joint/twinning/dual degree programmes, especially in subjects that have gained importance at present such as data analytics, computer science, and climate change and sustainability.
- (b) Providing impetus and support to Indian institutes to open offshore campuses in other countries with a major focus on countries having a sizeable population of the Indian diaspora.
- (c) Allowing foreign institutes to open offshore campuses in India to provide international exposure to Indian students.
- (d) Introducing global standards and global faculty to the Indian education system through targeted student and faculty exchange programmes, inviting international scholars as guest faculty and integrating international testing standards and tests such as SAT, LSAT, GRE and GMAT in the admissions process.
- (e) Increasing international collaboration in academic research by encouraging Indian institutes, especially institutes who have ranked in NIRF, QS and THE, to collaborate with international institutes of repute and jointly publish research papers and articles. Such arrangements will

boost the reputation of Indian institutes in global rankings through improvement in number of publications, number of citations, and the citation impact of Indian authors.

- (f) As more Indian students start embracing international schooling boards such as IB and Cambridge, Indian boards need to become more competitive and start integrating international norms and standards such as flexibility of curriculum, advanced subjects and increased subject options. Student exchanges at the school level may also be explored.
- (g) Industry-focused training in Indian universities through increased focus on vocational education, internships, apprenticeships, and on-the-job training is the need of the hour to enable students to be prepared for the needs of Industry 4.0.

Thematic Session-9

Research and Development

9. Session Brief

As India moves towards becoming a knowledge economy, the higher education system is being re-energized to provide hands-on learning experience to students, keeping in view the requirements of the fourth industrial revolution. One of the fundamental principles guiding the development of our education system as per NEP 2020 is the fostering of 'outstanding research as a corequisite for outstanding education and development'. NEP 2020 envisions the development of active research communities across disciplines (Para 10.1), as well as encouraging Research-intensive Universities (Para 10.3) through institutional restructuring and resource efficiency. NEP 2020 also supports the nurturance of research and innovation through the setting up of incubation centres, greater industry-academia linkages, and interdisciplinary research (Para 11.12).

In the 1st Akhil Bhartiya Shiksha Samagam (ABSS) held at Varanasi, it was emphasised that academics to validate their experience with verified testing and focus on evidence-based research. Also to research on the demographic dividend of India , its utilisation and solutions for the ageing societies of the world, resilient infrastructure etc

To this end, the government has prioritized the establishment of the Research and Development Cells (RDCs) by releasing Guidelines for same in 2022. Over the past 3 years, **2261 R&D Cells** have been established in various HEIs in collaboration with several industries to carry out industrial research and consultancy work. More than **300 Universities and 2500 HEIs** have set up R&D Cells. At present, **7265 IICs** have been set up in 28 States & 8 UTs. Through the National Research Foundation (**NRF**) **Bill, 2023** approved by the Union Cabinet recently, an allocation of ₹50,000 crore has been made for an apex body to oversee R&D initiatives throughout all Indian HEIs.

The government is taking a variety of measures, including policy support, infrastructure support, funding support for education and skilling, research parks, and technology business incubators, with the goal of developing India into a global innovation hub and providing an enabling environment that promotes research and development in India. Several strides have been made to improve the quality and impact of Indian research. Due to these developments, India's ranking in Global innovation Index has improved, with 'Human Capital and Research' pillar featuring at **43 (in 2022)** from 122 (in 2015).

The Vision is to develop India as global Education hub by providing incentives to publish high-quality, globally cited research through universities in collaboration with robust industry-academia partnerships. The short-term roadmap to achieve these visions by 2030 is by **strengthening the research fabric in universities** by Identifying international institutes for academic and research collaboration, and encourage publication of internationally collaborated research through monetary incentives and scholarships. NRF will fund and facilitate funding research, liasioning between researchers, and relevant branches of government and industry. By 2047 the roadmap is to establish research as a central tenet of India's education ecosystem, publish high-quality, globally cited research papers catalysing innovation across sectors such as technology and medicine, and forge robust industry-academia partnerships. **By that time National Research Foundation will turn into a global facility**, build a robust research repository,

undertake pioneering research informing national policy, adopt patent commercialization, and act as a hub for global research.

The target is to increase the Citations per document which was at **11.19** in 2021 to **15** in 2030 and **20** by 2047. Similarly, the target for Intellectual Property Receipts (% of trade) which is at 0.2 in 2022 to increase to **0.5** in 2030 and **1.00** by 2047.

9.1 Expected Outcomes of the Session

The session can provide a forum for highlighting the various aspects of R&D implementation:

- (a) Scope and opportunities for increasing R&D linkages and collaborations across the country.
- (b) Pathways for improving the R&D output (patents, publications, global rankings, etc) of Indian HEIs at international forum across multiple research disciplines.
- (c) Technological interventions and digital linkages to improve overall environment for R&D in HEIs.
- (d) Initiatives for improving accessibility of R&D infrastructure in all regions, across all demographics, including improving participation of women researchers in STEM.

9.2 Roadmap for the Institutes

(a) Increasing linkages within research community

- i. **RDCs and University Clusters** - HEIs may be encouraged to work in collaboration with the Research Development Cells (RDCs) of other HEIs, particularly the ones having industry sponsored projects. Raising awareness and onboarding HEIs in R&D University Clusters and other educational hubs may also be encouraged.
- ii. **Workshops on process of MoUs** - Workshops for HEIs may be conducted to raise awareness on scope, provisions, and process of creating MoUs with industry partners, educational institutions, etc. to support entrepreneurship and research in student body.

(b) Support to researchers

- i. **Infrastructural and financial support** - Researchers may be provided dedicated support by availing facilities and funds under the upcoming National Research Foundation (NRF).
- ii. **Workshops on patents and publications** - Research fellows may be trained through workshops on the process for filing patents and submitting papers to publication journals of national and international repute.
- iii. **Enabling mobility of researchers** - Cross-border and cross-institutional mobility of researchers, faculty may be supported through specific grants for conferences, paper presentations, workshops, etc for improved exposure and research outcomes.
- iv. **Digital systems support** - HEIs may be encouraged to implement digital Research Information Management Systems (RIMS), subscribe to plagiarism tools, journals, etc.

(c) Industry Connect

- i. **Guidance from experts** - Industry experts present in the Board of Directors of institutes may guide further on how industry-academia connect may be improved for boosting R&D sponsored projects, collaborations for publications, citation score, etc.
- ii. **S&T Clusters, Start-up Policy** - HEIs may collaborate with industrial partners through existing region-wise government backed hubs such as Start-up India, S&T Clusters, etc, that encourage academic involvement for research and innovation to solve local problems.

