



TRESIA

Volume 13, Issue 1

The Editorial Board
-Beckoning Creati'wit'y

January Issue

Eternally Equitable

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#Uttar Pradesh
Diwas

Interviewing

Mr. Mukul Sharma

Strategic Initiatives, Google Business Unit at TCS



Message From The Editorial Board

As the cold gray winds blow and the sky gets low with the robin singing on leafless boughs, we welcome the first month of the year. It is a time to rejoice as we start all over again, changing energies and deserting old moods, with new beginnings and new attitudes. Standing here we see a line drawn between an ending and a new beginning. While the snowflakes dance all around, Malaviyans assemble to choose what to hold on to, to bring along with their new ride, and what to let go off and leave behind.

Vaccination in India has gained momentum, but considering the sudden surge in Omicron variant infection, a slight escalation in the tally was observed. Mr. Parag Agarwal joined the growing list of talented Indian-origin graduates leading big firms by getting appointed as Twitter's new CEO. Dubai took a significant step towards environment protection by becoming the first government to turn 100% paperless. The winter session of Parliament saw 12 new bills being introduced till December 21, 2021, and 11 other bills were passed which included some major bills like The Farm Laws Repeal Bill and The Central Vigilance Commission (Amendment) Bill. National Youth Day was celebrated on the birth anniversary of Swami Vivekanand to reminisce his belief in the importance of youth in the progress of a country. In order to commemorate the day when whilom United Provinces were transformed to Uttar Pradesh in 1950, Uttar Pradesh Diwas was celebrated on January 24, 2022. On this auspicious event the Hon'ble President of India, Shri Ram Nath Kovind greeted the residents of Uttar Pradesh and wished them success on the path of prosperity and development.

The Editorial Board took the opportunity to cherish the warm memories made by the final year students while also wishing them all the success for their big dreams in the future by conducting the Annual Photoshoot for them with Hon'ble Vice-Chancellor, Prof. J. P. Pandey, and faculty members of respective departments. Sports Sub-Council organized an inter-branch football tournament that gave a chilling experience to the spectators from its exciting matches.

Success is achieved when an adequate amount of honest endeavors, mixed with drudgery, optimism, self-reliance, and renunciation are cooked over the flame of patience. Herman Melville's trip to success can be collected in a few words- "It's better to fail in originality than to succeed in imitation". One should always try to avoid surfing for information from others' work and trust in themselves. As our ship leaves its harbor to start its voyage into an ocean of vivid opportunities, **The Editorial Board** is glad to bring out a new edition of *Tiresia*, wishing the Malaviyans success in their upcoming ventures.

bienvenidos!

Our Team

Final Year Members: Aditi Khare, Eshan Mishra, Harsh Gujrati, Jay Kumar, Kayoor Mishra, Pratyush Mishra, Saumyadeep Tripathi, Shatakshi Srivastava, Shipra Pathak, Shivam Ojha, Snehil Pal

Third Year Members: Abhishek Singh Chauhan, Akansha Saxena, Divyansh Srivastava, Divyansh Vinod, Divyanshi Yadav, Harshita Pandey, Hritik Mohan, Laxmi Pandey, Navrachit Kulshrestha, Radhika Srivastav, Ritvik Maurya, Shashvat Rastogi, Swarnima Mishra, Tanya Shukla, Tarun Sonkar, Yuvraj Rajyadhayksh

Second Year Members: Animesh Kumar Singh, Anoop Singh, Bhuwan Awasthi, Dilip Kumar Singh, Ishita Srivastava, Jayant Shukla, Kaushki Tewari, Mohammad Ifham, Sankalp Sharma, Satyam Jaiswal, Shivam Srivastava, Shreyashi Rai, Unnati Verma, Yash Dwivedi

MESSAGE FROM

Faculty Advisor



Dr. S. N. Singh
Faculty Advisor

Madan Mohan
Malaviya University
of Technology,
Gorakhpur - 273010



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It's a matter of great joy that **The Editorial Board** has come forward with **Tiresia's** January issue, cherishing the vibrant academic activities of the University, both on and off campus. Looking back to the month of December, the University celebrated its Foundation Day on December 01, 2021. To mark this auspicious day, the Department of Humanities and Management Science hosted a lecture of celebrated Indian academician Prof. D.P. Kothari Ji. The day also witnessed a National Poetry Convention which was graced by some stellar poets of the nation. The campus echoed with their sweet voices and scintillating poems.

The Editorial Board, On December 07, 2021, showcased its annual activities before the newly admitted students of B.Tech., B.B.A., B.Pharm, and M.C.A. during the orientation programme. On December 10, 2021, the Women's Welfare Cell did a remarkable job by training and orienting rural women of Jangal Ram Lakhana village. Another significant event was the 6th Convocation Ceremony of the University held on December 15, 2021. The day was also noteworthy for **The Editorial Board** as Her Excellency Anandiben Patel Ji launched the Annual University Magazine, Malvika which encompasses the visual aspects and embraces the creativity of Malaviyans on its pages. Towards the end of December, 45 Malaviyans were shortlisted and invited to the Digvijaynath Park where Hon'ble Chief Minister of

Uttar Pradesh, Yogi Adityanath Ji distributed tablets to them.

