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3 SECONDS FOR IMPACT!

Prahlad Kakar
Veteran Ad Filmmaker

INSIDE

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NEW APP FOR GRIEVANCE REDRRESSAL

The Delhi government has come up with a novel way to ensure transparency and speedy redressals of grievances at schools in the national capital – a move that needs to be implemented across India.

The Department of Education (DoE) has launched an app called DOE Nirakshan, on which students and teachers can file their complaints regarding a school, its authorities or teaching staff. The app also promises to help disseminate instant information regarding any particular school and digitalize inspection of infrastructure, stationary, mid-day meals and uniforms etc.

"This app is concerned with the issues faced by teachers and students in the school and for reporting the same to the head of school and above officials to create and maintain a healthy and clean environment in the school premises. The issues reported will be monitored by the higher officials of the department and al measures will be taken to ensure the resolution of the reported issues in a time bound process," the DoE said while launching the app.

Heads of all Delhi schools are expected to check the app regularly for queries and complaints raised by students or teachers and resolve the issues. The district deputy education officers (DDE) at the zonal, district and headquarter levels will monitor the process, the DoE said.

The app has various set categories, under which complaints and queries can be filed, along with an option of uploading a maximum of six photographs. These complaints/queries can be revisited to check their status of redressal.

No one other than the heads of schools have the option of changing the status of the complaint or query. The school heads also have the right to reject a particular complaint, but they must provide a valid reason. Once the grievance is resolved or query answered, the school heads can mark the issue as "Resolved."

The DDEs monitoring this problem-solving process will only be able to view the complaints and queries of their own respective zones and districts, while the DoE headquarters will have access to all complaints and queries raised on the app.

The DoE said that it already has a system in place whereby online grievances can be filed on its website by the public and parents against any particular school. However, the new app will make it a lot easier for parents, students and teachers to check exactly what is happening in their respective schools of interest.

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CONTENTS

CONTENTS

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Prahlad Kakar
Veteran Ad Filmmaker

THE NAME OF THE AD FILM GAME

JUST 3 SECONDS

In the ever-evolving realm of advertising and filmmaking, where capturing the audience's attention is akin to a fleeting moment, veteran ad filmmaker **Prahlad Kakar** talks to Education Post's **Prabhav Anand** about the transformative power of storytelling, the significance of the first three seconds in advertising, and the delicate art of integrating iconic celebrities into brand narratives in this EXCLUSIVE interview.

Q You have been working in the industry for the last 45 years and you have created more than 5000 advertisements. Please share with us your journey from starting out in the industry to becoming a prominent ad filmmaker and director.

Certainly, my journey in the advertising world has been a remarkable one, marked by unique experiences and challenges that have shaped me into the professional I am today.

To truly understand my journey, it's important to delve into the historical context and the distinct phases that have defined my career.

Back when I embarked on this journey, the advertising landscape was vastly different from what it is today. It was a time characterized by a more genuine passion for creativity, and the industry was not plagued by the intense competition and high levels of corruption that we witness today.

Competition was not as cutthroat as it is now, and corruption was relatively low. In those days, it was all about delivering high-quality content consistently, and under-the-table dealings and connections did not play as significant a role in one's success.

What set my era apart was the scarcity of producers. The industry had not yet been flooded with professionals vying for projects. Clients valued quality work, and they were eager to collaborate with those who consistently delivered exceptional content.

Contrast this with the present day, where we are inundated with advertisements. Whether you are watching TV, scrolling through social media, or surfing the internet, advertisements are everywhere, often causing annoyance rather than genuine engagement. This shift has led to a noticeable decline in the quality of content.

During my early years, the content on television, especially on Doordarshan, was of a significantly higher caliber. People looked forward to the content, and there was a genuine interest in the ads being aired.

What truly worked in our favor was the timing of our entry into the industry. It was not a calculated move but rather an organic progression. However, some fundamental principles remain the same then and now. The top 5 percent of content creators, often referred to as the "golden circle," set the industry standards. These individuals achieved their status through relentless hard work, unwavering consistency, and the ability to produce content that stood out.

In stark contrast, the remaining 95 percent of content creators found themselves scrambling for whatever was left. They often had to compete on price because they couldn't match the quality of the top 5 percent. Many resorted to "jugaad," a term popular in Delhi that encapsulates the spirit of finding creative solutions with limited resources.

Over time, a significant number of these Delhi-based content creators migrated to Mumbai, the epicenter of the industry. They brought with them the jugaad mentality, which prioritizes cost-effectiveness over quality. Their approach aimed to undercut the competition, securing projects primarily based on price.

For the top five percent, the initial five films of their career held immense significance. These early projects determined their reputation in the industry. Reputation was and still is, the ticket to the exclusive club of creators known for delivering exceptional work consistently.

The first two years in the industry were critical for anyone hoping to make it big. It was a time when individuals had to invest heavily in building their reputation, often foregoing significant financial gain. However, this period laid the foundation for future success. Creators took calculated risks, invested in honing their craft, and, if fortunate, worked with exceptional scripts that allowed them to create remarkable content.

While efficiency and jugaad may work for some, those who focused on quality were the ones who left a lasting impact. Today's advertising landscape is inundated with predictable and uninspiring ads. To truly stand out, one must be a storyteller, captivating audiences with compelling narratives that transcend the mundane.

A prime example of this approach can be seen in recent campaigns, such as the Google ad that bridged divides and delivered a powerful message that resonated with audiences on a profound level.

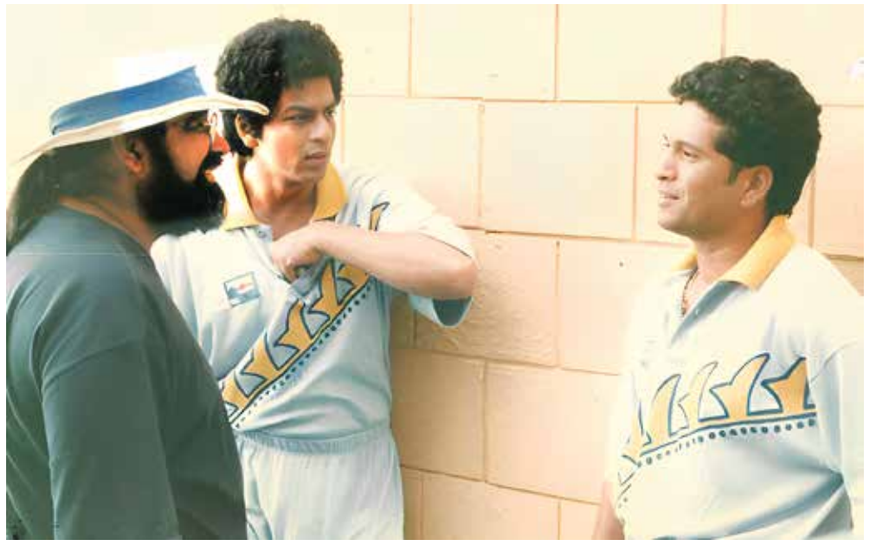
My journey in the advertising industry reflects the dynamic evolution of the field over the past four and a half decades. While competition has intensified, and the industry has witnessed significant changes, the core principles of reputation and quality remain unaltered. To make a mark in this industry, one must possess dedication, unwavering commitment, and the willingness to invest in oneself. It's not just about financial gain; it's about the quality of the work you produce, which ultimately sets you apart in the eyes of both clients and audiences.

Q You have created many famous advertising campaigns for famous brands like Pepsi's "Right Choice Baby!" ad campaign, "2 Minutes!" Noodle ad campaign for Maggi, "Ting Ting Ti Ting" for Britannia Biscuits, and many more like this. Please tell us how you conceptualized and executed the relatable scenarios and emotions that resonated with audiences, making the campaign so relatable and heartwarming?

Creating iconic advertising campaigns like the ones you mentioned has always been a thrilling journey for me. The key to conceptualizing and executing relatable scenarios and emotions in these campaigns lies in understanding the essence of the brand and its target audience.

For instance, in the case of Pepsi's "Right Choice Baby!" ad campaign, the objective was to establish Pepsi as the ultimate choice for the youth. We needed to connect with their rebellious spirit and desire for independence. So, we crafted a narrative that showcased a young individual making the unconventional choice of Pepsi over a traditional drink, challenging societal norms. The relatability came from tapping into the youth's desire to break free from conventions and make their own choices. This campaign was all about celebrating that moment of rebellion and self-expression.

Similarly, with the "2 Minutes!" Noodle ad campaign for Maggi, the goal was to communicate the idea of a quick and convenient meal. We created scenarios that mirrored the fast-paced lives of our target audience – busy moms and hungry kids. By showcasing relatable situations where Maggi noodles came to the rescue, we struck a chord with our viewers. The emotions of nostalgia, comfort, and ease resonated with them, making it heart-warming.



The “Ting Ting Ti Ting” campaign for Britannia Biscuits was another unique challenge. We needed to convey the joy and delight associated with the brand’s products. So, we turned to music, a universal language of joy. The catchy jingle and vibrant visuals not only made it relatable but also left a lasting impression. It was about creating a sensory experience that connected with the consumers.

In all these campaigns, the key was to understand the pulse of the audience and evoke emotions that they could relate to. It required a deep dive into consumer insights, market trends, and the brand’s identity. The execution involved meticulous planning, creative storytelling, and seamless integration of the brand’s message. It’s essential to strike a balance between being entertaining and conveying the brand’s message effectively.

Moreover, collaboration with a dedicated team of professionals, from writers to cinematographers, played a pivotal role in bringing these concepts to life. Their expertise and commitment were instrumental in ensuring that the relatability factor remained intact throughout the execution.

It’s about telling a story that resonates with the audience on a personal level. When you can create that emotional connection and make the brand a part of their lives, you’ve achieved the essence of successful advertising. So, conceptualizing and executing relatable scenarios and emotions is a blend of art, science, and understanding the soul of the brand and its consumers.

Q In an old interview, you mentioned that the world of advertising has completely changed due to the emergence of computer technology and especially social media. And there are lots of new opportunities but at the same time, competition has also increased. Could you please elaborate on the challenges and opportunities that this digital landscape has presented in the advertising industry, and how the upcoming generation adapts to these changes?

Well, you see, the world of advertising has undergone a seismic shift thanks to computer technology and the mighty influence of social media. These changes have brought forth a plethora of challenges and opportunities, especially for the younger generation entering the industry.

Let’s talk about the bright side first – the opportunities. We’re living in a digital era where social media has become a game-changer for advertisers. It’s like having a direct hotline to your audience. You can precisely target your ads and track how folks are responding to them. Data is the name of the game, allowing us to fine-tune our messages with surgical precision.

What’s more, the surge of online streaming services has opened up new horizons for content creators. Brands can now team up with influencers and content creators to seamlessly integrate their products into the digital narrative. It feels less like traditional advertising and more like a natural part of the content.

But, as they say, every rose has its thorns. In this case, the digital space is crowded with content, making it a Herculean task to grab a viewer’s attention. People’s attention spans are shorter than ever, and the competition to engage them is cutthroat. Crafting content that not only stands out but also strikes a chord on a personal level is an ongoing battle.

And let’s not forget that technology is advancing at breakneck speed. Staying up-to-date is no longer a choice; it’s a survival skill. The advertising industry has become tech-driven, and professionals must keep up with new tools and platforms. This might be a bit overwhelming for the older generation, but the younger folks have a natural knack for navigating this digital terrain.

So, how do the young guns adapt to these changes? Well, they already speak the language of the digital world fluently. Social media is their playground, and they effortlessly hop from one platform to another. They understand trends and have a knack for creating content that goes viral.

But here’s the catch – they need to blend this digital wizardry with a solid grasp of storytelling and branding. The fundamentals of advertising remain the same; it’s all about weaving a captivating narrative that resonates with your audience. The real challenge lies in seamlessly merging technology with creativity.

To sum it up, the digital landscape has completely transformed advertising, offering unparalleled opportunities while cranking up the competition. The younger generation, with their innate digital prowess, is well-equipped to thrive in this environment. But they should never forget that at the heart of advertising, it’s still about storytelling and forging that human connection with the audience. Finding the right balance between tech and creativity is the key to conquering the ever-evolving realm of advertising.

Q In your work, how important are storytelling and emotions, and how do you use them to elicit specific emotions in your advertisements?

Storytelling and emotions are the heart and soul of what I do in the world of advertising. They are like the essential ingredients of a recipe, and without them, you don’t really have a story to tell. You see, human beings are inherently emotional creatures. We are drawn to stories that make us feel something, whether it’s joy, sadness, excitement, or even nostalgia. This emotional connection is what sets us apart from machines, from AI. No matter how advanced technology becomes, it will never truly understand or replicate human emotions. That’s a fundamental concept that I hold dear.

So, when it comes to using storytelling and emotions in my

advertisements, it's all about creating that emotional resonance with the audience. Let me give you an example, like the Maggi ads we worked on. In those two minutes of ad time, we aimed to evoke a sense of nostalgia and warmth. We used music as a powerful tool to connect with the viewers on an emotional level. It was all about triggering memories and emotions related to the product, and we did it without relying on digital gimmicks or excessive content. The key was to keep it simple and relatable.

Now, you might wonder, why focus so much on storytelling in today's fast-paced world? Well, here's the thing – if you can capture someone's attention and immerse them in a compelling narrative, you've got them hooked. It's like a good book that you can't put down. And in the world of advertising, that's priceless. So, even with the rise of digital marketing, if your storytelling is on point, people will stay engaged.

Let me take you back a bit. Do you remember that iconic cricket match ad? It was a nail-biting finish, and the whole stadium was on the edge of their seats. That's what storytelling is all about – creating that tension, that commitment. Will they make those last five runs with just one ball left? The suspense was palpable. And then, the girl in the stands, the cricketer's girlfriend, she looked at the field with bated breath, and when those runs were scored, she danced with joy. It was a story of commitment and victory, and it resonated with everyone.

Now, let's talk about emotional content. Imagine a young couple, 20 years ago, breaking up in front of their homes. It's something that doesn't happen in Indian families, right? Cadbury managed to capture that emotion beautifully, showing how love triumphs. The choice of location, the natural setting, all of it contributed to the emotional impact of the ad. Cadbury made an emotional connection with the audience, and that's why it's still remembered fondly.

So, even though we've seen a shift towards digital media, the core of effective advertising remains the same – telling a compelling story that touches people's hearts. The language may change, and we may adapt to new trends, but as long as we can create that emotional bond with our audience, we'll continue to succeed in the world of advertising. It's been an incredible journey for me, and I wouldn't trade it for anything else.

Q How do you balance the demands of your talent and the clients and your criticism? How do you see that?

Balancing the demands of talent, clients, and criticism in the world of filmmaking is an intricate dance that requires finesse and strategic thinking. Let me break it down for you.

First and foremost, we need to understand that a brand has a purpose. It's not just about the product or service it offers; it's about the values it represents and the narrative it conveys. If a brand has both positive and negative aspects, it's the client's role to decide how to highlight the positives. They may come to me and say, "Prahlad, you're the filmmaker, you know how to tell a compelling story. Show our brand in the best light possible." And here's where the collaborative process begins.

However, it's important to note that I may have a strong vision for how the film should be crafted. This vision stems from my understanding of storytelling and how emotions can be translated onto the screen. It's not just about creating a visually appealing advertisement; it's about making the audience feel something, connecting with them on an emotional level.

Now, here's where the potential for friction arises. The client may not always see eye to eye with my vision. They might have their own ideas or preferences, which is perfectly natural. The power dynamic can sometimes be irritating, as they have the final say on the project. However, it's essential for me as a filmmaker to stay true to my craft and advocate for what I believe will create the most impactful story.

But there's a delicate balance to maintain. Pushing too hard or clashing with the client's ego can lead to strained relationships and missed opportunities. Sometimes, compromising on certain creative aspects may be necessary to keep the collaboration fruitful. It's a matter of knowing when to stand firm and when to yield.

Now, let's shift the focus to ethical responsibilities, especially when dealing with sensitive and controversial topics. Filmmakers, like any other professionals, have a responsibility to handle such subjects with care and sensitivity. However, this responsibility is shared with the client and the team involved in the project.

The filmmaker's role is to bring a vision to life, but they are not the sole decision-makers. It's a collaborative effort, and the client plays a significant role in executing the project responsibly. If a topic is controversial, it's crucial for both the filmmaker and the client to be aware of the potential implications and consequences.

Ultimately, it's the client who decides whether to proceed with a project or not. The filmmaker can offer suggestions and guidance, but the final decision lies with the client. In such cases, open communication and a shared understanding of ethical responsibilities are key.

In today's fast-paced digital world, grabbing the audience's attention has become increasingly challenging. You mentioned the importance of condensing a story into a few seconds to engage viewers effectively. Indeed, in the past, we aimed to engage viewers within 30 seconds, but now, with the rise of social media and digital platforms, the attention span has shrunk to a mere 3-6 seconds.

This shift in consumer behavior means that filmmakers and advertisers must adapt their storytelling techniques. Every second counts and the opening moments of a video must be attention-grabbing. It's a race to capture the viewer's interest before they scroll past or skip the content.

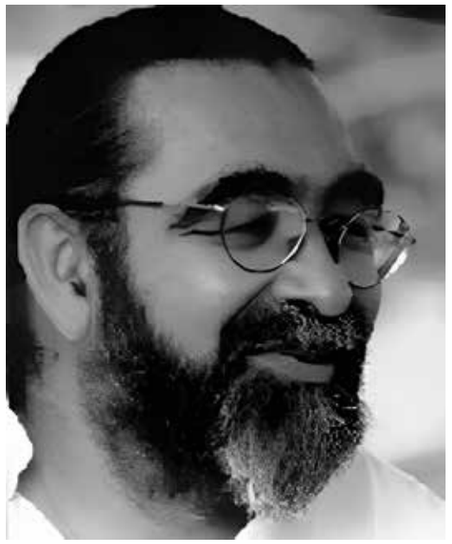
Basically, balancing the demands of talent, clients, and criticism is a nuanced process in filmmaking. It requires effective communication, compromise, and a shared commitment to creating impactful stories. Additionally, ethical responsibilities in handling sensitive topics should always be at the forefront of a filmmaker's mind. In today's digital landscape, the battle for attention is fierce, demanding creative and concise storytelling from content creators.

Q So, could you provide insights into the reasoning behind this belief? You seem to emphasize that the first three seconds are crucial in advertising. The landscape of advertising has evolved significantly, with changes in concepts, conflicts, and the emergence of new social media platforms. These changes are happening at a rapid pace, constantly shifting. How do you view this transformation, especially considering the growing role of artificial intelligence in ad creation? Is it a choice between emotions and automation?

Absolutely, you've touched on some critical aspects of the advertising world today. Let's delve into it a bit deeper. The belief that the first three seconds of an advertisement are pivotal is grounded in the ever-evolving nature of advertising. In the past, the world of advertising was different, simpler, and perhaps a tad slower. But now, things are changing at lightning speed. We go to bed with one reality, and when we wake up, it's already transformed.

One of the key factors in this rapid transformation is the relentless growth of artificial intelligence (AI). AI is making strides, and in some cases, it's even creating advertisements independently. This brings us to a fundamental question: do we want to embrace the efficiency of AI, or do we value the human touch in our storytelling? It's a choice, really. Some may opt for the efficiency, but others, like myself, believe that human emotions are irreplaceable.

Now, let's talk about adapting to these changing trends and technologies. My journey as an ad-film maker has seen its fair share



of turning points. One of the most significant moments was when I realized that I didn't need to become a tech guru myself. Instead, I could surround myself with talented individuals who were well-versed in technology. They were the ones who could harness its power to execute our creative visions effectively.

You see, the magic happens when you bring together creativity and technology seamlessly. It's not about mastering every aspect of technology; it's about knowing how to leverage it. As an ad-film maker, my role is to guide, to envision, and to inspire. I don't need to become a tech expert; I need to collaborate with experts who can bring my ideas to life.

Now, let's address the question of working with celebrities in advertising. It's true; I've had the privilege of collaborating with some remarkable individuals like Sachin Tendulkar, Sushmita Sen, and Anand Ahuja. But here's the twist – in my view, the brand is the real hero. Celebrities are a part of the narrative, but they aren't the central focus. The brand itself needs to shine.

Think of it this way: if the brand isn't strong enough to stand on its own, then no celebrity endorsement can save it. The real challenge lies in infusing emotion into the brand itself. It's about creating a brand personality that resonates with people on a deeper level. This is where the magic happens. The brand becomes the hero, and the celebrities become supporting characters in the story we're telling.

So, in essence, it's not about how big a celebrity you can get for your ad; it's about how effectively you can make your brand the hero of the story. It's about evoking emotions and creating a connection that lingers in the minds of your audience. It's about making your brand unforgettable.

In a world where technology and trends are in a constant state of flux, the power of storytelling and emotional connection remains unwavering. It's the timeless essence of advertising that keeps us engaged, inspired, and connected to brands. So, while we embrace the advancements in AI and technology, let's never forget the heart and soul of advertising – the power to touch hearts and tell stories that endure.

Q Your collaboration with renowned celebrities like Sachin Tendulkar and Shah Rukh Khan in advertisements has certainly made a significant impact. Can you share with us your approach to seamlessly integrating these iconic personalities into your advertisements while maintaining the strength and memorability of the brand message?

Absolutely, it's crucial to understand that, for me, the brand always takes precedence over anything else. The brand message is the heart and soul of any advertisement, and my approach has consistently revolved around ensuring its strength and memorability.

When we have the opportunity to work with celebrities of such stature, it's an incredible asset. However, it's vital to remember that these celebrities are a means to convey the brand message effectively, not the end themselves. They become an integral part of the storytelling process.

The first step in integrating a celebrity into an advertisement is to identify a natural synergy between the brand and the individual. The celebrity should embody the values, ethos, and personality of the brand seamlessly. This alignment ensures that the collaboration feels authentic and resonates with the audience.

Once we've established this alignment, the next step is to craft a narrative that highlights both the celebrity and the brand without overshadowing one another. The brand message should remain at the forefront, guiding the entire creative process. The celebrity's presence should enhance the message, making it more relatable and impactful.

At every stage of production, we emphasize the importance of maintaining a delicate balance between the celebrity's star power and the brand's essence. It's about creating a symbiotic relationship where both elements complement each other, elevating the overall impact of the advertisement.

Moreover, effective communication with the celebrity is paramount. They need to fully grasp the brand's values and messaging to authentically convey it to the audience. It's not just about featuring a famous face; it's about ensuring that their involvement enhances the brand's story.