Thematic Session-10

Understanding Foundational Literacy and Numeracy

10. Session Brief

The early years (0 to 8 years) are the most significant period of growth and development, in the life of a child. It is during this period that the foundation for the holistic development of the child and the child's future learning are set up. Strong foundations in the early years have a lasting impact on children's development and are considered to be critical inputs in improving the enrolment and participation of children in formal schooling.

Foundational Literacy and Numeracy (FLN) refers to basic skills in reading, writing, and mathematics. It is the ability to read and understand a basic text write and perform simple mathematical operations. The key components in Foundational Language and Literacy are Oral Language, Decoding, Reading Fluency, Reading Comprehension and Writing. On the other hand, Foundational Numeracy translates to the ability to reason and apply simple numerical concepts in daily life. The major components of foundational numeracy include Pre-number concepts, Numbers and operations on numbers, Shapes and Spatial Understanding, Measurement and Data Handling.

Ensuring strong foundations in literacy and numeracy is vital for every child in school and throughout life. These foundation skills are the most reliable predictor of longer-term educational outcomes and personal and economic wellbeing. Thus, Targets 4.1 and 4.2 of Sustainable development goals state: "*By 2030, ensure that all girls and boys must have access to quality early childhood development, care, and pre-primary education so that they are ready for primary education and also complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes.*"

Foundational Literacy and Numeracy (FLN) has been an important concern across the world and especially in India. As per a report by UNICEF "on average 40 per cent of children across all OECD and EU countries do not have basic reading and mathematics skills by age 15" (UNICEF, 2020). It is surprising that even though the number of school-going children has been increasing steadily year after year the learning of foundational skills are not showing the same increase. The **National Policy on Education (NEP, 2020)** recognizes that the ability to read, write and perform basic operations with numbers is a necessary foundation and an indispensable prerequisite for all future schooling and lifelong learning. The policy highlights that the country presently is facing a learning crisis and about 50 million children have not attained foundational literacy and numeracy. Highlighting the importance of foundational literacy and numeracy the policy reiterates that the rest of the policy will become irrelevant for students if the basic learning requirements (i.e., reading, writing and arithmetic) at the foundational level is not achieved by the students.

In order to provide a strong base of FLN, the policy suggested a restructured school pedagogy of 5+3+3+4. The first five years from 3 years of preschool + Grade I and II (ages 3 to 8 years) are referred as foundational stage in the policy, which will be a part of the school education system. The policy highlighted that the FLN in primary schools should be achieved by 2025 and recommended that a National Mission on FLN should be set up by the Ministry of Education on priority. The Ministry of Education, Government of India, launched the National Mission on FLN called **National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN) Bharat Mission**. It emphasizes the need to attain FLN goals nationally in a time-bound (2026-27) manner. NIPUN lays down priorities and actionable agenda for states and UTs to achieve the goal of proficiency in FLN for

every child in Foundational Stage. The mission aims to provide access and retention of children in the foundational years of schooling, teacher capacity building, development of high-quality and diversified student and teacher resources/ learning materials, and tracking the progress of each child in achieving the learning outcomes. As per the recommendations of NEP, 2020, A 3-month School Preparatory Module, **Vidya Pravesh** was also developed by NCERT for all the children starting Grade I. **NISHTHA FLN** was launched to train the teachers on different aspects of foundational learning through 12 modules. A large number of infographics, byte size videos, worksheets, assessment items were created and uploaded in DIKSHA for the use of different stakeholders.

The **National Curricular Framework for Foundational Stage (NCF-FS)** was launched on 20th October 2022. It includes engaging Teaching-Learning Material (TLM) both for teachers and students, Teacher capacity building programme, Assessment and pedagogical approaches to guide the nature of syllabus, textbooks and other resource material for teaching and learning in the country to be used at the foundational stage.

JaaduiPitara has been launched on 20th February, 2023 having an exemplar of content needed in any school for the Foundational Stage. It has toys, games, puzzles, puppets, posters, flashcards, story cards, playbooks for students, and handbooks for teachers.

10.1 Way Forward

All the states are implementing and striving to achieve the objectives of NIPUN Bharat Mission by developing learning teaching material, developing capacity of teachers, school heads and other stakeholders and monitoring and tracking children's progress and providing mentoring and support to the teachers. The thematic session will allow for a space for conversation on such topics at a national level.

The Education Working Groups (EdWGs) under past G20 presidencies in host countries have focused on strengthening educational systems by making them more inclusive, accessible, and innovative. Themes including universal quality education, continuity of learning in times of crises, supporting teachers, use of technology for educational continuum and universal access, addressing challenges of digital divide, impact on early learners, and issues of cyber safety, have been discussed under the previous presidencies. India's G20 EdWG Presidency, focuses on four priority areas, the first of which is "Ensuring Foundational Literacy and Numeracy especially in the context of Blended Learning". Various issues discussed in these meetings included multilingualism in FLN, teacher's capacity building, digital interventions, teaching learning methods, etc.

10.2 Expected Outcomes of the Session

1. To learn and discuss the issues and challenges in implementing the NEP with respect to FLN.
2. To understand facets of FLN in various areas like multilingualism, Teacher Capacity, Pedagogy etc.
3. To discuss challenges of using digital initiatives for FLN.
4. Learn about scalable best practices in FLN.

Thematic Session-11

National Institute Ranking Framework (NIRF)

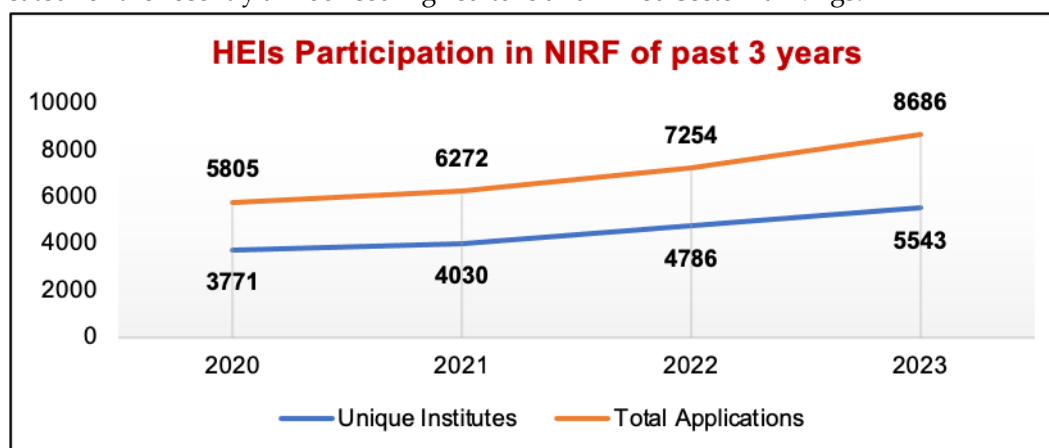
11.Session Brief

NEP, 2020 recognises India's aim to have an education system by 2040 that is second to none, with access to the highest quality education for all learners regardless of social or economic background. India will be promoted as a global study destination providing premium education at affordable costs