Moving forward to the month of January, I would like to highlight certain endeavors of our University under the patronage of Hon'ble Vice-Chancellor, Prof. J. P. Pandey. Under his academic and visionary leadership, on January 09, 2022, the University signed a Memorandum of Understanding (MoU) with Mahayogi Gorakhnath University for mutual academic cooperation. Under the agreement, both the universities will be able to use each other's academic infrastructure and jointly work on national/international consultancy projects. Keeping up the morale even under aggravating conditions of the growing number of Omicron cases, Council of Student Activities, MMMUT organized a Surya Namaskar programme on January 14, 2022, following the COVID-19 protocols.

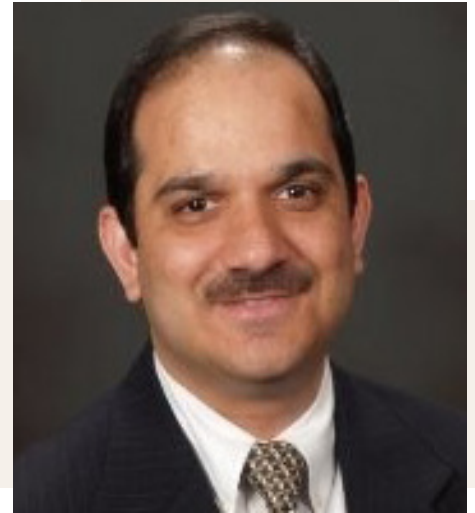
As we start afresh, I wish that joy and success follows everyone in all aspects of life. Kudos to the members of **The Editorial Board** for putting in their monumental efforts in bringing out yet another issue of **Tiresia**.

With best regards
Dr. Sudhir Narayan Singh
Faculty Advisor,
The Editorial Board
MMMUT

Tête-à-tête

A talk with Mr. Mukul Sharma

Mr. Mukul Sharma is a 1989 graduate from MMMEC, Gorakhpur in Computer Science and Engineering. He went on to get his M.Tech. from JNU, New Delhi and also picked up an MBA degree from Booth School of Business at University of Chicago. Currently, he is responsible for developing and executing strategy for the Google Cloud Business Unit at TCS in Chicago, USA. He has close to 30 years of experience in building organizational capabilities, managing P&L accountability and delivering enterprise programs of increasing complexity for global customers. **The Editorial Board** got a golden opportunity to speak to him. Here are excerpts from our discussion with him.



Q How would you describe your journey in Malaviya?

A During my four years at MMMEC, I experimented with a lot of things. There were times when I acted like a rebel, while there were some when I was a perfectly disciplined student. I spent a lot of time in theatres and at Golghar, but hardly missed any lecture classes. Tutorials and practicals were a different story though. I tried my hand a little bit at everything- stage, debate, quizzing at AIR-GKP, model competitions. The last one got us a 3rd prize nationwide at IIT-BHU's technical exposition. Among all my classmates remember me as one who could sleep or stay awake for 60 hours straight depending on the situation. Between all this, I developed permanent bonds with my batchmates, seniors and juniors.

Q You have an inspiring journey full of grit, determination and strong leadership. What is your success mantra?

A Well, I am nobody to preach on success. But as you have asked, I can attribute whatever I have achieved to three core attributes- intelligence, diligence, and perseverance. With more than 30 years of experience, I can tell you two things- while intelligence is a gift from God, it is no substitute for diligence and that there is no straight path to success. You have to constantly learn, adapt, and pivot as life unfolds in front of you. You might not get all that you desire in the short term, but you have to keep working on yourself and keep persevering towards your goals and dreams.

Q IT sector is rife with new opportunities and career options but at the same moment it is facing vital issues such as cyber security, skills gap, data protection, lack of agility, digital transformation and many more.

What, according to you, can be done to counter these major challenges?

A When I set afoot in the field of IT, typical project implementation cycles used to take at least 1-2 years or more. Also, there was a certain potency of the technology life cycles. Just look at how long the mainframes or the Oracle database or the ERP systems have lasted. However, the rate of technology innovation is far exceeding the rate of adoption lately, creating a perpetual churn. The customers have become propositions in lieu of putting their organizations at the mercy of technology vendors. They are looking for small, bite-sized infusions of technology leading to agile, iterative projects to be delivered with a fail-fast approach. These are opportunities to produce value for not only our customers but also for our companies. At a discrete level, we all should develop the attitude of a life-long learner as technologies around us are changing pretty fast these days. Gone are the days when you could master a few principles, theorems, equations, and charts and you were all set for life.

Q In the last 25 years, the global organizational methodology has modified, and it now looks very different from half a century ago. According to you, what is the importance of leadership in achieving organizational goals with an effective and efficient work culture?

A The purpose of an organization leader has evolved fairly in the last few decades. For example, there is a big shift from command and control-based hierarchical structures to more flat structures driven by empowerment and servant leadership. The role of the leader is to incite into everyone, the desire to spare no effort for the task at hand without strict supervision or control. The shift from labour economy to knowledge economy has changed



Intelligence is a gift from God, there's no substitute for diligence and there is no straight path to success.

the way you concentrate on finding the most efficient path to get the work done with the rational and codified process. In addition to that, successful leaders of today are constantly improving by unlearning and re-learning to meet the present reality of business and also to cope up with the changing technology.

Q You have expertise in areas of building organizational capabilities and managing profit and loss accountability. What steps do you think are needed to take the start-ups or local businesses to a significantly improved level of corporate practices?