In the end, it all comes down to storytelling. We use the celebrity as a character in our narrative, making them relatable to the audience within the context of the brand's message. The goal is for viewers to connect with the story on a personal level and remember the brand associated with that emotional connection.

While celebrities undoubtedly bring a significant appeal and draw attention, the true success of the collaboration lies in the lasting impression the brand message leaves on the audience. When people think of the advertisement, they should think of the brand first and foremost.

My approach to integrating celebrities into advertisements has always been rooted in prioritizing the brand's strength and memorability. Celebrities are a valuable tool to enhance the storytelling process, but the brand message remains the ultimate focus. It's about striking a harmonious balance that leaves a lasting impact on the audience, associating the brand with the emotional connection forged through the narrative.

Q The industry has seen significant shifts over the years. Can you reflect on a specific turning point in your career when you had to adapt to changing trends and technologies, and how it influenced your approach to storytelling?

The advertising industry has witnessed remarkable transformations, and I can certainly recall a pivotal moment in my career when I had to swiftly adapt to evolving trends and technologies, profoundly influencing my approach to storytelling.

One of the most transformative shifts occurred with the advent of digital media and the changing viewing habits of the audience. It was a turning point that demanded a fundamental reevaluation of how we engaged with our viewers. I vividly remember a time when a 30-second television commercial was the standard format, and we could craft elaborate narratives within that timeframe. However, as the digital era unfolded, attention spans dwindled, and audiences began to consume content across various devices, particularly mobile phones.

This shift necessitated a dramatic change in our storytelling approach. We had to condense our narratives into mere seconds, often 3 to 6, to effectively capture viewers' fleeting attention. It was a challenging transition, but it presented an exciting opportunity to innovate and experiment with concise, impactful storytelling. The power of brevity became paramount, where every second counted, and the opening moments of a video became the make-or-break point.

In response, we harnessed the emotional resonance of storytelling. We tapped into the universal themes and emotions that could be conveyed swiftly. I often found inspiration in classic storytelling techniques, emphasizing relatable characters, conflict, and resolution, even in the shortest of ads. The aim was to create a lasting impact in a brief moment.

Moreover, collaborating with celebrities

like Sachin Tendulkar and Shah Rukh Khan became a strategic choice. Their instant recognition, emotional connection with the audience, and ability to enhance storytelling made them invaluable assets in this evolving landscape.

Adapting to the changing trends and technologies in the advertising industry was an imperative shift in my career. It forced me to embrace brevity, focus on emotional resonance, and leverage the star power of celebrities to craft impactful stories in a rapidly evolving digital world. This turning point redefined my approach to storytelling and reinforced the notion that, in the digital age, every second of a story must captivate, connect, and inspire.

Q What legacy do you hope to leave behind as a filmmaker? What do you want to be remembered for?

Well, my work isn't just a fleeting moment; it's more like a catalyst for change. You see, when people look back 20 years from now, they won't remember every job I did. Instead, there might be a couple of films or maybe just a few memorable lines that stand out. It's funny how life works sometimes. Take, for example, the famous "Girmangem" ad – it wasn't originally mine; it was a line created by a talented copywriter or writer, and I simply adopted it for our ad. So, taking credit for a particular line isn't entirely accurate. What truly matters is the emotion captured within the frame, and the impact the visuals and storytelling have on the audience.

But there's another side to this story, and it's about the unpredictability of entrepreneurship. When things go awry, it's easy to blame the director. Yet, when everything turns out brilliantly, the director deserves credit too. It's not just about greatness; it's about teamwork. You see, our industry is a symphony of diverse talents working together. If even one element fails, the entire project can crumble. The director becomes the focal point, responsible for managing this intricate dance of creativity.

Now, let's get back to those lines in the ads. Writing those lines isn't solely the director's

task; it's a collective effort. Everyone plays a role. It's like a beautiful mosaic, with each piece contributing to the final picture. So, taking credit for a line is a bit like taking credit for a brushstroke in a masterpiece – it's the whole painting that matters.

Speaking of my legacy, it's not just about the films I've made; it's about the directors I've nurtured and mentored. Over the past fifteen years, I've had the privilege of training more than 350 directors. They are my true legacy because they continue to create exceptional work, and collectively, they now oversee 60 percent of the industry. It may seem accidental, but if you ask anyone who has risen in this field, they will tell you how I asked them, "Where did you come from?" If they confidently attribute their success to my guidance, that's my legacy right there.

You see, it's not about what I want to be remembered for; it's about how I've empowered others to succeed. The knowledge, passion, and love I've shared for cinema with aspiring filmmakers have made a lasting impact. My legacy will endure for the next hundred years, not just because I taught them about filmmaking but also because I instilled in them the importance of sharing knowledge and nurturing the next generation.

So, when people ask what I'd like to be remembered for, the answer is clear – I want to be remembered as the man who taught others how to teach and inspire. My legacy is not about individual achievements but the collective success of those I've influenced and mentored over the years. EP

EXCLUSIVE INDUSTRIAL ESTATES FOR WOMEN NEEDED IN EVERY STATE

There is a need for exclusive industrial estates for women entrepreneurs in every state, fostering not only economic growth but also academic and higher education opportunities, says **Dr. Rajni Aggarwal,** President of the Federation of Indian Women Entrepreneurs (FIWE). In an insightful interview with Education Post's correspondent **Prabhav Anand**, Dr. Aggarwal talks about gender equality in entrepreneurship, collaboration between policymakers and private enterprises, and offers valuable advice to aspiring women entrepreneurs.

Q As the President of the Federation of Women Entrepreneurs in India, what inspired you to focus specifically on women entrepreneurship, and what are your main objectives as the head of this federation?

My inspiration to focus on women entrepreneurship stems from my deep belief in the potential and power of women entrepreneurs as agents of change and economic growth. With women constituting 50 percent of our country's population, they possess a substantial knowledge base and the ability to contribute significantly to the nation's economy.

Throughout my career and personal experiences, I have witnessed the immense capabilities and talents of women entrepreneurs. However, I've also observed the various challenges they face due to their multiple responsibilities. Unlike men, who often have a more singular focus, women have to navigate in multiple directions, dealing with multidirectional issues.

My dedication to empowering women entrepreneurs revolves around achieving gender equality and human empowerment. I firmly believe that promoting women entrepreneurs is a crucial step towards achieving gender equality. By providing them with equal opportunities, access to resources, and support, we can create a more inclusive and balanced society.

Women have already made significant contributions by actively participating in the economy. Even small-scale women entrepreneurs, such as those involved in teaching or supplying goods, have created job opportunities for others, especially women working from home.

Another remarkable aspect is the untapped talent, innovation, and creativity that women possess. Supporting their endeavors allows us to harness this potential for the greater good of society. Over the years, I've seen women on our platform grow from small entrepreneurs to influential figures in society, supplying goods overseas and serving as role models.

Mentorship plays a pivotal role in helping women entrepreneurs overcome challenges. It provides guidance and support, helping them focus their efforts and progress in their entrepreneurial journeys.

As the President of FIWE, my objective is to be a role model for aspiring women entrepreneurs and offer mentorship to help them achieve their goals. Mentorship is crucial for women due to the multitude of issues they face, making it challenging to maintain a singular focus.

Advocacy and policy support are essential aspects of our mission. I have interacted with policymakers for many years, advocating for changes that can benefit women entrepreneurs. Recently, there has been progress, with the creation of the Government e-Marketplace (GEM) and a commitment to allocate a portion of procurement to women entrepreneurs.

Capacity building and skill development are also key objectives. We provide training workshops and resources to equip women entrepreneurs with the necessary skills and knowledge to run successful businesses.

Access to finance and markets is critical for entrepreneurs. We work to facilitate interactions between women entrepreneurs and banks, making it easier for them to secure funding and achieve faster results.

Networking and collaboration are vital for women to learn from each other, share experiences, and collectively address challenges. Mentorship and support

programs, as well as recognition and awards, encourage women to excel in their enterprises.

Finally, policy research and advocacy are essential to address the specific needs and challenges faced by women entrepreneurs. We aim to change the perception of women entrepreneurs as a minority and emphasize their role in the mainstream economy through research and advocacy efforts.

In summary, my mission as the President of FIWE is to create an environment where women entrepreneurs can thrive, lead with confidence, and significantly contribute to India's economic growth. We are committed to empowering women and ensuring their equal participation in the nation's development.

Q We were delighted to find a row of "green jobs" in the column of Sector Wise Empanelled Assessors. How do you and FIWE look at the sector of green jobs from the entrepreneurial viewpoint?

From an entrepreneurial perspective, I view the sector of green jobs with great enthusiasm and commitment. I've been a part of inner wheel organizations that focus on societal issues, including waste management. This presents a significant opportunity for women entrepreneurs, as waste is generated daily in every household. Handling and processing this waste to convert it into useful products like manure aligns with the concept of green jobs.

In agriculture, which predominantly involves women at the grassroots level, embracing green jobs becomes crucial. Solar power is also gaining prominence and offers sustainable practices. Industries that prioritize environmental conservation and efficient resource utilization are driving the demand for green jobs.

At FIWE, we recognize the importance of sustainability in today's business landscape. We encourage women entrepreneurs to incorporate sustainability principles into their business models, production processes, and product offerings. For instance, we recently took a group of women entrepreneurs to visit a solar panel manufacturing factory run by a woman entrepreneur, inspiring them to explore such eco-friendly ventures.

Green jobs often involve cutting-edge technologies and innovative solutions to address environmental challenges. One of our members is actively engaged in waste management projects, turning waste into manure and even bricks. Technological innovations are happening in this sector.

Creating awareness is a key objective for us. We organize workshops, seminars, and training programs to inform women entrepreneurs about the potential in green jobs. Building capacity is another focus, offering skill development programs, mentorship, and access to networks that can help women navigate the complexities of green businesses and leverage emerging opportunities.

Collaboration with government agencies, NGOs, and other stakeholders is essential. Through these collaborations, we advocate for policies that support the growth of green jobs and create a conducive environment for women entrepreneurs.

Recognizing green entrepreneurs is also part of our efforts to promote this sector. We believe in identifying market opportunities and sharing relevant information with our members. This helps women tailor their products and services to meet the growing demand for eco-friendly solutions.

In the green jobs sector, we aim to empower women entrepreneurs and position them as leaders in the sustainable business landscape. By embracing sustainability, innovation, and collaboration, we hope to make a meaningful impact and contribute to a greener and more prosperous future.

Q In an old interview of yours, you talked about exclusive industrial estate for women entrepreneurs in every state. Please tell us the reasons behind this demand and how would it transcend into academics and higher education.

The concept of exclusive industrial estates for women entrepreneurs is a topic close to my heart, and I genuinely believe it's the need of the hour. Such estates are crucial for promoting women's economic participation and fostering their presence in various industries. Let me explain how this demand can transcend into academics and higher education:

Firstly, it will provide a safe and supportive environment for women, which is paramount. Exclusive industrial estates for women can create this safe haven, where women can conduct their business activities without facing gender-based discrimination, harassment, or other barriers often experienced in mixed-gender industrial settings. This safe environment allows women to focus on their businesses and unleash their full potential.

Secondly, dedicating industrial estates to women sends a powerful message of support and encouragement. For example, Andhra Pradesh has established an industrial estate for women entrepreneurs, signaling strong government support. This encouragement can serve as a catalyst, inspiring more women to venture into entrepreneurship and invest in their ideas, skills, and innovation.

Furthermore, these estates can provide specialized resources and facilities, similar to government-run incubation centers and training facilities. Such resources can bridge the gender gap in entrepreneurship, empowering women to overcome traditional barriers and succeed.

Collaborations and networking opportunities within these estates can facilitate knowledge sharing, idea exchange, and potential partnerships. Peer support and networking can foster a spirit of cooperation and growth among women entrepreneurs.

Incorporating academics and higher education into these estates is crucial. Curriculum development in educational institutions can include modules focused on women entrepreneurship, sustainability, and innovation. This integration can help students, especially aspiring women entrepreneurs, learn from real-life examples within these estates.

Moreover, research and development can flourish in such environments. Universities and research institutions can conduct studies and gather data more effectively by directly engaging with women entrepreneurs. This research can inform policies and initiatives to further support women in entrepreneurship.

Industry-academia collaboration can thrive within these estates. Universities can engage with women entrepreneurs for practical projects, internships, and mentorship programs, creating a mutually beneficial relationship.

The establishment of exclusive industrial estates for women can have a cascading effect, positively influencing the academic landscape. It fosters a holistic approach by integrating academic resources, research, and practical applications within a supportive ecosystem. The success story of Andhra Pradesh, where the government has actively supported such estates, serves as a testament to their potential impact.

I firmly believe that every state should have exclusive industrial estates for women entrepreneurs. These estates not only provide a secure environment for

women to thrive in business but also contribute to academic and higher education by promoting research, industry-academia collaboration, and practical learning opportunities. Their positive influence ripples through the economic and entrepreneurial landscape, ultimately empowering women and driving economic growth.

Q How can policymakers and private enterprises work together to bridge the gender gap and create a more inclusive environment for women entrepreneurs?

Bridging the gender gap and creating a more inclusive environment for women entrepreneurs is a mission that demands collaborative efforts from both policymakers and private enterprises. Allow me to elaborate on the critical points that underscore this collaboration:

First and foremost, collaborative initiatives need to transcend geographical boundaries. The government must actively engage with state-level organizations like District Industry Centers (DICs) to reach women entrepreneurs where they are. Support can't be centralized; it must be accessible at the grassroots level. DICs in some states have played pivotal roles in supporting women entrepreneurs, and this model can be extended.

Access to finance is a vital aspect. Policymakers

can facilitate women's access to finance by establishing special funds. The Credit Guarantee Fund for women, initiated by SIDBI and later expanded, exemplifies a successful government effort in this regard. Initiatives like Mudra loans and bank support for women entrepreneurs have further eased financial barriers.

Government-led platforms like the Government e-Marketplace (GeM) Portal and ONDC (Online National District Commerce) can offer tremendous opportunities. However, there's room for improvement, particularly in simplifying processes for women entrepreneurs and providing dedicated support for them.

Capacity building and skill development are crucial. While the Ministry of Skill Development and Entrepreneurship focuses on youth, there's potential to expand these initiatives to encompass women entrepreneurs. Collaborations with business associations like ours can help provide tailored skill-building opportunities.

Networking and collaboration platforms are essential. The government can organize events and platforms that foster networking and collaboration. This helps in mentorship, support, and creating market linkages for aspiring women entrepreneurs.

Data collection and research on gender disparities and women entrepreneurship should receive greater attention. Government-private sector partnerships can facilitate these efforts to gain insights and inform policies.

Supplier diversity programs should focus more specifically on supporting women-owned businesses, especially in sectors that are women-friendly, like cosmetics and healthcare products.

Recognizing women's achievements is vital. The government's efforts in celebrating women entrepreneurs should continue and be supplemented by private sector involvement. Mentorship programs, like those initiated by NITI Aayog, play a critical role in supporting startups led by women.

Promoting work-life balance is essential. Government policies such as flexible working hours and family-friendly policies should be actively adopted by private enterprises to attract and retain talented women entrepreneurs.

Challenging stereotypes and biases requires concerted campaigns and initiatives. Policymakers and private enterprises should collaborate in raising awareness to create a more supportive environment for women entrepreneurs.

In conclusion, bridging the gender gap and fostering inclusivity for women entrepreneurs necessitates a joint commitment from policymakers and private enterprises. It demands aligning objectives, pooling resources, and coordinating strategies. While this is a challenging endeavor, the gradual transformation of societal mindsets and the sustained effort from both sectors can make it a reality, resulting in a more equitable entrepreneurial landscape.

Q What is your vision for the future of women entrepreneurship in India, and what steps will your federation take to realize this vision?

My vision for the future of women entrepreneurship in India revolves around empowerment, inclusivity, and sustainability. I envision a landscape where women entrepreneurs actively contribute to economic growth, social development, and environmental consciousness. To realize this vision, the federation will undertake several key strategies and steps.

Firstly, empowering women through education and training is fundamental. We plan to collaborate with educational institutions and industry experts to design curricula that cover financial literacy, essential business skills, and leadership abilities. These educational initiatives will equip women entrepreneurs with the knowledge and skills needed to thrive.

Secondly, creating a supportive ecosystem for women entrepreneurs is paramount. We aim to foster partnerships with the government, financial institutions, corporate entities, and NGOs. This collaboration will provide women with access to finance, mentorship, networking opportunities, and capacity-building initiatives. Building a robust support system is essential to help women entrepreneurs overcome challenges and scale their businesses.

Advocating for gender-inclusive policies remains a crucial aspect of our strategy. We believe in continuous dialogue and engagement with policymakers at the national level to address gender disparities and create an enabling environment for women entrepreneurs. These policies and regulations need to evolve to better support women in business.

Furthermore, fostering innovation and technology adoption is vital. We will organize events and workshops focused on emerging technologies and digital transformation. Staying abreast of technological advancements is essential for enhancing efficiency and competitiveness in today's rapidly changing business landscape.

Promoting sustainable business practices is at the core of our vision. We encourage women entrepreneurs to adopt eco-friendly measures and contribute to India's environmental conservation efforts. Sustainability should be integrated into every aspect of business operations.

Recognizing and celebrating women's achievements is an integral part of our strategy. Our "Priyadarshini Award" program has gained recognition both within India and internationally. These awards and recognition programs provide exceptional women entrepreneurs with a platform to share their success stories and inspire others.

We take pride in our ability to bring together accomplished women entrepreneurs on a global platform. For instance, we recently had three renowned beauty experts from India, Sri Lanka, and Indonesia share their expertise. Such collaborations enable us to promote sustainable practices and empower women through international cooperation.

Basically, our vision for women entrepreneurship in India centers on empowerment, inclusivity, and sustainability. Through education, support, advocacy, innovation, sustainability, and recognition, we aim to create a thriving ecosystem where women entrepreneurs can excel and contribute significantly to India's growth and development.

Q What advice would you give to aspiring women entrepreneurs who are just starting on their journey, and how can they benefit from the vast support network that FIWE offers?

See, for aspiring women entrepreneurs embarking on their journey, I offer some straightforward yet essential advice. Women need a supportive platform, unlike men who can network at clubs in the evenings. It's vital for women to have a space where they can connect, network, and learn from each other. This platform facilitates knowledge sharing, drawing from one another's experiences, and gaining insights from experts. Such networking opportunities are paramount for women entrepreneurs.

Secondly, awareness of the digital landscape is crucial. Digitization and e-commerce are rapidly gaining prominence, and women must become adept at leveraging these tools to foster business growth. Being comfortable with digital technologies is essential in today's business environment.

Our vision for women entrepreneurship in India centers on empowerment, inclusivity, and sustainability. Through education, support, advocacy, innovation, sustainability, and recognition, we aim to create a thriving ecosystem where women entrepreneurs can excel and contribute significantly to India's growth and development.

Financial literacy is another critical aspect. Women often delegate financial matters to their male counterparts, be it husbands, partners, brothers, or fathers. However, if you're steering your business, taking charge of your finances is vital. Control over your finances empowers you to navigate your business more effectively. I highlight the importance of financial literacy by referencing a Paytm research study. In this study, women initially excelled in general questions but fell behind when finance-related queries emerged. It's imperative for women to equip themselves with financial knowledge.

Moreover, women should adopt a mindset of self-reliance and independence. The belief of "I am enough, and I don't require anybody" can propel them forward and drive growth in their businesses. The financial resources are available, including angel investors and support from banks. The government has worked towards creating a conducive environment for women entrepreneurs. Utilizing these resources effectively is essential.

Lastly, women entrepreneurs should know that organizations like FIWE are here to mentor and support them. FIWE offers a vast support network, and they can benefit from it immensely. The organization provides guidance, mentorship, and a platform for networking, enabling women entrepreneurs to navigate their entrepreneurial journey successfully. EP

PUT WOMEN IN DRIVER'S SEAT, AND YOU'LL SEE PROGRESS

There is an urgent need to understand the importance of empowering women beyond Patna, **Usha Jha,** President of the Bihar Mahila Udyog Sangh (BMUS) says while she discussing women's participation in Bihar's industrial and factory sectors, sharing her own experiences right from 1991 to date, in this freewheeling chat with Education Post's **Prabhav Anand.**

Q You completed your early education from a government school in Bihar's Purnea district. What are your thoughts on the school education of girls from government schools?

Well, you see, everything changes with time, which is the rule of this good world. So, back when I was in government school, the learning environment was such that if it remains the same today, it could be very beneficial for everyone. In the field of education, we should always strive to be at the forefront.

If we look at the condition of our government schools now, the education we received back then, up to the seventh grade, still seems to be the foundation that's serving me even today. For every subject, there used to be dedicated teaching hours, unlike the personal training courses prevalent today. In our time, we had to put in effort for everything. Let's talk about the village school in Purnea. At that time, it followed a strict routine; there was one hour for each subject, and we even learned to use the spinning wheel, producing thread from it. We didn't differentiate between boys and girls.

Moving on, we had daily prayers in school, instilling a sense of patriotism. Do you know the preamble to the Constitution? We used to recite it daily. Unfortunately, many people lack this basic knowledge these days. Some people say government schools are being improved, and if that happens, it could be a game-changer. But, the key is having dedicated and trained teachers. If we can bring back that pattern, it will certainly help. But the situation is critical right now.

We're making an effort in our village, where we are educating about twenty boys. They attend regular school but we provide additional tutoring. We believe that as long as we can control it, we will continue to ask ourselves, "Why not?" We are also educating girls in Patna. There, we have established a pattern, and about twenty boys are coming there as well. Slowly but surely, we are making progress.

So, you see, education has evolved over time, and it's up to us to shape the future. It's a work in progress.

Q What challenges do women entrepreneurs typically face in Bihar, and how do you think these challenges can be addressed?

Well, you see, there's no denying that women often face unique challenges. The biggest challenge, in my opinion, is the mindset prevalent in our society. There's often a lack of belief in women's capabilities when it comes to earning and business ventures.

Moving beyond that, I'd like to share an example from our organization, Bihar Mahila Udyog Sangh. Despite starting with limited capital, we have developed efficient systems and are now earning more than some male counterparts within our households.

One important challenge is that women entrepreneurs are often not taken seriously. Despite achieving higher turnover and providing more employment opportunities, we are sometimes still stereotyped. People might think, "Oh, they must be involved in crafts, sewing, or similar activities," without recognizing the potential of these ventures.

