

AI-Based Training and Skill Development Initiatives

प्रविष्टि तिथि: 10 AUG 2026 5:21PM by PIB Delhi

Ministry of Skill Development and Entrepreneurship (MSDE), through National Council for Vocational Education and Training (NCVET), Directorate General of Training (DGT) and under PMKVY 4.0, has initiated multiple programmes for Artificial Intelligence (AI)-based training and skilling across sectors:

1. Under the NCVET-regulated ecosystem, 116 NSQF-aligned and NSQC-approved Qualifications, National Occupational Standards (NOSs) and Micro-Credentials relating to Artificial Intelligence and Machine Learning are presently in place, covering domains such as Generative AI, Agentic AI, Large Language Models (LLMs), Prompt Engineering, Machine Learning, Deep Learning, Natural Language Processing, Computer Vision, Robotics and Automation, AI Security, AI Ethics, AI Governance, and sector-specific AI applications.
2. Under the Pradhan Mantri Kaushal Vikas Yojana (PMKVY) 4.0, training is imparted in AI and AI-enabled job roles across sectors such as IT-ITES, Telecom and Life Sciences, with job roles developed in consultation with industry and Sector Skill Councils. As of 30.06.2026 under PMKVY 4.0, 53,449 candidates been trained/oriented and 25,466 candidates certified in AI related job roles.
3. The Directorate General of Training (DGT) has introduced AI into vocational training through the Artificial Intelligence Programming Assistant (1-year) course, a 240-hour Generative AI course, and a 7.5-hour AI micro-credential for trainees in Industrial Training Institutes (ITIs). The compulsory Employability Skills curriculum has also been revised to include modules on AI and Green Skills. A list of 32 new-age courses introduced across ITIs/NSTIs, including AI-related trades, is at **Annexure-I**, with trade-wise enrolment for the period 2021-2025 at **Annexure-II**.

The schemes, partnerships and platforms developed to impart AI-related skills are as under. A specific assessment of demand for AI-related skills and the current workforce gap has not been done; the schemes below are, however, designed on a demand-driven and industry-aligned basis, as indicated against each:

1. Skilling for AI Readiness (SOAR): Launched by NCVET to promote AI literacy, initially with four foundational courses - AI to be Aware, AI to Acquire, AI to Aspire and AI for Educators - subsequently expanded to 50 AI and AI-application-oriented NSQF-aligned courses covering AI for jobs, workplace productivity, sector-specific applications and inclusivity. Courses are delivered through the Skill India Digital Hub (SIDH) by NCVET-recognised Awarding Bodies.
2. PMKVY 4.0: Designed as a demand-driven, industry-aligned scheme, with training programmes and job roles identified in consultation with industry and Sector Skill Councils to address evolving workforce requirements in emerging technologies. AI-related training is

delivered through a network of AICTE-affiliated colleges, private universities/colleges, engineering colleges, ITIs, NIELIT centres, PMKKs, Skill Universities, Institutes of National Importance, and State Government universities/colleges.

3. DGT: Industry partnerships: In collaboration with Microsoft and the Edunet Foundation, the Artificial Intelligence Programming Assistant (AIPA) course under the Craftsmen Training Scheme (CTS) was implemented at 19 National Skill Training Institutes (NSTIs) in the 2024-25 session (intake capacity 504), and extended to 23 NSTIs in 2025-26 (intake capacity 600). Institute-wise details are at **Annexure-III**.

Steps taken to ensure inclusive access to AI-based training are as below:

1. SOAR has been designed for inclusive access through fully online, self-paced courses delivered on SIDH, enabling youth, educators and other learners - including those from rural and semi-urban areas - to acquire nationally recognized, NSQF-aligned and credit-linked AI competencies through a flexible digital learning mode. As on 22.07.2026, a total of 4,96,426 learners have enrolled and 98,576 learners have been certified under the SOAR courses available on the Skill India Digital Hub (SIDH).

2. PMKVY 4.0 training has been extended to rural, semi-urban, aspirational and underserved districts, covering AI, Machine Learning, Data Analytics, IoT, Drones, Semiconductors, Electric Vehicles, Green Hydrogen, Renewable Energy, Robotics and 5G Technologies, delivered through a wide network of training institutions across States and Union Territories. As of 30.06.2026 under PMKVY 4.0, 53,449 candidates been trained/oriented and 25,466 candidates certified in AI related job roles. Details are kept at **Annexure IV**.

ANNEXURE-I

List of 32 New-Age Courses (including AI-related trades) under Craftsmen Training Scheme

S. No.	Trade Name
1	5G Network Technician
2	Additive Manufacturing (3D Printing) Technician
3	Aeronautical Structure and Equipment Fitter
4	Artificial Intelligence Programming Assistant
5	Advance CNC Machining Technician
6	Computer Aided Manufacturing (CAM) Programmer
7	Cyber Security Assistant
8	Data Annotation Assistant
9	Drone Pilot (Junior)

S. No.	Trade Name
10	Drone Technician
11	Engineering Design Technician (Artisan Using Advanced Tool)
12	Fiber to Home Technician
13	Geo Informatics Assistant
14	Green Hydrogen Production Technician
15	Industrial Internet of Things (IIoT) Technician
16	Industrial Robotics and Digital Manufacturing
17	Information Technology
18	Internet of Things Technician (Smart Agriculture)
19	Internet of Things Technician (Smart City)
20	Internet of Things Technician (Smart Healthcare)
21	Manufacturing Process Control & Automation
22	Mechanic Electric Vehicle
23	Multimedia, Animation & Special Effects
24	Semiconductor Technician
25	Small Hydro Power Plant Technician
26	Smartphone Technician Cum App Tester
27	Software Testing Assistant
28	Solar Technician (Electrical)
29	Technician Mechatronics
30	Virtual Analysis and Designer - FEM (Basic Designer and Virtual Verifier)