A I feel that a company stays a start-up only up to a point of achieving on a certain scale. Once it crosses the threshold, it should accept itself as a corporation and start abiding by the corporate practices prevalent in similar-sized organizations. Alternately, the company can decide to reconstruct into smaller modules that keep operating like startups with a parent unit serving as an umbrella body for certain functions from where economies of certain scale can be derived. Even if a company takes the first option of becoming a large corporate firm, it does not necessarily have to relinquish a start-up mindset— a collection of attributes such as experimentation, frugality, speed, agility, risk-taking, creative collaboration, and the likes.

Q The IT sector has witnessed major changes and transitions such as globalization, automation, analytics and data management in the last few decades. How do you analyze India's role in this evolving sector?

A I will not be exaggerating if I say that India has played a vanguard role in the field of IT for the last 30 years or so. During this time though, India did not have an ecosystem ripe for greenfield innovation— ripe for ideas, entrepreneurs, capital flows, and talent. In the last 10 years, however, we have seen a big change on that front. A big crop of graduates is willing to invest their youth years to try out either their dreams or piggyback on someone else's big

dream to make billions, or at least millions. This youthful energy is being met with angel investors and private equity financiers who are opening up their checkbooks in the hopes of making their billions/millions. Above all, India needs a very different product-based mindset that even the greatest of India's corporate houses are not fully equipped with.

Q The advancement of digital age and social media platforms has fostered a better means for self-expression and critical thinking. What are your views on its growing influence on the young generation?

A In my opinion, social media is a strong tool but in the wrong hands it can do more damage than good. First talking about the bright side, various social media tools have provided many means to stay in touch, create our own groups based on similar interests, refine our abilities in a relatively safe place without being judged, provide that midnight dose of light-hearted humor and whatnot. However, the same tool can become addictive, suck up all your time, make you a distance apart from real and in-person contacts and make you a prisoner of your own thinking and mindset, as you slowly close down those windows in your mind. So, the tool, itself is good if it does not take over too much of our time and does not make us impervious to any ideas that do not look, feel, or smell like our own.

Q What advice would you like to convey to the young budding Malaviyans?

A I can only summarize by saying that use your four years at college to explore, learn, expand your mind and build friendships. Once you graduate, go out into the world with an open, exploratory, experimentative, collaborative mind and enjoy the journey of life as it unfolds every day without worrying too much about an imaginary and make-believe world that you are chasing. I wish everyone of you the very best in your careers.



CAMPUS

JUL 13 IICHe Student Chapter, MMMUT organized their Annual General Meet along with an interactive session with Mr. Akshay Shrivastav, founder and CEO of LCB Fertilizers.

JUL 22 NSS, MMMUT organized a webinar on **Importance of Underground Water & Its Conservation** with Ms. Ragini Srivastava, Hydrologist, Gorakhpur as the speaker.

AUG 04 Dr. R. K. Yadav, Associate Professor & Head, Department of Chemistry and Environmental Science, MMMUT was felicitated by Hon'ble Chief Minister Shri Yogi Adityanath, for his research work on **Artificial Photosynthesis**.

SEP 05 Team RAPTOR 4.0 from SAE Collegiate Club, MMMUT Chapter secured AIR 38 in the preliminary round of BAJA SAEINDIA 2022.

SEP 15 IICHe Student Chapter, MMMUT successfully conducted a webinar with Mr. V. Raman, founder SIM INFOSYSTEMS Pvt. Ltd. on **The Application of Dynamic Simulations in Chemical Process Industries using Pro-Simulator**.

SEP 25 An MoU was signed between MMMUT and AICTE to make joint efforts towards the training of faculty in AICTE approved technical institutions. Hon'ble Vice Chancellor **Prof. J. P. Pandey** signed the MoU on behalf of MMMUT while **Prof. Anil D. Sahasrabudhe**, Chairman, AICTE was signatory from the other side.

SEP 27 Three batches of 20 students each from Department of Chemical Engineering visited **Indian Glycol Limited (IGL), GIDA, Gorakhpur** from September 27, 2021 to September 29, 2021.

SEP 28 NSS, MMMUT celebrated **NSS Day** and launched their website.

OCT 01 MMMUT received registered membership of **National Digital Library of India (NDLI)** developed by IIT, Kharagpur.

OCT 05 A delegation of 53 students from our University went to Lucknow to attend the **Azadi@75, Conference- cum- Expo** held on October 5, 2021. Hon'ble Prime Minister **Shri Narendra Modi** and Hon'ble Chief Minister **Shri Yogi Adityanath** also marked their presence at the conference.

OCT 09 A team of **National Board of Accreditation (NBA)** visited the University and interacted with faculty and students of Department of Electronics and Communication Engineering on October 9, 2021 and October 10, 2021.

NOV 27 An MoU was signed between MMMUT and EDII, Ahmedabad in the gracious presence of Hon'ble Chancellor and Governor **Smt. Anandiben Patel**. Hon'ble Vice Chancellor **Prof. J. P. Pandey** signed the MoU on behalf of MMMUT while **Prof. Sunil Shukla** signed it on behalf of EDII.

BUZZ

NOV 28 Training and Placement Cell, MMMUT organized a webinar on **Career Opportunities in Cyber Security and its Application** with Dr. Jitendra Mohan Bhardwaj, Senior Vice President, CoForge.

DEC 01 A **National Poetry Convention** was organized by the **Cultural Sub-Council** on the occasion of **8th Foundation Day**.

