

GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT AND ENTREPRENEURSHIP  
**RAJYA SABHA**  
**UNSTARRED QUESTION NO. 2045**  
ANSWERED ON 05/08/2026

**SKILL DEVELOPMENT FOR EMERGING TECHNOLOGIES**

2045 SHRI SATNAM SINGH SANDHU:

Will the Minister of SKILL DEVELOPMENT AND ENTREPRENEURSHIP be pleased to state:

- (a) whether Government has launched specialised skill development programmes in Artificial Intelligence, Machine Learning, Robotics, Cyber Security, Semiconductor Manufacturing and Green Technologies;
- (b) the number of youth trained under such programmes during the last five years, State- wise;
- (c) whether industry partnerships have been established to improve employability in emerging technology sectors; and
- (d) the measures being taken to prepare India's workforce for the requirements of Viksit Bharat 2047?

**ANSWER**

THE MINISTER OF STATE (INDEPENDENT CHARGE) IN THE MINISTRY OF SKILL DEVELOPMENT AND ENTREPRENEURSHIP

(SHRI JAYANT CHAUDHARY)

**(a) & (b):** Under the Government of India's Skill India Mission (SIM), MSDE delivers skill, re-skill and up-skill training through an extensive network of skill development centres under various schemes, viz. Pradhan Mantri Kaushal Vikas Yojana (PMKVY), Jan Shikshan Sansthan (JSS), National Apprenticeship Promotion Scheme (NAPS) and Craftsmen Training Scheme (CTS) through Industrial Training Institutes (ITIs), to all the sections of the society across the country. The SIM aims at enabling the youth of India to get future-ready, equipped with industry-relevant skills including Artificial Intelligence, Machine Learning, Robotics, Cyber Security, Semiconductor Manufacturing and Green Technologies.

State-wise details of the candidates trained under various schemes of MSDE during the last five years (2021-22 to 2025-26) is given at **Annexure-I**. Details of the candidates trained under various schemes of MSDE in job roles pertaining to Artificial Intelligence, Machine Learning, Robotics, Cyber Security, Semiconductor Manufacturing and Green Technologies is given at **Annexure-II**.

**(c) & (d):** To ensure that the skills imparted are aligned with the industry's current and futuristic requirements and thereby improve the employability, the following specific steps have been taken by MSDE across the country:

- National Council for Vocational Education and Training (NCVET) has been set up as an overarching regulator establishing regulations and standards to ensure quality in the Technical and Vocational Education and Training (TVET) space. NCVET recognises the industry bodies as the Awarding Bodies (ABs) and/or Assessment Agencies (AAs).
- The Awarding Bodies are expected to develop the qualifications as per the industry demand and map them with the identified occupations as per the National Classification of Occupations, 2015 and obtain industry validations. NCVET has approved 10209 qualifications as per the industry

requirements, out of which 2975 qualifications are valid and active, and 7234 qualifications are archived.

- Directorate General of Training (DGT) is implementing Flexi MoU Scheme and Dual System of Training (DST) in collaboration with industries to provide training to ITI students in real industrial environment.
- DGT has signed MoU with IT Tech companies like IBM, Microsoft, Autodesk, AWS, Shell, etc. to ensure industry linkages for the institutes at the state and regional levels. These partnerships facilitate the provision of technical and professional skills training in modern technologies.
- DGT has introduced new age /future skills courses under CTS to provide training in emerging areas such as 5G Network, AI Programming, Cyber Security, Drone Technology, Internet of Things, etc.
- Under PMKVY, the new age/future skills job-roles have been specially aligned with Industry 4.0 requirements in areas like AI/ML, Robotics, Mechatronics, Drone Technology, etc. for upcoming market demand and industry requirements.
- MSDE has launched Skill India Digital Hub (SIDH), a unified platform that integrates skilling, education, employment, and entrepreneurship ecosystems to provide a life-long array of services. Through Skill India Digital Hub, candidates can have access to skill training, jobs and apprenticeship opportunities. The details of the trained candidates are available on SIDH portal for connecting with potential employers.
- Two (02) Indian Institute of Skills (IIS) have been established at Ahmedabad and Mumbai, in Public Private Partnership (PPP) mode, with an aim to align industry-ready workforce to emerging economic opportunities.
- 36 Sector Skill Councils (SSCs), led by industry leaders in the respective sectors, have been set up which are mandated to identify the skill development needs of respective sectors as well as to determine skill competency standards.
- Rozgar Melas and PM National Apprenticeship Melas have been organized by the Ministry to facilitate the placements opportunities to the certified candidates across the country.
- National Education Policy (NEP), 2020 envisages greater integration of vocational education with mainstream education and promotes seamless mobility between academic and vocational pathways. In line with this vision, the Apprenticeship Embedded Degree Programme (AEDP), developed in collaboration with UGC and AICTE, enables students enrolled in degree and diploma programmes to undertake apprenticeship training as an integral part of their curriculum. The programme enhances employability, promotes outcome-based learning, strengthens industry-academia linkages and facilitates acquisition of industry-relevant skills.
- In order to enhance the overall quality and relevance of vocational training in the country, Pradhan Mantri Skilling and Employability Transformation through Upgraded ITIs (PM SETU) scheme has been launched that inter-alia aims to upgrade 1,000 Government ITIs (200 Hub ITIs and 800 Spoke ITIs) in a Hub and Spoke model. It envisages the upgradation of Industrial Training Institutes (ITIs) through industry-led Special Purpose Vehicles (SPVs), which will lead to curriculum development, training delivery, infrastructure enhancement, industry exposure, and placement and self-employment facilitation in line with local industry requirements. The Scheme aims to enhance employability by equipping learners with industry-relevant skills, facilitating apprenticeships and practical workplace exposure, and providing access to career guidance, placement support, and self-employment opportunities through industry-led governance framework. The scheme also aims to augment capacity of five NSTIs located in Bhubaneswar, Chennai, Hyderabad, Kanpur, and Ludhiana, including setting-up sector-specific National Centres of Excellence for skilling, with focus on advanced training of trainers with global partnership.