Another important resource is human capital,

and we work together to provide support. Sometimes, women entrepreneurs face difficulties in dealing with banks, and we offer them guidance. We encourage them to open current accounts, which are often necessary for availing government schemes.

Change is happening, but slowly. Society is gradually becoming more accepting of women's roles in business. The COVID-19 pandemic, for instance, forced many to adapt to working from home, and women excelled in this environment.

Challenges persist, such as the initial need for capital and the occasional stock-related issues, but we believe in perseverance and providing a helping hand. We have seen women excel in fields like printing and painting, which have created employment opportunities.

Times are changing, and women are becoming more aware of their capabilities, with social media playing a significant role. They are realizing that they can contribute to the family income and economic growth.

Basically, challenges remain, but there is a growing awareness and willingness to overcome them. Women entrepreneurs are a valuable resource, and their active participation can lead us from being a developing country to a developed one.

Q The digital divide and the lack of technological resources are significant issues. How are you addressing this digital divide to assist women entrepreneurs?

Nowadays, as technology sweeps through every industry, it's essential to understand that there is a bit of a gap among women, especially in rural areas. When we talk about awareness regarding technology, there is still some room for improvement, particularly in villages where technology isn't discussed as much. This poses a challenge for women entrepreneurs in rural areas, who may not have easy access to technological resources.

So, how can digital devices help women entrepreneurs bridge this gap? We have been working on spreading awareness about these resources. While it's true that many rural women regularly use platforms like Amazon, Facebook, and even Instagram for personal reasons, they might struggle when it comes to more complex digital tasks.

To tackle this, we aim to simplify technology and provide training, especially in rural areas. By opening digital classrooms in villages and offering training sessions, we hope to empower women with the skills they need. We have seen that once women overcome their initial apprehensions, they can utilize technology effectively.

It's essential to recognize that technology isn't something to be feared; it's a tool that can empower individuals to achieve more. As we work on initiatives like Digital India, it's crucial to ensure that rural women are not left behind. By providing them with digital literacy and tools like UPI, Google Pay, and Paytm, we enable them to participate fully in the digital economy. This inclusivity is vital for bridging the digital divide and fostering economic growth among women entrepreneurs.

Q Many adult women are literate but lack higher secondary education. Do women themselves hesitate to pursue education in their 30s or beyond, or are there other obstacles?

It's true that some women express concerns about resuming their education later in life, wondering what they'll learn or if they're too old. However, this hesitation stems from a lack of encouragement and societal norms.

In my own experience, I started my education recently and am eager to learn. Education was traditionally confined to studying by the book, but what truly matters is understanding concepts rather than rote memorization. It's essential to nurture a learning environment at home. When parents treat their daughters' education with equal importance to their sons', real progress can happen. This applies whether you live in a village or a city; the disparity persists, and it's a significant issue we must address.

To combat this, we've been working diligently. Even those who have minimal knowledge can make progress with the right support. At my organization, we provide our staff with opportunities for learning, helping them overcome barriers to education.

So, the problem you mentioned does exist, but there's a growing awareness and desire to change this narrative. We need to focus on improving primary education and ensuring girls' attendance, implementing punishments for absenteeism when necessary. Society is waking up to the importance of education for all children, and we're moving forward. We must emphasize that slogans like Beti Bachao Beti Padhao

alone aren't enough; we need real, tangible change.

In a previous interview, you mentioned that women are often more effective than men in managing start-ups. Can you share some examples from your organization, Petals Craft, to illustrate this point?

Absolutely! It's a fact that women often excel in management roles, and we've seen this in various aspects of Petals Craft. While we shouldn't see this as a competition, it's worth recognizing that certain qualities come naturally to women and make them effective managers.

Starting with education, women tend to be more organized and proactive, traits that play a vital role in business. We all know how women efficiently manage their households, and these skills easily translate into managing a startup effectively.

In our case, we specialize in handcrafted products, particularly handcrafting scarves. Our growth trajectory showcases the effectiveness of women in leadership. We have consistently maintained a low graph of errors and inefficiencies, ensuring the quality of our products.

When we compare our organization, primarily operating at the micro-level, with larger factories or corporate offices, we employ thousands of artisans. These artisans, predominantly women, multitask seamlessly. They work from the comfort of their homes, effectively managing both their work and family responsibilities.

This is just one example of the success women can achieve when provided with opportunities. We've received numerous inquiries from women interested in joining our workforce, inspired by our journey. It's not just about monetary turnover; we measure success in social terms as well. We've made a lasting impact on the lives of many women, empowering them to contribute to their families and communities while excelling in the business world.

Q From 1991 to 2023, you and Petals Craft have embarked on a remarkable journey. What are your insights into women's participation in the industrial and factory sectors?

Indeed, when you place women in the driving seat, progress is inevitable. Women's active participation is essential, not only in the industrial or factory sectors but across all domains. It's about empowering women and creating awareness.

In recent times, we've witnessed the importance of women's participation in politics. To make meaningful strides, women must be politically engaged. We can no longer rely on criticizing governments from the comfort of our drawing rooms. Instead, we need to actively engage in politics, support strong candidates, and contribute to the formation of effective governments.

The key takeaway here is that progress is achievable in every sphere of life. Whether it's industry, politics, or any other sector, women have the potential to drive positive change. It's high time we recognize and harness this potential to build a more equitable and progressive society.

Q Many important organizations in Bihar are centered around its capital, Patna. What challenges are there in the decentralization of the female workforce and their work?

Yes, we see growth happening in other areas as well. Those associated with organizations like the CIA and BIA have become active, especially in terms of education. Knowledge sharing among these members is vital.

Regarding government training institutes in Bihar, while they attract a considerable number of women, the challenge lies in guiding them through aspects like marketing and accessing raw materials. There's a growing focus on establishing systems to address these issues.

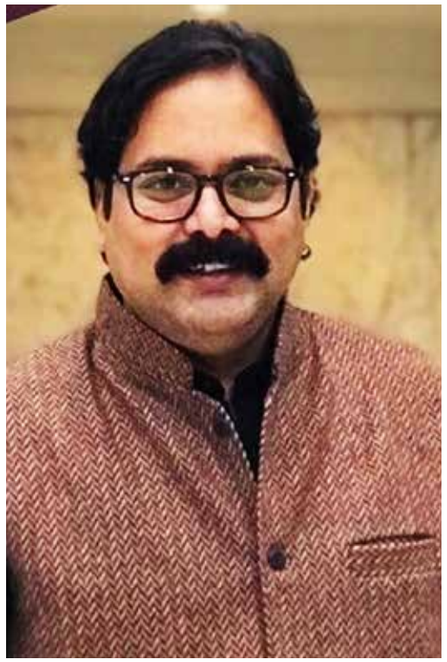
In our time, such systems were lacking, but now we're working to expand them, particularly in fields like handicrafts, reaching out to rural areas. It's essential to foster what wasn't present in our time.

When it comes to organizations, it's not just about the high-profile individuals in Patna. It's about a collective effort. Our organization, Bihar Mahila Udyog Sangh, used to primarily focus on education, but now we're extending our reach to rural areas.

If the rural economy isn't robust, the urban economy won't thrive either. The work we do in rural areas is primarily carried out by women.

In summary, decentralizing the female workforce and their work involves addressing challenges in education, marketing, raw material access, and extending support to rural areas. This collective effort is crucial for a thriving economy beyond Patna.

SOUND WORK IN INDIAN CINEMA AT PAR WITH HOLLYWOOD



Karan Arjun Singh

Imagine watching a horror movie on mute. Would you feel the tension? Would it scare you? Probably not. The squeaking of a door, or footsteps in an empty corridor of an abandoned building, or a gust of wind, or any other situational sounds cumulatively make that horror film an entertainingly scary experience. That's exactly the foley artist's job. Education Post's **Tanay Kumar** spoke to Indian cinema's renowned foley artist **Karan Arjun Singh**, who has worked on blockbuster movies like Krrish 3, Jab We Met and Baahubali, to understand the study of sound technicality and sound engineering.

Q From a commerce student to an accomplished foley artist in the movies… how did that happen?

When I was 16, I was already working as a sound recording artist, which is why I didn't continue my formal education. I had got admission and I was doing my gradation, but unfortunately those days, students hardly attended classes and attendance was not compulsory. Eventually, I dropped out and put all my focus on the art of sound.

In 1967, my father got a job in the security department of B.R. Films, the famous production house of B.R. Chopra. My father has literally seen the transformation of Mumbai and its film industry. I remember that we used to see the beaches directly from the office of B.R. Films. In 1971, B.R. Chopra sahib had made new sound studios, and staff quarters for the employees and workers of the production house and we used to live in one of them.

Getting skilled workforce in those days was very rare, and it was even rarer in the film industry. So, Chopra sahib gave all the necessary facilities to their employees. So, Chopra sahib had started a sound and foley studio. One day, I accidently entered the foley studio and saw Prahlad Salvi making all the sounds recording for the Sunny Deol starrer movie Arjun in 1985. And trust me, I was astonished to see him all alone creating all these sounds for the movie, whether it was footsteps, or the sound of opening a bottle or door lock.

That's when I decided that I would one day become a foley artist.

Q How did your parents react when you told them about your intention of joining the Indian film industry?

I write my full name, with my father's name, Arjun Singh. You would be surprised to know that I flunked the seventh standard and my father got a bit worried that what I would do with my life. So, my father took me to then chief engineer at the studio, B.N. Tiwari, who is currently the president of the Federation of Western India Cine Employees (FWICE) and Western India Motion Picture TV Sound Engineers Association (WIMPTSEA). My father asked him to teach me some technical work. He taught me the work of sound and recording. In fact, not only recording, but he also taught me work of projections, recorders, and almost every possible art of sound and foley.

I got myself trained enough in the area of sound and foley at the age of 12. I kept on thinking about studio sound and creating the different sounds that are being portrayed on screen. I used to spend a whole day at studio. So, I would in fact thank my father for guiding me to a teacher like B.N. Tiwari.

Q Which was the most challenging film for you as a foley recordist and how do you see sound and foley of Indian film industry as compared to other film industries around the world?

Krrish 3 was the most challenging film for me and my entire team. I don't think that I have ever done as much foley as we have for Krrish 3 as it was a science fiction film. All the visuals, and all other technical bits were made right here in India. For the action sequences of Krrish 3, we recorded the sound at Yash Raj Studio as we needed a bigger studio.

We made our studio in the multiple of 10*16 feet. A studio for sound and foley can't work if it is built in the area that has multiple of 10*20, as it would sabotage the recording and sound effects. So, it involves a particular science. We recorded the sound and foley of Dangal at my studio. In fact, we had called wrestlers and got them engaged in a kind of dummy fight. The thump sound of a wrestler falling on the wrestling mat, as it was shown in the movie also.

In the context of sound and foley designing in the Indian film industry, I can say it with full conviction that the Indian film industry is at par with Hollywood. In fact, in some films, I am totally sure that sound engineering and foley in particular, have gone even beyond Hollywood.

Q People learn sound designing, sound art, foley and other similar skills, majorly by working at studios, and we can count on fingers the names of the institutes that provide proper education for it. What do you think of the current situation? Also, does it take a big investment to make foley or sound designing a proper course?

Not at all. It doesn't require any enormous investment. It just needs a legendary foley and sound artist who is really willing to transfer this phenomenal art to the next generation so that it keeps on evolving and thriving. Further, it surely needs a studio, as you can't entertain the noise of the traffic or surroundings to enter in your film or whatever project you are working on.

Second, if all the necessary equipment, instruments, sound console, microphones that can catch smallest sound like rubbing of clothes, they all only add good things to its study. For your readers, a sound console is that big recording machine, with lots of buttons and volume control. So, if a lab is equipped with even a moderate level of technological equipment, it will let the students practice sound technicality.

Q If one wants to become a sound and foley artist, what are the knack and skills one must possess?

Learning foley art is quite different from a sound artist. If one does graduation in sound engineering, it surely ticks all the necessary and complete forms and different variety of sounds. This course will also train a student from the beginning of sound creation till post production.

I personally suggest students and entrants of foley should study sound, observe sounds in every possible thing, even in your day-to-day activities. I wish more students were enthusiastic about foley as they are for sound designing and mixing. In fact, I am in the process of designing a proper academic study of foley, along with a proper syllabus and its practice.

Further, you must think from an actor's viewpoint, their mood of walking or action sequence and all the work, then only one can create the sounds in context of the scenes. Footsteps are one of the indispensable foley sounds in the film industry. So, a foley artist also must have a fit body, because then one can put on some weight to create the footstep sound of any heavy person, like any villain.

It took me almost 500 hours to create foley sounds for Dangal and the same duration for Krrish 3 also, while usually it takes around 100 hours. Thanks to the advent of OTT that now, good and creative films are really getting appreciated. So, if a student is really passionate about foley and sound, they will surely get a number of wonderful opportunities in the future.

Q Including every sector, digitization has given lots of advantages to sound and sound designing. In the future, would digitization and artificial intelligence pose some challenges for the sound designing profession?

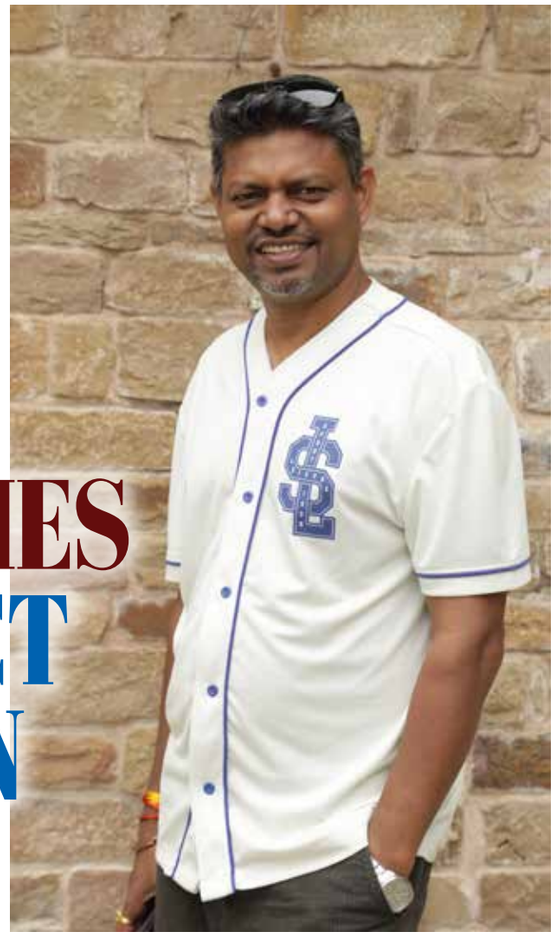
When it comes to foley, in my own views, it doesn't seem to me that digitization can ever create any foley sound. Surely, for ad films, it is possible that digitization can create some sounds by some software or other digital ways, and even those ad films that are maximum of one-minute duration. Further, it only poses challenges in those films that have good location tracks.

For foley and sound artists and when it comes to the film, a proper foley and sound designing by humans is necessary, that's what my belief is.

Q If a film is made on your life, which actor do you envision playing your character?

A Bengali film was made, based on a foley artist, named Shabdo. On a funny note, if a film is being made on me, wouldn't I be willing to play the character of myself! Though any actor could portray the life of a foley artist, but it doesn't seem to me that there would be any film on any sound artist or foley artist, unless I myself make it. EP

FILM STUDENTS SHOULD USE GLOBAL TECHNOLOGIES BUT CONNECT WITH INDIAN MASS



Naren Kumar

Naren Kumar, a successful Film Producer, who has produced critically and commercially successful films Jolly LLb 1 & 2 and web series - Maharani (part 1 and 2), tells Education Post's **Tanay Kumar** that the Indian film industry has the money and caliber to manufacture high-end film technologies, only intent is *needed*.

Q How did you come to be a film producer?

Before I became a producer, I had some connection with films because my father, J. Satya Rao, was an usher in a cinema hall at my hometown Kharagpur in West Bengal. I was born in a Telugu family. So, we had the privilege to watch every movie playing in that theatre free of cost and whenever I used to get good marks in school, I used to be treated to a Hindi movie by my father, who was himself a big fan of Raj Kapoor. That's how somewhere my connection with films started as a kid. I came from a very moderate family. My mother, Ishwar amma, was a homemaker, so jobs are the first step in the minds of most people there. So, I worked with a chartered accountant in Kharagpur and then I went to Delhi in search of better future, for work there . I started working with an eco-tourism company which was based in Delhi and Dehradun and the owner of that tourism company was an actor and with his help I landed in Mumbai.

I never thought of doing something in films before I came to Mumbai. I just wanted to do good in life and wanted a better life for myself and my family. After reaching Mumbai, I worked with some actors as their manager for some time to understand the industry. If you want to be a part of any industry, you must know how it functions, what are the pros and cons. Then, I had an option to work as a first assistant director (AD) as an executive producer. My own wisdom kept telling me that time that I have good experience in finance, as I worked with a chartered accountant, plus I was a commerce graduate and also worked in the tourism industr7y. So, I thought somewhere my profile is better suited for an executive producer than a first assistant director.

I wanted to learn the commerce side as well as the art of filmmaking. I started with television, then I worked in films. *Ahista Ahista* with Abhay Deol and Soha Ali Khan was my first feature film where I was the executive producer. And then you start working with people and you choose people who attract you, whose stories attract you, then from there I learned and became a producer.

Q When we go to a film institute's website, generally, we find no more than 10-odd courses, but the list of names in the end credits is massive. Why is this so?

A film institute teaches the basic technicalities of filmmaking, like cinematography, sound design, direction, editing, graphics and VFX. These are the primary aspects of filmmaking. But, the list in the end credits of any film has, on average, more than 200 people who are involved in the film. Most of them are skilled in a particular technique and it is somewhat a hierarchical process. So, the cinematographer will direct the gaffer for lighting and the gaffer will direct the light person and the light-person will work accordingly. For instance, there are 20 lightmen at a set and the director of photography (DOP) is not going to instruct each one of them the placement of lights instead he directs his gaffers and that gaffers directs those 20 lightmen. There is no formal training for lightman in any film institute, so far at least.

Another example is that production designers will explain his vision about the design of the set and then the art directors working for him will hire a workforce like 10 carpenters, 10 electricians, other labourers to design the whole set. Again, these are skilled labour but not from any film institute.

So to answer your question, a film set is consists of many people form different departments and each one of them doing a specific job on set but not necessarily all of them have to be trained from any institute.

Q If we put acting and direction aside for a moment, of the many other crucial jobs, such as cinematographers, sound artists, prop experts, choreographers, tertiary casting, what are some crew roles that are hard to find nowadays?

Surely, there are some roles in filmmaking in which people are hard to find. First assistant director is one such job as there is no formal study of infusing skills to be a first assistant director. The first AD is more like a set-runner, his job is to get the things executed on time because everything is related to commerce. A film is planned to be completed within a timeframe with the available and affordable resources, but there are always some other factors, sometimes bad ones, which affect

the timing and resources as well. The first AD tries their best to work on the plan, so that the film is completed within the stipulated time frame. Today, there are only a few good first ADs in the film industry, who actually are very clear about the job.

Another role I would say is a good and proficient executive producer (EP) because they are the backbone of any film shooting. They are literally running the show. Good executive producers are rare these days. In my eyes, a good EP is the one who can deliver and good product within limited resources.

Q People are going gaga over Augmented Reality and Virtual Reality. When do you think these technologies will come into play in the Indian film industry?

Very soon, without a doubt. Let me give you some examples, first is the Ajay Devgn film, *Tanhaji*. The whole film was shot in a studio environment and with the help of VFX. Second film is Kartik Aryan starrer, *Dhamaka*. Its director, Ram Madhvani shot most of the film in a hotel and most the film was done using VFX. And, we all know what S.S. Rajamouli has done. So, we are not very distant from it and the younger generation, who are well acquainted with digital technology, will only enhance filmmaking with AR, VR, MR (mixed reality).

Q Related to the same question, the film industry gives employment to over five lakh people and many of them belong to Generation X who are experienced in analog technology. How was the transition of that generation, who are in their late 40s or 50s, from analog to digital?

See, change in any part of the world is inevitable. Be it any job, one has to be accustomed to the changes that drive the industry. The film industry is also contagious to that reality. Workers and staff have to learn all the necessary skills of digital tools in their particular roles or jobs.

When we were shooting for *Ahista Ahista* and digital shooting cameras were gradually creeping into the industry. Many people opposed this transition and were skeptical of the digital technology as digital footage might go corrupt or may get lost. But I was totally certain it will bring in change for the better. And, today, I don't need to say that everyone is shooting their films through a digital camera or recorder.

People like me and you have seen that transition and have been experiencing it even today, but the gen-z and the generation that will come after them, are born with digitization in their hands. So, they are only going to take it to a higher level.

Q So, if we take that technology into consideration, technical devices play an unavoidable role in the filmmaking process. In your view, as a film producer, does India lag behind in manufacturing high-end technical devices that the industry needs?

