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SKILL DEVELOPMENT IN INDIA

SYLLABUS:

GS 3 > Economic Development >> Employment

REFERENCE NEWS:

As India marks ten years of the Pradhan Mantri Kaushal Vikas Yojana (PMKVY), the government's flagship skilling programme under the Ministry of Skill Development and Entrepreneurship (MSDE), the numbers speak for themselves: more than 6 crore Indians empowered through various skilling initiatives since 2014, with over 1.6 crore trained under PMKVY alone.

Pradhan Mantri Kaushal Vikas Yojana (PMKVY)

- **Launched:** 2015 under the **Ministry of Skill Development & Entrepreneurship (MSDE)**.
- **Part of Skill India Mission (SIM)**.
- To bridge the gap between **youth aspirations and industry needs** by providing **industry-aligned skill training**, improving employability, and fostering entrepreneurship.
- **Evolution of Phases:**
  - **PMKVY 1.0 (2015):** Pilot phase, trained ~20 lakh candidates.
  - **PMKVY 2.0 (2016-2020):** Aligned with **Make in India** & **Digital India**, trained ~1.10 crore candidates.
  - **PMKVY 3.0 (2021-2023):** Focused on precision training, **COVID warriors**, and **Skill Hub Initiative** under NEP 2020.
  - **PMKVY 4.0 (2023 onwards):** Integrated **AI-based analytics, digital tracking, Academic Bank of Credits**, and global workforce readiness.

Key Achievements of PMKVY

- **Massive Outreach & Training Impact**
  - Over **6 crore Indians** empowered through various skilling initiatives under Skill India Mission since 2014.
  - **1.63 crore trained under PMKVY alone**, including **25 lakh youth under PMKVY 4.0** (last three years).
- **Inclusive Skill Development**

- **45% beneficiaries are women**.
- Strong representation from **SC, ST, OBC communities**.
- Region- and community-specific projects:
  - **Bru-tribe youth** in Tripura
  - **Prison inmates** in Assam & Manipur
  - **Namda craft revival for women in J&K**

- **Recognition of Prior Learning (RPL)**
  - Certified informal sector workers like **artisans, weavers (J&K, Nagaland)**, enhancing their market mobility without long training durations.
- **Future-Ready Skilling**
  - Training in **drones, mechatronics, AI, IoT**, besides traditional sectors like **manufacturing, healthcare, electronics, and retail**.
  - **Centres of Excellence** launched at **NSTIs in Hyderabad & Chennai (2025)** for advanced instructor and specialised skilling.
- **Balancing Heritage & Modernity**
  - Preservation of traditional crafts while upgrading skills for **modern industries**.
- **Complementary Schemes Strengthening Ecosystem**
  - **PM Vishwakarma Yojana (2023):** Supporting **artisans in 18 trades** with training, credit & marketing; **2.7 crore applications** received, **29 lakh registrations** completed.
  - **DDU-GKY:** Trained **17 lakh rural youth**, with **11 lakh placed in jobs**.
  - **RSETIs:** Trained **56 lakh people this FY**, fostering **rural entrepreneurship**.
- **Linking Skills with Education**
  - Integrated with **National Education Policy (NEP) 2020**, offering **credit portability via Academic Bank of Credits**.
  - **Skill Hub Initiative (SHI)** mainstreamed vocational training into formal education.

In its 10-year journey, **PMKVY has evolved from a basic skilling programme to a dynamic, technology-driven, inclusive ecosystem** supporting **employment, entrepreneurship, traditional crafts, and global workforce readiness**, significantly contributing to India's demographic dividend.

INDIA'S LABOUR FORCE:

- **Large and Growing Workforce:** India has one of the largest labour forces in the world, with approximately **521 million people** in the working-age group (15–64 years) as of 2024.
- **Youthful Demographic Profile**: India's median age is 28.4 years (2023), significantly lower than that of developed countries like Japan

(48.4 years). A youthful population provides India with a **demographic dividend**, contributing to sectors like technology and startups.