The National Institutional Ranking Framework (NIRF) was introduced in 2016 to evaluate the performance of higher education institutions in India. The NIRF reports have played a significant role in improving the education ecosystem as different stakeholders involved in higher education, view institutional rankings as a gauge of quality. HEIs use them as a crucial performance yardstick to evaluate their own performance and compare it to that of their peers. Also, the publicly available NIRF report helps students choose the best university. NIRF has also played a pivotal role in ensuring that universities continue to put in great effort to ensure that they are offering academic education on pace with global norms. It also fulfils the need of a common parameter to assess all the HEIs in the country.

In the 1st National Conference of the Chief Secretaries in June 2022, one of the decisions was to study methodology for ranking of HEIs and ranking parameters, based on which an appropriate roadmap be drawn to improve ranking of Indian HEIs subject and university wise both nationally and globally. Also, in the 7th Governing Council meeting of NITI Aayog, it was emphasised, inter-alia, that NIRF should be made mandatory for all universities

With the advent of NEP 2020 and increasing focus on ranking and internationalization, the eighth edition of NIRF was published on June 5, 2023, with significantly improved HEIs participation. The government released the **Guidelines for Transforming Higher Education Institutions**, impact of which has directly fed into better performance of HEIs in NIRF. To be ranked, all education institutions are assessed **on five parameters**: teaching, learning and resources, research and professional practices, graduation outcomes, outreach and inclusivity, and perception. Under NIRF 2023, a total of **13 category rankings** were published. A new ranking framework was created for the recently announced Agriculture and Allied sector rankings.



There has been tremendous growth in the participation of HEIs in NIRF in the past three years as seen in the graph. The year-on-year increase in institutions and applications demonstrate how

more stakeholders in higher education are becoming aware and participating in the NIRF ranking.

With NEP 2020 promoting higher quality of education and adherence to global standards, the NIRF rankings have helped elevate Indian HEIs into international rankings as well. About 45 HEIs/Universities were ranked in QS 2024, with 11 placed in top 500. 44 courses, in their respective subject categories, have been ranked among the Global top 100 in QS Rankings 2023.

11.1 Expected Outcomes of the Session

- (a) Understanding the importance of NIRF framework and process of participation.
- (b) Deliberation on the methodology adopted for the ranking nationally and globally; and develop appropriate roadmap for improved ranking
- (c) Scope of developing State/UT specific Institutional Ranking Frameworks to develop regional HEIs.
- (d) Pathways to improve performance of various parameters of NIRF by targeted development of different aspects of HEIs

11.2 Roadmap for the Institutes

(a) Increasing awareness and support

- i. **Workshops** - More institutions may be encouraged to participate in NIRF rankings under various categories by raising awareness on the benefits of NIRF assessment. Workshops may be conducted for institutions about the process of application to NIRF, relevant timelines, methodology etc. to orient them with key requirements for participation.
- ii. **Mentor-mentee model** - Top ranked NIRF institutions may be encouraged by States/UTs to mentor other HEIs through hub-and-spokes model on how to improve their facilities and quality education.

(b) Targeted improvements by HEIs

- i. **Focus on lagging parameters** - Institutions may be encouraged to form their Internal Quality Assurance Cell (IQAC) to improve ranking through targeted focus on quality benchmarking and development that HEIs presently lag in.
- ii. **Identification by experts** - Industry experts and leaders may be involved in the Board of Directors /Governors who may then identify & guide on suitable areas of improvement in the institution, such as how to capitalize on industry connect to improve research quality, citation score, etc.

(c) **Linkage to international standards** - Institutions participating in NIRF may be further encouraged to participate in international rankings such as THE, QS, etc for improved adherence to global standards of education.

(d) Improvements in data

- i. **Tracking YoY trends** - A consolidated database may be maintained for NIRF for tracking year-on-year data and trends in rankings.
- ii. **Consolidated database** - A consolidated database may be prepared based on data collected during NIRF, that may be linked to data collected during AISHE, NAAC, etc.

Thematic Session-12

Digital Empowerment and Capacity Building

12. Session Brief

Aligning with country's Digital India mission of tech-enabled societal transformation, Indian education landscape is witnessing a paradigm shift to provide an empowering learning experience to the students that will shape the future of India's workforce and economy. With Artificial Intelligence being embedded in all walks of life, employers anticipate a structural labour market churn of 23% of jobs in the next five years (WEF, The future of Jobs Report, 2023).

One of the fundamental principles of the NEP, 2020 lay emphasis on extensive use of technology in teaching and learning, removing language barriers, increasing access for Divyang students, and educational planning and management. NEP also stipulates use of technology platforms such as SWAYAM/DIKSHA for online training of teachers will be encouraged, so that standardised training programme can be administered to large number of teachers within a short span of time. In the matter of regulation of education sector, use of technology extensively is recommended so as to reduce human interface to ensure efficiency and transparency. The underlying principle is faceless and transparent technology intervention.

In Chapter 23, NEP 2020 stipulates the need of integrating digital technology in all levels of education. One of the leading suggestions of the NEP 2020 is to establish a National Educational Technology Forum (NETF) to build intellectual and institutional capacities in educational technology. NEP 2020 also stressed upon the need for proliferation of online education to ensure equitable access to education through digital public infrastructure, online teaching, and platform tools, creating digital repositories, creating virtual labs and simulations, exploring blended learning method, and focusing on teacher training.

Institutes have an instrumental role in preparing the children for the transition to work by providing access and opportunities to paths to decent and productive employment. **Digital skills can be seen as a tool to empower the learner of the country** with capability and opportunity to breakthrough against poverty.

To leverage the power of digital education and to build capacities of not only the students, but also the teachers, the Government of India has formulated the following regulations which have shown promising results:

(a) Open and Distance Learning Programmes and Online Programmes, Regulations, 2020 was issued on 04.09.2020 and further amended on 01.07.2021 and 18.07.2022. The regulation aims to lay down the minimum standards of instruction for the grant of degrees at the undergraduate and post graduate levels and grant of post graduate diploma, through Open and Distance Learning mode and Online mode.

- i. 95 HEIs (71 recognized and 24 Category-I HEIs) are recognized entitled to offer 1149 ODL programmes.
- ii. 66 HEIs are recognized / entitled to offer 371 online programmes.
- iii. More than 19 lakhs learners benefitted.