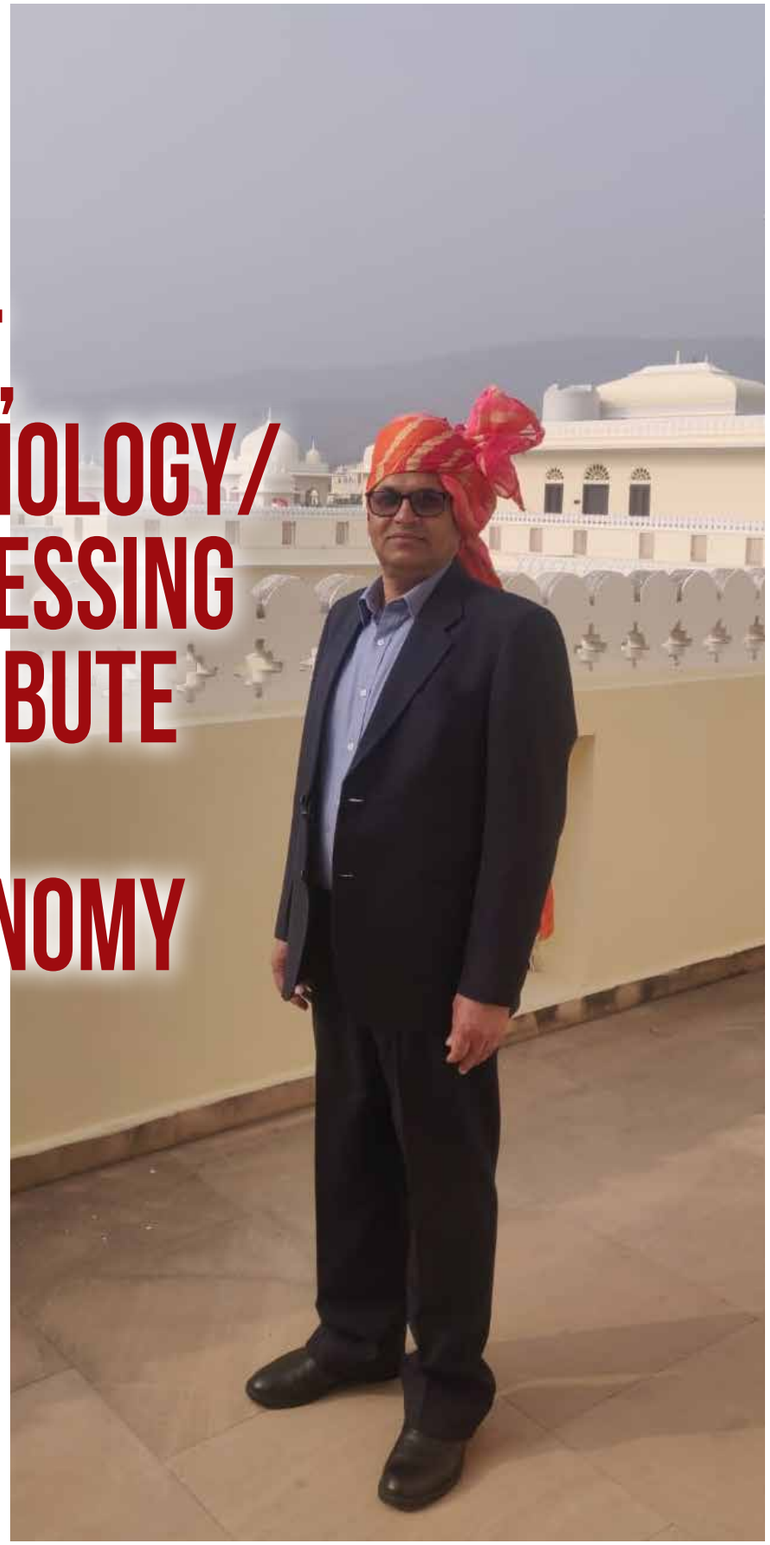
It is unfortunate, but yes, we do lag in manufacturing and making those high-end technological devices. Unfortunately, the Indian film industry is enormously big and honestly, we can afford to manufacture devices that are specifically designed for our film industry, in our own country. I haven't heard from any Indian director about inventing any technology or device that can enhance or at least ease the operation of filmmaking, like James Cameron used to talk about 3D long before he made *Avatar*.

To add, we are ready to import technology from the West or any other part of the world, but we are not making, inventing, or even ideating them. But there is a flipside: many from the younger generation are going abroad to study and have knowledge of high-end devices in filmmaking. So, if it is not today, after some time certainly we will surely have those technologies being made in India.

One thing I would like to tell young students is to use technology from around the world, but use it to tell our own stories. They are good in technology, but they spend lots of their time on social media and the virtual world. If you want to come into filmmaking, one needs to know the masses. They need to gel with people, interact with people in reality, need to talk to them, need to have a casual conversation, and observe people's behavior. The generation before Gen-Z, like me, has seen the masses, the herd, the people themselves. I don't need to interact with them, I am one of them. EP

JUST LIKE IT, FOOD TECHNOLOGY/ AGRO-PROCESSING CAN CONTRIBUTE GREATLY TO INDIAN ECONOMY

PROF. B.S. KHATKAR



Ranked among World's Top 2% scientists by Stanford University in the US for the fourth consecutive year, **Prof. B.S. Khatkar,** Professor Emeritus at Dehradun's Graphic Era University, talks at length with Education Post's **Tanay Kumar** to explain why education should be the number one priority for Indians.

Q You graduated in the field of agriculture while your post-graduation and research was in food technology. How is food technology different from the study of agriculture?

The basic difference is that agriculture deals primarily with pre-harvest necessities and operations across all crops, livestock and aquaculture. But the domain of food science and technology deals with post-harvest operations. Albeit, there surely is a strong linkage between agriculture and agri-processing or food science. If one has a deep understanding of agriculture, livestock, crops etc., then the study of food technology or food processing becomes a lot easier.

Further, since food science deals in the chemical compositions of any food, either veg or non-veg, this branch also deals in the increasing the shelf life of crops or livestock or food for that matter.

My father, Ran Singh Khatkar, was an officer in the Indian Army but he was really interested in agriculture and harvesting. He always used to spend time in the fields whenever he would get time. My mother, Phoola Devi, currently at 92 years of age, is a homemaker, but she was also interested in agrarian works and procurements. So, somehow these backgrounds also inspired me towards food science and technology.

Q You completed your research at a British university, University of Reading. Are Indian institutions putting enough effort to make this study a success?

First and foremost, as citizens and society, we are giving the least priority to education. On average, we have been spending only 2-3% of our GDP for many years, but we collect hefty tax from the education sector. After World War II, Japan started allocating almost 50% of their GDP towards education. Today, most of India's youth population is literate, but I doubt they are really educated and are acquiring appropriate skills required by the industry.

The allocation of resources and budget for research is somehow the mirror image of our priorities. Currently, there are more than 1000 universities in India. Colleges have gigantic buildings within their campuses but they don't have actual infrastructure. Actual infrastructure, real infrastructure, has all kinds of necessary facilities, such as laboratories, equipment, etc. How will science students understand a theory if they don't practice what they are studying?

Further, if we want to enhance research in our country, we must ensure that our leaders also emphasize education, rather than trivial issues. And, two more important things: first, research entails modern technologies; and second, moderate level of practical equipment may suffice, but you need educated and learned research experts to generate great ideas incubate them and evolve technologies to help growth of the industry and economy.

Q There are two patents in your name. Please tell us about them.

I deliberately chose those areas for my patents. My first patent is about detection of urea in milk. There is one big irony. India is among the top milk producers in the world, but most of the times, particularly in summer times, we fall short in milk supply. My study and patent is about the adulteration of urea in milk as it increases the viscosity and thickness of milk. Urea is also extensively used in making synthetic milk. Therefore, urea has been affecting most of our vital organs. We developed the methods of urea detection in milk as the available methods were very complex and required very sophisticated equipment. So, I invented the method of urea detection in milk with the help of commonly available chemicals.

The second patent is about prevention of browning in sesame seeds at elevated temperatures. India is the largest exporter of sesame seeds. Preventing sesame seeds from browning is very important.

Employment in Food Processing Industry

Sector	Food Processing Industry	Overall Industry	(%) Share of FP Sector
Registered# (2019-20)	20.32 lakh	20.32 lakh	12.22
Un-incorporated (2015-16)	51.11 lakh	360.41 lakh	14.18

Source: Annual Report 2022-23, Ministry of Food Processing Industry

We had also worked in some other important areas like color improvement of tofu, which is a very commonly known source of protein. Tofu has many benefits but Indian consumers shy away from it because of its dark color. So, my team successfully improved the color of tofu. We have also improved the shelf life of many fruits and vegetables by edible coatings.

Q If a student wants to make a career in this course, could you please tell some branches in this stream where the workforce is really needed?

Surely there are branches and areas where skilled and learned people are really in need and students should definitely opt for them. One such branch or area is food safety and hygiene. All multinational companies are really concerned about the safety of their food products. Students on this path must know about certifications like BRC (British Retail Consortium), FSSC 2200 (Food Safety System Certification), GMT, HSCT, and other safety standards.

Second is food quality. Every food business is concerned about the quality. There can't be a business in the food industry without ensuring quality. Therefore, a complete understanding of raw materials and also the finished food quality and the regulation of the food products is essential for this branch. So, students can explore the lucrative jobs of food quality manager, food quality inspector, food quality controller.

Third domain in food science is surely research and development. Today, in the day and age of consumerism, when people are exploring many food options, innovating new food and sustainably processed food could be really worthwhile for students. Students could assess the necessity of this career choice. Nestle has established their research center at Manesar while ITC Groups has established a huge R&D center in Bengaluru and around 400 food scientists are working in it. Bunge, known for edible oil processing, has established a big research center at Rajpura, Punjab. So, research is surely an optimal option.

Also, streams like fruits and vegetable processing, grain processing, milk processing, meat and poultry processing, additive processing are some other areas to explore.

Last but not the least, the food entrepreneur domain is an area that I encourage students to look at as the beauty of this sector doesn't necessitate big capital investment. One can start with an investment amount of Rs. 10-20 lakh and can keep on enhancing, depending on diversification and expansion.

In fact, I have a very interesting example of my own student. Once, only one student opted for entrepreneur study in a batch and he was a kind of laggard one and dull at academics. With a capital of Rs. 10 lakh, he started his own food business, and now his company's valuation is around Rs. 100 crore.

India's Share in Global Food Trade (US $ Billion)

	2017	2018	2019	2020	2021
World Food Export	1432.27	1493.35	1491.66	1535.40	1804.69
World Food Import	1449.51	1524.46	1527.49	1573.45	1852.15
India's Food Export to World	34.42	34.07	33.62	35.20	44.71
India's Food Import from World	25.09	19.60	19.18	20.37	28.71
% Share of India's Food Export in World	2.40%	2.28%	2.25%	2.29%	2.48%
% Share of India's Food Import in World	1.73%	1.29%	1.26%	1.29%	1.55%

Source: ITC Trademap (Jan 2023)

Q Every stream or course faces some challenges. What are the challenges of the food technology stream that students must be aware of?

There are multiple challenges in this sector and that's the reason that this sector is not attracting much students. First of all, there are only limited reputed and lab-equipped universities that offer this course as a proper career-driven study. There are about seven good and reputed institutes in this country and students are not even aware of them. For example, CFTRI (Central Food Technological Research Institute) in Mysuru is the top institute in this domain. Some similar courses run at other eminent institutions also, but they are not the priority of the institute's administration and thus students also don't take much interest in these branches.

Multinational companies arrive at these institutions but they are unable to find quality workforce. Also, the constant lack of experienced faculty is another major problem in this stream.

Infrastructure and modern laboratories are vital for food science and food technology. And there is very inadequate availability of practical equipment for the students. Many companies working in the food processing or food science industry complain that the students don't even know about the machinery of food technology.

Q You have a good number of years of experience in both industry and academia. How do you see the gap or even collaboration between industry-academia in this study in India?

Well, as such, there surely is a disconnect between the industry and academia in India. And as you understand, in developed economies like those in western Europe, all

> **If we want to enhance research in our country, we must ensure that our leaders also emphasize education, rather than trivial issues. And, two more important things: first, research entails modern technologies; and second, moderate level of practical equipment may suffice, but you need educated and learned laboratory experts to read their readings, which face further scarcity in India.**

faculty and professors have tie-ups with the industries corresponding to their respective streams. In India, it is surely lacking. And because of this disconnect, the industry doesn't have faith in students. If they initiate something, the industries always have apprehension whether this approach will be fruitful or not.

Plus, the vice chancellors or the directors or the heads of the institutes are not as enthusiastic as they should be. And if any teacher wants to solve this problem, administrative or other problems are almost inevitable. And I think there are two reasons for this plight: first, heads of the academic institutions are not made accountable for the work done at the institutions. Departments headship is on rotation basis, rather than performance. Secondly, there is an assured promotion in government colleges. Bringing and collaborating efficiently with industries must be a crucial parameter for promotions.

Last but not the least, I just wish that we, as Indians, could sustainably utilize our agricultural resources and the climate that nature has bestowed upon our land. Perhaps, there is no other nation that has such a wide variety of weather, which we get. I want to say it absolute conviction that just like India's IT industry, agro-processing, food technology have the same level of capacity and caliber to contribute to the economy. EP

FOOD PROCESSING

A WORTHY OPTION FOR SCIENCE STUDENTS IN 12TH

Prof. Paras Sharma

Prof. Paras Sharma, Head of the Department of Food Technology at Aizawl's Mizoram University, talks about the enormous potential of India's food processing sector, telling Education Post's **Tanay Kumar** that this sector will see a massive pouring of investment in the very near future.

Q After completing your graduation in biology, what inspired you to study food technology?

First, this branch was in its initial phase in Indian academics. It was a risky decision as being a student of biology, transitioning to another stream can be quite a risk one. There were some other institutes also which were providing this study. To tell you honestly, I didn't know much about the stream of food technology, but I thought I have got an opportunity to study a new subject so I must do it.

I thought that since food is always the vital necessity for everyone in the world, and the population is only increasing, food becomes the first and foremost priority. And the demand for food processing was only growing in the world, and it still is. So, that was my reasons to choose this stream for further education.

Q For our readers, please explain the difference between food technology and food processing. And, what are some other branches that students definitely must think of as a good career option?

Food technology is surely the prominent one, then there is food processing, food science. Food science deals with the chemical compositions of all the foods available and its preservation, while food technology is the application of it. Food engineering is another branch where companies use large or even small machines to prepare foods and the viewpoint of sustainability is really important in it. In food engineering, designing of those technologies or engineering, whether it is about preparing them or even processing them, is important.

Further, Nutrition Science is another stream that is very important. Until and unless, one doesn't know about the nutrition that masses require, how would an organization make any headway.

Q You completed your entire formal study in food technology and food science from north India and you're teaching at a university in northeast India. What differences have you found in the two areas of our country when it comes to food processing and food sciences?

When it comes to food processing, northeastern India is entirely different than the other parts of the country. Most of the northeast Indians consume meat in their meals while the rest of the India relies on both vegetarian and non-vegetarian diets. Many parts of northeast India are tribal

and so their foods include meat and they are not much into consuming fish because of lesser availability in the region.

Here in the northeast, almost every family and every one consumes non-vegetarian food at least one time a day. Processing of meat and non-vegetarian food is entirely different from the vegan ones as they need more preservatives and other chemical additions. While south India is rich with numerous spices and condiments, northeastern people don't rely much on different spices. Here food is a kind of more based on leafy and green vegetables. And it also helps them in their living. If you see the data mapping of anemia across the country, you'll find that people in the northeast are rich in their blood quality.

Q Do students of food technology need to be good at every science subject, I mean, PCBM (physics, chemistry, biology, and mathematics)?

Absolutely not. There is no necessity to be a kind of topper in each of the PCBM subjects. It surely is good if a student can do well in each of these, but one need not take much stress if one can excel in two and can be average in the other two.

I was a student of PCB (physics, chemistry and biology). So, if they are looking for a program like food engineering then they should be good at each of these subjects. If students are opting for food science, then their biology and chemistry have to be good. So, they must take a check of the subjects and their own aptitude as well.

Q What are some reasons students should opt for food technology and food processing in higher education?

There is a tremendous demand in the food processing sector. In fact, India has a proper full-fledged Ministry of Food Processing. If I state some figures of Lok Sabha, the food processing sector is the fifth-largest industry in terms of production, consumption, exports and potential growth. Till 2019-20, this sector has been growing at an average annual rate of around 11%. With around 12% share in the Registered Factory sector in the year of 2017-18, this sector has been providing major employment in the country. Also, foreign direct investment (FDI) in this stream has been only growing and in fact, for people's surprise, this sector has received around $5 billion from 2014 to 2021.

Earlier, India was processing only 2% of its food two decades ago. Now, we have reached up to 8%. So, we surely have achieved some good results, but still there is a huge gap to fulfill. Developed economies are putting more effort in food preservation and processing. Food sector of some countries is entirely based on processed food.

Number of Food processing units in registered and unincorporated sector

S. No.	State	No. of Units*	No. of enterprises**
1	A & N Islands	4	774
2	Andhra Pradesh	5653	154330
3	Arunachal Pradesh	27	145
4	Assam	1569	65997
5	Bihar	884	145300
6	Chandigarh	17	656
7	Chhattisgarh	1630	26957
8	Dadra & Nagar Haveli	9	622
9	Daman & Diu	33	136
10	Delhi	169	14350
11	Goa	106	2929
12	Gujarat	2245	94066
13	Haryana	1045	24577
14	Himachal Pradesh	157	21885
15	Jammu and Kashmir	176	28089
16	Jharkhand	240	116536
17	Karnataka	2343	127458
18	Kerala	1708	77167
19	Lakshadweep	NA	127
20	Madhya Pradesh	927	102808
21	Maharashtra	2791	229372
22	Manipur	30	6038
23	Meghalaya	30	3268
24	Mizoram	NA	1538
25	Nagaland	20	3642
26	Odisha	1188	77781
27	Puducherry	66	3482
28	Punjab	3114	63626
29	Rajasthan	898	101666
30	Sikkim	20	101
31	Tamil Nadu	4982	178527
32	Telangana	3900	80392
33	Tripura	105	13998
34	Uttar Pradesh	2105	350883
35	Uttarakhand	362	18116
36	West Bengal	2026	322590
	Total	40,579	24,59,929

Source: *Annual Survey of Industries 2018-19, **National Sample Survey 73rd round (July 2015- June 2016) Ministry of Statistics and Program Implementation

Students can think of becoming food quality inspectors, food quality managers, ffood technology engineers among many other great roles. Today, many small food vendors have come up in India who want to make it big in this industry and they are surely looking for skilled, knowledgeable and willing workforce in this sector.

The Union Ministry of Food Processing is also providing lots of opportunities to those who want to venture into this field. Solely dedicated to train and create skilled workforce in food technology and food processing, the ministry has established two National Institute of Food Technology, Entrepreneurship and Management (NIFTEM), one at Sonepat (Haryana) and the second one at Thanjavur (Tamil Nadu). With the collaboration of CSIR (Council of Scientific & Industrial Research), there is one Central Food Technological Research Institute in Mysuru.

Many central and private universities are now offering courses in this stream for students. In fact, IITs have also started offering this and its allied courses at their campuses. There are many private institutions also that are offering this course.

EMPOWERING WOMEN ENTREPRENEURSHIP THROUGH ACADEMICS

Prabhav Anand

The entrepreneurial landscape of India is undergoing a dynamic transformation with the surge of women entrepreneurs as a remarkable gift. No longer confined by conventional norms, women are carving out their places as successful entrepreneurs across diverse sectors, prompting a closer look at the role of academics in catalyzing this transformation.

Gone are the days when entrepreneurship was a male-dominated domain in India. Today, women entrepreneurs are standing at the forefront of innovation, driving change, and fostering economic growth. Recent reports indicate a substantial rise in the number of women-led startups, spanning areas from technology to sustainability. This shift reflects a broader societal evolution that recognizes and values the potential of women as business leaders.

Achievements and Contributions

The achievements of women entrepreneurs in India are no longer confined to the periphery. They are making ground-breaking strides in various sectors, challenging conventions, and establishing themselves as visionary leaders. From tech-driven solutions to socially conscious enterprises, women are showcasing their versatility and determination. What sets them apart is their ability to identify unique business opportunities and their commitment to making a meaningful impact on society. Women-led ventures often exhibit a strong sense of corporate social responsibility, contributing to civil society through job creation, community engagement, and sustainable practices.

As the narrative shifts towards recognizing the invaluable contributions of women entrepreneurs, it becomes essential to explore the avenues through which their potential can be maximized. One such avenue is academia, which holds the power to nurture their skills, provide strategic guidance, and create an ecosystem that fosters sustainable success. In the subsequent sections of this article, we will delve deeper into how academic institutions are playing a pivotal role in empowering women entrepreneurs, thereby strengthening the civil society fabric of India.

Women entrepreneurs in India encounter a multitude of obstacles that often impede their progress. These challenges, deeply rooted in societal norms, necessitate a comprehensive approach involving academia and civil society to address them effectively. In this exploration, we will delve into the multifaceted challenges faced by women entrepreneurs and how the combined efforts of educational institutions and civil society can pave the way for their success.

Societal stereotypes and gender biases persist as formidable barriers in the path of women entrepreneurs. Preconceived notions about women's roles frequently give rise to skepticism regarding their entrepreneurial capabilities. Academia can play a pivotal role in challenging these biases by promoting inclusive

education that encourages young minds to consider entrepreneurship as a viable option, regardless of gender.

Securing financial support remains a significant obstacle for women entrepreneurs. Deep-rooted gender biases impact their ability to access funding and investment opportunities. Academic institutions can bridge this gap by offering training in financial literacy and by helping women understand the intricacies of securing funding. Furthermore, civil society initiatives can establish avenues for women to access capital through microfinance programs and community-driven investment networks.

Networking and mentorship are fundamental for business growth. However, women often encounter limited access to networks that can propel their ventures forward. Academic institutions can introduce mentorship programs that connect aspiring women entrepreneurs with experienced industry leaders. Civil society organizations can further facilitate networking events that foster collaboration and learning.

The delicate balance between work and family responsibilities poses a significant challenge for women entrepreneurs. Academia can address this by incorporating work-life balance and time management discussions into their curriculum. Civil society can offer support through childcare services and flexible work arrangements.

Skill gaps and a lack of training opportunities hinder women's entrepreneurship journeys. Academic institutions can design specialized courses tailored to the needs of women entrepreneurs, equipping them with practical skills and knowledge. Complementing this, civil society initiatives can offer vocational training and workshops on essential business skills.

By recognizing and addressing these challenges, academia and civil society can collaborate to create an environment where women entrepreneurs not only survive but thrive. In the upcoming segments of this series, we will delve deeper into the pivotal role that academia plays in shaping the entrepreneurs of tomorrow through inclusive education and mentorship programs. Stay tuned for further insights on how India's civil society can amplify these efforts and advocate for gender equality in entrepreneurship.

Dr. Rajni Aggarwal, President of the Federation of Indian Women Entrepreneurs (FIWE) says, "In my perspective, the fusion of academia and women entrepreneurship in India holds immense promise. By integrating entrepreneurship education into academic curricula and creating supportive environments like exclusive industrial estates, we can empower women to realize their full potential. This synergy not only fosters economic growth but also creates a vibrant ecosystem where women are equipped with the knowledge, skills, and confidence to excel as entrepreneurs."

"It's a transformative approach that not only benefits individual women entrepreneurs but contributes significantly to India's societal and economic development. Together, academia, civil society, and women entrepreneurs can embark on a journey of empowerment and inclusivity, rewriting the narrative of women in business," she adds.

Usha Jha, President of the Bihar Mahila Udyog Sangh (BMUS) says, "In the context of women's entrepreneurship in civil society through academics in India, I want to stress the importance of education and awareness. When women have knowledge and skills, they become strong leaders and contributors to society. We must focus on reaching rural areas where many talented women reside. By nurturing their abilities and providing opportunities, we uplift these women and strengthen the nation's economy. The journey from classrooms to enterprises is transformative, promising a brighter future for women and the entire community. True empowerment comes from education, and every woman, regardless of her background, deserves the chance to shine."

