Jal Jeevan Mission: A Remarkable Transformation -Water to Every Home and Field

ver the last four years, Jal Jeevan Mission has achieved remarkable success in providing access to clean water for every home and field. The mission has witnessed significant milestones, including saturation of two districts and ongoing efforts to cover the remaining districts by December 2023-24.

With a strong focus on rural schools, Anganwadi centers, health centers, and Pani Samitis, the mission has aimed to enhance the quality of life for millions of citizens.

Water for Every Home: One of the mission's primary objectives was to ensure that every rural household in Jammu and Kashmir (J&K) had access to Functional Household Tap Connections. This ambitious goal has been achieved, with all 18.67 lakh rural households in J&K now benefiting from piped water connections. This milestone marks a significant improvement in the standard of living and health outcomes for

Water for Every Field: Beyond providing water to homes, the Jal Jeevan Mission has also prioritized water access for agricultural needs. Notably, the 3rd Phase Tral Lift Irrigation Scheme has been instrumental in irrigating 5122 hectares of land, boosting agricultural productivity and supporting rural livelihoods.

Additionally, the Ravi Canal has made substantial strides in irrigating 15016 hectares of land, further contributing to agricultural growth.Clean and Sustainable Water Solutions:In its mission to supply water to every nook and corner of the region, the Jal Jeevan Mission has placed a strong emphasis on cleanliness and sustainability.

The extensive cleaning and desilting of the Ranbir Canal on a vearly basis have facilitated smooth water flow, particularly benefiting farmers at the tail end. This commitment to maintaining the infrastructure ensures that communities can rely on a continuous and dependable water supply.

Community Participation and Empowerment: Central to the success of the Jal Jeevan Mission has been the formation of 6778 Pani Samitis, empowering local communities to take charge of water management.

By involving community members in decision-making and implementation, the mission has fostered a sense of ownership and responsibility, ensuring the long-term sustainability of the water supply systems.

The Jal Jeevan Mission stands as a testament to the power of visionary planning and collaborative efforts in transforming the lives of millions. With its focus on providing water to every home and field, empowering communities, and ensuring clean and sustainable water solutions, the mission has achieved extraordinary results.

As we move forward, the continued commitment to this noble cause will not only improve living conditions but also fuel the growth and prosperity of rural India.

Whether it is good, bad, or ugly experience, just be greatful



f something is happening in our lives, we created it. This is a funda-I mental truth we must understand. It's not about another person, a situation, a time, or a space; it's not about materials. Whatever we are experiencing in this life, we created it, consciously or unconsciously. When I say

unconsciously, it's the cache memory of all our interactions. Even watching a movie, watching something on television, or somebody telling their experience to us all the memories that you have collected and stored through your senses—that is exactly the cache memory. That's what's creating our realities in the future. Destiny is coming out of it. So if anything is happening in our lives, we created it. Patterns are repeated behaviours that we create. We are clinging on to them, and we refuse to let them go, so they keep repeating. Everything we do, everything we are, everything we experience—it's all connected to us, only us. We should not blame a Master for that. We should not blame Baba, we should not blame Akkalkot Swami, we should not blame Babaji, and we should not blame any master or God. Instead, just say, "Thank you for this awareness." Whether it is a good, bad, or ugly experience, just be grateful, and when you are completely surrendered at the feet of the Master, they will all go away; all the patterns will dissolve. Only when you resist do the patterns exist. If you do not resist, patterns dissolve. This is something you can practise and do.

National Bone and Joint Day - Let's strengthen our foundations

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ugust 4th marks an auspicious occasion on our calendar -Indian Orthopedic Association has celebrated National Bone and Joint Day since 2012. The primary objective of this day is to educate and engage individuals in conversations about the significance of bone and joint health, the prevention of musculoskeletal disorders, and the availability of advanced treatment options. National Bone and Joint Day aims to reach out to the people and provide them with accessible information to make informed decisions about their musculoskeletal well-being. It serves as a platform to bridge the gap between medical professionals and the general public, fostering a proactive approach towards bone and joint health in India.

Bones and Joints: The Pillars of Movement

Our musculoskeletal system is a complex network of bones, oints, muscles, ligaments, and tendons working harmoniously to provide support, stability, and mobility. They play a vital role in our daily lives, allowing us to move, walk, and efficiently carry out our activities. However, these essential components can be worn and torn due to various factors such as age, lifestyle choices, and medical conditions, leading to discomfort, pain, and even disabilities. Therefore, we must prioritise our bone and joint health and take proactive steps to maintain their strength and functionality.

