PM Shri Narendra Modi to inaugurate Akhil Bhartiya Shiksha Samagam on the 3rd anniversary of National Education Policy on 29th July in New Delhi

IIT Hyderabad pioneered courses with Fractal Academics making education truly multidisciplinary in accordance with NEP, says Director Prof BS Murty

Academic Bank of Credit and Multiple entry and exit, in line with NEP, are being implemented for all Integrated Masters' programmes at University of Hyderabad, says Vice Chancellor Prof. B. Jagadeeshwar Rao

Integration of vocational education with general education and skilling in regional languages being done in Telangana, says Joint director of the Regional directorate of skill development and entrepreneurship

24th July 2023, Hyderabad

The National Education Policy (NEP) was brought out in the year 2020 aiming to transform India into a global knowledge superpower through broad-based, flexible, multidisciplinary education suited to 21st-century needs. Prime Minister Shri Narendra Modi will inaugurate the Akhil Bharatiya Shiksha Samagam which is coinciding with the 3rd anniversary of National Education Policy 2020, on 29th July 2023 at ITPO, Pragati Maidan, New Delhi. The two-day event is being organised by the Ministry of Education and the Ministry of Skill Development & Entrepreneurship. The Prime Minister will be launching various initiatives on the occasion.

In the run-up to the third anniversary of the NEP to be commemorated later this weekend, the heads of institutes of higher learning and officials of Skill Development institutes shared the achievements and the highlights of the journey of implementation of NEP so far with the media.

The Director of IIT Hyderabad, Prof BS Murty said that the institute pioneered the introduction of Fractal Academics, i.e. courses having credits ranging from 0.5 to 3, which enables students to have breadth and depth in the subjects of their interest. He said that the curriculum in all UG programs has 10% liberal arts incorporated and the students can also earn credits from outside the institute. Prof Murty said that in order to encourage entrepreneurship leading to Atmanirbhar Bharat, the IIT- H is supporting innovations by the students through BUILD (Bold & Unique Ideas Leading Development) projects and providing a semester break with 6 credits to students to pursue such innovations. Technology Research Park (TRP) for industries and Technology Incubation Park (TIP) for Startups with 150,000 sqft of space each have been created in IIT Hyderabad to encourage innovation with Industry support, the Director informed.

Speaking about the implementation of NEP in the University of Hyderabad, the Vice Chancellor, Prof. B. Jagdeeshwar Rao said that the scheme of Academic Bank of Credits has begun. Multiple Entry and Exit facility is being implemented for all Integrated Masters' programmes, 19 programmes in all, he shared. Regulations for pursuing two academic programmes simultaneously have been adopted and the University is offering 14 Diploma courses through Centre for Distance and Virtual Learning Prof Rao informed. In line with the multi-disciplinary approach delineated in NEP, the University of Hyderabad has introduced new courses like -Introduction to Gender Studies, Value Based Education, NGOs and Nation Building etc. he shared.

The Joint Director of the Regional Directorate of Skill Development and Entrepreneurship of Telangana state, Shri Vidyanad stated that as the NEP emphasizes the integration of vocational education into general education the institute is working towards providing students with both academic and practical skills. Sh. Vidyanand informed that under Pradhan Mantri Kaushal Vikas Yojana (PMKVY 2022-23), Schools, Higher education Institutions, Colleges, Universities, institutions of national repute etc. are being on-boarded as 'Skill Hubs', leveraging their existing infrastructure and domain experience to provide quality training under PMKVY. Today, there are close to 1000 Skill Hubs with 1 lakh candidates enrolled in them, he shared. About 2000+ institutions have been allocated targets, including institutions of national repute such as IITs, IIITs, NITs, and central universities. ISM Dhanbad and IIT Guwahati have already started training in Assistant Mine Surveyor, Green House Operator, Self Employed Tailor, Social Media Associate job roles.

NEP 2020 paves the way for developing and grooming our youth for such a responsibility, preparing them for emerging job roles of the future. The policy emphasizes developing the foundational and higher cognitive capacities of each individual such as critical thinking and problem solving. Therefore, there is a need for the leadership of academia, policy experts, and industry experts to come together for brainstorming and devising implementation strategy. Accordingly, the two day event in New Delhi will include sixteen sessions spread over 2 days from 29th to 30th July, discussions will be held on Access to Quality Education and Governance, Equitable and Inclusive Education, Issues of Socio-Economically Disadvantaged Group (SEDG), National Institute Ranking Framework (NIRF), Indian knowledge System, Creating Synergy between education and Skilling Future of Work, Internationalisation of Education, among others.