Collaboration of Academia and Civil Society

In the vibrant landscape of India's entrepreneurial sector, a remarkable partnership has emerged as a potent catalyst for change – the fusion of academia and civil society. This dynamic alliance is on a mission to empower women entrepreneurs, recognizing their untapped potential and working tirelessly to provide the essential tools, knowledge, and support needed for their success.

The synergy between academia and civil society is nothing short of a game-changer in the quest to support women entrepreneurs. These two distinct realms bring their unique strengths to the table, resulting in a holistic approach that nurtures a thriving ecosystem for female business leaders. On one hand, academic institutions are at the forefront, offering specialized training, education, and skill development programs tailored to the specific needs of aspiring women entrepreneurs. This educational support equips them with the expertise required to navigate the intricate and often challenging world of business. Simultaneously, civil society organizations play a pivotal role in creating a supportive environment by building networks and advocating for policy changes that promote gender equality in entrepreneurship.

The success stories emerging from collaborative initiatives are a testament to the effectiveness of this approach. Within the hallowed halls of universities, incubation centers have been established, acting as fertile grounds for budding businesswomen. These centers provide a nurturing environment, granting access to invaluable resources, mentorship, and networking opportunities. Across a spectrum of industries, from technology-driven startups to sustainable ventures, these collaborative programs have played a pivotal role in shaping success stories that inspire and resonate.

However, one of the cornerstones of this academia-civil society collaboration is the emphasis on mentorship. This facet of the partnership is transformative, bringing established women entrepreneurs, academic experts, and industry leaders together to guide and mentor the next generation of businesswomen. Through this mentorship, aspiring entrepreneurs gain access to a wealth of experiences, insights, and practical advice, effectively bridging the gap between theory and practice. This not only instils confidence but also provides the real-world knowledge needed to navigate the complex landscape of entrepreneurship.

The impact of this collaborative mentorship cannot be overstated. Women who once hesitated to step into the entrepreneurial arena are now finding their footing with the guidance and support of their mentors. These mentors, often drawing from their own journeys, offer invaluable perspectives, strategies, and solutions that are deeply rooted in practicality. As a result, aspiring women entrepreneurs are better prepared to overcome obstacles, seize opportunities, and establish themselves as formidable forces in their respective industries.

This remarkable partnership between academia and civil society is far from a passing trend; it's a sustainable and evolving model for change. As more women gain access to specialized education and mentorship opportunities, the ripple effects are profound. With every success story, the stereotype-defying achievements of women entrepreneurs are challenging conventional norms and reshaping societal perceptions. Furthermore, these empowered women are not only contributing to economic growth but also championing social causes and sustainability, reflecting a broader commitment to positive change.

Basically, the collaboration between academia and civil society stands as a beacon of hope and progress in the quest to empower women entrepreneurs in India. This synergistic approach, which leverages education, mentorship, and advocacy, is breaking down barriers and creating a

landscape where women can thrive as entrepreneurial leaders. The transformative power of this partnership extends beyond individual success stories; it is rewriting the narrative of gender equality and inclusivity in the business world, inspiring a new generation of women to chase their entrepreneurial dreams and make a lasting impact on society.

Looking to the Future

As the collaborative efforts between academia and civil society continue to gain momentum, a promising vision for the future of women entrepreneurship in India emerges. This vision transcends mere business success, aiming to create a transformative shift in societal perceptions and economic landscapes.

Through targeted educational programs and initiatives, the collaboration between academia and civil society is poised to significantly narrow the gender gap in entrepreneurship. By providing equal access to education, mentorship, and resources, more women will be empowered to step into leadership roles, challenging traditional norms and contributing to a more diverse and inclusive entrepreneurial ecosystem.

The success of women entrepreneurs translates into tangible economic benefits for India. Increased women-led businesses stimulate job creation, boost innovation, and contribute to GDP growth. Moreover, these ventures often prioritize social impact, addressing pressing issues such as healthcare, education, and environmental sustainability. As women entrepreneurs thrive, so does the broader community.

The empowerment of women entrepreneurs is not confined to their individual ventures; it ripples across society. When women have equal opportunities to harness their potential, innovation flourishes. Diverse perspectives lead to fresh ideas, novel solutions, and breakthrough innovations. Thus, fostering women entrepreneurship becomes a catalyst for overall progress and development.

Recent data paints a compelling picture of the upward trajectory of women entrepreneurs in India. As per the National Sample Survey (NSS) 73rdRound report (July 2015 to June 2016), 19.5 percent of the total unincorporated non-agricultural proprietary enterprises were owned by women, employing 22 to 27 million people. As per the report titled "Decoding Government Support to Women Entrepreneurs in India' on the NITI Aayog website women's economic contribution in India accounts for 17% of the GDP. This growth is indicative of the changing landscape where women are increasingly venturing into business ownership, encouraged by greater access to resources and evolving societal norms.

There are no official reports on the global ranking of Women entrepreneurship. However, a private study "MasterCard Index of Women Entrepreneurs 2021" ranks India at 57th position out of a total of 65 countries. The Index uses 12 indicators to create three components: women's advancement outcomes; knowledge assets, financial access and entrepreneurial supporting conditions for constructing the Index.

The Report of the Expert Committee on Micro, Small and Medium Enterprises, published by the Reserve Bank of India in June 2019 has identified access to credit as one of the major challenges faced by MSMEs, including women owned MSMEs.

To encourage entrepreneurship among women, the Ministry of Micro, Small and Medium Enterprises (MSME) implements various schemes. The Ministry implements Prime Minister's Employment Generation Programme (PMEGP), which is a major credit-linked subsidy programme aimed at generating self-employment opportunities through establishment of micro-enterprises in the non-farm sector by helping traditional artisans and rural/urban unemployed youth. For beneficiaries belonging to special categories such as Scheduled Caste/Scheduled Tribe/ OBC /minorities/women, ex-serviceman, physically handicapped, NER, Hill and Border areas, etc., higher subsidy is given.

The Credit Guarantee Fund Trust for Micro, and Small Enterprises (CGTMSE),which was jointly set up by the Ministry of MSME, Government of India and Small Industries Development Bank of India to strengthen credit delivery system and to facilitate flow of credit to the MSE sector, create access to finance for unserved, under-served and underprivileged, making availability of finance from conventional lenders to new generation entrepreneurs, provides guarantee cover to collateral and/or third party guarantee free credit facilities extended by eligible Member Lending Institution [MLIs] to Micro and Small Enterprises. CGTMSE has increased the extent of guarantee coverage of credit to 85% for women entrepreneurs. As an additional concession to Women Entrepreneurs, CGTMSE has reduced the Annual Guarantee Fee by 10%.

The Ministry also implements several other schemes for the promotion and development of MSMEs, including women-owned MSMEs, namely, Micro and Small Enterprises Cluster Development Programme (MSE-CDP), Tool Rooms & Technology Centres, Scheme of Fund for Regeneration of Traditional Industries (SFURTI), Procurement and marketing Support Scheme, Entrepreneurship and Skill Development Programme (ESDP), etc. Contrary to some misconceptions, women-led ventures exhibit remarkable resilience and success. A study by the Indian School of Business found that startups founded or co-founded by women have a higher survival rate compared to those solely led by men. This defies stereotypes and underscores the potential for significant returns on investments in women's entrepreneurial endeavors.

Academic institutions and civil society organizations have emerged as catalysts for women's entrepreneurial growth. Initiatives like mentoring programs, business incubators, and skill development workshops have led to the rise of success stories. For instance, the 'Women Entrepreneurship Platform' launched by NITI Aayog has facilitated networking, funding, and capacity-building opportunities for women entrepreneurs, resulting in a tangible impact on their businesses.

Call to Action: Driving Continued Collaboration

1. **Encouraging Participation in Mentorship Programs**

   Mentorship is a pivotal tool for women's entrepreneurship. Encouraging experienced entrepreneurs, both men and women, to mentor aspiring women entrepreneurs can provide invaluable guidance, help navigate challenges, and nurture innovation.

2. **Advocating for Gender-Inclusive Policies**

   Governments and industry bodies play a crucial role in creating an enabling environment. Advocacy for policies that support women's entrepreneurship, such as equal access to financing, maternity benefits for self-employed women, and gender-sensitive regulations, can level the playing field.

3. **Supporting Initiatives Bridging the Gender Gap**

   Collaboration between academic institutions, civil society, and the private sector is vital. Funding research, offering tailored educational programs, and establishing women-centric entrepreneurship centers can amplify the impact of these initiatives.

The synergy between academia, civil society, and aspiring women entrepreneurs is a recipe for transformative change. When women are provided with the necessary skills, resources, and support, they become agents of economic and social transformation. The path to women's empowerment through entrepreneurship is one where innovation knows no gender boundaries. As more women break barriers and succeed, they inspire the next generation of trailblazers. The empowerment of women entrepreneurs goes beyond business profits. It's about building more equitable societies, where women have an equal stake in shaping the future. India can secure a brighter, more inclusive tomorrow by fostering an environment that champions women's entrepreneurship. EP

MOBILE PHONE BAN IN SCHOOLS

NAVIGATING A SERIOUS CHALLENGE

In today's digital era, the discourse on use of mobile phones by students gains momentum. While these devices offer unmatched connectivity and knowledge access, their presence in schools sparks essential concerns. Recently, Delhi barred phones for both students and teachers, even in playgrounds. Should mobile phones be banned? As India aims for holistic education, Education Post's **Prabhav Anand** explores the pros, cons and pathways of this decision.

In an era dominated by digital technology, the debate surrounding the use of mobile phones by school students has grown louder and more fervent. While these devices offer access to information and connectivity like never before, their presence within the school environment raises many important concerns.

In a recent move, the Delhi government banned the use of mobile in schools, not only for students but for teachers as well. The Department of Education clearly states that there will not be the use of any mobile phones on the school premises, not even in the playgrounds and laboratories.

It's important to recognize that mobile phones introduce a significant dynamic into the school environment. On one hand, it provides avenues for self-expression and connectivity, allowing students to capture moments and engage on social media platforms, while on the other hand, there is a valid concern that these activities might divert attention from the classroom discourse, impacting the learning process.

Another perspective highlights the potential social implications of mobile phone usage. The desire to own the latest and most stylish devices could inadvertently exacerbate economic disparities among students, inadvertently fostering feelings of exclusion or inadequacy. Moreover, the concern about mobile phones being utilized for cheating underscores the need for maintaining a secure and ethical academic atmosphere.

"There should not be any kind of allowance to use mobile phones in schools for students, as they don't require mobiles that much. After all, for their basic education, we do all as much as we can," says Prashant Mishra, a teacher at the Government High School in Jamshedpur. He adds, "If required, the students, only for study purposes, can use mobiles but the maximum duration to use mobiles should be limited to no more than one hour."

"Parents should check their children's activity about the things their kids are watching and what are they using mobiles for? This negligence by parents is the main reason students get addicted to mobile phones for all the wrong reasons," he says.

Komal Kumari, a student, agrees. "The allowance of phones within the school premises should be reconsidered due to the high likelihood of distractions among most students."

Komal herself spends approximately four hours on her phone daily, with YouTube being her primary choice due to its combination of entertaining and educational content. But she emphasizes the importance of schools imparting knowledge about the impacts of technology, suggesting that proper guidance and classes would enable students to make informed decisions regarding their device usage.

"While we allow students to bring mobile phones to school, we also take care that no student misuses them. Parents request us to let their children carry mobile phones so that they can track them while leaving school or for emergency situations," says Santosh Kumar, a high school teacher at Bihar's St Xavier's school.

"Students are fond of entertainment but it's the duty of a parent to take care at home what their kids are watching?"

THE TEACHER'S DILEMMA

Teachers find themselves caught in a complex situation regarding the ban on mobile phones in schools. On one hand, they support the ban as it curbs classroom distractions caused by students' mobile phone use. Prior to the ban, students often indulged in games and texting during class hours, disrupting the learning environment. Teachers believe that the ban will have a positive impact.

However, enforcing the ban poses some serious challenges. While teachers advise students against bringing phones, daily checks on belongings are impractical. Teachers resort to confiscating phones based on complaints or visual evidence. They emphasize that parents play a crucial role in ensuring their children comply with the ban, making them key stakeholders in its success.

Awareness about the ban is raised through classroom discussions and notices, reaching both students and parents during Parent-Teacher

Association (PTA) meetings. Schools collaborate with organizations like 'Childline' to educate students about the dangers of misusing mobile phones, appointing ambassadors for this purpose.

Support from peers makes it difficult to catch violators, raising concerns about effective implementation. Confiscated phones are returned only when parents are involved, reinforcing accountability. Teachers also note that parents can inquire about their children through the school office, rather than undermining the mobile phone ban. This dilemma highlights the intricate web of challenges teachers navigate while ensuring a distraction-free learning environment.

Interestingly, India is not alone in implementing this initiative. Countries like the Netherlands, Finland, and Germany have also introduced mobile phone bans in their schools. This global trend underscores the ongoing debate about balancing technology's benefits and distractions in the educational landscape.

Pros: Focusing on Learning and Well-being

Banning mobile phones in schools has potential benefits. Firstly, it enhances academic focus as students are freed from social media and gaming distractions, allowing them to engage more in lessons. Secondly, banning phones can reduce cyberbullying and peer pressure, fostering a safer learning environment. Thirdly, it promotes physical and mental health by curbing excessive screen time, encouraging face-to-face interaction, and prioritizing well-being. Lastly, a ban ensures equality by leveling the playing field among students, avoiding disparities due to smartphone ownership and material possessions. However, the decision also requires careful consideration of challenges like emergency communication, access to educational resources, and parental concerns. Balancing the advantages and drawbacks will pave the way for an effective and holistic learning environment.

Cons: Balancing Connectivity and Education

The ban on mobile phones in schools gives rise to a multifaceted situation, marked by both advantages and challenges. While it holds the potential to enhance academic focus and reduce distractions, valid concerns come to the forefront. Mobile phones act as crucial tools for emergency communication, provide access to valuable educational resources, and offer parents a means of reassurance. However, the ban may trigger worries among parents who rely on phones to stay connected during school hours. Furthermore, implementing such a ban requires meticulous planning, addressing the intricacies of transitioning, and managing potential resistance from students, parents, and educators. To gain a comprehensive understanding of this issue, it's imperative to delve deeper into the array of diverse perspectives that contribute to this ongoing debate.

Mobile Trends

Recent data shows that mobile phone usage among students in India has become an important aspect of their daily lives. On average, students spend approximately four to six hours per day on their mobile phones. This considerable screen time is attributed to various activities such as social media engagement, entertainment consumption, and educational purposes.

In terms of device ownership, the majority of students in India possess smartphones, which offer a wide range of functionalities beyond traditional calling and texting. According to a survey conducted among school and college students, around 85% of students own smartphones. These devices grant them access to the internet, educational apps, and interactive content.

However, it's worth noting that a small segment of students still relies on feature phones. Approximately 15% of students opt for feature phones, which offer limited internet access and fewer advanced capabilities compared to smartphones. These feature phones often serve as communication tools without the distractions associated with smartphones.

Conclusion

In the end, the debate surrounding the ban on mobile phones in schools underscores the complexity of the issue. Both supporters and opponents of the ban bring forth valid concerns and considerations, ranging from academic engagement and digital literacy to parental communication and technological integration. As schools worldwide grapple with the decision, it's crucial to approach the issue with an open mind, taking into account the diverse perspectives and potential impacts on students' holistic development. In this digital era, where technology is becoming increasingly integrated into every aspect of our lives, finding a middle ground that respects both the benefits and challenges of mobile phone usage in schools remains a crucial endeavor. EP

MASTERING BIG DATA

THE SIGNIFICANCE OF M.TECH EDUCATION IN BIG DATA ANALYTICS

MASOOM KHARE
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With the data revolution in place, where big data is flowing from extremely huge and diversified datasets from different sources, the process of analysing and extracting valuable insights from it has become extremely useful for the organisations. It involves the use of advanced techniques and technologies to uncover patterns, trends, and correlations within this extensive dataset and provide actionable intelligence, enabling different organisations to make informed decisions, optimise operations, and gain a competitive edge in today's data-driven business environment. By harnessing the power of Big Data Analytics, companies can uncover hidden opportunities, improve customer experiences, and drive innovation, ranging from finance and healthcare to marketing and beyond. In essence, it empowers businesses to transform raw data into valuable insights, ultimately leading to improved strategic planning and operational efficiency.

Ever-Growing Relevance of M. Tech in Big Data Analytics

As organisations increasingly recognise the potential of harnessing large volumes of data for strategic decision-making, there is a pressing need for skilled individuals across various industries, including finance, healthcare, e-commerce, and many more, who can navigate and analyse the information effectively from big data. And thus, pursuing an M. Tech degree in Big Data Analytics has become highly significant today, as it equips individuals with specialised and advanced knowledge in Big Data Analytics with cutting-edge tools and techniques. This advanced degree not only hones technical proficiency but also instils a deep understanding of data management and interpretation, making graduates highly sought-after in the job market. Moreover, an M. Tech programme in top colleges in India offers opportunities for internships, research, and practical projects, providing invaluable real-world exposure that further enhances one's readiness for a successful career in this rapidly evolving field.

Course Overview: M.Tech Big Data Analytics

The M.Tech programme in Big Data Analytics offers a comprehensive curriculum designed to equip students with a strong foundation in key subjects such as data management, **data mining, storage technologies, predictive statistical analytics, and machine learning.** Alongside these core courses, students have the opportunity to delve into specialised tracks as their compulsory electives that cater to their specific interests and career goals.

These electives may include important areas of study such as **advanced database management systems, advanced artificial intelligence, advanced data visualisation, advanced data mining, a statistical foundation for data science, big data analytics, machine learning, data visualisation techniques, massive graph analysis, scientific computing, matrix computations, predictive analytics, image and video analysis, or bioinformatics,** ensuring that the graduates emerge with a well-rounded skill set tailored to meet the diverse demands of the industry.

Apart from this comprehensive curriculum, which includes the latest emerging technologies, a distinctive feature of the M. Tech programme in top colleges in India, is its emphasis on hands-on learning through practical projects and internships. These experiences provide students with invaluable exposure to real-world scenarios, allowing them to apply theoretical knowledge to actual industry challenges. By collaborating with leading organisations, students have the chance to work on cutting-edge projects related to data analysis, optimisation, and visualisation. This practical exposure not only enhances technical proficiency but also hones problem-solving abilities and fosters a deeper understanding of the complexities involved in Big Data Analytics.

For those inclined towards in-depth exploration and contributing to the advancement of the field, the M.Tech programme also offers extensive research opportunities through thesis work during the last year of studies, where students can engage in research work under the guidance of experienced faculty members, focusing on areas of interest within Big Data Analytics. This allows for original contributions to the field, potentially leading to the development of novel algorithms, methodologies, or applications.

Prospective Career Avenues and Scope for M.Tech Graduates in Big Data Analytics

Professionals with an M. Tech in Big Data Analytics find themselves well-positioned for a range of critical roles in the data-driven landscape, as they have the expertise in utilising advanced statistical and machine learning techniques in extracting actionable insights from complex datasets. Their demand is robust across various sectors, such as in finance, where big data professionals are sought after for risk assessment, fraud detection, and algorithmic trading. Healthcare relies on big data experts for personalised treatment plans, predictive analytics, and drug discovery. E-commerce platforms leverage data for customer segmentation, recommendation engines, and supply chain optimization. Furthermore, industries such as marketing, retail, and telecommunications are increasingly dependent on Big Data Analytics to enhance customer experiences, optimise operations, and gain a competitive edge. As a result, there are numerous and promising employment prospects for Big Data Analytics specialists across a variety of industries. Let's take a quick look at the solid foundation for its broad scope:

- **Diverse Industry Application:** The combination of large data volumes and advanced analytics techniques has created a slew of intriguing career opportunities for M.Tech graduates in this dynamic and fast-rising field.
- **Data-Driven Decision Making:** M.Tech grads in Big Data Analytics are playing important roles in deriving important insights from big data, directing organisations in strategic planning, and enabling evidence-based decision-making.
- **Advanced Analytical Techniques:** M. Tech graduates' study advanced analytical approaches such as machine learning, artificial intelligence, natural language processing, and others that are in high demand across industries in order to maximise the value of their big data.
- **Innovation and Research Opportunities:** With a master's degree in Big Data Analytics, graduates have the opportunity to engage in cutting-edge research and development projects. This could lead to innovations in analytics methodologies, algorithm development, and new applications in the big data field.
- **Global Opportunities:** Big Data Analytics is a globally relevant field, offering career opportunities for M. Tech graduates to work abroad or collaborate with international organisations.

- **Continuous Learning and Upskilling:** The field of Big Data Analytics is constantly evolving with new technologies and methodologies emerging, and M.Tech graduates have the opportunity for continuous learning and upskilling to stay at the forefront of the industry.

In summary, M. Tech graduates in Big Data Analytics have a broad scope and their expertise is in high demand across industries, and the field offers ample scope for growth, innovation, and contribution to the data-driven future of businesses worldwide.

Emerging Job Roles and Salary 2023

M.Tech in Data Analytics is a specialised degree programme that trains students with strong Science and Technology, Engineering, and Mathematics (STEM) or business backgrounds for specialty employment in analytics, data science, and business intelligence. After 2 years, they are well-positioned to tap into this dynamic and rapidly growing field of Big Data Analytics. The convergence of massive data volumes and advanced analytics techniques has opened up a plethora of opportunities across industries. Let's have a detailed look at the scope and career prospects for M. Tech graduates in Big Data Analytics. Admission Process for the M.Tech program in Big Data Analytics

The admission procedure for the M. Tech program in Big Data Analytics at top colleges in India typically encompasses a multi-stage process. This encompasses rigorous adherence to eligibility criteria, submission of applications, participation in prescribed entrance examinations, and engagement in evaluative components such as interviews and group discussions conducted by the respective college. The following key considerations delineate this comprehensive procedure:

Eligibility Criteria

The eligibility criteria for admission in M.Tech in Big Data Analytics vary depending on the specific course and institution. However, there are some common criteria that are typically considered in all top colleges in India. The candidate looking for admission in M. Tech in Big Data Analytics must have a **B.E or B. Tech degree** in subjects like **IT, Physics, CS, Operations, Mathematics, statistics** or **Economics** with **50% -60%** marks from a recognised institute. The candidates appearing for the final exam or waiting for the final result can also apply for the course. This may vary slightly depending on the institution requirement.

