

33RD EDITION

SEPTEMBER 2023

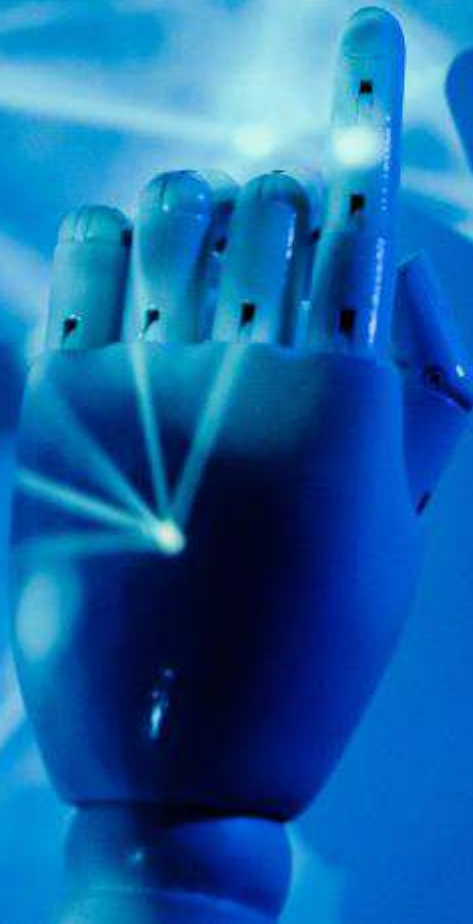


Abhyudaya
Reliving the Legacy

FOOD

&

**ARTIFICIAL
INTELLIGENCE**



This Issue

Words from the Editor's desk...

"Hope is a good thing,
maybe the best of things
and no good thing ever dies"



The forces of the CORNquerors and samuRYEs merged into a formidable line, representing a union forged through respect and shared memories with love.

To all distinguished readers

On behalf of the team Abhyuday, I humbly present to you the 33rd edition of the magazine put together by the 58th batch of M.Sc. Food Technology, the samuRYEs.

The core of the magazine, "Cover Story" which goes around the most significant turnaround in technology in the recent years, AI.

"Alumni Column" goes with heartfelt words about good old memories by our Director Dr. Sridevi Annapurna Singh.

Get updates on new innovative approaches by industries under "Industry Buzz" section.

"Food Incorporated", to know about plant-based drinks by DUG.

Words of Mr. Sagar Kedare on emerging technologies in food industry under "Experience Talk"

Weird but interesting, get on to "WTF (What The Food)" for new trend foods.

Travel through the events, where Memories lasts forever with "Kampus Khabar"

Get some management tips in "Career Corner" section.

Play some games and check your knowledge on millets on "Games" section.

Go through the beauty of campus in the "Photography" section.

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Regards
RUDRESH T O

About Abhyuday.....

Emerging as a pioneer in food research in 1950 and continuing to provide an impetus to the food and allied sectors, CFTRI is the backbone of food-based scientific as well as industrial developments in India. The genesis of Abhyuday owes itself to the heritage that was created by the great minds that have been a part of this institution ever since the beginning and emerged from here as successful individuals spreading the glory of this place far and wide.

Abhyuday is a Sanskrit word which means beginning or awakening...

Awakening for re-inventing the vigour and strength by breaking away from the shackles of mediocrity and sombreness...Awakening for being the change and leading the way...

The e-newsletter, it is expected, would try and achieve its goal of promoting dissemination of the right and benign knowledge and act like an umbilical cord that would keep us connected to our mother institution.

Industry Buzz will include the past months developments in food industry viz. M&A, new product launches, new market entrants, market reviews, inventions and innovations etc. The Cover-Story will track one most important development of the month in the food industry with a detailed analysis from all the quarters. What The Food! will shed light on the interesting and lesser known facts about food. Kampus Khabar will attempt to track the campus news, developments, conference and seminars, tech-talks by our alumni. Career Corner would be the space where articles related to interpersonal and communication skill development, interview etiquette, CV writing skills etc. would be stressed.

The most exclusive of all the sections would be the Alumn Column which will feature technical articles, literary and artistic works, tweets and blogposts, creative and memorable contributions by our distinguished alumni. Also, we shall run a feature on one prominent CFTRIian in any field in each edition.

