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# POLICIES AND INITIATIVES OF GOVERNMENT FOR PROMOTION OF ONLINE EDUCATION IN INDIA

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***Abstract***

*Online or digital education in India is an innovative and big leap towards enhanced learning, structural development and knowledge acquisition through digital services and technology. The need for technology-based education in India has been heightened by the COVID-19 pandemic, which has temporarily disrupted the Indian education system. Digital education in India is the way forward to learn and gain knowledge through technology. The Government of India plans and designs e-learning with digital pedagogy as a long-term strategy for the education sector. This has fostered a new era of learning that is not limited to schools. Today, the Ministry of Education is working on the concept of learning for all, by all and for all to enable better learning for students. As a part of this, the government has launched several programs and digital education guidelines with standards to address digital education and equitable learning in India. The new education policy approved in July 2020 proposes a digitally equipped school, more virtual laboratories and friendlier software to make teaching and learning more interesting and interactive. for Ensuring the quality of digital education at the primary school level requires the needs of both teachers and students skill Some notable initiatives in India in this direction are SWAYAM, NPTEL, ePGPathshala, MOOCS and many others.*

***Keywords -*** *e-learning, digital pedagogy, SWAYAM, NPTEL, ePGPathshala, MOOCS etc.*

## 1. Introduction

Online education is a way of learning in which technology and digital tools play an important role. This comprehensive and advanced education model helps students learn anywhere in the country. The government through its various initiatives has come up with several channels for comprehensive sources of digital education. Each state/university has implemented various inclusive measures to bridge the digital divide and demonstrate students' digital literacy. Some

state governments have started providing smartphones and tablets to promote digital education. Online learning is a technology-based learning method and a broad technical discipline that aims to help all students gain knowledge in every corner of the country. Online education in India is believed to be the future of learning. The Government of India has identified various channels and taken several initiatives to distribute educational and pedagogical tools and resources across the country. Recognizing the rapid development of online education, the government introduced a new National Education Policy (NEP) that emphasizes digitization and the use of technology in education. Another focus in Edtech is on continuing education, especially in rural areas. This initiative was largely taken to provide quality education especially in Tier 2 and Tier 3 towns and villages.

With a population of around 1.4 billion, India offers many opportunities to expand the digital landscape. Our digital market is expected to grow rapidly in the coming years. With the expansion of telecommunications in the country, internet penetration is expected to continue to grow above the current 35%. The mobile revolution has led to an increase in internet usage in the country, which is expected to become more and more common in the coming years. According Forbes.com, "By 2030, one billion Indians will have access to the Internet, and more than 500 million will use it in regional languages.

## 2. Prominent initiatives by Government of India for online Education:

The Higher Education Department of the Ministry of Education administers the National Mission on Education through Information and Communication Technology (NMEICT) program to harness the potential of information and communication technology to provide quality content to all students in the country. Some major initiatives under this program are discussed here:

**2.1 SWAYAM** (Study Webs of Active Learning for Young Aspiring Minds) – SWAYAM is an integrated platform for offering online courses and covers school levels (9th to 12th) to post-graduate level. Online courses are used not only by students, but also by teachers and non-students in a form of lifelong learning. It is available at www.swayam.gov.in. NCERT (National Council of Educational Research and Training) has developed MOOC course modules for the school education system in 12 subjects (Accounting, Commerce, Biology, Chemistry, Economics, History, Geography, Mathematics, Physics, political science, psychology and sociology) for classes IX-XII.

Today, SWAYAM is a rich repository of over 300 high-quality MOOC courses with over 3 million students enrolled. According to MoE GOI, actual total number of registrants is 24,405,178 (without figures from January 2023) and so far 2,629,526 have registered for the exams, that is 10.7% of the total registrants. The letter also mentioned that with 8,83,605 assignments submitted, it fulfills the requirements of more than 50% students.

Currently, the most requested course on the SWAYAM platform is Computer Science with Python offered by IIT-Ropar, followed by 46,081 students. Ethical Hacking by IIT-Kharagpur by 45,934 students, Programming through C by IIT-Bombay by 45,629 students and Java Programming by IIT-Kharagpur by 45,445 students.