Entrance Examinations

Some of the top private and government colleges in India accept **GATE scores** and the admission are given considering B. Tech/B.E. marks. Other entrance exams conducted by specific universities are:

BITS HD	Birla Institute of Technology and Science Higher Degree	It's is an entrance exam conducted by Birla Institute of Technology and Science (BITS) for admission into various PG programs offered by the institute including M.Tech in Big Data Analytics
IIIT Bangalore	International Institute of Information Technology Bangalore (IIITB)	It's an entrance exam for higher education and research in the field of Information Technology and related disciplines.
SRMGEET	SRM Graduate Engineering Entrance Test	Entrance exam conducted by SRM institute for admission to PG program including Big Data Analytics
VITMEE	VIT Master's Entrance Examination.	Conducted by VIT university for admission to various postgraduate programs offered by the university.
AP PGECET	Andhra Pradesh Post Graduate Engineering Common Entrance Test.	Conducted by Andhra University to facilitate admissions into postgraduate engineering programmes
TS PGECET	Telangana State Post Graduate Engineering Common Entrance Test	Conducted by the Osmania University for admission into PG engineering programs

Candidates are admitted in M.Tech programmes based on scored marks in the above exams along with personal interviews and group discussions. It's important to note that each institution and course may have specific variations in their eligibility criteria, so it's crucial to properly research the admission guidelines provided by the institution you're interested in. Additionally, some courses and institutions may have additional requirements, such as qualifying exams, interviews, or portfolio submissions. Always check the official website of the institution or contact their admissions office for the most accurate and up-to-date information.

Top Colleges for pursuing M. Tech in Big Data Analytics and its fee structure

Syllabus of M. Tech in Big Data Analytics

Semester	Topics Covered
1st Semester	Data Management and Storage, Statistical Methods for Data Analytics, Programming for Data Analytics, Fundamentals of Big Data Analytics, Construction Economy, and Finance.
2nd Semester	Empirical research, Machine Learning for Data Analytics, Data Visualization and Interpretation, Big Data Technologies, Elective Course 1, and Project
3rd Semester	Advanced Analytics Techniques, Real-time Data Analytics, Research Methodology and Experimental Design
4th Semester	Capstone Project or Thesis

Course Highlight

Course Level	Post-Graduation
Course Duration	2 Years
Eligibility	**B.E or B. Tech degree** in subjects like **IT, Physics, CS, Operations, Mathematics, statistics** or **Economics** with **50% -60%** marks from a recognised institute
Admission Process	Primarily through national and state-level entrance exams, as well as various admissions through particular universities and colleges
Average Course Fee	INR 1 Lakh to INR 5 Lakhs/ Year
Average Annual Salary	6 lakhs to 15 lakhs/annum
Top Job Positions	Data Scientist/Analyst, Big Data Engineer/ Architect,Machine Learning Engineer,Data Engineer,Business Intelligence Analyst/ Consultant
Further Study opportunity	Ph.D, Postdoctoral Research, Specialized Big Data Analysis Certifications, Entrepreneurship

Conclusion

In conclusion, with these ever-expanding frontiers of technology, the demand for skilled professionals in Big Data Analytics is only set to grow, and M.Tech graduates with advanced knowledge in this domain have tremendous potential for shaping industries, driving innovation, and revolutionising the way businesses operate. So, whether you're driven by a passion for uncovering insights from data, the thrill of crafting cutting-edge algorithms, or the desire to shape the future of data-driven decision-making, an M.Tech degree in Big Data Analytics provides the ideal platform to turn these aspirations into reality. It's an exhilarating journey that promises not just a job but a fulfilling and impactful career and a future teeming with endless possibilities. EP

UGC'S VISIONARY PROFESSOR-OF-PRACTICE INITIATIVE GAINING MOMENTUM

Prabhav Anand

The University Grants Commission (UGC) started the innovative Professor-of-Practice (PoP) initiative in May 2023 in a bid to revolutionize the landscape of higher education in India. This visionary scheme, which gained remarkable traction in recent months, serves as a vital conduit between the realm of academia and the industry. By fostering collaboration and facilitating the exchange of ideas between these two domains, the PoP initiative is reshaping

Prof. Paroma Roy Chowdhury

Dr. Yajulu Medury

Dr. Saumya Badgayan

educational paradigms and equipping students with the tools they need to thrive in today's competitive job market.

The cornerstone of the Professor-of-Practice initiative lies in its unique ability to bridge the chasm between theoretical knowledge and practical applications. In simple words, it can be said that this initiative will act as a bridge for the academic and industrial experience. This endeavor has attracted more than 8700 industry experts till now and secured the partnership of more than 230 esteemed higher education institutes, cementing its status as a pioneering force for change. This symbiotic relationship between industry professionals and academia not only enriches the educational experience for students but also ensures they are well-prepared to tackle the challenges posed by real-world scenarios.

The burgeoning popularity of the PoP program is evident in the surge of registrations and the 19 advertisements for PoP positions that have been disseminated across diverse disciplines. This trend underscores the enthusiasm among both industry veterans and academic institutions to participate in this revolutionary initiative. The initiative spans an array of fields, from engineering and healthcare to management and digital marketing, reflecting its commitment to a holistic education that nurtures practical acumen alongside theoretical expertise.

Perhaps the most striking aspect of the PoP initiative is its potential to drive a seismic shift in the relationship between academia and industry. By actively engaging industry experts in the academic sphere, the initiative ensures that students are exposed to the latest trends, challenges, and breakthroughs that define their chosen fields. This dynamic interaction keeps educational content relevant and cultivates graduates who possess the skills and insights coveted by employers in today's fast-paced job market.

The PoP initiative's alignment with the Indian government's "Make in India" campaign and focus on skill development has positioned it as a catalyst for innovation and economic growth. This union between academia and industry is poised to unleash a torrent of innovation, entrepreneurship, and research collaboration that will fuel India's progress on the global stage.

While the momentum behind the PoP initiative is undeniable, it does not come without its fair share of challenges. Transparency and fairness in the selection process for PoP positions stand as critical imperatives, ensuring that the program continues to attract diverse and qualified professionals. Additionally, the establishment of clear guidelines delineating the roles and expectations of PoPs within educational institutions is paramount to maximizing the initiative's potential.

Dr. Saumya Badgayan, Professor of Practice of Organisational Transformation at Hyderabad's Woxsen University, says: "In contrast to full-time faculty, I bring 25 years of corporate experience along with my Ph.D. While regular faculty imparts theoretical knowledge, the Professor of Practice program infuses practical insights. For example, consider the BCG matrix, which I relate to the Johari window, and the urgent-important matrix. This approach bridges the gap between theory and real-world application."

"The impact of this initiative on higher education is significant. It aligns theory with practice, preparing students for the corporate world realistically. Professors of Practice can guide students on career

expectations and curriculum relevance, preventing rose-tinted visions. This practicality enhances students' understanding of their field and the industry's needs."

Prof. Paroma Roy Choudhary, the Professor of Practice of School of Management and Entrepreneurship at Shiv Nadar University says, "I've been teaching as a Professor of Practice since 2020, and this approach has proven to be highly impactful. I draw from my own experiences in the corporate world and other sectors, using real-life examples, anecdotes, and guidelines to make lessons engaging and relatable. I've incorporated various methods like slide videos, LinkedIn articles, and role-playing based on my own experiences.

"For instance, in my module on cross-cultural communication, I share examples from my interactions with global teams in Japan, the US, the UK, Europe, and the Middle East. These hands-on practical insights resonate with students and prepare them for real-life situations."

Choudhary goes on to add: "I receive consistently positive feedback from my students, even after they graduate. They reach out on LinkedIn to share how my lessons have helped them navigate their careers, and that's the most rewarding part.

My classes cater to a diverse range of students, from those returning to work, like women needing a degree, to government servants looking for a career change. I even had a vigilance department official who wanted to switch to a more high-profile role and excelled in my class. There was also an army officer's wife who found my communication lessons invaluable for her dream of starting schools.

The Professor of Practice initiative is critical for higher education, especially for students with diverse career paths. It bridges the gap between theory and practice, preparing them for the challenges they'll face in the real world. It's a game-changer, and I'm excited to be a part of it."

Dr. Yajulu Medury, Vice-Chancellor of Mahindra University, says: "Distinguishing PoP's teaching approach from conventional methods, it's crucial to note that PoPs bring to the table a wealth of practical experience from their respective industries. Their teaching is profoundly application-centric, offering a refreshing departure from research-focused methodologies."

"What sets PoPs apart is their unique perspective. They provide students with real-time insights into current industry trends, equipping them with skills directly in demand by the job market. Their interdisciplinary outlook and industry connections open doors to invaluable networking opportunities. Additionally, PoPs engage students in industry-related projects, effectively bridging the chasm between theory and practice. They play a mentorship role, guiding students on the path to successful careers, where research and practical application complement each other seamlessly," Medury explains.

"Looking ahead, the PoP initiative holds immense promise for higher education. However, its success depends on its effective implementation. When executed adeptly, it has the potential to elevate the quality and relevance of higher education, ensuring students are well-prepared for the dynamic demands of today's workforce."

Nonetheless, the UGC's foray into the realm of PoP is a laudable stride toward reshaping the higher education landscape. With its meteoric rise in popularity and growing acceptance within both academic and industrial circles, this initiative is poised to bridge the gap between theory and practice. By nurturing students who are academically proficient and industry-ready, the PoP initiative is poised to mould a future where education and innovation walk hand in hand.

Talking about the eligibility criteria so, the criteria for aspiring Professors of Practice outlined by the UGC further underscore the program's commitment to excellence. These criteria serve as a blueprint for identifying individuals who can make a transformative impact on higher education. Experts with at least 15 years of experience in various fields, including engineering, science, technology, entrepreneurship, social sciences, and more, are eligible for the PoP position. Remarkable contributions to their professions and a proven track record of service are the hallmarks of individuals who can elevate the academic landscape through this initiative.

In a refreshing departure from conventional academic requirements, the PoP initiative places emphasis on practical experience over formal qualifications. This recognizes the invaluable insights gained through hands-on expertise, empowering professionals to impart real-world knowledge to the next generation. Exemption from traditional publication expectations underscores the initiative's focus on practical impact over theoretical output.

As the PoP initiative continues to evolve, its impact on the trajectory of higher education in India is poised to be profound. This ground-breaking approach holds the potential to create a generation of graduates armed with the skills, insights, and acumen to excel in their chosen fields. With each registration, partnership, and interaction, the initiative inches closer to its goal of seamlessly integrating academia and industry for the betterment of India's future workforce. EP

NOW THAT CHANDRAYAAN 3 HAS LANDED ON THE MOON, WHAT NEXT?

AN ACADEMIC, ECONOMIC AND SOCIAL PERSPECTIVE

Dr. Ashmita Das
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August 23, 2023 – 5.45 pm: That's when a phase called "rough braking" began and Chandrayaan-3 was seen in its orbit, 30 km above the moon. After that started the "altitude hold" phase, during which the lander was settling down by using its four legs and four thrusters to observe the lunar surface for a safe touchdown. The third phase was called "fine braking," where the spacecraft descended up to 850 meters above the surface of the moon and started hovering. Hovering aimed to look for a suitable "parking spot." In the last phase -- "terminal descent" – Chnadrayaan-3 came down approximately 150 meters above the lunar surface. At this point, it again started hovering for around 30 seconds to measure all the parameters for a safe landing. It was reported that the lander disfavored the area right below, which led it to drift safely to an adjacent area. Upon touching the surface of the moon, the sensors attached to the four legs of the lander module initiated the shutdown process of the main engine. As I was writing this article, Chandrayaan-3 is gloriously standing on the moon's south pole, establishing the first human contact with this part of the moon.

For landing purposes, any polar region of a celestial body is more challenging than the equator region. Due to this reason, the south pole of the moon was unexplored for a significant period. As per an article in the Time magazine, scientists had predicted that the soil of the moon is somewhat like crystals of water ice, while the "shadowed craters" could be frozen lakes. Time also mentioned that, in 2008, Chandrayaan-1 proved all these speculations correct.

We all understand the meaning of the presence of water molecules on the moon. It doesn't only imply the possibility of getting drinking water but also the extraction of breathable oxygen. The hydrogen in water ice can be a potential candidate for making rocket fuel. "Ancient water ice" can also help us to understand the geology of the moon. Due to these promising features, the south pole of the moon has become a bull's eye for many countries.

As an Indian, this touchdown triggered in me a recollection, such as that astronomical studies in India started around 600 C.E. with Aryabhata and Varahamihir. Aryabhata proposed that sunlight gets reflected by the moon and that the earth is a rotating object, not the sky. Subsequently, Varahamihir introduced the profound concept that, due to an attractive force, all celestial objects are bound in their locations. This shows that they were quite ahead of their time. Since then, to date, when India probed the most desirable region of the moon, it can be inferred that, with respect to us, we have acquired more knowledge, we have become more enriched, we have become more skilled, we have grown more than our ancestors, we have advanced their legacy, we have constructed our own path, and we have created history.

Educational Impact

It's beyond doubt that one of the key factors behind the success of mission Chandrayaan-3 is a rich amalgamation of expertise and skills from diverse educational backgrounds. Kalpana K, Associate Project Director, Chandrayaan-3, graduated with a degree in Aeronautical Engineering while Ritu Karidhal Srivastava, a Senior Scientist, graduated in Physics. Similarly, ISRO's Chairperson S. Somnath has earned his Bachelor's degree in Mechanical Engineering while M Sankaran, the head of the U.R. Rao Satellite Centre, has accomplished a Master's degree in Physics and joined ISRO Satellite Centre (URSC). These diversified profiles convey an important message that appropriate collaboration may lead us to design and fulfil such a magnificent endeavor.

I believe looking up at the night sky may induce enough motivation to be curious about space. However, in the context of our country, consistent success stories of ISRO can create an additional thrust for our students to be more than just curious. In the present scenario, I expect that branches like Astrophysics, Astronomy, Cosmology, Aeronautical Engineering, Space Science etc., may gain more attention from the students in order to pursue specialized higher studies. It's worth mentioning here that the Laser Interferometer Gravitational Wave Observatory (LIGO), India project, has also been planned and the MoU is signed by the Department of Atomic Energy (DAE) and the US National Science Foundation (NSF). The purpose of this observatory is different than ISRO and will explore a different angle of Gravitational Physics, which is primarily based on Einstein's theory of General Relativity. From the successful construction and running of LIGO-India, multifaceted benefits may emerge in the field of Astrophysical research in India.

In regard to all these investments in observational science, I want to add a note of caution that we must not neglect the theoretical research/studies as, largely, the purpose of these observations is to validate/invalidate the existing theoretical models. It's well known that in 2015, the discovery of the Gravitational Waves in LIGO validated one of the outcomes of Einstein's General Relativity. Can you imagine that it took almost 100 years for observational science to catch up with the pace of Einstein's mind? It suggests, that if not invalidated by the observations, scientific theories are quite alive. Thus, we need a proper balance of economic and structural investments in both observational and theoretical research.

Economic Impacts

This section cannot be covered only with respect to the success of Chandrayaan 3. Rather, being motivated by the consistent success of ISRO's missions, space-oriented activities such as research or commercial pursuits have been turned into one of the controlling players in our economy. ISRO was a principal organization that had permission to probe space by launching satellites, payloads, spacecraft, etc. Since 2020, when the India government announced that private companies would be given the authorization to explore the space sector, people have observed a spectacular change in space-based industries. This authorization earned loads of attention from private companies which were almost ready to deliver for space-based missions. Although some of the start-ups were initiated before the year 2020, the formal approval from the government provided a thrust to these startups in order to pursue their respective ventures. Some of the well-known names along this line are Skyroot Aerospace, SatSure, Pixxel, Newspace Research & Technologies, Dhruva Space, Digantara, Bellatrix Aerospace etc. For example, a start-up like Pixxel was founded by two Bits Pilani alumni – Awais Ahmed and Kshitij Khandelwal – in 2019. Pixel focuses on constructing a constellation of hyperspectral earth imaging satellites and also developing analytical aids to interpret the collected data from the satellites. Google declared $36 million of investment in Pixxel, which can be considered a huge investment after the space privatisation policy. Another example is the Skyroot Aerospace start-up, which turned out to be the first private company in India to launch a rocket, Vikram-S, into space in 2022 from the Satish Dhawan Space Centre, Sriharikota. In the same year, it was disclosed that ISRO has signed MoUs with private companies to work in collaboration, aiming to explore the new age space technologies and "building processes from start to finish". Further, it was also mentioned that approximately 100 startups have been registered with ISRO.

An article published in India Today, dated July 8, 2023, shows that these space-based start-ups are trying to address some real-life issues such as, "satellite-based phone signals, broadband, OTT, and 5G to the operations of solar farms." The same source captures comments by P. Chandana, founder of Skyroot, which reflects that the success of Chandrayaan-3 and the involvement of the private sector will produce more businesses, employment and more startups.

At this stage, I want to represent the team of whistle blowers and leave the readers with some spontaneous questions: It was published in The Guardian on January 5, 2023, that light pollution is heavily interrupting astronomical observations as more than 3,000 of the 5,000 active satellites are orbiting the earth. These satellites belong to Elon Musk's company SpaceX. Similarly, due to the massive involvement of private companies in India, the number of satellites will increase leaps and bounds. In the rat race of "world satellite dominance," what will happen to space pollution? What about the space debris limit, which are human-created items in space? Do we know the economic impact of these missions on a local level? Do we have balanced economic planning so that a part of this economic growth will be diffused through all the people of our country? I hope, parallel to exploration, we will also look for possible solutions to such pressing queries.

Social Impacts

ISRO's success in the Chandrayaan-3 mission has created an enormous impact on some parts of our society. In our country, we have witnessed that people are gradually developing some curiosity about space missions and closely following their progress. As a matter of fact, on August 23, in one instant of time, approximately 7 million people were watching the live streaming of the landing of Chandrayaan-3 on ISRO's YouTube page. This engagement was mutual as we have seen that throughout the travelling period of Chandrayaan-3, the social media handle of ISRO was consistently updating regarding the whereabouts of the lander module. In recent times, Mission Chnadrayaan-1 to 3 and Mission Mangalyaan, have triggered inquisitiveness among the common people of our country. They have started taking an interest in knowing what will happen next. What are the upcoming ventures of ISRO? What are the outcomes of these projects? Undoubtedly, this is a positive change for our society.

Then, what about the part of our country where people have no access to information such as television, smartphones, mobile networks, or perhaps even electricity? What about the people who are indifferent to these achievements as they are occupied with tolerating their hunger or preparing to sleep under the open sky? These questions are easy and answers are also known. So I leave it up to the readers to think and comprehend. I hope in future we will celebrate such achievements all together, but not in parts. EP

IIRF-2023 | BEST BCA COLLEGES

All India Rank* (Based on Survey & Secondary Research)	Name of Institute	City	State	State Rank		Employablity	Teaching Learning Resources & Pedagogy	Industry Connect	Global Exposure	External Perception	Overall Weighted Index Score (Out of 1000)
1	VIT Vellore - Vellore Institute of Technology	Vellore	Tamil Nadu	1		203.2	197.8	121.8	123.0	241.2	**887.00**
2	Birla Institute of Technology	Lalpur, Ranchi	Jharkhand	1		200.8	195.6	122.4	126.6	240.0	**885.40**
3	JSS Science and Technology University, Mysuru	Mysuru	Karnataka	1		200.0	185.2	120.6	120.6	258.0	**884.40**
4	Bharati Vidyapeeth Deemed University Institute of Management and Research (BVIMR)	New Delhi	Delhi	1		203.2	198.0	117.0	126.0	238.8	**883.00**
5	SRM University Chennai - SRM Institute of Science and Technology	Kattankulathur	Tamil Nadu	2		197.0	191.8	123.0	126.0	241.8	**879.60**
6	KIIT University - Kalinga Institute of Industrial Technology	Bhubaneshwar	Odisha	1		201.6	195.0	119.4	115.5	245.4	**876.90**
7	Bharath Institute of Higher Education and Research, Chennai	Chennai	Tamil Nadu	3		192.8	188.8	130.5	130.5	232.2	**874.80**
8	KL University Guntur - Koneru Lakshmaiah Education Foundation	Guntur	Andhra Pradesh	1		194.2	196.0	121.2	133.5	228.0	**872.90**
9	DSU Bangalore - Dayananda Sagar University	Bangalore	Karnataka	2		184.8	181.2	140.7	121.5	243.0	**871.20**
10	Chitkara University	Patiala	Punjab	1		193.0	187.8	119.4	124.8	244.2	**869.20**
11	Maharaja Surajmal Institute of Technology	New Delhi	Delhi	2		194.4	191.2	129.9	121.8	229.5	**866.80**
12	Jain University, Bangalore	Bangalore	Karnataka	3		196.0	175.2	137.4	112.5	243.0	**864.10**
13	Amrita Vishwa Vidyapeetham, Coimbatore	Coimbatore	Tamil Nadu	4		198.6	193.4	129.9	116.1	225.0	**863.00**
14	IMS University Courses Campus	Ghaziabad	Uttar Pradesh	1		176.0	188.8	128.4	130.5	238.2	**861.90**
15	BSAU Chennai - BS Abdur Rahman Crescent Institute of Science and Technology	Chennai	Tamil Nadu	5		192.0	179.2	140.4	110.7	237.0	**859.30**