DEC 03 The University commenced the **Orientation Programme** for newly admitted students from December 3, 2021 to December 10, 2021 and December 17, 2021 to December 27, 2021.

DEC 10 The **Editorial Board** conducted the **Annual Photoshoot** for final year students in presence of Hon'ble Vice-Chancellor **Prof. J. P. Pandey** and faculty members of all departments.

DEC 10 **Sports Sub-Council** organized the **Interbranch Football Tournament** from December 10, 2021 to December 19, 2021.

DEC 15 **Madan Mohan Malaviya University of Technology, Gorakhpur** conducted its **6th Convocation Ceremony**.

DEC 26 **IEEE Student Branch** organized **Avalokan**, an online interactive session with our alumni on December 26, 2021 and December 27, 2021.

DEC 29 **NSS, MMMUT** organized **Blood Donation Awareness Programme** on December 29, 2021 and **Blood Donation Camp** on December 30, 2021.

JAN 02 **Computer Society of Software Engineers (CSSES)** conducted its annual informal event **Technokratos'21**.

JAN 02 A career counselling session, **Drishyaa** was organized by the **Social Engineers' Board** for newly admitted students.

JAN 07 A training programme on **3D Printing** was organised for the students of Electrical Engineering, Mechanical Engineering, and Electronics and Communication Engineering Department in **IoT lab, ECE Department**.

JAN 09 An MoU was signed between **Madan Mohan Malaviya University of Technology, Gorakhpur** and **Mahayogi Gorakhnath University, Gorakhpur** for mutual academic cooperation, where Hon'ble Vice-Chancellor of MMMUT, **Prof. J. P. Pandey** and Hon'ble Vice-Chancellor of Mahayogi Gorakhnath University, **Major General Atul Bajpai** exchanged the agreement.

JAN 14 A **Surya Namaskar** programme was organized in multipurpose hall for all the students and faculties of the University by the **Council of Student Activities, MMMUT**, following the COVID-19 protocols.



AUGMENTED REALITY



Augmented reality is the first step in a grand adventure into the landscape of the imagination.

Augmented reality is a technology that involves the superimposition of computer graphics in the real world. The elements are enhanced by computer-generated perceptual information. These inputs may include audio, video, graphics and more. The first notion of augmented reality was marked-out in a novel by Frank L. Baum which was published in the year 1901, in which a set of electronic glasses summarized the data of people; it was then called a 'character marker'. Thenceforth, augmented reality has made strides from a mere science-fiction concept to today's reality.

In 1975, an American computer artist named Myron Krueger developed the cardinal 'virtual reality' interface in the form of 'Video place' which sanctioned its users to manipulate and interact with virtual objects in real-time. The first properly operating augmented reality system was presumptively the one developed at USAF Armstrong Research Lab by Louis Rosenberg in 1992.

It was an incredibly complex robotic system that was directed to compensate for the lack of high-speed 3D graphics processing power acknowledged as 'Virtual Fixtures'. It enabled the scaling of sensory information on a workspace to improve human productivity.

With judicious technological reforms, augmented reality can be implemented efficiently. General hardware components which include processors, displays, sensors, and input devices are the building blocks of augmented reality. On a closer look, all these components are available in a smartphone, making it the next step towards achieving augmented reality. Display forms a major part of the system as AR is all about how we can make it more realistic to the real world. While a monitor is perfectly capable of displaying augmented reality data, there are other systems such as optical projection systems, head-mounted displays, eyeglasses, contact lenses, the HUD (Heads Up Display), virtual retinal displays,

EyeTap (a device which substitutes the rays of light captured from the environment and substitutes them with computer-generated ones), Spatial Augmented reality (SAR- which uses ordinary projection techniques as a substitute for a display of any kind), and handheld displays.

To capture the movements and other minute details of a person, sensors are used which include GPS, gyroscopes, accelerometers, compasses, RFID, wireless sensors, touch recognition, speech recognition, eye tracking, and peripherals, which make it more realistic. Software forms another basic need for augmented reality as all the coordination between the real world and the virtual world happens through it, thus its optimization and efficiency matter in the long run. There is already an Augmented Reality Markup Language (ARML) which is being used to standardize XML grammar for virtual reality. There are various software development kits (SDK) that also offer simple environments for AR development. Many developers and leading tech companies have shown their interests in augmented reality and have made many leading software and projects for it. The most notable ones include:

- **ARToolKit** (a design tool) was made available in Adobe Flash in the year 2009.
- Google announced its open beta of **Google Glass** (a project with mixed success) in the year 2013.
- Microsoft announced augmented reality support and their augmented reality headset **HoloLens** in the year 2015.

The increasing demand for augmented reality applications has led us to new hands-free wearables such as head-mounted displays or smart glasses. We are familiar with simple AR entertainment applications, such as Snapchat



AR can prove to be a valuable asset to the medical sector

Learning new skills will be fascinating and much easier using AR



filters and the game Pokémon Go. Augmented reality is being applied in far more consequential ways in both consumer and business-to-business settings. New car models like Tesla are using AR heads-up displays that put navigation, collision warning and other information directly in driver's line of sight. Wearable augmented reality devices for factory workers that superimpose production assembly or service instructions are being piloted at thousands of companies. From operating tomography instruments to assisting complex surgeries, Augmented reality holds the potential to make medical training more effective. AR is replacing traditional manuals and training methods at an ever-faster pace.

