EMERGING TECHNOLOGIES AND DIGITAL LITERACY PROGRAMMES

80.   SHRI SUJEET KUMAR:

Will the Minister of Electronics and Information Technology be pleased to state:

(a)   whether Government foresees emerging technologies, such as artificial intelligence,blockchain, or the Internet of things particularly promising;
(b)   if so, the details of steps being taken to harness their potential;
(c)   whether Government plans to focus on digital literacy programmes regarding theaforementioned technologies, especially in rural areas, to ensure that citizens are equippedwith the skills to fully participate in the digital economy;
(d)   if so, the details thereof; and
(e)   if not, the reasons therefor?

ANSWER

MINISTER OF STATE FOR ELECTRONICS AND INFORMATION TECHNOLOGY
(SHRI RAJEEV CHANDRASEKHAR)

(a) and (b):   The Government considers the next decade as 'India Techade', a decade full of technology opportunities for young Indians.Emerging technologies like Artificial Intelligence, Internet of Things, Blockchain etc. will redefine the future of technology led transformation.The Government of India recognizes the potential of such emerging technologies and is actively working towards fostering and promoting their utilization. To harness the potential of these technologies, the Government has taken several initiatives such as:

• The Government has published the National Strategy for Artificial Intelligence in June 2018 and proposes to develop an ecosystem for the research and adoption of Artificial Intelligence i.e. #Al for ALL.
• The Government has released the National Strategy on Blockchain in December, 2021 which provides strategies and recommendations for the Indian Blockchain ecosystem to harness the benefits of this emerging technology by focusing on technological and administrative aspects.
• The Government has constituted 7 expert groups to deliberate and prepare a design document on IndiaAI. The first edition of IndiaAI expert group report detailed out the operational aspects of establishing Centers of Excellence (CoEs) on AI, and the institutional framework on governing data collection, management, processing and storage by the National Data Management Office (NDMO). The report also recommends on how India can leverage its demographic dividend and play to its strengths as an IT superpower to further the penetration of IndiaAI skills in the country, strengthening the IndiaAI compute infrastructure in India to support IndiaAI innovation through public-private partnerships (PPPs). The copy of the report is available at MeitY website.
• A Project titled "Design and Development of a Unified Blockchain Framework (UBF) for offering National Blockchain Service and Creation of a Blockchain Ecosystem" has been initiated. This project focuses on evolving a framework for end-to-end, rapid development & deployment of Blockchain based applications, enable OpenAPIs for seamless integration, address challenges related to security, scalability & performance

aspects, hosting on distributed infrastructure and applications developments in Health, Agriculture, Education and other important e-Governance domains.

- MeitY along with CDAC has also initiated a Proof-of-Concept (PoC) project on AIRAWAT (AI Research, Analytics and Knowledge Dissemination Platform) for providing a common compute platform for AI research and knowledge assimilation. This AI Computing infrastructure will be used by all Technology innovation hubs, Research Labs, Scientific Communities, Industry, and Start-Ups institutions with National Knowledge Network. The PoC for AIRAWAT is developed with 200 petaflops Mix Precision AI Machine which will be scalable to a peak compute of One AI Exaflop.

- The Government has established several Centres of Excellence in various emerging technologies including Artificial Intelligence, Blockchain, Internet of Things (IoT), etc., to explore opportunities in these specialized fields. These centres provide start-ups with premium plug-and-play co-working spaces and access to the ecosystem.

- Department of Science & Technology is implementing the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS) to promote R&D, Human Resource Development (HRD), Technology Development, Entrepreneurship Development, International Collaboration etc. As part of this Mission 25 Technology Innovation Hubs (TIHs) in advanced technologies have been established in reputed institutes across the country. The TIHs at IIT Kharagpur, IIIT Hyderabad and IIT BHU are working towards Artificial Intelligence and Data Science.

- MeitY has undertaken the implementation of the "National Program on Artificial Intelligence". The objective of the program is to establish a comprehensive program for leveraging transformative technologies to foster inclusion, innovation, and adoption for social impact.

- With the tremendous progress of India in the area of AI, on 12th December 2023 India assumed the Lead Chair of the Global Partnership on Artificial Intelligence (GPAI), an international initiative to support responsible and human-centric development and use of Artificial Intelligence (AI). India is a founding member of the Global Partnership on Artificial Intelligence (GPAI), having joined the multi-stakeholder initiative on June 15, 2020. India has won more than two-thirds of first preference votes and has been entrusted with the responsibility of incoming council chair of the GPAI in November 2022. GPAI is an international and multi-stakeholder initiative to guide the responsible development and use of AI, grounded in human rights, inclusion, diversity, innovation, and economic growth.

(c) and d): To enhance digital adoption, the Government is focusing on providing digital literacyto the citizens across the country. The steps taken by the Government to improve digitalliteracy in the urban and rural areas of the country are given below:

- **YUVAi- Youth for Unnati and Vikas with AI**:National e-Governance Division (NeGD), MeitY in collaboration with its partners, has launched 'YUVAi: Youth for Unnati and Vikas with AI'- A National Programme for School Students with the objective of enabling school students from classes 8th to 12th with AI tech and social skills in an inclusive manner. The programme will provide a platform for youth to learn and apply AI skills in 8 thematic areas- Krishi,Aarogya,Shiksha, Paryavaran,Parivahan,Grameen Vikas, Smart Cities and Vidhi aur Nyaay.