(b) Credit Framework for Online Learning Courses through Study Webs of Active Learning for Young Aspiring Minds Regulations, 2021 was issued on 25.03.2021 to allow students to take up to 40% of the total courses in a particular programme in a semester, through the online credit course on the SWAYAM platform.

- i. 288 Universities have adopted SWAYAM Courses for Credit Transfer.
 - ii. Around 86 lakhs learners are registered in the Jan 2022, July 2022 and Jan 2023 semester.
 - iii. More than 5 lakh students are taking exams and getting certified on SWAYAM in every year.
- (c) Technology enabled Enterprise Resource Planning (ERP) based Solutions for Governance of HEIs starting from Admission to Grant of Degree is being used by 1249 Univ. & HEIs covering in 27 States and 4 UTs. 7 State Higher Education departments are also onboarded.

It is envisioned that in short term to enable open and distance learning we need to leverage the private sector for large-scale high-quality, inclusive online content creation, such as multi-sensory input/output, and deliver through digital platforms/universities, such as DIKSHA/SWAYAM by 2030. And by 2047 it is targeted to streamline digital access by expanding access to digital universities and develop high-quality teaching-learning resources in all formats, including print, audio, video, digital, AR, VR, Haptics, etc. in all spoken languages, delivered through easily open digital platforms.

It is also envisioned that by 2030 the number of students enrolled in Digital University / ODL /Online Students to be increased to 1 crore from the present 10 lakhs and by 2047 to achieve the target of 3 crore. Similarly, use of technology for Administration & Governance of Universities / SAMARTH be increased to 50% of Universities / HEIs from the current 8% and by 2047 it should be in use in 100% of Universities / HEIs.

12.1 Expected Outcomes of the Session

- (a) Understanding the importance of digital tools in empowerment and capacity building of learners
- (b) Exploring methods of adopting digital education technology in the pedagogy of the institutes
- (c) Streamlining institutional management through ERP software, especially SAMARTH and exploring methods to increase the adoption
- (d) Guiding principles for establishing online and distance learning programmes as well as online degree programmes – discussion of methods, success stories, key learnings
- (e) Awareness about adoption of SWAYAM courses by Universities /HEIs

12.2 Roadmap for the Institutes

- (a) Digital transformation in education is not only confined to teaching learning processes but also to entire process of governance and institutional management which includes academic and administrative data integration, dashboards and analytics with real-time data, and interoperable and secure ecosystem that facilitates data driven decisions and policy making at all levels.
- (b) In this direction, several schemes and initiatives by the Ministry of Education have been administered in the school and higher education. For example, **National Mission in Education through ICT (NMEICT)** with its focus on using ICT interventions to bolster enrolment rates in higher education aims to create and deliver quality content to students through **Sakshat portal**, undertake digital literacy for teacher empowerment, provide e-books & e-journals through digital libraries that are accessible to students from **open universities** and AI backed ERP and e-Governance for education.
- (c) A comprehensive initiative called **PM e-VIDYA** for school education that unifies all efforts related to digital education such as DIKSHA, Swayam Prabha, e-Pathshala, radio & community podcasts enable multi-mode access to education to the last mile. This has the potential to make different types of content accessible on different devices (TV, mobile device,

etc.) and in various places of learning (classroom, smart classroom, community centre, through volunteers/mentors and through personal devices).

- (d) Launched in 2021, **National Digital Education Architecture (NDEAR)** aims to bring together a compendium of digital standards for education to cross leverage ecosystem capabilities and catalyse innovation in school education, higher education, and skills; allowing ecosystem players to contribute to education like never before.
- (e) Close-collaboration between stakeholders including government, policymakers, civil societies, academia, start-ups, industry, and NGOs will be crucial for accelerated impact of the same in the country. It will also help in collaborative action and allow for calibration by leveraging the expertise offered by the institutions outside of Governments.
- (f) Solutions addressing the **challenges** of Access to digital infrastructure (device & connectivity), quality digital content, technology-integrated curriculum, contextual learning materials, and lack of digitally literate teachers & trainers can be explored.

Thematic Session-13

Capacity Building in Logistics Sector through PM Gati Shakti

National Master Plan

13. Session Brief

PM Gati Shakti National Master Plan was launched in 2021 for providing multimodal connectivity infrastructure to various economic zones. This master plan is a transformative approach to enhance economic growth, infrastructure development and the completion of projects in a time-bound manner.

The Department of Higher Education has conducted multiple meetings and workshops on capacity building with more than 120 Central Funded Institutes (CFIs) to take forward the vision of PM Gati Shakti National Master Plan. This panel discussion aims to bring together academia and industry perspectives on capacity building in logistics & supply chain management under PM Gati Shakti National Master Plan in alignment with National Education Policy 2020. The National Institute of Industrial Engineering (NITIE) Mumbai is designated as the nodal hub by the Ministry of Education (MoE) for capacity building in Logistics and Supply Chain Management to promote the PM Gati Shakti National Master Plan.

Based on **section 11.12** of NEP 2020, NITIE has developed 14 multi-disciplinary courses aligned with the PM Gati Shakti National Master Plan, taking inputs from various industries to enhance **“greater industry-academic linkages”**. These template courses were also shared with other institutes, and all the institutes are free to tailor these courses or introduce new courses based on their focus areas in tune with PM Gati Shakti National Master Plan. This also supports a **“vibrant research and innovation culture”**, as proposed in National Education Policy (NEP) 2020. Institutions can also offer projects, case studies, internships, etc., in the different application domains of logistics.

To provide the best quality learning and knowledge sharing with a large number of students and industry participants, Institutions are offering global online courses in the emerging area of logistics and supply chain. Such courses are in accordance with **sections 12.8** and **24.1** of NEP 2020 pertaining to **“Internationalization of education”** and **“Online/Digital education”** respectively. Through these multiple windows of learning, till date more than 17500 students and professionals have been trained in logistics and supply chain domains, making them industry ready and fit for gainful employment. This will help in realizing the **“fourth industrial revolution”** as per **section 11.4** of NEP 2020. Also, this is in line with **section 20.6** of NEP 2020 pertaining to **“Professional Education”**. AICTE has also conducted multiple faculty development programs and already trained more than 900 faculty members from several institutions.

To promote PM Gati Shakti National Master Plan, educational institutes have been floating courses for capacity building in logistics & supply chain such as Agri-Supply Chain Management, Digital Supply Chain Management, Road Transport, Air Transport, Warehouse Management, Multi-Modal Logistics, etc. Case studies will be developed in alignment with PM Gati Shakti National Master Plan. Students in Masters & Bachelors level programs are given projects and internships in logistics & supply chain management to encourage exposure and practical applications. This will promote innovation & start-up culture with clear objectives to reduce the logistics cost.