Broadly, a new information delivery paradigm is being enabled through augmented reality which will have a profound impact on how data is structured, managed, and delivered on the internet. AR seems to be promising for solving public safety problems. In case of emergency or fire, folks will now immediately find out what's going on and discover the best route to safe zones. By the dint of augmented reality, we can avoid devastating accidents caused due to structural failures, i.e., the inability to anticipate possible flaws in architectural plans and the inadequate imposition of safety regulations. Similarly, managers in professions such as mining, timbering, and fishery or assembly lines and factories will be able to anticipate and hence eliminate workplace injuries with augmented reality.

Augmented reality is allowing people to superimpose digital information directly on real objects or environments to process the physical and digital simultaneously, eliminating the need to mentally bridge the two. That improves our ability to absorb information, make decisions, and execute required tasks quickly, efficiently, and accurately.



MOVERS AND SHAPERS

“ *In the final analysis, we all are migrants, armed with a temporary residence permit for this earth, each and every one of us incurably transient.* ”

Migration, as we know, is the movement of life from one place to another for settlement. We humans, migrate too, but our reasons are more complex than other organisms. We migrate mostly in search of magnified wages. This statement becomes substantially true for India and its citizens. With 28 states and 8 union territories at present, there is a disparity in many aspects among them, employment being a prime one. Some states offer better employment prospects than others, causing large-scale migration. These migrant workers travel with the hope of a better living standard for their families. These changes can be semi-permanent, circular, or permanent. Some states see higher migration due to the lack of opportunities for the people. Bihar, Uttar Pradesh, Madhya Pradesh, and Rajasthan account for nearly half of the population. They shape the finance structure of the

country by filling labour needs, purchasing goods and paying taxes. When more people work, productivity increases. Migrant workers are generally employed in the informal sectors, doing unskilled jobs in textiles, manufacturing, construction, hotel, transportation services, or domestic work. They are crucial for any country as they increase the accessibility of goods and services to the common people. More money circulates in the economy, thereby increasing demand and supply, thus maximizing profits. They shape the cities they visit by adding a workforce to the developing sector as around one-third of the out-migrants are employed in the construction industry followed by agriculture and manufacturing. Comprising 20% of the workforce, migrant labours are vital to every economic sector, especially the informal sectors and MSMEs, constituting nearly 50% of India's GDP.

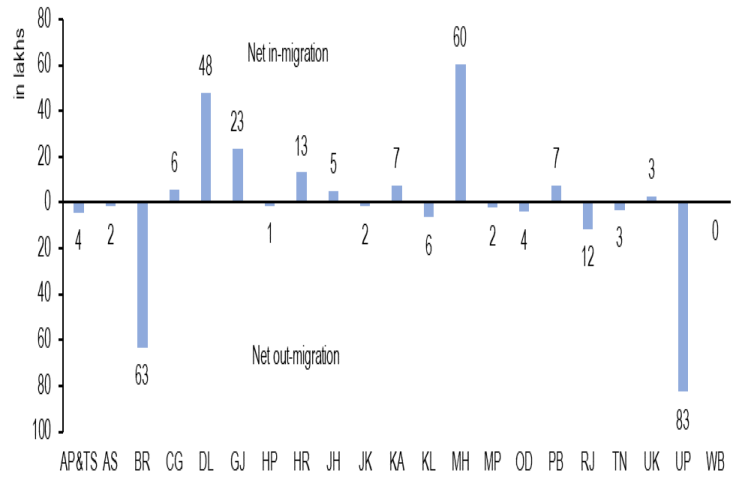
On a global basis, India has become the top recipient of remittances with over 62.7 billion USD received in 2016, including both skilled and unskilled migrants. A report by McKinsey emphasizes that global productivity is elevated by the movement of people across the borders, contributing roughly 6.7 trillion dollars or 9.4% of the global GDP in 2015. Internally, circular migrants in India give around 10% to the national GDP. Internal migration leads to income being sent to rural areas by the migrants employed in cities. As compared to the previous decade, reports suggest that migration is accelerating. According to census estimates, the annual growth rate of labour migrants, more or less, doubled from 2.4% in 1991-2001 to 4.5% per annum in 2001-2011. Nearly one-fifth of India's labour force is an internal circular migrant accounting for over a hundred million people.

One of the major reasons for movement remains economic, as the majority of migrants fall in the 20 to 29 age bracket. Internal migration in India accounts for 30% of the total population which is over 300 million people whereas international migration accounts for only 5 million people. Estimates from NSSO show that 14 to 15 million people are seasonal and temporary migrants. Around 70% of these internal migrants are women. In terms of rural and urban areas, two-thirds of the migrants are rural and the rest are urban. Urban migration as a percentage of total migration increased from around 28% in 1981 to 32.8% in 2001. Report projections suggest that over 600 million out of 1.4 billion Indians will be living in urban areas by 2030. In terms of state data, states like Uttar Pradesh, Bihar, Chhattisgarh, Jharkhand, Rajasthan, Madhya Pradesh, Andhra Pradesh, and Tamil Nadu are key sources of out-migrants. But despite their contribution to the



Migrant workers returning home to their respective hometowns between COVID rush

Inter-state Migration (in lakhs) as per Census 2011



economy of the country, they are the ones most deprived of their rights and advantages.