- **Low Labour Force Participation Rate (LFPR)**: The overall LFPR in India is around **46%** (World Bank, 2023), which is lower than the global average of 60%. (**Male LFPR**: ~74% and **Female LFPR**: ~25%, among the lowest globally).
- **Informal Employment Dominance**: About **80-90%** of India's labour force is engaged in the **informal sector**, which includes agriculture, construction, and small-scale enterprises.
- **Agriculture's Significant Share**: Despite its contribution to GDP is at ~18%, agriculture employs **~43% of the workforce**.
- **Increasing Urbanization and Service Sector Growth**: India's urban workforce has grown due to rural-to-urban migration and the expansion of the service sector, which contributes ~55% to GDP.
- **Gender Disparities**: Women's participation in the workforce is not only low but also concentrated in low-paying and informal jobs. Rural women are largely engaged in agricultural labour, while urban women often face barriers like lack of childcare and societal norms.
- **Rising Gig and Platform Economy:** India is witnessing rapid growth in gig and platform-based jobs, especially in urban areas. Companies like Swiggy, Zomato, and Ola have created millions of gig jobs, offering flexibility but limited social security.
- **Skill Gap and Low Productivity**: A significant portion of India's labour force lacks formal vocational training compared to **52%** in the US and **75%** in Germany.
- **Regional Disparities**: Labour force distribution is uneven, with southern states like Kerala having higher literacy and skilled workforce participation, while northern states like Bihar and UP rely more on unskilled labour.
- **Impact of Technology and Automation**: Over two-thirds of Indian manufacturers are expected to embrace digital transformation by 2025. Government policy support has been given to prepare the industry for I4.0 through the SAMARTH Udyog Bharat 4.0 initiative.
- **Migrant Workforce**: Migration is a significant feature of India's labour dynamics, with an estimated **139 million internal migrants**.

INDIA'S SKILLING CHALLENGE:

India faces significant challenges in providing skill education and training to its vast labour force, impacting labour productivity and economic growth. Despite being home to one of the world's largest workforces, structural, policy, and implementation barriers hinder progress.

- **Low Formal Skill Training Coverage**: The Periodic Labour Force Survey 2022-23 identified that **only 21% of the Indian youth** aged 15-29 years had received vocational/technical training through formal and informal sources. The share of youth who had received formal vocational/technical training was 4.4% in 2022-23 compared to **52% in the US** and **75% in Germany**.
- **Skill Mismatch and Employability Issues**: Education and skill training often fail to align with industry demands. Only 1.5% of Indian engineers possess the skills for new-age jobs as per India Skills Report. The Chief Economic Advisor recently stated that **only 51% of India's graduates** are **employable**. These facts raise concerns regarding the reach, quality, and industry relevance of existing skilling programmes.
- **Regional Disparities in Skill Development**: States like **Kerala, Karnataka, and Tamil Nadu** have better skilling infrastructure than states like **Bihar and Jharkhand**. Uneven skilling opportunities exacerbate migration and regional economic inequalities. Migrants from states with poor skilling facilities often take up low-paying informal jobs in urban centres.
- **Inadequate Infrastructure for Skill Development**: Many training centres lack modern facilities, equipment, and qualified trainers. Less than 10% of India's Industrial Training Institutes (ITIs) are equipped with advanced technologies like AI and robotics.
- **Low Participation in Apprenticeships**: India's apprenticeship system is underdeveloped, with only **500,000 apprentices** in training, compared to millions in countries like Germany. Limited hands-on experience affects job readiness and productivity.
- **Low Female Participation in Skilling Programs**: Women constitute only **25% of the formal workforce** and face barriers like social norms, safety concerns, and lack of flexible training programs. Gender-specific skilling initiatives like **Mahila Shakti Kendras** have had limited outreach.
- **Informal Sector Challenges**: About **80-90% of India's workforce** is employed in the informal sector, which lacks access to formal skilling opportunities.
- **Funding and Policy Implementation Gaps**: Insufficient allocation of funds and inefficiencies in policy execution hinder large-scale skilling efforts. A report by the Parliamentary Standing Committee on Labour (2021) highlighted that many skill centres operate below capacity.
- **Rapidly Changing Skill Requirements**: The slow pace of adapting curricula to industry trends hampers India's competitiveness. The growing demand for skills in **data analytics, AI, and cybersecurity** is met with limited trained professionals. Sixty percent of the Indian MSME workforce lacks the new-age digital skills.