Preventing Bone and Joint Disorders

Prevention is always better than cure. Here are some key strategies to protect your bones and joints:

Embrace an Active Lifestyle: Regular physical activity is vital to maintaining strong bones and healthy joints. Weight-bearing exercises like walking, jogging, and dancing stimulate bone growth and enhance bone density. Additionally, incorporating resistance training, like lifting weights or using resistance bands, helps build and maintain muscle strength, supporting joint stability. Flexibility exercises like yoga improve joint mobility and

Nourish Your Bones: A well-balanced diet rich in essential nutrients plays a vital role in maintaining strong bones. Calcium in dairy products, leafy greens, and tofu is crucial for bone strength. Vitamin D aids in calcium absorption and can be obtained from sunlight exposure and dietary sources like fatty fish, egg yolks, and liver. Magnesium and phosphorus are also essential for bone health and can be found in nuts, seeds, whole grains, and green leafy vegetables. Proper hydration is essential for the health of your joints. Aim to drink adequate water throughout the day, especially during and after physical activity.

Steer Clear of Harmful Habits: Tobacco use negatively impacts bone health by reducing blood flow to bones. Smoking is linked to increased fracture risk and delayed bone healing. Limiting alcohol consumption is essential, as excessive intake can weaken bones



and increase the risk of fractures. Adopting a smoke-free lifestyle and consuming alcohol in moderation or abstaining altogether can help preserve bone density and overall musculoskeletal health.

Fall Prevention: Falls are a leading cause of fractures, particularly among older people. To reduce the risk of falls, ensure a safe living environment by removing tripping hazards, installing handrails and grab bars in bathrooms, and ensuring proper lighting. Regular exercise, focusing on balance and strength, can enhance stability and coordination. If necessary, use assistive devices such as canes or walkers to improve mobility and reduce

Maintain a Healthy Weight: Excess weight stresses your joints, especially the weight-bearing joints like knees and hips. Maintaining a healthy weight helps reduce the risk of developing conditions such as osteoarthritis and decreases the strain on your joints during physical activities. A balanced diet combined with regular exercise can help you achieve and maintain a healthy weight, promoting the health of your bones and joints.

Safe Exercise Practices: Sportspersons should be well educated about safe and effective exercise guidelines, including warmup, cool-down routines, proper technique, and appropriate progression to prevent injuries whose incidence is ever increasing.

Use Protective Gear: When participating in activities with a higher risk of injury, such as contact sports or activities with a chance of falling, it's essential to use appropriate protective gear. This can include helmets, knee pads, elbow pads, wrist guards, or other gear specifically designed for the activity. Proper protective equipment helps absorb impact, minimise the risk of fractures or other injuries, and protect your bones and joints.

arranging our workspaces, furniture, and equipment (chair, desk, computer monitors etc.) to maximise efficiency, comfort, and safety while minimising the risk of musculoskeletal injuries. By practising good ergonomics, we can significantly reduce strain on our bones and joints, promoting their long-term health and preventing the development of musculoskeletal disorders.

Practice Good Posture: Good posture is essential for maintaining the health and alignment of our bones and joints. Adopting proper posture while sitting, standing, and lifting heavy objects can reduce stress on our musculoskeletal system, improve balance and stability, and prevent the development of musculoskeletal dis-

Regular Health Check-ups: Regular check-ups with your healthcare provider, includingorthopaedic specialists, can help detect any underlying conditions or identify early signs of bone or joint problems. Routine screenings, such as bone density tests for osteoporosis or common assessments for arthritis, can provide valuable information about your bone and joint health. Early detection and intervention can prevent the progression of conditions and enable prompt treatment if needed.

By incorporating these measures into your lifestyle, you can maintain healthy bones and joints, reduce the risk of injuries, and promote overall musculoskeletal well-being.

Seeking Medical Assistance: If you experience persistent bone or joint pain, stiffness, swelling, or any other concerning symptoms, it is essential to consult an orthopaedic surgeon. Early detection and timely intervention can prevent the progression of various orthopaedic conditions like arthritis and osteoporosis. enabling effective treatment and a better quality of life.

Orthopedic Care at AIIMS, Jammu: As a premier healthcare institution, AIIMS Jammu is committed to providing comprehensive orthopaedic care to patients. Our highly skilled orthopaedic surgeons, who will soon be equipped with state-of-the-art technology, will offer a wide range of services, including diagnostics, nonsurgical interventions, and advanced surgical procedures. We strive to ensure every individual receives personalised, compassionate care and regains mobility and independence.