**ANNEXURES REFERRED IN REPLY TO PART (a) & (b) OF RAJYA SABHA UNSTARRED QUESTION NO. 2045 ANSWERED ON 05.08.2026 REGARDING ‘SKILL DEVELOPMENT FOR EMERGING TECHNOLOGIES’**

**Annexure-I**

State-wise details of the candidates trained under various schemes of MSDE during the last five years (2021-22 to 2025-26)

| State/UT          | PMKVY            | JSS              | NAPS             | CTS / ITI        |
|-------------------|------------------|------------------|------------------|------------------|
| A&N Islands       | 2,510            | 8,097            | 474              | 3,129            |
| Andhra Pradesh    | 90,011           | 60,263           | 1,02,147         | 2,50,950         |
| Arunachal Pradesh | 23,882           | -                | 395              | 3,270            |
| Assam             | 1,52,512         | 52,376           | 47,640           | 22,354           |
| Bihar             | 1,87,902         | 1,97,653         | 31,851           | 5,59,901         |
| Chandigarh        | 2,479            | 9,332            | 6,143            | 4,973            |
| Chhattisgarh      | 39,178           | 1,29,809         | 24,937           | 1,13,569         |
| Delhi             | 47,959           | 29,711           | 1,02,374         | 48,661           |
| Goa               | 1,211            | 9,759            | 43,902           | 11,026           |
| Gujarat           | 1,02,190         | 86,745           | 4,29,570         | 4,33,939         |
| Haryana           | 1,38,815         | 33,618           | 3,24,402         | 2,54,079         |
| Himachal Pradesh  | 40,534           | 92,335           | 42,855           | 1,02,168         |
| Jammu And Kashmir | 1,47,832         | 6,893            | 4,936            | 42,969           |
| Jharkhand         | 80,150           | 1,01,722         | 49,652           | 1,94,035         |
| Karnataka         | 1,21,413         | 1,14,745         | 3,88,244         | 3,54,316         |
| Kerala            | 39,040           | 88,874           | 64,190           | 1,64,007         |
| Ladakh            | 1,734            | 1,529            | 181              | 1,661            |
| Lakshadweep       | 240              | 5,177            | 41               | 1,588            |
| Madhya Pradesh    | 3,79,445         | 2,75,669         | 1,22,037         | 3,55,003         |
| Maharashtra       | 1,73,609         | 2,03,879         | 11,76,491        | 6,09,589         |
| Manipur           | 32,314           | 38,419           | 546              | 3,203            |
| Meghalaya         | 16,259           | 6,999            | 1,013            | 3,952            |
| Mizoram           | 17,692           | 7,057            | 446              | 1,574            |
| Nagaland          | 17,778           | 9,542            | 128              | 1,396            |
| Odisha            | 74,638           | 2,67,840         | 52,682           | 2,93,410         |
| Puducherry        | 7,609            | -                | 15,123           | 3,621            |
| Punjab            | 1,54,901         | 17,883           | 82,940           | 2,08,592         |
| Rajasthan         | 3,62,319         | 79,759           | 97,483           | 4,83,608         |
| Sikkim            | 7,379            | -                | 1,755            | 1,701            |
| Tamil Nadu        | 1,68,094         | 79,551           | 4,68,817         | 1,79,286         |
| Telangana         | 65,069           | 58,117           | 1,89,568         | 1,57,277         |
| DNH & DD          | 2,066            | 14,447           | 12,836           | 3,680            |
| Tripura           | 27,448           | 18,654           | 1,977            | 11,479           |
| Uttar Pradesh     | 6,58,680         | 4,61,298         | 3,51,728         | 15,78,759        |
| Uttarakhand       | 64,147           | 76,175           | 1,01,010         | 51,411           |
| West Bengal       | 1,09,870         | 71,682           | 1,32,915         | 1,93,668         |
| <b>Overall</b>    | <b>35,58,909</b> | <b>27,15,609</b> | <b>44,73,459</b> | <b>67,07,804</b> |

**Annexure-II**

Details of the candidates trained under various schemes of MSDE in job roles pertaining emerging technologies

| <b>Sectors</b>          | <b>PMKVY<br/>(since inception to<br/>30.06.2026)</b> | <b>JSS<br/>(Since 2018-19 to<br/>30.06.2026)</b> | <b>NAPS<br/>(Since 2018-19 to<br/>30.06.2026)</b> | <b>CTS / ITIs<br/>(Sessions 2018<br/>to 2025)</b> |
|-------------------------|------------------------------------------------------|--------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| Artificial Intelligence | 39,104                                               | -                                                | 3,222                                             | 893                                               |
| Machine Learning        | 300                                                  | -                                                | 54                                                | -                                                 |
| Robotics                | 1,898                                                | -                                                | 5,208                                             | 17,259                                            |
| Cyber Security          | 663                                                  | 2,012                                            | 108                                               | -                                                 |
| Semiconductor           | 11,523                                               | -                                                | -                                                 | 31                                                |
| Green Jobs              | 5,18,058                                             | 4,086                                            | 13,830                                            | 12,626                                            |

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