13.1 Expected outcome of the session:

During the session, the aim is to disseminate the industry perspective on logistics and supply chain to all the delegates, fostering a comprehensive understanding. Participants will gain insights into the intricate challenges inherent in logistics and supply chain, as well as the specialized skills needed to address these challenges effectively. Furthermore, the session will delve into the realm of digitization and propose strategies to mitigate risks and enhance resiliency in Logistics and Supply Chain Management.

13.2 Roadmap for Institutes:

The PM Gati Shakti National Master Plan and NEP 2020 can together create a desired transformation in our country. The road ahead for capacity building for infrastructure development can include the following:

- (a) To train students and professionals in the multidisciplinary areas of logistics and supply chain management such as port operation, cargo handling, multimodal logistics, warehousing, and digitization to combat the challenges.
- (b) To promote innovation and new business ideas that can drive entrepreneurship and create new startups in the logistics and supply chain domain.
- (c) To promote the ideation of new projects and internships aligned to PM Gati Shakti National Master Plan and NEP 2020.
- (d) To develop new and innovative case studies in cutting-edge technology aspects that can benefit capacity building and contribute to logistics cost reduction.

Thematic Session-14

Holistic Education through Integration of skilling, Industry Connect and Employability

14. Session Brief

NEP 2020 recognises that with the quickly changing employment landscape and global ecosystem, it is becoming increasingly critical that children not only learn, but more importantly learn how to learn. Education thus, must move towards less content, and more towards learning about how to think critically and solve problems, how to be creative and multidisciplinary, and how to innovate, adapt, and absorb new material in novel and changing fields. Pedagogy must evolve to make education more experiential, holistic, integrated, inquiry-driven, discovery-oriented, learner-centred, discussion-based, flexible, and, of course, enjoyable. The curriculum must include basic arts, crafts, humanities, games, sports and fitness, languages, literature, culture, and values, in addition to science and mathematics, to develop all aspects and capabilities of learners; and make education more well-rounded, useful, and fulfilling to the learner.

One of the fundamental principles that will guide the education system include multidisciplinary and a holistic education across the sciences, social sciences, arts, humanities, and sports for a multidisciplinary world to ensure the unity and integrity of all knowledge. For developing holistic individuals, it is essential that an identified set of skills and values will be incorporated at each stage of learning, from pre-school to higher education.

NEP 2020 marks a revolutionary change in the existing ecosystem by integrating skilling, industry connect and employability in schools and higher education institutions. The policy has signalled a need of new education system by shifting learning-based to skill-based education system, essential to equip workforce with 21st century skills and increase employability potential of higher education programs.

The NEP also aims to improve the quality of education by making it more relevant and engaging for students. It also encourages holistic education through the provision of research internships and practical learning to improve the employability of students. To accomplish this, the policy recommends a shift away from rote learning and towards a more holistic, student-centered approach to teaching and learning. This includes the use of experiential and inquiry-based methods, as well as the incorporation of local knowledge and cultural practices into the curriculum. Further, the new holistic approach that the NEP brings about gives the ed-tech industry a new space to explore and grow in, creating more and more employment opportunities in the country.

NEP also places a strong emphasis on the importance of teacher training and development. It calls for the establishment of professional development programs for teachers, as well as the creation of a more supportive and collaborative working environment. The policy also recommends the use of technology to improve teacher training and to provide teachers with access to the latest research and best practices in education.

To actualise the vision of well-rounded leaders for 21st Century, the target of Industry Academia linkages to be scaled up to 50% of HEIs by 2030 from 10% of HEIs and eventually reaching 100% of HEIs by 2047. Similarly, the number of start-ups incubated in around 4600 HEIs to be scaled to

15,000 HEIs by 2030 and by 2047 it is targeted at 1,00,000 HEIs. Further the Students' Skill readiness for industry is targeted at 75% of students by 2030 and by 2047 it is targeted at 100% of students.

Activity roadmap for 2022-23 for actualise the vision of 'Well rounded leaders for 21st Century' will include:

- **Embed talent-driven student learning:** Increase focus on identifying and nurturing students' potential across academic and non-academic learning areas, and tailor instruction to help them develop their abilities.
- **Make holistic learning a community-led priority:** Mobilize parents and community collectives to proactively partake in and create avenues within communities for the holistic development of children
- **Establish institutions as hubs of innovation:** Create pathways for strengthened industry and academia linkages through the 'Professors of Practice' model – allowing industry experts to teach and mentor students, and promote on-campus incubation of start-ups through by creating research and development cells and designing experiential, on-the-job learning models

Activity Roadmap for 2030-2047 include:

- **Actualize talent dividend of students:** Help students to actualize their abilities across areas of learning and emerge as thriving leaders, contributing significantly to efforts, such as science, sports, and culture
- **Champion holistic learning outcomes through communities:** Collaborate with the Ministries of Panchayati Raj, and Rural and Urban Development to make cognitive, socio-emotional, and value-based education the responsibility of local governments and community collectives

These activity roadmaps are to be supported by enabling environment like:

- **Reimagine the learning agenda and enable students to thrive:** Integrate socio-emotional learning and key industry 4.0 skills into the curriculum, equip teachers and caregivers to support children and youth to meaningfully absorb these learnings, and empower all learners to be environmentally responsible, and develop into strong global and national citizens
- **Weave adaptive career pathways:** Develop the National Credit Framework with multiple, non-linear pathways recognizing prior learning, and integrate both general & vocational education while ensuring mobility of candidates between the two systems

Government has introduced **Guidelines for enhancing HEI-industry connect through Professors of Practice** to integrate industry experts in developing curriculum and learning modules. The government has also released guidelines **for internships/apprenticeships embedded degree programs** and at present 94 HEIs are offering apprenticeship/internship programs. Presently, 10,560 HEIs and 71,883 industries are registered on the Single Unified Internship Portal. Collectively, this portal is providing **28.93 lakh internships**. Overall NEP is focusing on holistic education through the integration of skilling, industry connect, and employability by helping students in acquiring various skills to meet the needs of the industries and improving the quality of education.