On this National Bone and Joint Day, we pledge to prioritise and nurture our musculoskeletal health. By adopting a proactive approach that includes regular exercise, a balanced diet, and healthy habits, we fortify our foundation for an active and fulfilling life. Together, we can promote awareness, encourage preventive measures, and ensure that our people possess the knowledge and tools to safeguard their bones and joints.

Wishing you a joyous and empowered National Bone and Joint

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and Kashmir Great Scope of Pilgrim tourism in Jammu

hole of Jammu and Kashmir is the land of shrines ,temples and other religious places and spirituality is the main attribute of this place and so pilgrim tourism has a big scope in the overall tourism of the Jammu and Kashmir .The development of pilgrim tourism along with the overall tourism is very much the need of the hour and the development and exploring the tourist potential of the two will ultimately result in the significant development of the economy of Jammu and Kashmir .Some three ,four decades ago Kashmir was infamous for militancy ,killings and violence and the people were hesitant to undertake visit to J&K .But those bad days are gone and are a history now and the winds of positive change ,normalcy peace and development are brewing and giving this place a good name which it deserves. Jammu and Kashmir has moved away from those dark days and Kashmir is again becoming a paradise on earth and is attracting huge rush of Indian/domestic and foreign tourists and this adds to the economy of the UT .Government of Jammu and Kashmir should encourage and invest in the tourist sector along with in the pilgrim tourism and this will contribute to the economy of Jammu and Kashmir .Jammu and Kashmir is home to people belonging to several religions and faiths ,and as a result ,there are numerous pilgrimage sites which attract pilgrim tourists in large numbers .Many of the popular pilgrimage tourism sites in Jammu and Kashmir are not just spiritual but also possess a historical significance, since they date

back to ancient times .Another reason why the people visit the pilgrimage sites during holidays in Jammu and Kashmir is the unmatched and unparallel beauty which envelops it and enhances the entire spiritual experience .Jammu and Kashmir is dotted with temples, mosques, Gurudwars and natural shrines and visiting them gives the tourists an enriching experience.

There are no two opinions about the fact that pilgrim tourism has an important place in the tourism industry and economy of Jammu and Kashmir .There is great scope for pilgrim tourism in the development of the UT .Therefore the government of the J&K UT should pay urgent and serious attention to explore and develop pilgrim tourism in Jammu and Kashmir .The government through its information and tourism department should advertise the pilgrim tourist and scenic spots of Jammu and Kashmir and encourage the Indian as well as foreign tourists to visit pilgrim tourist sports .Government should blend the spirituality and tourism so that visitors will in huge numbers visit the beautiful places of the UT after paying obeisance at the famous religious spots and it will contribute to the overall tourism industry which will provide self employment to a big number of youths in Jammu and Kashmir .It is pertinent to mention that pilgrim tourism will develop along with the general tourism and the mixture of the two will pave way for the a development of both types of tourism and this will be a significant thing for the UT of Jammu and Kashmir .There are many pilgrimage sites in

Jammu and Kashmir and the visitors and devotees visit these places and take joy and pleasure. One of the most famous pilgrimage sites in Jammu is the holy shrine of Mata Vaishno Devi ,nestled in the Trikuta Hills in Katra .Pilgrims and tourists come here to get the blessings of Mata and they also appreciate the natural beauty of this shrine and Trikuta Hills .Another popular pilgrimage sites in Jammu and Kashmir is the holy Amarnath cave situated in the south Kashmir district of Anantnag in Himalayas .A large number of devotees and tourists every year visit this natural shrine and get the blessings of Lord Shiva and get mesmerized by its natural beauty .Shankaracharya Temple built in 750 AD is also a most important tourist pilgrimage sites in Jammu and Kashmir and this temple is visited by a large number of people .Raghunath temple in Jammu city is also a site of big attraction and people visit this temple in large numbers and pay obeisance to Lord Ram and Mata Janki .The people who come to visit Jammu and Kashmir also visit Raghunath temple and see its grandeur .Besides these pilgrim tourist sites ,the important places in Kashmir are as follows-A famous pilgrimage site in Jammu and Kashmir is Jami Masjid built in 1400 AD and consists of 300 pillars .It is famous for its Indo-Saracenic style of architecture and houses a gorgeous courtyard .Another pilgrimage site which is very famous and beautiful is the shrine of Hazratbal ,located on the western banks of the lovely Dal Lake Built of immaculate white marble .It is a magnificent structure which is highly respected by the