CHALLENGES TO WORKFORCE DUE TO THE SKILL GAP:

- **Unemployment and Underemployment**: A mismatch between the skills possessed by job seekers and the requirements of industries leads to joblessness or workers being forced into roles below their potential.
- **Stagnant Wages:** Skilled sectors offer 3-5 times higher wages compared to unskilled roles, exacerbating income inequality. Migrant labourers in urban areas are often stuck in menial jobs due to a lack of specialized training.
- **Limited Career Growth**: Workers without up-to-date skills face difficulties in career advancement and are more susceptible to job losses due to automation.
- **Low Productivity and Competitiveness:** An inadequately skilled workforce reduces the productivity of industries, limiting their competitiveness in global markets.
- **Informal Sector Dominance**: About **80–90%** of India's workforce is employed in the informal sector, which rarely offers structured skill training. Workers in this sector remain unskilled, contributing to low productivity and job insecurity.
- **Inability to Leverage Emerging Opportunities**: Rapid technological advancements in areas like AI, machine learning, and renewable energy demand new-age skills, which most workers lack.
- **Migration Pressures**: Workers from regions with limited skill development infrastructure often migrate to cities, leading to overpopulation and strain on urban resources. Migrants from Bihar and Uttar Pradesh dominate informal jobs in Delhi and Mumbai due to a lack of localized skill training opportunities.
- **Increased Vulnerability to Automation**: Workers without technical or adaptive skills are at greater risk of being replaced by automation. Studies estimate that **over 20% of jobs in India** could be automated by 2030.
- **Missed Global Workforce Opportunities**: India's lack of adequately skilled workers limits its ability to meet global demand for professionals in healthcare, IT, and advanced manufacturing. The **ILO predicts a global worker shortage of 85 million by 2030**, which India could partially fill with the right skills.

POTENTIAL FOR INDIA WITH A SKILLED DEMOGRAPHIC DIVIDEND

India, with one of the world's youngest populations, is uniquely positioned to leverage its **demographic dividend**—a period when the proportion of the working-age population (15–64 years) is higher than the dependent population.

- **Accelerated Economic Growth**: If India fully utilizes its skilled youth, its GDP growth could increase by **1-2% annually**, contributing an additional **$500 billion by 2030**.
- **Global Workforce Hub**: With an aging population in developed countries like the US, Japan, and Europe, India can become a key supplier of skilled labour globally. The International Labour Organization (ILO) predicts a **worker shortage of 85 million globally by 2030**, creating immense opportunities for Indian talent.
- **Boost to Domestic Industries**: A skilled workforce can accelerate the growth of industries like manufacturing, services, and renewable energy. Sectors such as automotive, electronics, and green energy require specialized skills to support India's "**Make in India**" and "**Atmanirbhar Bharat**" initiatives**.**
- **Innovation and Startups:** India is home to **90,000+ startups** and ranks third globally in terms of unicorns, many driven by skilled professionals in technology and e-commerce.
- **Higher Incomes and Poverty Reduction:** A skilled workforce earns higher wages, improving living standards and reducing poverty. The per capita income in skilled sectors is 3-5 times higher than in unskilled ones.
- **Enhanced Infrastructure and Urbanization:** India plans to invest $1.4 trillion under the **National Infrastructure Pipeline** (NIP), creating a demand for skilled labor in construction, transport, and smart cities.
- **Leadership in Emerging Sectors**: India aims to generate **500 GW of renewable energy by 2030**, requiring a workforce skilled in solar, wind, and hydropower technologies.