14.1 Expected Outcomes of the Session

The session would provide a platform for engaging over the integration of skilling, industry, and employability through following aspects:

- (a) Pathway for HEIs to capitalize on industry connect for developing course offerings with practical component for students.
- (b) Scope of inclusive participation, including skill training and improved employability of women and differently abled students in industry.
- (c) Improvements in overall industry exposure and work-ready skill levels through internships, apprenticeships, workshops, guest lectures, etc.
- (d) Leveraging technology and public digital infrastructure to improve the available opportunities for skilling and employability.
- (e) An understanding of scope of convergence of various schemes

14.2 Roadmap for the Institutes

- (a) **Promote work integrated training programs:** To provide students with hands-on experience and making them employability ready with industry specific skills, the institutions should increase the practical component in the curriculum along with promoting on-the-job trainings.
- (b) **Leverage corporate trainings outside of corporations:** By pairing elements from best-of-class corporate programs with a government-led national policy framework, institutions and industry can jointly help establish a high-quality national skills development program.
- (c) **Promote women's participation in skills training programmes:** There is need to accelerate the skilling for women to enable the transition of women from farming to non-farming professions. This will require a concerted and targeted efforts to skill women for higher ability jobs both by the academic institutions and industries.
- (d) **Identification of best practices in vocational education and training:** Identification of best practices with focus on specific criteria that can be replicated in different institutions in the relevant areas and shared at various levels to promote effectiveness in pedagogical and other aspects of implementation of VET.
- (e) **Inclusive learning** - Develop strategies to make tech-enabled learning more inclusive, leverage open learning resources and more importantly develop digital public infrastructure to make e-learning more inclusive.
- (f) **Future Skills** - Adoption of comprehensive strategies for integrating future skills in the workforce and promote lifelong learning. Development of real time and dynamic skill gap assessments with the help of rapidly evolving technological prowess like Big Data analytics etc. to uncover skill trends at a very granular level.

Thematic Session-15

Indian Knowledge Systems

15. Session Brief

The Bhartiya way is sustainable and strives for the welfare of all. It is important that we regain the comprehensive knowledge system of our heritage and demonstrate the 'Indian way' of doing things to the world. This requires training generations of scholars who will demonstrate and exemplify to the world a way of life so unique and peculiar to our great civilization.

The NEP, 2020 recognizes this rich heritage of ancient and eternal Indian knowledge and thought as a guiding principle. The Indian Knowledge Systems comprise of Jnan, Vignan, and Jeevan Darshan that have evolved out of experience, observation, experimentation, and rigorous analysis. This tradition of validating and putting into practice has impacted our education, arts, administration, law, justice, health, manufacturing, and commerce. This has influenced classical and other languages of Bharat, that were transmitted through textual, oral, and artistic traditions. "Knowledge of India" in this sense includes knowledge from ancient India and, its successes and challenges, and a sense of India's future aspirations specific to education, health, environment and indeed all aspects of life.

The main objective of drawing from our past and integrating the Indian Knowledge Systems is to ensure that our ancient systems of knowledge represented by unbroken tradition of knowledge transmission and providing a unique perspective (Bhāratīya Drishti) is used to solve the current and emerging challenges of India and the world.

The IKS is to be incorporated in scientific manner in the school and higher educational curriculums. This would include tribal knowledge and indigenous and traditional ways of learning and will cover and include mathematics, astronomy, philosophy, yoga, architecture, medicine, agriculture, engineering, linguistics, literature, sports, games, as well as governance, polity and conservation. Specific courses in tribal ethno-medicinal practices, forest management, traditional (organic) crop cultivation, natural farming, etc. will also be made available. An engaging course on Indian Knowledge Systems will also be available to students in secondary school as an elective.

The policy recognizes that the knowledge of the rich diversity of India should be imbibed first hand by learners. This would mean including simple activities, like touring by students to different parts of the country, which will not only give a boost to tourism but will also lead to an understanding and appreciation of diversity, culture, traditions, and knowledge of different parts of India. Towards this direction under 'Ek Bharat Shrestha Bharat', 100 tourist destinations in the country will be identified where educational institutions will send students to study these destinations and their history, scientific contributions, traditions, indigenous literature, and knowledge, etc., as a part of augmenting their knowledge about these areas.

In order to realize these goals of NEP 2020, a number of activities have been undertaken by the Ministry of Education, Regulatory Bodies (UGC & AICTE) and HEIs. Some of the initiatives taken by Ministry are as under:

- (a) Guidelines for Incorporating Indian Knowledge in Higher Education Curricula has been issued on 13.06.2023 – It emphasizes on the promotion of Indian Languages, Arts and Culture, and tries to remove the discontinuity in the flow of Indian Knowledge System (IKS) by integrating IKS into curriculums at all levels of education. It prescribes that every student enrolled in a UG or PG programme should be encouraged to take credit courses in IKS amounting in all to at least 5% of the total mandated credits (interested students may be allowed to take a larger fraction of the total mandated credits). At least 50% of the credits apportioned to the IKS should be related to the major discipline and should be accounted for

the credits assigned to the major discipline. The medium of instruction for the IKS courses could be any of the Indian languages.

- (b) Guidelines for Training/Orientation of Faculty on Indian Knowledge System (IKS) has been issued on 13.04.2023 – it enables the faculties to generate a positive attitude towards IKS and promote interest in knowing and exploring more through induction programs and refresher courses.
- (c) Guidelines for Empanelment of Artists/Artisans-in-Residence in Higher Educational Institutions has been issued on 08.05.2023 - To create collaboration between Artists and HEIs, to develop an effective structure of art education, involving skilled Kala Gurus in teaching, research, and other academic activities on a regular basis, which will synergize the artistic experience with the conventional education to be more productive and beneficial for the students.
- (d) Guidelines for the introduction of courses based on Indian heritage and culture have been issued on 08.05.2023 – to make people familiar with the rich cultural and intellectual heritage of India and offer short term multi-tier credit based modular programme with multiple entry and exit based on Indian heritage and culture. It includes dissemination and imparting of knowledge of various dimensions of learning in the spheres of Universal human values, Vedic Maths, Yoga, Ayurveda, Sanskrit, Indian Languages, sacrosanct religious regions located in the Indian subcontinent, Archaeological sites and monuments, Heritage of India, Indian Literature, Indian Sculpture, Indian Music and dance forms, Drama, Visual Arts, Performing Arts, Crafts and Craftsmanship etc.
- (e) The IKS has made provision has been established for awarding minor degree to students who complete 18 to 20 credits in IKS.
- (f) 32 IKS Centres established to catalyse original research, education, and dissemination of IKS
- (g) Ongoing 75 high end inter-disciplinary research facility like ancient metallurgy, ancient town planning and water resource management, ancient rasayanshastra etc. projects are being put in place.
- (h) Around 5200 internships on IKS have been offered.
- (i) Conducted 50 faculty development programs, workshops, and National/International conference.
- (j) 8000+ HEIs have started adopting IKS in their curriculum and worked on digitization of 1.5 Lakhs book.
- (k) The IKS Division of the Ministry of Education in collaboration with the Ministry of Culture and partner institutions through the Dhara Conference series has succeeded in reaching at least 6Cr+ citizens of this country directly and indirectly regarding various contributions of ancient Indian Knowledge Systems, taking into consideration their relevance in the present and exploring their scope for the future.
- (l) The IKS Division has brought together leading thinkers and practitioners of various knowledge domains to develop Vision 2047 documenting a roadmap for establishing thriving Bhāratīya Gnana Paramparā.