*Page 6

*Page 6

IIRF-2023 | BEST BCA COLLEGES

All India Rank* (Based on Survey & Secondary Research)	Name of Institute	City	State	State Rank		Employability	Teaching Learning Resources & Pedagogy	Industry Connect	Global Exposure	External Perception	Overall Weighted Index Score (Out of 1000)
16	Chandigarh University, Chandigarh	Chandigarh	Punjab	2		196.0	191.2	127.2	109.5	232.2	**856.10**
17	Amity University - Gurgaon	Gurugram	Haryana	1		180.0	187.2	137.4	108.0	240.6	**853.20**
18	Shoolini University Solan - Shoolini University of Biotechnology and Management Sciences	Solan	Himachal Pradesh	1		176.0	195.2	131.4	127.5	221.4	**851.50**
19	SEF's Suryadatta College of Management, Information Research & Technology	Pune	Maharashtra	1		191.2	187.2	131.1	127.5	213.0	**850.00**
20	Christ University, Bangalore	Bangalore	Karnataka	4		178.4	191.2	129.6	127.5	221.4	**848.10**
21	SASTRA University Thanjavur - Shanmugha Arts Science Technology Research and Academy	Thanjavur	Tamil Nadu	6		180.0	175.2	117.9	113.1	260.4	**846.60**
22	LPU Jalandhar - Lovely Professional University	Phagwara	Punjab	3		176.0	182.4	129.9	119.1	237.0	**844.40**
23	REVA University, Bangalore	Bangalore	Karnataka	5		186.4	187.2	125.1	115.5	228.6	**842.80**
24	Meenakshi Academy of Higher Education and Research, Chennai	Chennai	Tamil Nadu	7		185.0	179.8	126.9	130.5	219.0	**841.20**
25	Graphic Era University, Dehradun	Dehradun	Uttarakhand	1		178.4	175.2	123.0	130.5	231.0	**838.10**
26	Banasthali Vidyapith, Banasthali	Jaipur	Rajasthan	1		177.0	171.2	114.9	111.0	264.0	**838.10**
27	Presidency University, Bangalore	Bangalore	Karnataka	6		184.0	187.2	119.4	108.0	237.0	**835.60**
28	Integral University, Lucknow	Lucknow	Uttar Pradesh	2		180.0	174.0	129.9	127.5	220.8	**832.20**
29	GITAM University, Visakhapatnam	Visakhapatnam	Andhra Pradesh	2		172.0	179.6	119.4	126.0	232.2	**829.20**
30	MMU Mullana - Maharishi Markandeshwar Deemed to be University	Mullana	Haryana	2		177.0	171.8	131.4	129.9	217.5	**827.60**
31	GLA University, Mathura	Mathura	Uttar Pradesh	3		188.0	179.2	107.4	94.5	257.4	**826.50**

*Page 6

*Page 6

IIRF-2023 | BEST BCA COLLEGES

All India Rank* (Based on Survey & Secondary Research)	Name of Institute	City	State	State Rank		Employablity	Teaching Learning Resources & Pedagogy	Industry Connect	Global Exposure	External Perception	Overall Weighted Index Score (Out of 1000)
32	SHUATS Allahabad - Sam Higginbottom Institute of Agriculture Technology and Science	Allahabad	Uttar Pradesh	4		174.0	168.8	135.9	133.5	213.0	**825.20**
33	Dr MGR Educational and Research Institute, Chennai	Chennai	Tamil Nadu	8		180.8	183.2	119.4	109.5	231.0	**823.90**
34	Adamas University, Kolkata	Kolkata	West Bengal	1		176.0	181.2	137.4	120.9	207.0	**822.50**
35	Kalasalingam Academy of Research and Education, Virudhunagar	Krishnan Kovil	Tamil Nadu	9		180.0	171.2	128.4	113.1	228.0	**820.70**
36	LNCT University, Bhopal	Bhopal	Madhya Pradesh	1		186.4	179.2	134.4	119.7	199.8	**819.50**
37	Janardan Rai Nagar Rajasthan Vidyapeeth, Udaipur	Udaipur	Rajasthan	2		186.4	181.2	113.1	119.7	215.4	**815.80**
38	The NorthCap University, Gurgaon	Gurgaon	Haryana	3		182.0	177.6	126.9	120.0	207.0	**813.50**
39	O P Jindal University	Raigarh	Chhattisgarh	1		180.0	171.2	130.5	114.0	216.6	**812.30**
40	PMIST Thanjavur - Periyar Maniammai Institute of Science and Technology	Thanjavur	Tamil Nadu	10		176.0	183.2	113.4	119.4	219.0	**811.00**
41	Poornima University, Jaipur	Jaipur	Rajasthan	3		176.0	179.2	116.4	114.9	222.0	**808.50**
42	Amity University, Jaipur	Jaipur	Uttar Pradesh	5		170.0	184.8	125.4	105.0	222.0	**807.20**
43	Karpagam Academy of Higher Education, Coimbatore	Coimbatore	Tamil Nadu	11		176.8	167.2	109.5	101.4	250.8	**805.70**
44	GIET University, Gunupur	Gunupur	Odisha	2		168.0	181.6	120.0	111.6	222.6	**803.80**
45	HITS Chennai - Hindustan Institute of Technology and Science	Chennai	Tamil Nadu	12		176.0	177.6	112.8	114.0	222.0	**802.40**
46	Manipal University, Jaipur	Jaipur	Rajasthan	4		180.0	174.8	120.0	115.5	210.6	**800.90**
47	SNDT Womens University, Mumbai	Mumbai	Maharashtra	2		168.0	172.0	114.0	117.0	228.6	**799.60**

*Page 6

*Page 6

IIRF-2023 | BEST BCA COLLEGES

All India Rank* (Based on Survey & Secondary Research)	Name of Institute	City	State	State Rank		Employablity	Teaching Learning Resources & Pedagogy	Industry Connect	Global Exposure	External Perception	Overall Weighted Index Score (Out of 1000)
48	ICFAI University, Jaipur	Jaipur	Rajasthan	5		180.0	172.0	118.5	112.2	215.4	**798.10**
49	Techno India University, Kolkata	Kolkata	West Bengal	2		174.0	168.0	126.0	112.8	216.0	**796.80**
50	YMCA Faridabad - JC Bose University of Science and Technology, YMCA	Faridabad	Haryana	4		180.0	176.0	119.4	105.0	214.8	**795.20**
51	Chitkara University, Himachal Pradesh	Barotiwala	Himachal Pradesh	2		178.6	168.8	129.6	114.0	202.8	**793.80**
52	ITM University, Raipur	Raipur	Chhattisgarh	2		164.0	165.6	126.0	114.0	223.2	**792.80**
53	Ajeenkya DY Patil University, Pune	Pune	Maharashtra	3		176.0	178.0	114.6	99.0	223.8	**791.40**
54	Manav Bharti University, Solan	Dhako	Himachal Pradesh	3		172.0	179.2	113.4	97.2	228.0	**789.80**
55	Invertis University, Bareilly	Bareilly	Uttar Pradesh	6		180.0	172.4	111.0	90.3	234.6	**788.30**
56	Himgiri Zee University, Dehradun	Sherpur	Uttarakhand	2		152.0	182.4	117.0	101.1	234.0	**786.50**
57	MMU Ambala - Maharishi Markandeshwar University	Ambala	Haryana	5		179.2	174.0	121.5	103.2	207.6	**785.50**
58	Gautam Buddha University, Greater Noida	Greater Noida	Uttar Pradesh	7		168.0	178.4	111.0	91.8	235.2	**784.40**
59	UEM Jaipur - University of Engineering and Management	Jaipur	Rajasthan	6		156.8	187.2	114.0	85.8	238.8	**782.60**
60	Satavahana University, Karimnagar	Karimnagar	Telangana	1		180.0	175.2	107.4	106.5	212.4	**781.50**
61	Maharishi Mahesh Yogi Vedic Vishwavidyalaya, Jabalpur	Jabalpur	Madhya Pradesh	2		157.6	168.0	117.0	111.0	226.8	**780.40**
62	Vignan's Foundation for Science Technology and Research, Guntur	Guntur	Andhra Pradesh	3		172.0	181.2	119.4	94.5	211.2	**778.30**
63	Sardar Patel University, Balaghat	Balaghat	Madhya Pradesh	3		173.6	168.4	125.7	102.0	204.0	**773.70**
64	BBDU Lucknow - Babu Banarasi Das University	Lucknow	Uttar Pradesh	8		174.0	183.2	117.6	93.0	204.6	**772.40**

*Page 6

*Page 6

IIRF-2023 | BEST BCA COLLEGES

All India Rank* (Based on Survey & Secondary Research)	Name of Institute	City	State	State Rank		Employability	Teaching Learning Resources & Pedagogy	Industry Connect	Global Exposure	External Perception	Overall Weighted Index Score (Out of 1000)
65	Vels University Chennai - Vel's Institute of Science Technology and Advanced Studies	Chennai	Tamil Nadu	13		173.6	172.0	120.0	102.8	202.2	**770.58**
66	Kalinga University, Raipur	Naya Raipur	Chhattisgarh	3		164.0	176.0	126.0	96.0	206.4	**768.40**
67	ADTU Guwahati - Assam Down Town University	Panikhaiti Gaon	Assam	1		172.0	175.2	101.4	99.0	219.6	**767.20**
68	Amity University, Mumbai	Navi Mumbai	Maharashtra	4		168.0	179.2	117.0	87.3	213.6	**765.10**
69	Garden City University, Bangalore	Bangalore	Karnataka	7		176.0	177.2	124.5	82.5	201.6	**761.80**
70	Sant Baba Bhag Singh University, Jalandhar	Jalandhar	Punjab	4		168.0	172.0	117.0	96.0	207.0	**760.00**
71	William Carey University, Shillong	Shillong	Meghalaya	1		172.0	179.2	120.0	93.0	192.6	**756.80**
72	Sir Padampat Singhania University, Udaipur	Udaipur	Rajasthan	7		175.2	167.2	118.5	95.1	198.6	**754.60**
73	SAGE University, Indore	Indore	Madhya Pradesh	4		172.0	163.6	125.1	97.5	195.0	**753.20**
74	North East Frontier Technical University, West Siang	Aalo	Arunachal Pradesh	1		180.0	177.2	112.2	89.7	192.6	**751.70**
75	AKU Patna - Aryabhatta Knowledge University	Patna	Bihar	1		165.6	177.6	121.5	83.7	201.6	**750.00**
76	Vivekananda Global University, Jaipur	Jaipur	Rajasthan	8		168.0	170.0	121.5	89.1	200.4	**749.00**
77	Sardar Patel University, Vallabh Vidyanagar	Vallabh Vidhyanagar	Gujarat	1		178.0	172.8	118.2	81.3	196.8	**747.10**
78	IIMT University, Meerut	Meerut	Uttar Pradesh	9		164.0	163.2	130.5	85.8	202.2	**745.70**
79	Navrachana University, Vadodara	Vadodara	Gujarat	2		172.0	162.8	125.4	85.2	198.6	**744.00**
80	St Joseph University, Dimapur	Dimapur	Nagaland	1		168.0	163.2	122.4	91.8	195.0	**740.40**

*Page 6

*Page 6

IIRF-2023 | BEST BBA COLLEGES (UNDER PVT. UNIVERSITY PROGRAMME)

All India Rank* (Based on Survey & Secondary Research)	Name of College (Under Pvt. University Programme)	City	State	State Rank		Weighted Score out of 1000 (Distributed across 5 Dimensions)					
						Placement (out of 200)	Teaching Learning Resources & Pedagogy (out of 200)	Industry Connect (out of 200)	Global Exposure (out of 200)	External Perception (out of 200)	Overall Index Score (Out of 1000)
1	NMIMS Mumbai - Narsee Monjee Institute of Management Studies	Mumbai	Maharashtra	1		181.6	176.4	119.4	116.4	192.0	**785.80**
2	SCMS Pune - Symbiosis Centre for Management Studies	Pune	Maharashtra	2		177.4	174.0	121.2	120.0	193.2	**785.80**
3	Manipal University (MAHE) - Manipal Academy of Higher Education	Manipal	Karnataka	1		173.2	184.4	122.7	114.9	186.0	**781.20**
4	VIT Vellore - Vellore Institute of Technology	Vellore	Tamil Nadu	1		181.2	160.4	115.8	122.1	192.0	**771.50**
5	Bennett University	Greater Noida	Uttar Pradesh	1		183.6	170.0	105.0	116.7	192.0	**767.30**
6	Amity University	Noida	Uttar Pradesh	2		173.4	178.0	119.4	113.1	180.0	**763.90**
7	Birla Institute of Technology	Lalpur, Ranchi	Jharkhand	1		174.6	178.4	109.8	122.7	176.4	**761.90**
8	Nirma University	Ahmedabad	Gujarat	1		173.2	168.4	122.4	120.9	174.0	**758.90**
9	IBS Hyderabad - IBS Business School	Hyderabad	Telangana	1		176.4	186.4	115.8	99.9	176.4	**754.90**
10	Jamia Hamdard	New Delhi	Delhi	1		181.2	156.4	112.8	117.9	181.2	**749.50**
11	Mittal School of Business LPU Phagwara - Mittal School of Business (Lovely Professional University)	Phagwara	Punjab	1		173.2	174.4	108.0	120.9	168.0	**744.50**
12	Bharath Institute of Higher Education and Research	Chennai	Tamil Nadu	2		169.2	173.2	115.8	117.9	165.0	**741.10**
13	Banasthali Vidyapith	Jaipur	Rajasthan	1		180.6	162.8	106.8	103.5	186.3	**740.00**
14	DYPUSM Mumbai - School of Management Dr. DY Patil University	Navi Mumbai	Maharashtra	3		171.6	168.4	123.0	116.4	158.4	**737.80**
15	Christ University	Bangalore	Karnataka	2		156.4	160.4	102.3	117.9	198.0	**735.00**
16	BVIMR New Delhi - Bharati Vidyapeeth Deemed University Institute of Management and Research	New Delhi	Delhi	2		167.8	164.4	108.3	121.5	167.1	**729.10**
17	Chitkara Business School	Patiala	Punjab	2		160.4	158.8	106.8	99.9	199.5	**725.40**

*Page 6

*Page 6

IIRF-2023 | BEST BBA COLLEGES (UNDER PVT. UNIVERSITY PROGRAMME)

All India Rank* (Based on Survey & Secondary Research)	Name of College (Under Pvt. University Programme)	City	State	State Rank		Weighted Score out of 1000 (Distributed across 5 Dimensions)					
						Placement (out of 200)	Teaching Learning Resources & Pedagogy (out of 200)	Industry Connect (out of 200)	Global Exposure (out of 200)	External Perception (out of 200)	Overall Index Score (Out of 1000)
18	SRM University Chennai - SRM Institute of Science and Technology	Kattankulathur	Tamil Nadu	3		164.8	170.0	119.4	106.5	162.6	**723.30**
19	Dayananda Sagar University (DSU)	Bangalore	Karnataka	3		165.4	156.4	115.8	120.9	163.5	**722.00**
20	KSOM Bhubaneswar - KIIT School of Management	Bhubaneshwar	Odisha	1		179.0	152.4	118.8	106.5	163.2	**719.90**
21	PES University	Bangalore	Karnataka	4		171.0	150.8	115.2	108.9	171.9	**717.80**
22	MSRUAS Bangalore - MS Ramaiah University of Applied Sciences	Bangalore	Karnataka	5		164.8	160.4	102.3	85.5	199.8	**712.80**
23	GITAM Institute of Management	Visakhapatnam	Andhra Pradesh	1		162.4	160.4	114.3	111.9	159.0	**708.00**
24	IMED Pune - Bharati Vidyapeeth's Institute of Management and Entrepreneurship Development	Pune	Maharashtra	4		164.4	160.4	120.3	105.9	154.8	**705.80**
25	Graphic Era University	Dehradun	Uttarakhand	1		163.2	160.4	127.8	105.9	147.0	**704.30**
26	School of Business- University of Petroleum and Energy Studies	Dehradun	Uttarakhand	2		168.4	156.4	106.8	97.5	172.8	**701.90**
27	REVA University	Bangalore	Karnataka	6		148.4	158.8	114.3	78.9	199.8	**700.20**
28	Shiv Nadar University	Greater Noida	Uttar Pradesh	3		166.8	154.4	102.0	110.1	165.6	**698.90**
29	BSAU Chennai - BS Abdur Rahman Crescent Institute of Science and Technology	Chennai	Tamil Nadu	4		158.4	170.0	109.8	105.9	153.0	**697.10**
30	Amity University (Lucknow campus)	Lucknow	Uttar Pradesh	4		163.6	156.4	102.0	111.9	162.0	**695.90**
31	Adamas University	Kolkata	West Bengal	1		159.0	156.4	121.2	105.9	152.4	**694.90**
32	Ahmedabad University	Ahmedabad	Gujarat	2		148.4	148.4	108.9	100.5	187.5	**693.70**
33	BML Munjal University	Gurgaon	Haryana	1		160.4	156.4	112.8	105.9	156.0	**691.50**
34	GITAM HBS Hyderabad - GITAM Hyderabad Business School	Hyderabad	Telangana	2		163.6	161.2	114.3	93.9	156.0	**689.00**

*Page 6

*Page 6

IIRF-2023 | BEST BBA COLLEGES (UNDER PVT. UNIVERSITY PROGRAMME)

All India Rank* (Based on Survey & Secondary Research)	Name of College (Under Pvt. University Programme)	City	State	State Rank		Weighted Score out of 1000 (Distributed across 5 Dimensions)					
						Placement (out of 200)	Teaching Learning Resources & Pedagogy (out of 200)	Industry Connect (out of 200)	Global Exposure (out of 200)	External Perception (out of 200)	Overall Index Score (Out of 1000)
35	DPU Pune - Dr DY Patil Vidyapeeth	Pimpri-Chinchwad	Maharashtra	5		150.4	162.0	111.6	75.9	187.5	**687.40**
36	SRM Institute of Science and Technology-Ramapuram Campus	Ramapuram	Tamil Nadu	5		148.4	160.4	109.8	72.9	193.5	**685.00**
37	JSS Academy of Higher Education and Research	Mysuru	Karnataka	7		152.4	152.4	100.8	79.5	196.8	**681.90**
38	Faculty of Business Administration-GLS University	Ahmedabad	Gujarat	3		147.6	157.2	100.8	99.9	174.0	**679.50**
39	Galgotias University	Greater Noida	Uttar Pradesh	5		132.4	159.6	101.4	90.9	192.0	**676.30**
40	Integral University	Lucknow	Uttar Pradesh	6		160.4	160.4	100.8	78.9	174.0	**674.50**
41	Sathyabama University - Sathyabama Institute of Science and Technology	Chennai	Tamil Nadu	6		141.2	168.4	103.2	76.5	183.0	**672.30**
42	NMIMS Bangalore - Narsee Monjee Institute of Management Studies	Bangalore	Karnataka	8		158.0	156.4	112.8	81.9	160.8	**669.90**
43	NMIMS Hyderabad - Narsee Monjee Institute of Management Studies	Hyderabad	Telangana	3		152.4	148.4	98.4	84.9	183.6	**667.70**
44	Presidency University	Bangalore	Karnataka	9		160.4	150.8	90.3	84.9	180.0	**666.40**
45	O P Jindal University	Raigarh	Chhatttisgarh	1		152.4	157.2	114.3	79.5	162.0	**665.40**
46	BBDU Lucknow - Babu Banarasi Das University	Lucknow	Uttar Pradesh	7		158.4	162.0	104.1	83.4	156.0	**663.90**
47	SSSIHL Prasanthi Nilayam - Sri Sathya Sai Institute of Higher Learning	Puttaparthi	Andhra Pradesh	2		152.4	161.6	104.1	70.5	174.0	**662.60**
48	Vels University Chennai - Vel's Institute of Science Technology and Advanced Studies	Chennai	Tamil Nadu	7		156.4	161.2	102.3	79.5	162.0	**661.40**
49	Meenakshi Academy of Higher Education and Research	Chennai	Tamil Nadu	8		162.0	158.4	102.3	79.5	157.8	**660.00**
50	Amity University Gurgaon - Amity University	Gurugram	Haryana	2		161.2	157.2	96.3	85.9	158.4	**658.99**

*Page 6

*Page 6

IIRF-2023 | BEST BBA COLLEGES (OVERALL)

All India Rank* (Based on Survey & Secondary Research)	Name of College	City	State		Weighted Score out of 1000 (Distributed across 5 Dimensions)					
					Placement (out of 200)	Teaching Learning Resources & Pedagogy (out of 200)	Industry Connect (out of 200)	Global Exposure (out of 200)	External Perception out of 200)	Overall Index Score (Out of 1000)
1	PSG College of Arts and Science	Coimbatore	Tamil Nadu		183.2	178.4	104.4	117.0	198.0	781.00
2	St. Xaviers College	Mumbai	Maharashtra		176.0	168.0	114.0	123.0	196.8	777.80
3	St. Xavier's College	Kolkata	West Bengal		183.2	178.8	104.1	116.4	192.0	774.50
4	SJCC Bangalore - St. Joseph's College of Commerce	Bangalore	Karnataka		180.8	174.8	111.0	117.0	189.6	773.20
5	Maharaja Agrasen Institute of Management Studies	New Delhi	Delhi		177.0	172.6	111.0	115.5	195.6	771.70
6	Rajagiri College of Social Sciences	Ernakulam	Kerala		172.8	169.6	119.1	120.0	187.2	768.70
7	Maharaja Surajmal Institute	New Delhi	Delhi		181.6	175.8	108.0	105.0	196.2	766.60
8	Suryadatta College of Management, Information Research & Technology (SCMIRT)	Pune	Maharashtra		174.2	175.2	109.8	123.0	183.0	765.20
9	SXC Ranchi - St. Xaviers College	Ranchi	Jharkhand		164.8	160.8	129.3	111.0	198.0	763.90
10	KJ Somaiya College of Science and Commerce	Mumbai	Maharashtra		172.8	172.0	118.5	114.0	184.5	761.80
11	Badruka College of Commerce and Arts	Hyderabad	Telangana		173.0	168.6	108.0	112.2	196.8	758.60
12	St. Joseph's College	Bangalore	Karnataka		176.0	156.0	124.8	102.0	198.0	756.80
13	Loyola College	Chennai	Tamil Nadu		178.6	174.2	117.3	105.6	180.0	755.70
14	BMCC Pune - Brihan Maharashtra College of Commerce	Pune	Maharashtra		156.0	168.4	117.0	120.0	193.2	754.60
15	Pillai College of Arts, Commerce and Science	Navi mumbai	Maharashtra		172.0	160.0	129.0	100.2	192.0	753.20
16	Mount Carmel College	Bangalore	Karnataka		176.0	172.0	115.8	99.0	187.2	750.00
17	Bhavan's College	Mumbai	Maharashtra		160.0	168.0	126.0	97.5	195.6	747.10
18	GCC Pune - Mes's Garware College of Commerce	Pune	Maharashtra		156.0	176.0	120.0	117.0	176.4	745.40
19	PSGR Krishnammal College for Women	Coimbatore	Tamil Nadu		171.2	168.0	119.7	117.0	168.0	743.90
20	IIMC Hyderabad - Indian Institute of Management and Commerce	Hyderabad	Telangana		158.4	172.0	118.2	117.0	176.4	742.00

*Page 6

*Page 6

IIRF-2023 | BEST BBA COLLEGES (OVERALL)