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Initiatives of IIT Hyderabad towards the Implementation of NEP

Key Features of IITH Crystal (15-Year) Journey

Ranking: IIT Hyderabad (IITH), established in 2008, is ranked 8 in Engineering (within Top-10 since the inception of NIRF), 14th Overall ranking and 14th rank in Research in the NIRF Ranking-2023. This year we have also bagged 3rd rank in the NIRF-Innovation Ranking (Erstwhile: ARIIA rankings) for the first time in the league of Top Institutes in the country.

Departments, Students and Faculty: IITH has 18 departments (including unique departments like, AI, Design, Climate Change, Liberal Arts, Entrepreneurship & Management and Heritage Science Technology) along with a centre for Interdisciplinary Program with 4200+ students (~1200 PhD students, ~1300 PG students), 303 faculty members.

Research: We have 9300+ Scopus publications, 2500+ projects worth Rs. ~900 Crores, 200+ patents and 130+ start-ups supported (which have created 1000+ jobs and Rs. 1200+ Cr revenue). IITH has been striving for excellence passionately with the motto "Invent and Innovate in Technology for Humanity (IITH)".

Infrastructure: Phase-2 construction is ongoing and is expected to be completed by August 2023, which will provide hostel accommodation for 5000 students, individual departmental buildings, a large capacity guest house, a conference facility, a lecture hall complex, a library and a sports & cultural complex.

National Education Policy (NEP) Initiatives at IITH

Flexible Academic Curriculum:
- IITH is the first institute in the country to start Fractal Academics (courses have credits ranging from 0.5 to 3) to enable students to have breadth and depth in the subjects of their interest.
- The curriculum in all UG programs has 5 verticals, namely, basic sciences (10%), Basic Engineering (10%), Professional major (60%), Liberal arts/creative arts (10%) and free electives (10%), to enable students to have freedom in their learning.
- The institute allows the students to earn credits from outside the institute.
- IITH offers BTech in Engineering Sciences, wherein a student can pick up any course of their choice in their 4 years.
- All the BTech students can opt for a Minor or Dual degree with a wide choice of specializations.
- The student can also get a Double Major by doing extra credits.
- **Multiple Exit Policy:** Diploma, Executive MTech, MS, Master by Coursework, etc.
- **Encouraging Cohesive Learning –** Open-to-All-Teaching **[OAT]**, real-time credited learning for remote learners.

Multidisciplinary Education:
- IITH has unique multidisciplinary departments such as AI, Design, Climate Change, Liberal Arts, Entrepreneurship & Management and Heritage Science & Technology.
- IITH has unique BTech programs in (a) Artificial Intelligence, (b) Biomedical Engg., (c) Biotechnology & Bioinformatics, (d) Industrial Chemistry, (e) Engineering Sciences, (f) IC Design & Technology
- IITH has the first multidisciplinary BTech program among IITs on Computational Engineering to create computational engineers for the manufacturing industry instead of the software industry.
- IITH started several Interdisciplinary (ID) MTech programs, namely, Additive manufacturing (supported by DRDO), E-waste resource engineering & management (jointly with CMET), Smart Mobility (supported by TiHAN), Energy Science & Technology, Integrated sensor systems, Networks & information security, Polymers & biosystems engineering, Medical device innovation

(jointly with AIG), Semiconductor Materials & Devices, Quantum & Solid State Devices and MSc in Medical Physics (Jointly with Basavatarakam).
- A Centre for Interdisciplinary Programmes (CIP) has been established.
- ID PhD program has been established.
- Multidisciplinary research projects (SOCH) to the tune of Rs. 1 Cr have been supported.

International Outlook:
- To attract international students for a PhD at IITH, Fellowship for International Research Scholars in Technology (FIRST) with a monthly fellowship of Rs. 60,000 and an annual contingency grant of Rs. 1 lakh has been started.
- Joint Doctoral Programme (JDP) has been initiated with Swinburne University of Technology, Australia, Deakin University, Australia and National Tsing Hua University, Taiwan
- IITH-NIMS (Tsukuba, Japan) Research Centre has been established.
- Phase-2 of the FRIENDSHIP project with Japan has been initiated (2021-2027).