TO ADDRESS SKILL GAPS IN INDIA:

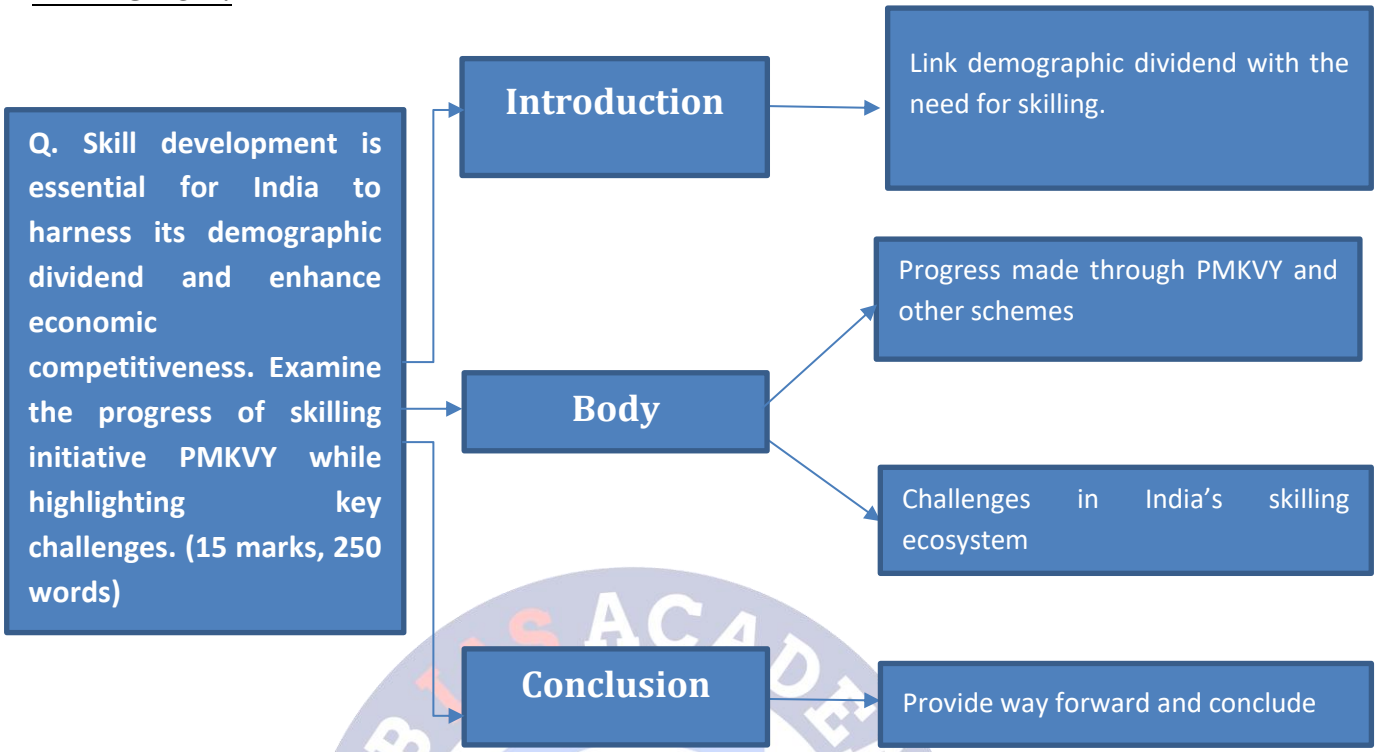
- **Align Education with Industry Needs:** Develop industrial- academia linkage as National Education Policy 2020 suggests. Germany's **dual education system** combines classroom learning with on-the-job training.
- **Expand Vocational Training and Apprenticeships:** Increase the number of Industrial Training Institutes (ITIs) and Skill Development Centres. Promote schemes like the **National Apprenticeship Promotion Scheme (NAPS)** to incentivize industries. Japan's **Monozukuri Apprenticeship Program** provides skill-intensive, on-the-job training.
- **Enhance Digital and Technological Skills**: Expand initiatives like **FutureSkills Prime**, a collaboration between NASSCOM and the Government of India. Singapore's **SkillsFuture Program** offers courses on AI and fintech, subsidized by the government.