All India Rank* (Based on Survey & Secondary Research)	Name of College	City	State		Weighted Score out of 1000 (Distributed across 5 Dimensions)					
					Placement (out of 200)	Teaching Learning Resources & Pedagogy (out of 200)	Industry Connect (out of 200)	Global Exposure (out of 200)	External Perception out of 200)	Overall Index Score (Out of 1000)
21	Loyola Academy Degree and PG College	Secunderabad	Telangana		160.0	164.0	108.0	109.2	196.8	738.00
22	IMS Ghaziabad (University Cources Campus)	Ghaziabad	Uttar Pradesh		156.0	163.2	118.5	103.8	192.0	733.50
23	The American College	Madurai	Tamil Nadu		166.4	168.0	111.0	102.0	183.6	731.00
24	ALC Vijayawada - Andhra Loyola College	Vijayawada	Andhra Pradesh		165.0	160.6	115.5	114.0	174.0	729.10
25	Indsearch	Pune	Maharashtra		158.4	156.0	111.6	114.0	186.0	726.00
26	BESC Kolkata - Bhawanipur Education Society College	Kolkata	West Bengal		154.0	153.6	124.5	123.0	168.0	723.10
27	SJES College of Management Studies	Bangalore	Karnataka		152.0	160.4	108.0	115.5	186.0	721.90
28	Gayatri Vidya Parishad College for Degree and PG Courses	Visakhapatnam	Andhra Pradesh		157.0	152.0	120.0	119.4	172.5	720.90
29	AIMS Institutes	Bangalore	Karnataka		159.2	161.6	111.0	102.0	186.0	719.80
30	Ness Wadia College of Commerce	Pune	Maharashtra		156.0	156.0	102.0	111.0	193.8	718.80
31	Lala Lajpat Rai College of Commerce and Economics	Mumbai	Maharashtra		160.0	168.0	108.0	93.0	188.4	717.40
32	Jai Hind College	Mumbai	Maharashtra		156.0	162.0	126.0	110.4	162.0	716.40
33	St.Alberts College	Ernakulam	Kerala		160.0	152.0	111.0	117.0	175.2	715.20
34	Nagindas Khandwala College	Mumbai	Maharashtra		168.0	160.0	102.0	93.0	192.0	715.00
35	Indira Institute of Management	Pimpri-Chinchwad	Maharashtra		160.0	152.0	117.0	102.0	183.0	714.00
36	Anwarul Uloom College	Hyderabad	Telangana		166.4	160.0	123.0	109.2	154.8	713.40
37	PB Siddhartha College of Arts and Science	Vijayawada	Andhra Pradesh		162.0	158.4	115.5	114.0	162.0	711.90
38	PIMR Indore - Prestige Institute of Management and Research	Indore	Madhya Pradesh		166.4	162.0	101.7	109.2	170.4	709.70
39	St.Joseph's Degree and PG College	Hyderabad	Telangana		160.0	152.0	119.1	105.6	171.6	708.30
40	Mithibai College Mumbai - Mithibai College of Arts Chauhan Institute of Science and Amrutben Jivanlal College of Commerce and Economics	Mumbai	Maharashtra		156.0	164.0	102.0	111.0	174.0	707.00

*Page 6

*Page 6

IIRF-2023 | BEST BBA COLLEGES (OVERALL)

All India Rank* (Based on Survey & Secondary Research)	Name of College	City	State		Weighted Score out of 1000 (Distributed across 5 Dimensions)					
					Placement (out of 200)	Teaching Learning Resources & Pedagogy (out of 200)	Industry Connect (out of 200)	Global Exposure (out of 200)	External Perception out of 200)	Overall Index Score (Out of 1000)
41	JIMS Rohini - Jagan Institute of Management Studies Rohini	New Delhi	Delhi		157.6	151.6	99.0	101.4	194.4	704.00
42	MIT College of Management	Pune	Maharashtra		160.0	156.0	114.0	90.6	182.4	703.00
43	Dr Ambedkar Institute of Management and Research	Nagpur	Maharashtra		156.0	160.0	105.0	103.2	177.0	701.20
44	IITM Janakpuri - Institute of Innovation in Technology and Management	New Delhi	Delhi		156.2	151.8	114.0	108.0	170.1	700.10
45	St.Mary's College	Hyderabad	Telangana		160.0	155.6	110.4	105.0	168.0	699.00
46	MOP Vaishnav College for Women	Chennai	Tamil Nadu		159.2	153.4	109.5	102.0	173.7	697.80
47	RDIAS Delhi - Rukmini Devi Institute of Advanced Studies	New Delhi	Delhi		152.8	158.4	102.0	103.5	178.8	695.50
48	JIMS Kalkaji - Jagannath International Management School Kalkaji	New Delhi	Delhi		154.0	149.6	114.6	102.0	174.0	694.20
49	ABBS Bangalore - Acharya Bangalore B-School	Bangalore	Karnataka		144.0	146.8	114.0	102.0	186.0	692.80
50	Maharaja Agrasen International College	Raipur	Chhattisgarh		158.6	148.8	119.1	108.0	157.2	691.70
51	Gauhati Commerce College	Guwahati	Assam		152.0	148.0	109.2	99.0	182.4	690.60
52	VIPS Delhi - Vivekananda Institute of Professional Studies	New Delhi	Delhi		152.4	156.0	116.4	99.0	165.6	689.40
53	Institute of Management Sciences	Lucknow	Uttar Pradesh		159.2	154.8	110.1	94.2	169.2	687.50
54	Banarsidas Chandiwala Institute Of Professional Studies	New Delhi	Delhi		160.0	156.0	96.0	102.0	172.2	686.20
55	KES' BK Shroff College of Arts and MH Shroff College of Commerce	Mumbai	Maharashtra		156.0	158.8	112.2	93.0	165.0	685.00
56	SIES Nerul College of Arts Science and Commerce	Navi mumbai	Maharashtra		153.6	149.2	114.3	99.0	167.4	683.50
57	Institute of Information Technology and Management	New Delhi	Delhi		152.0	156.0	90.0	108.0	176.4	682.40
58	Som Lalit Institute of Business Administration	Ahmedabad	Gujarat		152.0	144.4	126.0	96.0	162.0	680.40
59	Sri Ramakrishna College of Arts and Science	Coimbatore	Tamil Nadu		155.2	148.0	108.0	103.2	165.0	679.40

*Page 6

*Page 6

IIRF-2023 | BEST BBA COLLEGES (OVERALL)

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					Placement (out of 200)	Teaching Learning Resources & Pedagogy (out of 200)	Industry Connect (out of 200)	Global Exposure (out of 200)	External Perception out of 200)	Overall Index Score (Out of 1000)
60	Marian College	Kuttikkanam	Kerala		148.0	150.8	114.0	94.2	170.4	677.40
61	SCMS Noida - Symbiosis Centre for Management Studies	Noida	Uttar Pradesh		144.0	144.0	119.1	93.6	175.2	675.90
62	ICCS Pune - Indira College of Commerce and Science	Pimpri-Chinchwad	Maharashtra		152.0	143.6	114.0	96.0	169.2	674.80
63	JDBI Kolkata - J D Birla Institute	Kolkata	West Bengal		145.6	158.4	116.7	77.4	175.2	673.30
64	MIT SOM College	Pune	Maharashtra		158.0	153.6	109.5	87.0	163.8	671.90
65	Dr Ambedkar Institute of Management Studies and Research	Nagpur	Maharashtra		148.0	132.0	102.6	100.8	187.2	670.60
66	St.Mira's College for Girls	Pune	Maharashtra		148.0	144.0	111.0	97.8	168.0	668.80
67	DCSMAT Vagamon - DC School of Management and Technology	Idukki	Kerala		154.0	149.6	102.6	81.0	180.0	667.20
68	IMI Indore - Indore Management Institute and Research Cente	Indore	Madhya Pradesh		152.0	156.0	105.0	96.0	156.0	665.00
69	AIMT Greater Noida - Army Institute of Management and Technology	Greater Noida	Uttar Pradesh		148.0	147.6	100.5	81.0	186.0	663.10
70	BPIT Delhi - Bhagwan Parshuram Institute of Technology	New Delhi	Delhi		138.4	134.0	112.5	84.6	192.0	661.50
71	Bhavan's Vivekananda College of Science Humanities and Commerce	Secunderabad	Telangana		148.0	136.8	111.0	84.0	180.0	659.80
72	Siva Sivani Degree College	Hyderabad	Telangana		152.0	147.6	102.0	81.0	175.8	658.40
73	Don Bosco College	Mumbai	Maharashtra		148.0	152.0	112.2	72.0	172.8	657.00
74	SIES College of Arts Science and Commerce	Mumbai	Maharashtra		144.0	132.0	102.0	79.2	198.0	655.20
75	Don Bosco College	Panjim	Goa		152.0	136.0	102.0	84.0	180.0	654.00
76	Gitarattan International Business School	New Delhi	Delhi		136.8	144.0	102.9	90.0	177.6	651.30
77	DSPSR Delhi - Delhi School of Professional Studies and Research	New Delhi	Delhi		144.0	132.0	102.0	99.0	172.8	649.80
78	Dr BC Roy Engineering College	Durgapur	West Bengal		132.0	140.0	105.0	103.2	168.0	648.20
79	Dr Ambedkar College	Nagpur	Maharashtra		140.0	142.8	100.5	98.4	165.0	646.70
80	Guru Nanak College	Chennai	Tamil Nadu		144.0	132.0	96.0	96.0	177.0	645.00

*Page 6

*Page 6

IIRF-2023 | BEST BBA COLLEGES (EMERGING)

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					Placement (out of 200)	Teaching Learning Resources & Pedagogy (out of 200)	Industry Connect (out of 200)	Global Exposure (out of 200)	External Perception (out of 200)	Overall Index Score (Out of 1000)
1	Woxsen University	Hyderabad	Telangana		156.8	166.4	108.6	126.0	180.0	**737.80**
2	Symbiosis Skills & Professional University	Pune	Maharashtra		160.8	158.2	118.8	106.5	192.0	**736.30**
3	VIT-AP University	Amaravati	Andhra Pradesh		162.0	168.0	111.3	111.0	182.4	**734.70**
4	SRM University	Amaravati	Andhra Pradesh		164.8	165.4	111.3	102.0	189.3	**732.80**
5	Vishwakarma University	Pune	Maharashtra		160.8	160.0	106.8	105.0	198.0	**730.60**
6	Graphic Era Hills University	Dehradun	Uttarakhand		156.4	160.0	105.3	112.5	194.4	**728.60**
7	D Y Patil International University	Pune	Maharashtra		157.2	161.2	114.3	108.0	186.0	**726.70**
8	Dr. Vishwanath Karad MIT World Peace University	Pune	Maharashtra		155.4	155.8	112.2	100.5	198.0	**721.90**
9	IIMT University	Meerut	Uttar Pradesh		156.0	152.0	111.6	99.0	198.0	**716.60**
10	Sister Nivedita University	Kolkata	West Bengal		153.8	154.2	106.8	105.0	192.0	**711.80**
11	G L Bajaj Institute of Management	Greater Noida	Uttar Pradesh		148.8	156.0	102.3	108.0	193.2	**708.30**
12	Avantika University	Ujjain	Madhya Pradesh		156.8	152.0	108.0	89.1	198.0	**703.90**
13	Birla Global University	Bhubaneswar	Odisha		148.4	148.0	114.6	99.0	192.0	**702.00**
14	NEFTU – North East Frontier Technical University	Medog	Arunachal Pradesh		145.6	151.2	120.3	102.0	181.2	**700.30**
15	Dr. C V Raman University	Bilaspur	Chhattisgarh		144.0	156.0	117.6	99.0	182.4	**699.00**
16	Atmiya University	Rajkot	Gujarat		156.4	148.4	108.0	99.0	186.0	**697.80**

*Page 6

*Page 6

IIRF-2023 | BEST BBA COLLEGES (EMERGING)

All India Rank* (Based on Survey & Secondary Research)	Name of College	City	State		Weighted Score out of 1000 (Distributed across 5 Dimensions)					
					Placement (out of 200)	Teaching Learning Resources & Pedagogy (out of 200)	Industry Connect (out of 200)	Global Exposure (out of 200)	External Perception (out of 200)	Overall Index Score (Out of 1000)
17	ASBM University	Bhubaneswar	Odisha		148.8	152.0	106.8	99.0	190.2	**696.80**
18	C T University	Ludhiana	Punjab		145.2	148.0	111.3	97.8	192.0	**694.30**
19	RIMT University	Madi Gobindgarh	Punjab		156.4	156.0	109.5	108.0	162.0	**691.90**
20	G H Raisoni University	Amravati	Maharashtra		152.8	142.0	102.6	99.0	192.0	**688.40**
21	MGM University	Aurangabad	Maharashtra		146.4	147.2	110.4	81.0	198.0	**683.00**
22	C V Raman Global University	Bhubaneswar	Odisha		140.4	148.0	108.6	87.0	196.8	**680.80**
23	Somaiya Vidyavihar	Mumbai	Maharashtra		139.6	144.0	106.8	88.2	198.0	**676.60**
24	Maharshi University of Information Technology	Noida	Uttar Pradesh		136.8	146.0	108.3	85.2	198.0	**674.30**
25	Sharnbasva University	Kalaburagi	Karnataka		148.4	140.0	111.3	79.2	192.0	**670.90**
26	Srinivas University	Mangaluru	Karnataka		153.2	148.0	108.3	79.2	180.0	**668.70**
27	Centurion University of Technology and Management	Khurda	Odisha		154.0	138.0	109.5	87.0	177.6	**666.10**
28	Gandhi Institute of Engineering and Technology University	Gunupur	Odisha		148.8	144.0	114.0	78.0	180.0	**664.80**
29	Sri Balaji University	Pune	Maharashtra		148.4	140.0	93.3	90.0	192.0	**663.70**
30	Bhabha University	Bhopal	Madhya Pradesh		152.0	136.0	98.4	84.0	192.0	**662.40**

*Page 6

*Page 6

IMA Urges 30% Cut-Off Reduction in NEET PG 2023

The Indian Medical Association (IMA) has written to Health Minister Mansukh Mandaviya demanding a reduction in the NEET PG 2023 cut-off percentile by up to 30 percent so that most of the seats can be filled in both clinical and non-clinical branches.

This will ensure that a significant number of aspiring doctors can enroll for postgraduate programmes in various medical colleges across the country and not a single postgraduate seat goes vacant, the IMA said in its letter.

West Bengal Education Department Introduces New State Education Policy

The West Bengal Department of Education has recently introduced its updated State Education Policy (SEP), confirming the retention of the existing 5+4+2+2 schooling framework. On September 9. The Education Department made this significant announcement, emphasizing the continuity of the 5+4+2+2 model. Under the SEP's provisions, schooling will persist with the 5+4+2+2 pattern, as stated by a representative from the education department.

NCERT Attains Deemed-to-be-University Status

On its 63rd Foundation Day, the National Council of Educational Research and Training (NCERT) was granted deemed-to-be-university status by the Ministry of Higher Education. This transformation will open doors to global collaborations and contributions to the field of education. "NCERT has established a formidable presence in research, actively shaped school education, teacher training, and adult literacy. NCERT on becoming a research university will offer opportunities for global collaborations and contributions to the global educational landscape," said Dharmendra Pradhan, Minister of Education. He further added, "The deemed-to-be university status is on lines of Indian Institute of Science."

UGC Launches Malaviya Mission Teacher Training Programme

The University Grants Commission (UGC) unveiled the Malaviya Mission Teacher Training Programme on September 5, 2023, in a stride towards enhancing the quality of education in India. This pioneering initiative, launched by the Union Minister for Education and Skill Development & Entrepreneurship, Dharmendra Pradhan, on the auspicious occasion of Teachers' Day, carries immense potential to reshape teacher training in the country. This comprehensive article delves into the program's objectives, significance, and potential impact on India's educational landscape.

Skill India Digital Platform Launched

The Ministry of Skill Development launched the Skill India Digital (SID) platform on Wednesday, aiming to skill nearly 260 million students in school and higher education while also providing entrepreneurial opportunities nationwide.

Built by the National Skill Development Corporation (NSDC) in collaboration with multiple industry players, the platform is part of the World Bank-assisted Skill Acquisition and Knowledge Awareness for Livelihood Promotion (SANKALP) programme. It serves as a digital public infrastructure designed to transform India's skills, education, employment, and entrepreneurship landscape.

NMC Sets Attendance Rules for MBBS Students

The National Medical Commission (NMC) has announced that MBBS students who will be appearing for the supplementary examinations will have to maintain at least 75% attendance in theory and 80% in practical or clinical training. The students having less than 75% attendance in theory and less than 80% in practical or clinical training will not be allowed to appear in supplementary examinations.

The apex body also informed that there shall be no grace marks in the university examination. And that the family adoption programme through village outreach is mandatory for MBBS from the batch admitted this year.

These rules are part of the NMC's Competency-Based Medical Education (CBME) regulations 2023, published on August 1, 2023. According to the CBME guidelines, this rule will apply to every student of every batch admitted to the MBBS course since 2019.

IIT-Bombay Makes AI and Data Science Mandatory

The Indian Institute of Technology-Bombay (IIT-B) has decided to introduce Artificial Intelligence and Data Science (AI-DS) as a mandatory course for undergraduate students — BTech as well as Bachelor of Science (BS) — from this academic year.

"Earlier, Physics, Chemistry, Mathematics, and Biology used to be common courses that everybody had to learn. Now AI-DS is a new addition to that list in our curriculum. Whether they use it or not, everybody will get the flavour of it by being equipped with the knowledge to use it," said Professor Deepankar Choudhury, head of the civil engineering department who headed a panel set up to look at the revision of the BTech curriculum.

IIM Kashipur and Max Healthcare Launch PG Diploma

The Indian Institute of Management Kashipur (IIM-Kashipur) has teamed up with Max Healthcare Ltd to launch a postgraduate diploma programme in hospital management. As per an agreement signed by both organisations, the launch of the PG diploma programme will address the increasing demand for trained manpower in the healthcare sector.

The PG diploma programme in hospital management is of nine months duration and seeks to cater exclusively to executives and managers looking to develop and enhance their expertise in hospital operations, an IIM Kashipur statement said. Both organisations, the statement added, also decided to conduct joint research, seminars and other academic collaborations as part of the agreement.

Ministries Partner with Meta for Technological Advancement

The Union Minister for Education and Skill Development and Entrepreneurship Dharmendra Pradhan on Sept 5 launched a three-year partnership with the Ministry of Education, Ministry of Skill Development and Entrepreneurship and Meta.

As part of the partnership, as many as three letters of intent (LoI) were exchanged between Meta and NIESBUD, AICTE and CBSE. The minister of state for education Annpurna Devi and the minister of state for electronics and information technology and skill development and entrepreneurship Rajeev Chandrasekhar were present during the signing ceremony.

IIT Madras Adds 'International Immersion Learning' to Executive MBA

The Indian Institute of Technology (IIT) Madras' Department of Management Studies (DoMS) today included an 'International Immersion Learning' component to its Executive MBA programme for working professionals. The core focus of the International Immersion Learning programme, according to an IIT Madras statement, is on global leadership and cultural intelligence.

Applications for this programme are open till October 19. Candidates can apply online at the official website—doms.iitm.ac.in/emba

The classes will be held in person over alternate weekends from January 2024. Candidates need to have 60 percent and above in graduation (any discipline), a minimum of three years of work experience and selection through an entrance exam and a virtual personal interview conducted by the Department of Management Studies.

NMC Reduces Passing Marks for MBBS Subjects

The National Medical Commission (NMC) has reduced the passing marks to 40 percent for MBBS subjects having two papers. The commission has amended the Competency-Based Medical Education (CBME) curriculum guidelines regarding passing marks in university-conducted examinations.

As per the revised guidelines, "In subjects that have two papers, the learner must secure a minimum of 40 percent of marks in aggregate (both papers together) to pass in said subject."

Earlier, the students had to secure a minimum of 50 percent marks in aggregate of both papers to pass the subject.

Dr. K. Sivan Chairs IIT Indore's Board of Governors

Eminent space scientist and former ISRO Chairperson, Dr K Sivan has been appointed as the chairperson of the board of governors of IIT Indore for three years, the institute said.

"Honoured to have Dr. K. Sivan, former Chairperson, ISRO and former Secretary, Department of Space as the Chairperson of the Board of Governors of IIT Indore," the institute tweeted on 'X' (formerly Twitter).

IIT Kanpur Signs MoU for Medical Technology

The Indian Institute of Technology, Kanpur signed a Memorandum of Understanding (MoU) with Sensa Core Medical Instrumentation Pvt. Ltd. for mass manufacturing and sales of a point-of-care technology developed at the institute for rapid analysis of bilirubin in human blood/serum along with its three variants. The technology was developed at the National Centre for Flexible Electronics (NCFlexE), IIT Kanpur, by Prof. Siddhartha Panda, Department of Chemical Engineering, and Nishant Verma. It also recently signed an MoU with the ICICI Bank to provide startups with a comprehensive support system.

MATHEMATICS CHALLENGE

CMT - SERIES PROBLEMS - by GANIT MATH (गणित मठ)

- composed by -
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CMT-2020/ 44 :

$$If\ m = \left\{ \left(\frac{x\sqrt{x}}{1-\sqrt{\frac{y}{x+y}}} \right) + \left(\frac{y\sqrt{y}}{1+\sqrt{\frac{x}{x+y}}} \right) \right\};$$

$$n = x^3 \div \left(1 - y \div \sqrt{x^2+y^2}\right) + y^3 \div \left(1 + x \div \sqrt{x^2+y^2}\right);$$

$$and, \frac{n}{m} = p\left(x\sqrt{x} - x\sqrt{y} + y\sqrt{x} - y\sqrt{y}\right) + Q$$

$$= p\left(y\sqrt{y} - y\sqrt{x} + x\sqrt{y} - x\sqrt{x}\right) + R;$$

$$(where\ x \neq 0,\ y \neq 0)$$

$$then, \{m(Q+R)\} \div (np) = ?$$

CMT-2020/ 45 :

$$If\ \tan^8\alpha + \cot^8\alpha =$$

$$2\left[2\left\{\left(1-\sqrt{2}\right)^2 - 1\right\}^2 - 1\right]$$

$$and\ \sin\alpha\cos\alpha = \sqrt{\sin\beta}, then\ \tan^2\beta = ?$$

ANSWERS:

CMT-2020/42 : 11.8 CMT-2020/43 : 51

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I highly recommend all the young learners to solve Mental Maths Workbook (by Ganit Math Publications)

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5. NEET UG 2022 AIR- 368 (690/720)
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7. JEE ADV. AIR 3354

Answers will be published in the next issue . You can ask any queries and send your solution to
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