Migrant workers are compelled to work for very low wages under extremely harsh conditions for long hours. The unceremonious nature of their terms of employment deprives them of employment-related security with irregular wages. With the recent COVID-19 breakdown, a population of nearly 100 million migrant workers was struck by severe restrictions on inter-state transport and caused a mass exodus from various states. In October 2021, we witnessed something quite dreadful when 11 migrant workers from the states of Bihar, Uttar Pradesh, and West Bengal were murdered in Kashmir at various locations. Four of the murders were committed in just two days. These murders were orchestrated by several terror outfits operating in the valley.

Migrant workers shape the economy of a country by boosting the sales and accessibility of goods in the marketplace and performing the high labour jobs in the construction, informal manufacturing and agriculture sector. With the help of Director General Labour Welfare fund's help and economic empowerment schemes like Pradhan Mantri Garib Kalyan Rojgar Abhiyan, enhanced MGNREGA, and many others, the condition of migrant workers has undoubtedly improved but their rights still need to be looked upon by setting up minimal wages criteria and fast track courts to stop their exploitation. It is important to explore the various advocacies and policies for solving the deep-rooted marginalisation of migrant workers. In the long run, their condition is sure to improve as India works more to cushion the loss that has happened to their wages in the past few months and bridges the gap in their social and legal status.

inSights

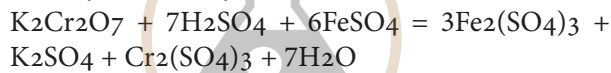
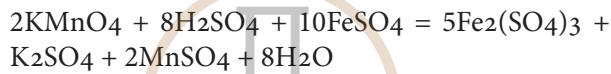
TECH

Mail your answers at
literaryedb@mmmut.ac.in

A punch of 36 mm diameter is used to punch a hole in 9 mm thick plate. If the force required to create a hole is 130 kN, the average shear stress in the plate will be nearly _____.

CIVIL ENGINEERING

In the reactions



How many grams of potassium dichromate are equivalent to 5.0 grams of potassium permanganate?

CHEMICAL ENGINEERING

What is the output of the following C program?

```
#include<stdio.h>
#define product(n) n*n
int main()
{
    int i=3;
    int x=product(i+1);
    int y=product(i++);
    int z=product(++i);
    printf ("%d %d %d",x,y,z);
    return 0;
}
```

INFORMATION TECHNOLOGY

A flexible steel cable hangs between two level supports with central dip or sag of one-tenth of its span. Determine the maximum possible span, if the permissible stress in the cable is 145 MPa. The unit weight of the cable is 75 kN/m³.

MECHANICAL ENGINEERING

A 220/110 V transformer has an impedance of 0.32+j0.85 ohms in the 220 V winding and an impedance of 0.11+j0.27 ohms in the 110 V winding. With 220 V applied to the HV side, a short circuit occurs on the 110 V. What currents will flow in the two windings?

ELECTRICAL ENGINEERING

A ring has mean diameter of 15 cm, a cross section of 1.7 cm² and has a radial gap of 0.5 mm cut in it. It is uniformly wound with 1500 turns of insulated wire and current of 1A produces a flux of 0.1 mWb across the gap. Calculate relative permeability of medium assuming no magnetic leakage.

ELECTRONICS AND
COMMUNICATION ENGINEERING

Find the output of the following program:

```
#include<stdio.h>
int main()
{
    int a;
    char *x;
    x = (char *) &a;
    a = 512;
    x[0] = 1;
    x[1] = 2;
    printf("%dn",a);
    return 0;
}
```

COMPUTER SCIENCE AND
ENGINEERING



Winners of the Tech inSights of Tiresia Volume 12, Issue 4 couldn't be decided as the answers received were either late or unsatisfactory.