Besides, updates regarding upcoming seminars and events, congratulatory messages on birthdays and anniversaries, placements and promotions of alumni will also be featured. Advertisements from industries and entrepreneurs will also be featured for free. With a view to ensure the involvement of the readers and make the experience worthwhile, some games like crosswords, food quiz, jigsaw puzzles, riddles etc. would also be incorporated.

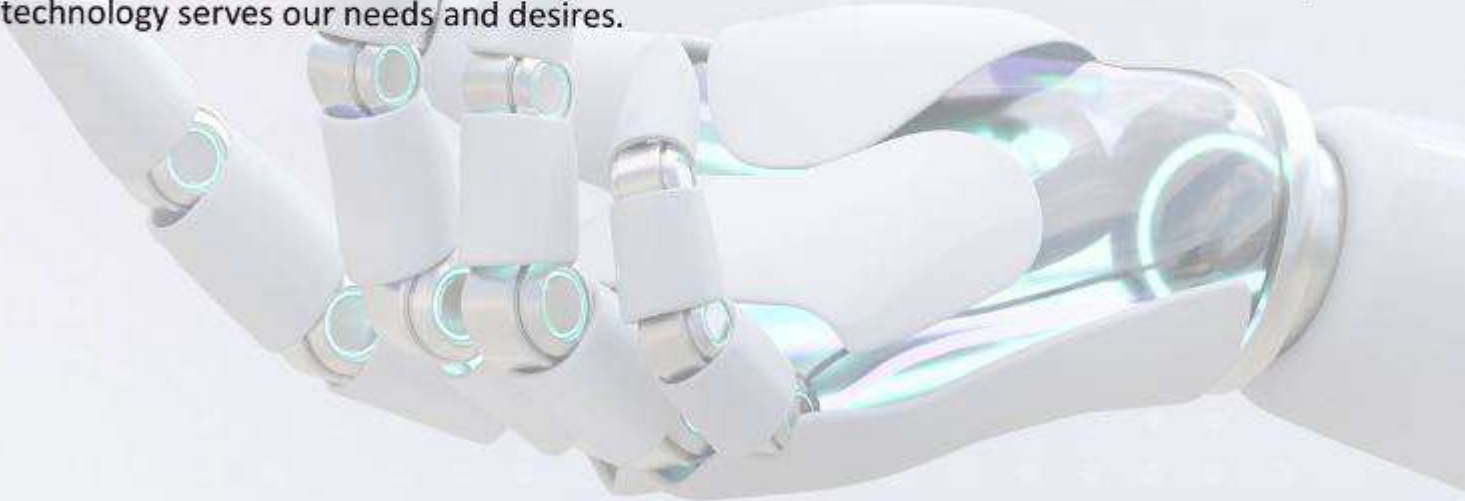
Artificial intelligence traditionally refers to the artificial creation of human-like intelligence that can learn, reason, plan, perceive, or process natural language. John McCarthy, the father of AI, defined AI as 'the science and engineering of making intelligent machines, especially intelligent computer programs'.

In the food industry, where designing standard reliable procedures to control product quality is a major objective, and the search for new ways to reach and serve customers while keeping costs low is crucial, the deployment of AI has become necessary. AI is employed to achieve better customer experience, efficient supply chain management, improved operational efficiency, reduction in material movements and vehicle activity, and overall better business results.

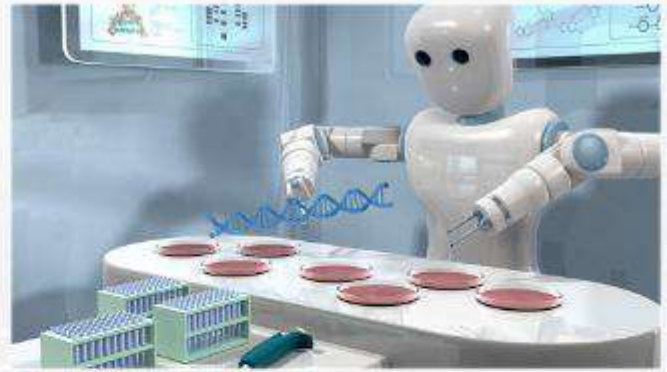
Before implementing AI, studies related to food have been conducted over the years to educate the public about food knowledge and improve outcomes related to food properties and production. The implementation of AI in the food industry has been ongoing for decades and continues to increase today.