**2.2 ePG-Pathshala -** This platform offers curricular, high-quality and interactive web content in 70+ languages from subject matter experts, working in Indian universities. e-PG Pathshala is an online content portal accessible open access This portal is a project of the Ministry of Human Resource Development (MHRD), was developed by the National Mission on Education through Information and Working Group Department of Communications Technology (NME-ICT). It offers high-quality, curriculum-based and interactive web content. The main objective of e-PG Pathshala is to develop comprehensive e-content for postgraduate students to benefit them. The main objective of E-PG Pathshala is to create e-content for everyone in undergraduate studies, gain knowledge from experts in the field from colleges, universities and R&D in laboratories and ensures the availability of electronic content through various means of transmission for informal learning and formal education and to complete the learning and teaching in the higher education sector. It provides digital textbooks, study materials for all classes. Video, audio and workshops are available for students, teachers, parents, educators and researchers. This is open education source where teacher support is not available to students. Each topic has a content evaluator, a report coordinator, content producer and multimedia team.

**2.3 SWAYAM Prabha:** SWAYAM Prabha is an initiative to provide 32 quality educational channels through DTH (Direct to Home) across the country 24x7. It has a curriculum based course content covering various disciplines. It primarily aims to bring quality learning resources to remote areas where internet connectivity is still a challenge. It aims to be "One Class, One Channel" asynchronously for anyone, anytime, anywhere. It has tied up with Tata Sky and Airtel for telecasting and telecasting of educational programs.

**2.4 FOSSEE (Free and Open Source Software for Education):** FOSSEE is a project promoting the use of open source software in educational institutions/universities (http://fossee.in ). This is done through educational materials such as spoken tutorials, documentation such as textbook companions, awareness programs such as conferences, training workshops and internships. The Textbook Companion (TBC) is a collection of solved example codes from standard textbooks. About 2,000 college students and teachers participated in this activity and almost 1,000 TBCs were created on Scilab and are available for free download.

**2.5 National Digital Library (NDL):** The National Digital Library (NDL) of India is a project to develop a framework for a virtual repository of learning resources with a single window search function. More than 3 billion digital resources are available through NDL. The content covers almost every major field of education and all major learning levels, including lifelong learners. NDL has more than 50 million students enrolled and approximately 20 million active users. NDL is also available via a mobile app. It can be accessed at www.ndl.gov.in.

**2.6 Virtual Lab (vLab):** The goal of the Virtual Labs project is to develop a fully interactive simulation environment for conducting experiments, collecting data, and evaluating answering questions to understand the knowledge gained. The Virtual Labs project is an initiative of the Ministry of Human Resource Development (MHRD), Government of India under the auspices of the National Mission on Education through Information and Communication Technology (NMEICT). This project is a consortium effort of twelve participating institutes with IIT Delhi as the coordinating institution. This is a paradigm shift in ICT-based education. For the first time, such an initiative was carried out in a remote experiment. The Virtual Labs project has designed more than 100 virtual labs consisting of approximately 700 web-based experiments for remote use and viewing.

**2. 7 e-Basta** - Under this project, Government of India provides books in digital format for reading and use as e-books laptops and tablets. The main purpose of this platform is to bring different publishers and schools together platform and students can easily access dynamic content through text, graphics, videos and diagrams. e-Basta are portable and delivered over the Internet without shipping or packaging. This is a collection of electronic content "Anywhere, anytime".

**2. 8 E-Yantra:** e-Yantra is a project to enable effective training in embedded systems and robotics in engineering schools in India. Instructor and student training is delivered in workshops

where participants are taught the fundamentals of embedded systems and programming. Many institutions across India have benefited from this initiative. All projects and codes are available as open source content on the e-Yantra website www.e-yantra.org.

**2. 9 Shodhganaga :** Shodhganga is an open access repository of full-text theses submitted to Indian universities. No membership required to browse, view, search and download Shodhganga theses. However, INFLIBNET enters into MoUs with universities to facilitate submission of electronic version of theses to Shodhganga and submission of abstracts/accepted research proposals to Shodhgangotri. Eligible universities that sign an MoU with Shodhganga INFLIBNET Center will have access to anti-plagiarism software.