By drawing from our vast knowledge it would be easier to promote and enable further research to address the challenges of our present times. With such inclusion in mainstream education, these courses would inspire while restoring the legacy of our knowledge systems. Exposure to both traditional and modern ideas can help pupils better understand their cultural ethos, broaden their intellectual horizons, and boost their self-assurance.

In the First national Conference of Chief Secretaries held in June, 2022, it was decided to ensure “Research and Dissemination of Indian Knowledge System / traditional medicines to make it globally accepted as science / medicine and to develop appropriate protocol”.

It is also envisioned to ensure availability of content and courses in 22 scheduled Indian languages by implementing Project FIT - Technology for Language, In Language, Through Language and

Learning experience platforms to offer personalized learning, engaging content and 'Divyang' friendly content in Indian Languages

15.1 Expected Outcomes of the Session

The session would provide a forum where institutions and stakeholders can collaborate to restore and re-evolve Indian Knowledge Systems and also foster successful integration of Indian Knowledge Systems with contemporary knowledge systems.

- (a) Discuss how the knowledge of India can be integrated with contemporary knowledge system to address current and emerging challenges of India and the world especially in the areas of health, education, agriculture, environment etc.
- (b) Discuss mechanisms for evolving appropriate protocols for IKS studies and methodologies to integrate with research in contemporary knowledge systems in ways that are globally acceptable.
- (c) Identify the mechanisms for incentivising the HEIs and students to perform serious scholarly inter-disciplinary research.
- (d) Identify subjects related to IKS which will not only attract Indian students, but also foreign students which will serve the goal of Internationalisation at home.
- (e) Find ways to achieve 'Janbhagidari' for the development and propagation of IKS.

15.2 Roadmap for Institutes

a) Increase learning opportunities for students

- i. **Mandatory credit component** - Universities in all States/UTs may introduce learner credits or IKS electives in all courses for imbibing learners across all disciplines with traditional knowledge and pride. UGC has already made it mandatory to include 5% of the total credits in the curriculum related to the IKS courses. AICTE has introduced IKS course for the first-year students in Engineering colleges.
- ii. **Designing regional courses** - States/UTs may document their respective native cultures, arts, crafts, traditions, architecture, food habits, languages, etc to tailor dedicated courses for learners.
- iii. **Scope of collaborations** - Given the globalized history of India, multidisciplinary courses designed by universities may consider the scope of collaborating internationally wherever possible. For example, NCERT is undertaking inclusion of text highlighting historical ties between India and Indonesia at school level.
- iv. **Online/ODL courses** - Existing IKS courses may be synced to digital learning platforms (SWAYAM, NPTEL) and via ODL for learners across geographies.

b) Promote teacher recruitment and training

- i. **Recruitment** - Entrance exam syllabus may be launched as a subject for testing under UGC-NET to create a cadre of specialized IKS faculty and researchers.
- ii. **Regularized faculty training** - Modules for training and orientation of educators may be designed to improve quality of classroom delivery on IKS courses.
- iii. **Establishment of specialized teacher training centers** for training teachers in specialized topics of the Indian Knowledge Systems by specialized IKS faculty.

c) Provide hands on learning opportunities

- i. **IKS Internships** - Provide avenues for student internships/apprenticeships and provide counselling to IKS learners in convergence with BGSamvahan Karyakram, the internship programme launched by the IKS Division of MoE.

- ii. Hands-on-workshops: Provide opportunities for students to learn various skills in hands on workshops from the experts.
 - iii. Hackathons: Conduct specialized IKS themed Hackathons and include IKS related topics in the Smart India Hackathon in synergy with the topics given by IKS Division of MoE.
- d) Translation of academic content – Translation of Teaching Learning Materials for all disciplines** into local languages may be done by IKS Centres to engage diverse learners & preserve indigenous identity.
- e) Support research and innovation in IKS**
- i. Priority research funding - Dedicated research grants may be proposed through NRF in the future to boost IKS-related research proposals.
 - ii. Make catalytic grants that encourage original, serious, and deep scholarly research in the IKS and rejuvenate IKS research in India.
 - iii. Introduce IKS into the prestigious schemes such as PMRF for attracting best talent into the interdisciplinary IKS research.
 - iv. Promote innovation in the IKS through various grand national challenges, national competitions, and hackathons and incentivizing the innovation.
 - v. International collaborations - Institutions may access global collaborations through institutions such as Indian Council of Historical Research (ICHR) for conducting India-centric research. Include IKS as a theme in the ASEAN fellowships to foster collaborations among scholars and nurture next generation of scholars.
- f) Fund institutional support mechanisms**
- i. Establish institutional support mechanisms through the establishment of the IKS centers which will be catalysts for initiating research, education, and outreach activities in various parts of the country.
 - ii. Provide initial seed funding for the establishment of IKS Centers in various HEIs. Provide additional funding to establish global Centers of Excellence in focused areas.
- g) Promote Jan Bhagidari**
- i. Reach out to public through various mechanisms (MyGOV competitions, conferences, exhibitions, programs on radio and television, social media, etc) to disseminate and popularize authentic IKS knowledge to develop informed and confident citizenry.
 - ii. Involve people in various IKS initiatives through Jan Bhagidari programs similar to citizen science initiatives.
- h) Create employment opportunities**
- i. Create employment opportunities for youth through skill based IKS based programs such as IKS based beautician and cosmetician training programs, Ayurveda based dietician programs, Gandhashastra based perfumery, among many uniquely IKS based skills.
 - ii. Promote heritage technology by bringing technology solutions to showcase the Indian heritage to Indians and the world. Aim to capture 10% of the world tourism market values at \$10.5 Trillion in 2022 and provide massive employment opportunities to our youth.

Thematic Session-16

A Roadmap to Competency Based Assessment: PARAKH

16.Session Brief

The new metrics for learning are being established that capture the learning in a holistic manner making use of next generation assessment methods that focus on the development of competence, instead of knowledge or compliance to tested requirements. These assessments are used to generate an ability- based profile of a learner, allowing learners to showcase what they are truly capable of, across the full range of valued learning. Competency-based education (CBE) is an approach that focuses on the development and demonstration of specific skills, knowledge, and abilities, rather than solely relying on traditional standardized testing or rote memorization. The concept of competency-based assessment is aligned with the larger goal of promoting skill development and employability in the country's workforce.