S. No.	Trade Name
31	Wind Plant Technician
32	Nuclear Power Plant Technician

ANNEXURE-II

Trade-wise Enrolment in ITIs/NSTIs under CTS in New-Age Courses, 2021 to 2025

Trade Name	2021	2022	2023	2024	2025
Additive Manufacturing Technician Three D Printing	15	86	159	135	243
Advanced CNC Machining Technician	608	1,568	3,277	3,761	6,280
Aeronautical Structure and Equipment Fitter	0	39	80	84	80
Artificial Intelligence Programming Assistant	0	0	0	381	512
Artisan Using Advanced Tool	85	28	27	819	2,018
Basic Designer and Virtual Verifier (Mechanical)	105	78	572	1,055	2,547
Computer Aided Manufacturing (CAM) Programmer	0	0	0	192	249
Drone Pilot (Junior)	0	0	363	188	203
Drone Technician	0	0	275	270	326
Fibre to Home Technician	0	8	18	0	0
Geo Informatics Assistant	8	23	109	113	121
Industrial Robotics and Digital Manufacturing Technician	650	956	3,624	4,548	7,481
Information Technology	456	562	798	662	1,018
IoT Technician (Smart Agriculture)	99	97	140	198	246
IoT Technician (Smart City)	86	86	351	370	576

Trade Name	2021	2022	2023	2024	2025
IoT Technician (Smart Healthcare)	115	127	220	284	305
Manufacturing Process Control and Automation	92	72	1,417	2,996	5,439
Mechanic Electric Vehicle	1,696	2,823	4,318	4,934	7,614
Multimedia Animation & Special Effects	326	370	466	349	387
Semiconductor Technician	0	0	0	0	31
Small Hydro Power Plant Technician	0	0	0	0	19
Smartphone Technician Cum App Tester	77	292	355	290	330
Software Testing Assistant	0	0	0	124	156
Solar Technician (Electrical)	333	1,054	2,280	2,734	5,750
Technician Mechatronics	267	342	317	404	407
Grand Total	5,018	8,611	19,166	24,891	42,338

ANNEXURE-III

List of NSTIs Offering AI Programming Assistant Course - Intake Capacity 2025-26

Institute Name (Trade: Artificial Intelligence Programming Assistant)	Intake Capacity 2025-26
National Skill Training Institute (Women), Allahabad	24
National Skill Training Institute (Women), Bangalore	48
National Skill Training Institute (Women), Hyderabad	24
National Skill Training Institute (Women), Indore	24
National Skill Training Institute (Women), Jaipur	24
National Skill Training Institute (Women), Kolkata	24

Institute Name (Trade: Artificial Intelligence Programming Assistant)	Intake Capacity 2025-26
National Skill Training Institute (Women), Mumbai	24
National Skill Training Institute (Women), Noida	48
National Skill Training Institute (Women), Patna	24
National Skill Training Institute (Women), Trivandrum	24
National Skill Training Institute (Women), Vadodara	24
National Skill Training Institute, Bangalore	24
National Skill Training Institute, Bhubaneswar	24
National Skill Training Institute, Calicut	24
National Skill Training Institute, Chennai	24
National Skill Training Institute, Haldwani	24
National Skill Training Institute, Howrah	24
National Skill Training Institute, Jodhpur	24
National Skill Training Institute, Kanpur	24
National Skill Training Institute, Ludhiana	24
National Skill Training Institute, Mumbai	24
National Skill Training Institute - Ramanthapur, Hyderabad	24
National Skill Training Institute Extension Centre, Srinagar	24
Total	600

ANNEXURE-IV

AI Job Roles Wise Skilling - PMKVY 4.0

Job Role	Enrolled	Trained/Oriented	Assessed	Certified
A.I (Artificial Intelligence) - Technocrat	162	162	37	35
AI - Business Intelligence Analyst	3,215	2,731	1,761	1,494
AI - Data Architect	2,820	1,397	925	862
AI - Data Engineer	1,524	1,265	756	595
AI - Data Quality Analyst	15,469	7,266	5,536	4,936
AI - Data Scientist	4,683	3,951	2,887	2,634
AI Database Administrator	7,059	6,158	4,291	3,601
AI - DevOps Engineer	4,962	4,369	3,798	3,573
AI - Machine learning Developer	28	28	0	0
AI - Machine Learning Engineer	8,986	7,796	6,068	5,572
AI - Solution Architect	337	241	137	115
AI & ML - Jr. Telecom Data Analyst	345	254	196	180
AI Development Associate	60	59	57	52
AI Devices Installation Operator	165	165	87	85
AI Foundation	78	78	76	65
AI Machine Learning Analyst	62	8	0	0
Artificial Intelligence Assistant	662	445	85	81
Artificial Intelligence Associate	49	49	0	0
Foundation of Artificial Intelligence Technology	1,267	1,226	332	301

Job Role	Enrolled	Trained/Oriented	Assessed	Certified
Pharmacovigilance Case- Processing (Incidents /adverse event using software including AI tools)	1,516	1,456	1,316	1,285
Total	53,449	39,104	28,345	25,466

This information was given by the Minister of State (Independent Charge), Ministry of Skill Development and Entrepreneurship (MSDE), Shri Jayant Chaudhary in a written reply in the Lok Sabha today.

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