Future of AI:

The future of artificial intelligence holds immense potential for development. AI has already triggered significant advancements in various sectors. With the rise of the metaverse and other technologies, AI and machine learning are likely to play a central role in resource allocation and decision-making. While machines have become integral in the industrial sector, humans are still essential to tackle day-to-day challenges, indicating that AI has a long way to go before fully replacing human leaders. In summary, AI has its pros and cons, but it has undoubtedly accelerated the way technology serves our needs and desires.



APPLICATIONS OF ARTIFICIAL INTELLIGENCE IN FOOD INDUSTRIES



Quality Inspection:

The food industry places great emphasis on maintaining the right standard of quality as prescribed by regulatory authorities. However, with mass production, maintaining quality becomes challenging. Yet, when the production process complies with AI-empowered machines, quality is ensured.

Safety/Quality Issues:

AI systems provide safer and more accurate results in production lines compared to human workers. AI-based detection can identify potential risks, such as workers forgetting to wear appropriate safety gear, thereby keeping employees and equipment safer.

Improving Food Safety Standards:

AI and machine learning enable robots to handle and process food, eliminating the risk of contamination through touch. This reduces the chances of food safety issues arising.

Smart Sensors:

Throughout the production process, smart sensors monitor for any anomalies or deviations from the norm. They can detect quality defects or electrical issues. The use of AI in conjunction with smart sensors streamlines the production chain by eliminating the need for manual quality inspectors.

Tracking Food Supply Chain:

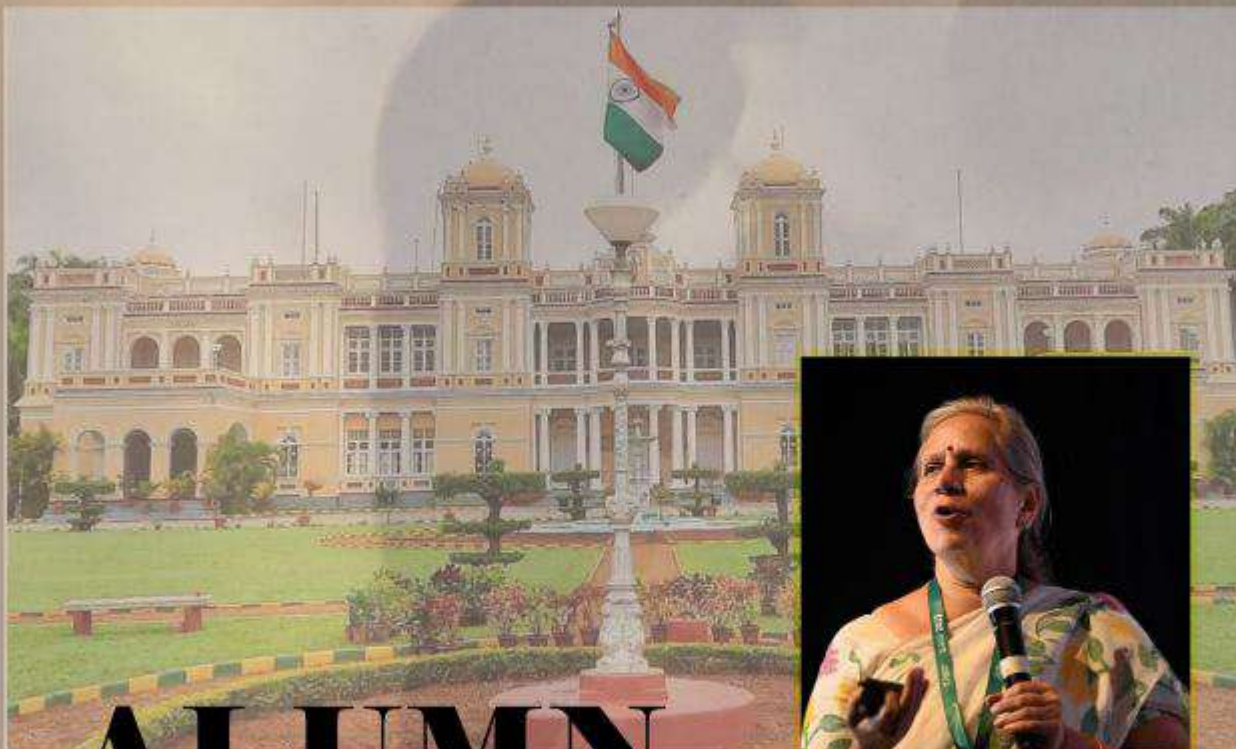
Similar to tracking a courier or parcel, food businesses can track their supply chain to ensure raw materials move in the right direction and at the right speed. AI applications and portals enable food manufacturers to track their supply chains effectively, preventing delays and disruptions.