- **Gamified and Simulation based skilling:** While gamified learning incorporates game elements into skill training, simulation-based learning uses virtual environments that mimic real-world scenarios, allowing learners to practice and apply skills in a safe and controlled setting. Singapore and Germany have adopted gamified and simulation-based learning into their education, vocational, and skill training systems.
- **Promote Regional Equity in Skill Development:** Establish state-specific skill hubs in rural and underserved regions. Tailor skill programs to regional industries (e.g., agriculture-based skills in Bihar). Kerala's **Additional Skill Acquisition Programme (ASAP)** focuses on skill development in rural areas.
- **Increase Women's Participation in Skilling:** Introduce flexible skilling programs and provide childcare support. Ensure gender-inclusive workplaces through legal and policy reforms. Sweden's gender-inclusive policies ensure equal access to skill training and employment.
- **Address the Informal Sector's Needs**: Introduce short-term, modular training programs tailored to informal workers. Provide certifications that recognize informal learning and experience. Brazil's **National Program for Access to Technical Education and Employment (PRONATEC)** focuses on informal workers.
- **Focus on Lifelong Learning and Reskilling**: Promote continuous learning programs for workers across industries. Partner with private sector players to provide reskilling opportunities. Germany's **BIBB** (Federal Institute for Vocational Education and Training) focuses on lifelong learning.
- **Public-Private Partnerships (PPP):** Australia's **Apprenticeship Network Providers** are industry-funded and government-supported.

PRACTICE QUESTION:

Q. Skill development is essential for India to harness its demographic dividend and enhance economic competitiveness. Examine the progress of skilling initiative PMKVY while highlighting key challenges. (15 marks, 250 words)

APPROACH:



MODEL ANSWER:

India's **median age of 28.4 years (2023)** offers a rare **demographic dividend** window. However, low skill levels threaten to turn this opportunity into a demographic burden. To address this, the government has launched flagship skilling initiatives under the **Skill India Mission**, notably the **Pradhan Mantri Kaushal Vikas Yojana (PMKVY)**.

Progress of PMKVY

- **Massive Outreach:** Over **6 crore Indians** have benefited from skilling initiatives since 2014; **1.63 crore trained under PMKVY** alone.
- **Inclusive Approach:** 45% trainees are women; SC/ST/OBC, Bru tribes, and prison inmates also included.
- **Recognition of Prior Learning (RPL):** Certified informal workers like artisans & weavers in J&K & Nagaland.
- **Future-Ready Skills:** Training in **AI, drones, IoT, mechatronics**, alongside traditional sectors.
- **Integration with Education:** Linked with **NEP 2020**, **Academic Bank of Credits**, and **Skill Hub Initiative**.

- **Complementary Schemes: PM Vishwakarma Yojana** modernises artisan skills; **DDU-GKY** has trained **17 lakh rural youth**.

Persistent Challenges

- **Low formal skill coverage:** Only **4.4% Indian youth** have formal vocational training vs. **52% in US** & **75% in Germany**.
- **Skill mismatch:** 51% of graduates are **unemployable**; only **1.5% engineers** are industry-ready (India Skills Report).
- **Regional disparities:** South India fares better in skilling; Bihar/Jharkhand lag.
- **Informal sector dominance:** 80–90% workforce lacks access to structured training.
- **Inadequate infrastructure:** Less than **10% of ITIs** have advanced tech (AI, robotics).
- **Gender gaps:** Female LFPR is just **25%**, among the lowest globally.
- **Low apprenticeship participation:** Only **5 lakh apprentices**, vs. millions in Germany.

Way Forward

1. **Align education with industry** – Strengthen academia-industry linkages (as per **NEP 2020**).
2. **Expand apprenticeships** – Scale up **National Apprenticeship Promotion Scheme (NAPS)** on Germany's dual model.
3. **Future-tech skilling** – Leverage **Skill India Digital Hub** and gamified learning like Singapore's **SkillsFuture**.
4. **Regional equity** – Establish **state-specific skill hubs**, e.g., Kerala's **ASAP model** for rural youth.
5. **Women-focused skilling** – Flexible training, childcare support, and safe workplaces (Sweden's inclusive model).
6. **Recognition of informal learning** – Certification pathways for informal workers (Brazil's PRONATEC model).
7. **Public–Private Partnerships** – Adopt Australia's **Apprenticeship Network Providers** for industry-led skilling.

India's demographic dividend could add **$500 billion to GDP by 2030**, but only with a **future-ready workforce**. Strengthening PMKVY with **global best practices, regional inclusivity, and tech-driven reskilling** will enable India to emerge as a **global workforce hub**, fulfilling domestic and international labour demands.