Encouraging Innovation:
- Minor and double major in Entrepreneurship for BTech students.
- A dual degree MTech in Techno-Entrepreneurship has been initiated for BTech students.
- MTech in Techno-Entrepreneurship (first among IITs), wherein the student develops a prototype and a business model to commercialize it by the end of 2 year program.
- The curriculum is revised to ensure a larger lab component to encourage hands-on learning.
- An innovation policy is in place that provides credits for innovation projects.
- Supporting Innovations by the students through BUILD (Bold & Unique Ideas Leading Development) projects and providing a semester break with 6 credits to students to pursue such innovations. This year the BUILD project support is extended to students across the whole country.
- Creating research culture among BTech students of 9 NITs (5 from the northeast) by enabling them to spend their final year BTech at IITH.
- 4 Incubators for startup support: ITiC for technology, Centre for Healthcare Entrepreneurship (C*f*HE) for medical innovations, FabCI for fabless chip design and TiHAN.
- A Dean position for Innovation, Translation & Startups and a Technology Transfer Office to support technology development with higher TRL levels.
- Effective utilization of research facilities through slot booking using a web portal.
- Supporting research eco-system in India by making 480 equipment of IITH available on the I-STEM portal (highest by any institute in the country).

Atma Nirbhar Bharat through Association with Industry & Research Labs:
- A semester-long UG internship (with 6 credits) is introduced in the 6th semester for UG students.
- Mandatory course on Industry Lectures for MTech students.
- Several industries-oriented MTech programs have been introduced.
- Many MTech projects in each department are defined by the industry.
- To encourage industry personnel to do PhD at IITH, the residential requirement is waived.
- Joint PG programs with other organisations: E-waste management (with CMET), Smart mobility (with TiHAN), Additive manufacturing (with DRDO), and Sustainable Engineering (with Greenko).
- Joint PG programs with hospitals: MTech in Medical Device Innovation (with AIG, wherein the student goes through 4-month immersion in a hospital and develops a medical device), MTech in Ophthalmic Engineering (with LVPEI) and MSc in Medical physics (with Basavatarakam Cancer hospital, wherein the student spends 1 year in cancer hospital to become radiation expert).
- IITH-DRDO Research Cell has been established (converted recently into DIA CoE) to bring out innovations through collaboration.
- About 10-20 PhD students have been admitted annually to work on problems defined by DRDO.

- Technology Innovation Hub on Autonomous Navigation (TiHAN) under DST NMICPS has been established with first of its kind Testbed in an Indian academic institute.
- A DRDO Centre of Excellence in Additive Manufacturing approved.
- A Centre of Excellence for Medical Devices has been sanctioned by ICMR.
- A Centre of Excellence for Transportation Research has been sanctioned by NHAI.
- Technology Research Park (TRP) (for industries) and Technology Incubation Park (TIP) (for Startups) with 150,000 sqft of space each has been created.
- A School of Innovation & Entrepreneurship and a School of Climate Change & Sustainability are being established with industry support to encourage innovation.

Towards Digital Education:
- Several online MTech and MDes programs were initiated to reach out to the industry with an option for a PG Diploma/Executive MTech after the course work.
- Several Certificate Courses, such as AI, Digital Design, started for up-skilling.
- A High-Performance Computing (HPC) Centre with 800 Teraflop capability and an AI Centre has been established to support digital innovations in education and research.
- Open-to-All-Teaching (OAT) introduced.

Participating in the Endeavour to make India a Global Leader:
- Established a Rural Development Centre to work closely with rural India.
- Adopted about 5 nearby villages and provided research support to its faculty (Rs. 50 lakhs) to implement deep tech innovations in these villages.
- Introduced 5 Sanskrit curses in the curriculum t enable students to explore ancient treasures of India and bring back the glory of Indian global leadership. Established a Cell on Indian Knowledge Systems and a department of Heritage Science & Technology.

Life Skills and Overall Development:
- The curriculum is revised to bring a lot of flexibility, with about 10% of liberal arts and creative arts courses and about 10% free electives.
- Personality development-related courses are introduced for the overall development of the students.
- Certificates Program with Experts like Talent Spirit and BDI, some popular certifications from IITH.