Spiegel



Ishita Srivastava
B.Tech, Electronics and Communication Engineering, 2nd Year



Sankalp Sharma
B.Tech, Civil Engineering, 2nd Year



Shreyashi Rai
B.Tech, Electronics and Communication Engineering, 2nd Year

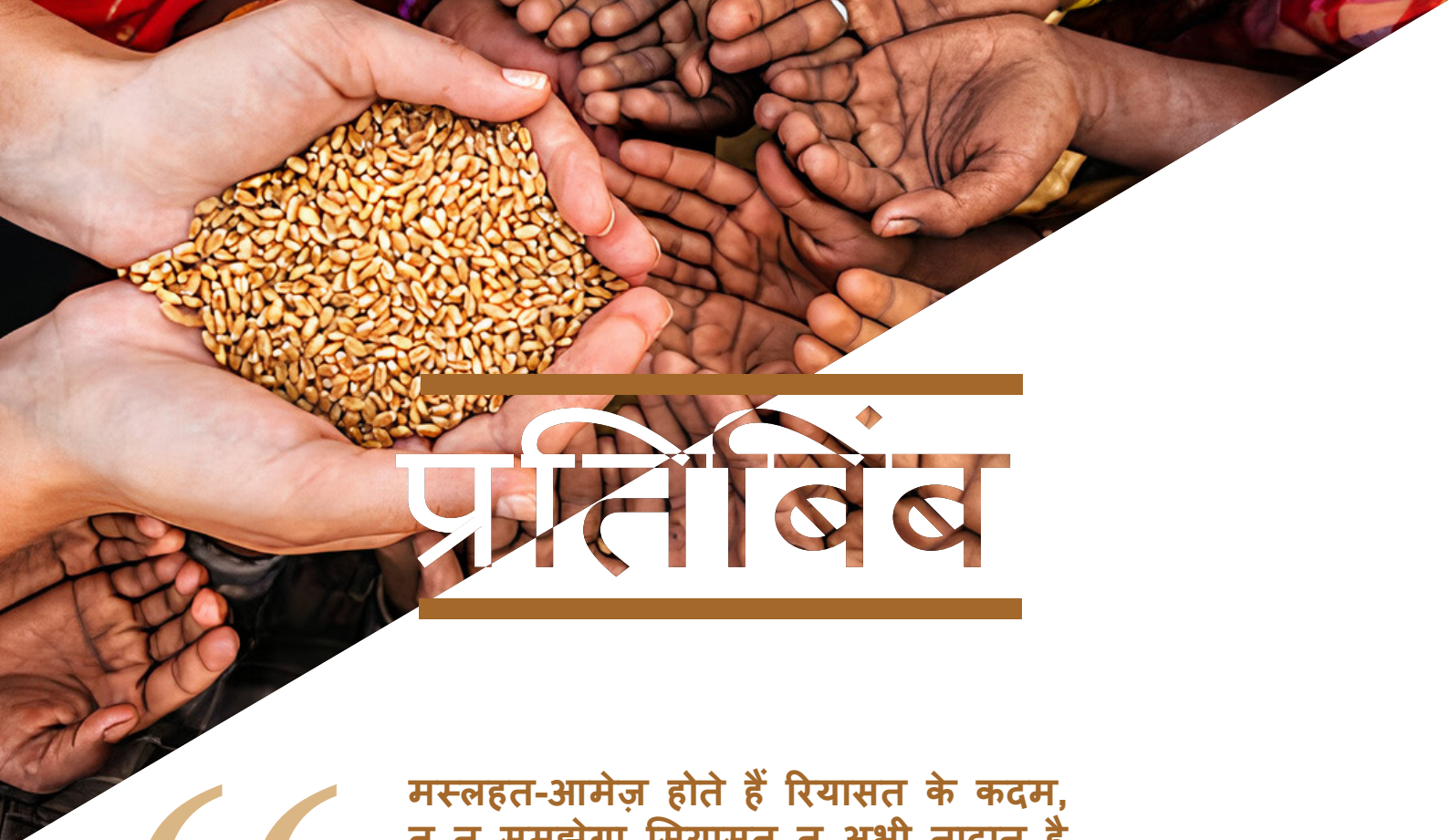


Animesh Kumar Singh
B.Tech, Chemical Engineering, 2nd Year



Bhuwan Awasthi
B.Tech, Computer Science and Engineering, 2nd Year

A photograph communicates thousands of feelings. Cogitating the worth of a photograph, we invite all the students to showcase their photography skills and send their clicks of the University on literaryedb@mmmut.ac.in (Basic editing is allowed). Best ones will be published in the next issue of **Tiresia**.



प्रतिबिंब

“

मस्लहत-आमेज़ होते हैं रियासत के कदम,
तू न समझेगा सियासत तू अभी नादान है,
कल नुमाइश में मिला वो चीथड़े पहने हुए,
मैंने पूछा नाम तो बोला कि हिंदुस्तान है।

उपरोक्त काव्य पंक्तियों का उल्लेख विख्यात कवि दुष्यंत कुमार जी ने भारतवर्ष की स्वतंत्रता के तकर्रीबन तीस वर्षों के पश्चात् अपनी रचना 'एक गुड़िया की कई कठपुतलियों में जान है' में किया था। यह पंक्तियाँ हमारे प्रथम प्रधानमंत्री पंडित जवाहर लाल नेहरू जी द्वारा स्वाधीनता की पूर्व संध्या पर दिए गए भाषण 'ट्रिस्ट विद डेस्टिनी' का परिहास करती हैं। इस भाषण में देश से निर्धनता, बेरोज़गारी, रूढ़िवादिता आदि समाप्त करने तथा सभी नागरिकों को स्वास्थ्य, शिक्षा, निकेत एवं पेयजल जैसी मूलभूत सुविधाएं प्रदान करने की बात कही गई थी। आज स्वतंत्रता के लगभग 75 वर्ष पूरे हो चुके हैं, परंतु प्रश्न यही है कि क्या इक्कीसवीं सदी के तीसरे दशक में लोगों की परिस्थितियां बदल गई हैं? क्या लोगों को उनकी मूलभूत सुविधाएं प्राप्त हो रही हैं? आज के समाज में लोगों के जीवनयापन का स्तर हमारे समक्ष राष्ट्र का एक प्रतिबिंब प्रस्तुत करता है। यह एक जटिल प्रश्न है कि क्या राष्ट्र का यह प्रतिबिंब हमारे लिए स्वीकार्य है?