- **Future Skills PRIME:**Ministry of Electronics & IT (MeitY) & NASSCOM has jointly initiated a programme titled FutureSkills PRIME, a B2C framework for re-skilling/ up-skilling of IT professionals in 10 Emerging area including Cloud Computing and Artificial Intelligence. Under this programme so far, 16.52 Lakh+ candidates have signed-up on the FutureSkills PRIME Portal, out of which, 2,92,389 candidates have completed their course. In addition, 2,258 Trainers and 10,986 Government Officials have been trained on these technologies by NIELIT/C-DAC Resource Centres, and around 16,29,390 unique learners have collectively earned 91,81,874 'badges' in recognition of having completed bite-sized digital fluency content.

- **INSPIRE:** "Innovation in Science Pursuit for Inspired Research (INSPIRE)" is a flagship scheme of the Department of Science and Technology (DST) which aims to attract meritorious youth to study basic and natural sciences at the college and university level and to pursue research careers in both basic and applied science areas including engineering, medicine, agriculture and veterinary sciences. The ultimate aim is to expand the R&D base of the country.

- **Atal Innovation Mission:** NITI Aayog has initiated an AIM-State partnership for helping in strengthening the existing innovation ecosystem in the states/UTs. AIM is proposing joint efforts with states to create a strategy for infrastructure, processes, human resources, and policies in building a holistic innovation and entrepreneurship ecosystem in the state, and proposes to do so through the transfer of know-how, expertise, mentorship, and interconnections.

- MeitY has launched the **"National AI Portal"** (https://indiaai.gov.in/) which serves as a comprehensive repository of Artificial Intelligence (AI) initiatives in the country. The portal acts as a single point of reference for individuals, researchers, and industry professionals seeking information about AI initiatives in India, including academic research, startups, policy initiatives, and other related information.

- **"Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA)"** has been approved to usher in digital literacy in rural India by covering 6 crore rural households (one person per household) by 31.03.2024. To ensure equitable geographical reach, each of the 2,50,000 Gram Panchayats across the country are envisaged to register an average of 200-300 candidates. Digitally literate persons are able to operate computers/digital access devices (like tablets, smart phones, etc.), send and receive emails, browse internet, access Government Services, search for information, undertake cashless transactions, etc. and hence use IT to actively participate in the process of nation building. So far, a total of around 7.35 crore candidates have been enrolled and 6.34 crore have been trained, out of which 4.73 crore candidates have been certified under the PMGDISHA Scheme.

- NIELIT introduces its 'Course on Computer Concepts' in many International and national languages for global accessibility, empowering learners with essential digital skills in diverse languages. This comprehensive program covers computer technology, AI, Blockchain, and Big Data, fostering digital competence for personal and professional success. Every year, at average 5-6 lakhs candidates are trained in NIELIT's CCC Course in order to equip them to use technology for professional as well as day to day use. A status of state-wise No. of candidates trained in various Digital Literacy Courses in the last 3 years are placed at **Annexure - I**.

- The Directorate General of Training (DGT) under M/o Skill Development & Entrepreneurship (MSDE) is implementing the Craftsman Training Scheme (CTS) in Industrial Training Institutes (ITIs) across the country. Under this scheme, essential Digital Skills are taught under the subject of 'Employability Skills' that are mandatory for trainees in all trades. The courses focused on the Internet of Things (IoT) have also been included under the Scheme.

- DGT has signed MoU with IT Tech companies for imparting technical & professional skills with respect to new age technologies which includes courses on topics like Artificial Intelligence (AI), Big Data Analytics (BDA), Blockchain, Cloud Computing, Cybersecurity, Internet of Things (IoT), Web, Mobile Development & Marketing, Machine Learning, CCNA, etc. to trainees through Bharatskills. (https://bharatskills.gov.in) - a Central Repository for skills, to make the trainees industry ready.

(e):   Does not arise.

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State	No. of candidates trained in year			
	2020-21	**2021-22**	**2022-23**	**Total**
Andaman &Nicober Islands	0	30	0	30
Andhra Pradesh	134	144	363	641
Arunachal Pradesh	70	69	545	684
Assam	425	910	982	2317
Bihar	6723	10764	4785	22272
Chandigarh	216	292	344	852
Chattishgarh	217	1177	1971	3365
Dadra & Nagar Haveli	3	14	791	808
Daman & Diu	20	22	563	605
Goa	6	58	224	288
Gujarat	1071	2452	4159	7682
Haryana	1885	2731	3759	8375
Himachal Pradesh	271	1002	1878	3151
Jammu & Kashmir	365	1066	1381	2812
Jharkhand	975	1521	2902	5398
Karnataka	419	453	573	1445
Kerala	402	145	140	687
Lakshadweep	0	0	23	23
Madhya Pradesh	19062	15448	13579	48089
Maharashtra	11739	23064	42223	77026
Manipur	2580	4854	6643	14077
Meghalaya	113	78	113	304
Mizoram	2339	2032	3192	7563
Nagaland	412	288	872	1572
NCT of Delhi	5548	7961	4280	17789
Odisha	1782	452	2022	4256
Puducherry	33	7	6	46
Punjab	315	939	1276	2530
Rajasthan	4814	6997	7200	19011
Sikkim	0	3	3	6
Tamil Nadu	75	37	95	207
Telengana	440	123	470	1033
Tripura	284	95	738	1117
UT of Ladakh	3	7	2	12
Uttar Pradesh	618202	607059	322766	1548027
Uttarakhand	10759	6950	6277	23986
West Bengal	1772	1300	1919	4991
Total	**6,93,474**	**7,00,544**	**4,39,059**	**18,33,077**

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