Shodhganga provides a platform for scholars to pursue Ph.D. theses and makes them publicly available to the entire scientific community. The archive has the capacity to capture, index, store, distribute and preserve ETDs (Electronic Theses and Dissertations) submitted by researchers. Shodhganga replicates the academic structure of each university in terms of departments/centres/institutes that each university must facilitate for ease of navigation. Such a structure makes it easier for the university researchers to submit their theses in the respective department/center/college. The Center is also developing a semantic web-based user interface to facilitate subject browsing, navigation, searching and retrieval of archived content.

**2. 10 e-ShodhSindhu:** On the recommendation of the Expert Committee, Ministry of Education formed e-ShodhSindhu by merging three consortia namely UGC-INFONET Digital Library Consortium, NLIST and INDEST-AICTE Consortium. e-ShodhSindhu will continue to provide its member institutions with current and archival access to over 10,000 core and peer-reviewed journals, as well as multidisciplinary bibliographic, reference and factual databases, including centrally funded technical data, from multiple publishers and aggregators. institutions, universities and colleges covered under Sections 12 (B) and 2 (f) of the UGC Act.

**2. 11 ShodhShuddhi:** Ministry of Education and Government of India launched a program called "ShodhShuddhi" which will provide access to plagiarism detection software to 1,000 institutions from 1 September 2019 and responsibility for the implementation of the initiative was given to the supervised INFLIBNET Center MHRD. Under "ShodhShuddhi" initiative URKUND (now called Original as of March 15, 2021) An online plagiarism detection software system has been made available to all universities/intuitions from a country selected by the INFLIBNET Center based on a global offer. The Anti-plagiarism software allows you to

compare submitted documents with multiple documents databases. This includes subscription-based resources, existing and archived Internet pages, and the Web documents, open access resources from major publishers and compilers, database of student works, and so on.

**2. 12 PM E-Vidhya:** Announced on May 17, 2020, this is a comprehensive program that aims to link digital and online education with educational programs to improve the reach and accessibility of online learning. It targeted almost 25 million school children across the country.

**2. 13 DIKSHA:** Digital Infrastructure for Knowledge Sharing (DIKSHA) was launched in 2017 with the dream of "One Nation, One Digital Platform". DIKSHA is a national platform from 1 to 12th classes and can be accessed through a web portal or mobile application. It includes e-content related to the curriculum as well as assignments and courses aimed at educators.

**2. 14 eGyankosh:** it is a national digital repository that stores, indexes, preserves, shares and distributes digital learning resources developed by open and distance learning institutions. This repository helps learners access and access self-study materials for more than 227 programs offered by IGNOU. The data repository has been handed over to COE from 16th November 2016. The repository can be accessed from the e-Gyankosh portal (www.egyankosh.ac.in)

**2. 15_VidyaDaan:** this Aims to seek donations and donations from educational institutions, private entrepreneurs and individuals for digital learning resources for schools. VidyaDaan was started in April 2020. Assam, Goa, Kerala, Odisha, UP, Punjab, Maharashtra, Gujrat, Telangana and Chandigarh CBSE and NCERT together work effectively with VidyaDaan to source DIKSHA content.

**2. 16 Spoken Tutorial:** These are 10-minute audio-video tutorials on open source software to improve employability of students. It is designed for self-learning, with audio synchronized in all 22 languages and an online version available. Languages include C, C, Java, PHP, Python, PERL, Scilab, OpenFOAM, OpenModelica, DWSIM, LibreO and more. Oral instructional courses are designed to effectively train a novice user without the help of a physical instructor.

**3. Conclusion**

Education is the most important weapon for the rise of the country and educational institutions. With digitization, online learning has become essential. The Central Government and the State Governments have taken many initiatives to reach the students of every nation. Online education is the need of the nation achieving a digitally literate environment by 2030. The government announces existing e-learning projects like SWAYAM, NEPTEL, EDUSAT and CLASS etc.

have launched several new e-learning platforms like SILE, Shiksha Vani, e-basta, NDLI and many more. The state government also plays a big role promote online learning in a pandemic situation To ensure online learning, the Government of India is committed to transform and cover the educational level of all distance students in the country by supporting them digitally and technologically to achieve their education through one-click digital means. Through ICT training initiatives, the government has modernized and rejuvenated India's education sector. Bridging the digital divide, it has also played a key role in exemplifying the quality and digital dimension of Brighter Tomorrow initiatives by the students of our country.

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