Muslims as it preserves the sacred hair from the beard of Prophet Muhammad .Charar -e-Sharif, located in district Budgam district is a pilgrimage site which people visit while visiting Jammu and Kashmir and it is frequently visited by the people .This shrine houses the grave of Nooru-Din-Noorani also called Nund Rish .The shrine of Dastagir Sahib and Makhdoom Sahib are the other famous pilgrimage sites which are located in down town Srinagar .All these pilgrimage sites are the pride of Jammu and Kashmir and these sites shrines temples and Masjids are frequently visited by the people and Jammu and Kashmir shines with the grace of these pilgrim places .Because of these and other pilgrim sites ,the pilgrim, tourism has got an enviable place in the tourist map of Jammu and Kashmir .The visitors who come to visit Jammu and Kashmir, also pay visit to these pilgrim spots and this adds charm to the natural beauty of this place .Pilgrim and other tourists in large numbers visit these pilgrim sites and their visit adds to the tourist economy of Jammu and Kashmir. .The government of Jammu and Kashmir should pay its attention to these and other pilorim tourist sites and encourage people to visit these places and in this way the pilgrim tourism of Jammu and Kashmir will get a facelift and the pilgrim tourism will contribute to the economy of Jammu and Kashmir .In short there is big scope for the development of pilgrim tourism in Jammu and Kashmir and the name of the UT today shines in the world. (The author is a columnist,

social and KP activist).

Unravelling the Exciting World of Semiconductor Product Design

■ DR ABHILASHA GAUR

magine a world where our smartphones are as thin as a sheet of paper, yet incredibly powerful. ■Picture self-driving cars that navigate flawlessly through busy city streets, making split-second decisions to ensure safety. Envision smart home devices that anticipate our needs and create a seamless living experience. All these revolutionary technologies are made possible by the brilliance of semiconductor product design.

In the realm of advanced electronics, semiconductor product design stands at the forefront of innovation, powering the modern world with cutting-edge technology. Behind the sleek devices we adore and the sophisticated systems we rely on lies the genius of skilled professionals who bridge the gap between science and creativity. A career in semiconductor product design is not just a job; it is an adventure of transforming ideas into reality. pushing boundaries, and shaping the future. As the electronic sector continues to thrive and evolve, the role of skill development and training gains utmost significance. The Electronic Sector Skill Council (ESSCI) plays a vital role in nurturing talent and fostering expertise in semiconductor product design and related fields. In this article, we will delve into the captivating world of semiconductor product design, explore the opportunities, and challenges it offers, and shed light on the role of the ESSCI in shaping the careers of The Rise of the aspiring professionals. Semiconductor Industry: The semiconductor industry is a driving force behind the digital revolution, and it has evolved into a multi-trillion-dollar global enterprise. Semiconductors are the building blocks of electronic devices, forming the heart of integrated circuits (ICs) that power everything from consumer electronics to industrial machinery and beyond. As per a Deloitte report, the Indian semiconductor market is

expected to soar to \$55 billion by 2026, and a significant portion, accounting for over 60% of the market, will be propelled by three key industries: smartphones and wearables, automotive components, and computing and data storage. Role of Semiconductor Product Designers: At the heart of the semiconductor industry lies a group of highly skilled professionals known as semiconductor product designers. These visionary individuals hold the key to unlocking the potential of semiconductor devices, pushing the boundaries of what is technologically achievable. They are the architects of electronic dreams, utilising their expertise to design, develop, and optimise intricate semiconductor chips. With an exceptional mix of technical prowess and creative thinking, these professionals bring innovations to life, enabling groundbreaking technologies that reshape industries and enhance our daily lives. Educational Pathways for Aspiring Semiconductor Product Designers: A successful career in semiconductor product design requires a strong educational foundation and a diverse skill set. Most aspiring designers pursue degrees in electrical engineering, electronics engineering, or related disciplines. These programs equip students with the fundamental knowledge of electronics, circuit theory, and physics-the building blocks of semiconductor technology. As the field becomes more specialised, advanced degrees or skill training can provide a competitive edge. Additionally, specialised qualification and certifications focused on IC Package, VLSI Design, Package Design further enhance a designer's expertise. ESSCI, an industry-driven organisation established under the Ministry of Skill Development and Entrepreneurship, has developed specialised qualifications, focusing on designing software and defining layouts for various types of IC Packages. ESSCI also offers a VLSI Design Engineer qualification, where indi-