The key point related to competency-based assessment in India is promotion of *Vocational Education and Skill Development*. Through the National Education Policy (NEP) 2020, the government has been actively promoting skill development and vocational education to bridge the gap between the demand and supply of skilled workers in various industries looking at the future demands. Competency-based assessments (CBA) plays a crucial role in assessing and certifying the skills of individuals, which are essential for their employability. The National Skill Development Mission (NSDM) has been created to develop a skilled workforce and boost job opportunities for the youth.

Competency-based assessments are designed to assess a learner's knowledge, skills, and values in a specific domain or field. These assessments aim to provide a comprehensive and objective understanding of the proficiency level of the learner and her/his ability to perform various tasks. Through these assessments, strengths and weaknesses of the individual can be identified. This information can be used to highlight areas where the individual excels and areas, they may require further development and learning. The outcomes of competency-based assessments can be used to design personalized training and development plans and making it more relevant to the world of work. It also serves as benchmarks to measure progress over time, allowing individuals and organizations to track growth and improvement. Overall, the expected outcomes of competency-based assessments revolve around making informed decisions, fostering growth, and aligning individual capabilities with organizational needs. These assessments can play a vital role in talent management, career development, and overall performance improvement for creating a workforce aligned to the requirements of the future.

NEP 2020 in para 4.41 envisages that PARAKH (Performance Assessment, Review, and Analysis of Knowledge for Holistic Development), will be a standard-setting body that fulfils the basic objectives of setting norms, standards, and guidelines for student assessment and evaluation for all recognized school boards of India, guiding the State Achievement Survey and undertaking the

National Achievement Survey , monitoring achievement of learning outcomes in the country, and encouraging and helping school boards to shift their assessment patterns towards meeting the skill requirements of the 21st century in consonance with the stated objectives of this Policy. This Centre will also advise school boards regarding new assessment patterns and latest research, promoting collaborations between school boards. It will also become an instrument for the sharing of best practices among school boards, and for ensuring equivalence of academic standards among learners across all school boards. The session would deliberate on the expected outcomes under the said preface.

16.1 Expected Outcomes of the Session

- a.) Formulating new and innovative methods to engage and empower teachers in using competency-based assessment in 'School Based Assessments' with an enhanced use of technology in documentation and it's use in improving teaching-learning.
- b.) Deliberate on the implementation of various initiatives such as Holistic Progress Card (HPC), large scale assessments/surveys, school-based assessments and other best practices adopted to promote competency-based assessment in overall education system.
- c.) Deliberate on the need for Equivalence of Boards in the context of competency-based assessments, the National Credit Framework and operationalization of Academic Bank of Credit.

16.2 Roadmap for Institutes

(a) Roles of PARAKH:

At the National level, PARAKH needs to strengthen and support the implementation of Competency-Based Assessments which would involves the following steps:

- Curriculum Design: Need to collaborate with educational experts and stakeholders to design competency-based curricula. These curricula would define the specific competencies (knowledge, skills, attitudes) students are expected to demonstrate by the end of each grade or educational level.
- Competency Based Assessment Framework: The competencies are then organized into an assessment framework that outlines the progression of skills and knowledge from one grade level to the next. This framework provides a clear pathway for students to develop their abilities and skills.
- Learning Outcomes: Clear learning outcomes are defined for each competency, describing what students should be able to do to show proficiency in that area.
- Assessment Design: PARAKH to design assessments that would assess students' competencies at the Foundational, Preparatory, Middle and Secondary stages. These assessments can take various forms, including performance tasks, projects, portfolios, etc.
- Teacher Training: PARAKH will organize training programmes for the teachers to

understand the competency-based approach and how to design and administer assessments that align with the defined competencies and learning outcomes.

- Student-Centric Learning: With CBA, there is often a shift toward more personalized and student-centric learning. Thus, enabling students to progress at their own pace and removing the learning - burden.

(b) *Roles of SCERTs:*

- Curriculum Development: SCERTs play a crucial role in designing the competency-based curriculum for the state. They work with subject matter experts, educationists, and teachers to define the competencies and learning outcomes for each grade level.
- Assessment Framework: SCERTs are responsible for developing the assessment framework, which includes guidelines for designing competency-based assessments. It needs to be ensured that the assessments align with the defined competencies and accurately measure students' proficiency.
- Teacher Training and Support: SCERTs should organize workshops, training programs, and seminars at the district level for teachers to help them understand the new competency-based approach. They need to provide resources and support to teachers to effectively implement CBA in their classrooms.
- Quality Assurance: SCERTs need to monitor and evaluate the implementation of CBA in schools across the state. They should conduct quality assurance checks to ensure that the assessments are fair, unbiased, and effectively measure student competencies.

(c) *Roles of DIETs:*

- Teacher Training: DIETs would engage in building teachers' capacity to implement competency-based teaching and assessments effectively.
- Classroom Support: DIETs to work closely with BRCs, CRCs and teachers in classrooms to provide support, resources, and guidance in implementing CBA in their day-to-day teaching practices.
- Feedback and Improvement: DIETs collect feedback from teachers and schools regarding the implementation of CBA. They identify challenges and areas for improvement and communicate this information to the SCERTs and other relevant authorities.
- Monitoring and Evaluation: DIETs may also play a role in monitoring the progress of CBA implementation at the district level and reporting back to the SCERTs.

The successful implementation of Competency-Based Assessments requires collaboration, communication, and ongoing support from all stakeholders involved in the education system.

16.3 Best Practices

With the advent of the NEP 2020, the competency-based assessment has gained popularity amongst States and Union Territories (UTs) as an alternative to traditional examination systems. Some of the best practices include a change in the focus to assess and validate a learner's skills, knowledge, and values in a more comprehensive and practical manner. Another is the ongoing discussions with an emphasis on skills and real-world applications, providing students with situations to develop life skills that they can apply in various contexts. There would be a shift from rote memorization and theoretical knowledge to a more hands-on and problem-solving approach. A shift from a 'one shot examination' to regular assessments is being embraced in some States and Union Territories during the learning process to provide feedback and identify areas where students need additional support. Incorporating flexibility and adaptability in the assessment processes is another offshoot of NEP 2020, which states that the functioning of the boards should be decentralized. There are multiple ways to be flexible with assessments while challenging students, maintaining rigor, and continuing to provide the needed structure. Many format variations can be offered to encourage and support students' individual passions and strengths, such practices may be incorporated in the functioning of the different school boards.