व्यक्ति से समाज और समाज से राष्ट्र का निर्माण होता है। एक आदर्श व्यक्ति का समाज और राष्ट्र के प्रति भी उत्तरदायित्व होता है। परंतु हम भारत के वर्तमान को देखें तो विवशता आज भी यथास्वरूप

है। आज भी हमारे अधिकतम संसाधन मुट्ठी भर लोगों के हाथों में हैं। आँकड़ों का विवेचन करें तो सरकारी सर्वेक्षण कहता है कि भारत की आधी से अधिक संपदा पर देश की 10 प्रतिशत आबादी का स्वामित्व है। वहीं 50 प्रतिशत आबादी के पास देश के 10 प्रतिशत से भी कम संसाधन हैं। चिकित्सा, शिक्षा एवं बनियादी अपरिहार्यता के विषय में देश की अवस्था पिछड़ी एवं चिंतनीय है। कुछ तो कारण हैं कि आशा की किरणों के मध्य तम भी अपार हैं। बेरोज़गारी एवं एकपक्षीय व्यापार के इस वृहत तिमिर ने निराशा का कूहासा ही व्याप्त कर दिया है। भारत एक जनतांत्रिक समाज तो है, लेकिन उसमें एक विरोधाभास भी दिखता है। एक तरफ हम सामंतवाद को समाप्त करने की बात करते हैं, और दूसरी ओर यह समाज अन्तर्विरोधों और पूर्वाग्रहों के साथ आगे बढ़ रहा है। इस तरह के दुखद विरोधाभास से नए और विकसित भारत का संकल्प कभी-कभी एक स्वप्न के समान लगता है।

वर्तमान की रूपरेखा अतीत के सिद्धांतों के आधार पर तैयार होती है। वर्तमान में आधुनिकता की खोज बिना बदलाव के तय कर पाना निरर्थक सा लगता है, क्योंकि कल का अतीत उस समय के लिए वर्तमान ही रहा होगा और बदलाव के प्रयास भी हुए होंगे। ऐसी स्थिति में वास्तविक प्रश्न

यह प्रकट होता है कि क्या उन मानवीय हितों को साधने के लिए किये गए प्रयासों का अर्थ सार्थक निकला? यदि नहीं, तो सभ्य समाज की परिकल्पना भूखे पेट नहीं हो सकती।

हम आज की स्थिति पर चिंतन करें तो मुंशी प्रेमचंद जी का कथन- "जिस बंदे को दिन की पेट भर रोटी नहीं मिलती, उसके लिए इज्जत और मर्यादा सब ढोंग है"- बिल्कुल सटीक लगता है। गरीबी निवारण जितना राष्ट्र और विश्व का दायित्व है, उससे कई गुना स्वयं व्यक्ति एवं समाज का भी है। यदि देश में गरीबी उन्मूलन अभियान को सार्थक बनाना है, तो जनता को सिर्फ साक्षर नहीं शिक्षित करना होगा। ऐसी गुणवत्ता वाली शिक्षा दी जानी चाहिए, जिससे वे समर्थ बनें और अपना जीवन निर्वाह कर लें। जितने अधिक रोजगार निर्मित होंगे, उतनी ही दीनता दूर होगी। सरकारी नीतियां ऐसी हों कि गरीबी, अज्ञानता, बीमारी एवं अवसरों के अभाव की शिकार जनता के आंसू पोंछ सकें। समाज में व्याप्त असमानताओं को दूर करने और ग्रामीण विकास के लिए आवंटित धन के बंदरबांट को रोकने की ज़रूरत है। विभिन्न लघु उद्योगों में प्रशिक्षण कर युवा वर्ग को स्वावलंबी बनाने पर ध्यान देना चाहिए। दैहिक आवश्यकता की समस्या से निपटने के लिए केंद्र और राज्य सरकार के बीच समन्वय आवश्यक है, ताकि विभिन्न जन कल्याणकारी योजनाएं चलाई जा सकें। लघु और कुटीर उद्योगों

को बढ़ावा दिया जाए। साथ ही आय की असमानता को दूर करने का प्रयास किया जाना चाहिए।

हमारे पूर्व प्रधानमंत्री श्री अटल बिहारी वाजपेयी जी का कथन था कि "मैं एक ऐसे भारत की कल्पना करता हूँ जो कि मज़बूत हो और परवाह करने वाला हो। एक ऐसा भारत जो कि अन्य देशों के साथ कंधे से कंधा मिलाकर चल सके"। अतः भारत के नागरिकों के लिए आवश्यक है कि वे वास्तविक अर्थों में आत्मनिर्भर बनें। दरिद्रता तब तक समाप्त नहीं होगी, जब तक व्यक्ति स्वयं इससे निकलने का प्रयास नहीं करेगा। सपनों का विकसित भारत तभी संभव है, जब नैतिक, चारित्रिक एवं अनुशासन की दृष्टि से हम उन्नत होंगे तथा राजनीति अपराध का व्यापार न बनकर देशसेवा का आधार बनेगी। यदि हम संकल्प, आत्मविश्वास, नैतिकता एवं समर्पण भाव के साथ आगे बढ़ेंगे तथा देश को अपने निजी स्वार्थों से ऊपर मानकर चलेंगे तो निश्चय ही सभी क्षेत्रों में हम पूर्ण विकसित होकर विश्व में अग्रणी हो सकेंगे। अन्यथा हमारी प्रगति चलनी में भरा हुआ पानी होगी, प्रतिभासित किंतु असत्य। संपूर्ण विकास के लिए संसाधनों का विकेंद्रीकरण किया जाना आवश्यक है। इसके परिणामस्वरूप जो प्रतिबिंब हमारे द्वारा प्रस्तुत किया जाएगा, वह कल के उन्नत भारत का होगा, जो हर स्तर पर भारत को अवश्य ही समृद्धि के पथ पर ले जाने में समर्थ होगा।





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