viduals master the art of designing SOC-module functions using software and design tools based on given specifications. Another significant qualification developed by ESSCI is that of an IC Package Engineer. In this QPs, the engineer is accountable for designing comprehensive packages, ensuring their feasibility and characterisation, and conducting validation. ESSCI offerings extend to include qualifications like Wafer Back Grinding Engineer and Wafer Dicing Engineer. These professionals are skilled in their respective fields, focusing on specific tasks and processes related to wafer manufacturing. To qualify for these qualifications, candidates should possess a B.E./B.Tech degree in Electronics, Material Science, or Computer Science, or hold a 3-year Diploma in Electronics, Semiconductors, or Computer Science after 12th grade, along with one year of relevant experience. ESSCI qualifications cater to a wide range of professionals seeking to enhance their skills and knowledge in the semiconductor domain. By providing specialised training and relevant experience. ESSCI equips individuals with the expertise needed to thrive in the dynamic and innovative semiconductor industry. These qualifications pave the way for promising careers, offering opportunities to work on cutting-edge technologies and contribute to the everexpanding world of electronics and semiconduc-

Skill Set of a Semiconductor Product Designer Semiconductor product designers possess a unique combination of technical and creative skills, enabling them to navigate the complex landscape of semiconductor design. Some key skills and knowledge areas include: Basic Circuit Design: Proficiency in designing and analysing simple electronic circuits, including both analogue $\,$ and digital circuits. Knowledge of basic circuit

elements, such as resistors, capacitors, inductors,

diodes, and transistors; and Knowledge of design tools: Semiconductor product design tools are essential for developing complex integrated circuits and other semiconductor components. Electronic Design Automation (EDA) tools like Cadence Virtuoso, Synopsys Design Compiler, and Mentor Graphics ModelSim facilitate circuit design and simulation. Computer-Aided Design (CAD) tools like Cadence Innovus and Mentor Graphics Calibre aid in physical design and lavout. System-Level Design Tools, such as SystemVerilog and MATLAB/Simulink, enable system modeling and validation. These tools empower designers to create high-performance semiconductor components for various electronic devices and technologies; Verification and Testing: Rigorous verification and testing processes ensure that semiconductor designs meet stringent performance, reliability, and power consumption requirements; and Problem-Solving and Innovation: The ability to approach design challenges creatively and find innovative solutions is critical in the fast-paced world of semiconductor product design. Diverse Career Paths in Semiconductor Product Design

A career in semiconductor product design offers a vast array of opportunities for professionals to specialize in various domains and contribute to exciting projects. Some common career paths

a. ASIC Design Engineer: Application-Specific Integrated Circuits (ASICs) are custom-designed ICs tailored to perform specific functions. ASIC designers work on creating these specialised chips for a wide range of applications, such as automotive, aerospace, and consumer electronics b. Digital IC Design Engineer: These professionals focus on designing digital circuits and logic systems for high-performance computing, data processing, and communication applications. c.

Analogue/Mixed-Signal IC Design Engineer: Analog and mixed-signal designers work on circuits that process continuous signals, critical in applications like audio, sensors, and power management. d. Memory Design Engineer: Memory designers create semiconductor products like RAM (Random Access Memory) and flash memory used in various electronic devices. They integrate multiple components onto a single chip, combining processors, memory, and peripherals into a compact system, often found in smartphones and IoT devices.

Industry Trends and Future Prospects

The semiconductor industry is witnessing several key trends, including miniaturisation and increased integration to meet the demand for smaller, more power-efficient devices. The rollout of 5G networks is driving the need for high-performance chips, while the growth of IoT and AI technologies is fuelling demand for specialised semiconductor products. The automotive sector's transformation towards EVs and autonomous driving is also boosting the demand for semiconductor components in power electronics and

ADAS. The future of the semiconductor industry looks promising, with ongoing technological advancements leading to faster, more energy-efficient chips. Customised and specialised designs catering to various industries will gain importance. Sustainability will be a key focus, driving ecofriendly manufacturing and responsible waste management. Cybersecurity and data privacy concerns will lead to secure hardware development. Overall, the semiconductor industry will continue to thrive as it plays a vital role in shaping the digital future and meeting global techno-

Chief Operating Officer, ESSCI).