Automated Packaging:

AI has transformed the packaging process in the food industry. Automated machines are aware of the exact quantities to release and can pack items within seconds. Automated packaging machines enhance efficiency and speed in the industry.

Advantages and Disadvantages of AI:

AI has been widely used in the industry due to its numerous advantages over traditional methods. The algorithms are accurate and reliable, but careful selection is required, considering the advantages and limitations of each algorithm. Different algorithms have their own strengths and weaknesses, so choosing the appropriate algorithm for a specific application in the food industry must be done on a case-by-case basis.



ALUMN COLUMN

Dr. Sridevi Annapurna Singh
Batch-1986-88
Honorable Director,
CSIR-CFTRI, Mysuru

1. From M.Sc. Student to The Honourable Director of CFTRI, would you please describe this journey in few words. Is the grass greener on the other side, From an M.Sc. point of view to Director point of view ?

I've been a student here during 1986-88, after that for two and a half years I worked in Kissan Products, Bangalore. I came back in 1991 to CFTRI as junior scientist. I am also a Mysorian. So, this is a very iconic campus, because it's in the heart of the city, it has lot of greenery and you feel royal in presence of the mansion. So, whenever I passed to go to the railway station or elsewhere, I wondered what was behind those majestic gates. I was the first rank holder and Gold medallist from University of Mysore, so I got the Karnataka seat for M.Sc. FT. Those days, there was no entrance exam, it was like you apply, among the applications whoever is highest in that particular state, your domicile state, you'll get the seat and then there will be a wait list. If the selected candidate did not accept, the next person would get the seat. I was thrilled as I was actually entering into this campus. I was at an age where I wanted to see the world by myself. CFTRI gave me the opportunity to be near home but also be on my own. It was a win-win situation because my mother felt she could keep her eye on me since I was hardly 2 kilometres away and it was compulsory to stay in hostel. We paid Rs.60/-

per month for the room and Rs.360/- for food. Even bedsheets and pillow covers, everything was given by the hostel. Most teachers and scientists were very iconic. Director was Dr. B. L. Amla, he was a great personality and very magnanimous, generous kind of a person. Dr. Ranganna was the co-ordinator of M.Sc. course. Every department had really experienced scientists and who were walking encyclopaedias in their fields. We used to admire and also sometimes curse because the kind of questions asked in the tests were tough.

Suddenly when I find myself as Director it is a humbling experience. I never imagined any day that I would be good enough to come to this stage where I had seen people whom I admired so much. I am thankful and grateful every day when I come to work. You know, there are many capable people, especially in our country. Everybody has some gift or the other. But being at the right place at the right time, sometimes you become the lucky one or I would say the chosen one and that is a humbling experience. It is not what you know, your capability, your capacity, your intelligence, it is also 99.9% is all that, your hard work, your family's support, everything. But then 0.1% will decide. So, we should remember that definitely a lot of people contributed towards our "Success". Especially for me, when my children were young, my mother stepped in, she was there when I was working in the lab, my

husband stayed away from me. Now we are married 33 years, 32 years he was away only. So he never really saw his children grow up. If you all come from homes with both parents when you came home you will realize what a great sacrifice it is. Not only that the children miss, but even he missed seeing many of their milestones which is not small sacrifice. My brothers' used to pitch in to bring them from school or take them out. My mother made sure that they got milk, they got something to eat when they came from school. But even at workplace there are a lot of things that your colleagues do for you. So there are lot of people whom we forget to thank, to acknowledge and appreciate. The feeling is nothing but gratefulness and thankfulness.

2. Please share your experience when you heard the news of becoming the Chief of this Institution.

I think the first reaction was fear. Like I said I have seen a lot of very iconic figures who have come into this office as Director. Many, I've served 32 years here. There have been many occasions where I have sat outside this room wondering why have been summoned by the Director and what is waiting for me inside. So, actually stepping to this room was little scary and more than that would I be even able to live up to the expectations for which I had been chosen. This institute has made a great name for itself over the past seven plus decades. So, the least I can do is to take it a little further up and I cannot allow it to fall. The past seven decades probably there were not that many institutes which were dedicated only to food. probably this institute paved the way for many other institutes to come up also in the country. But if we don't keep pace, we may fall behind. All the time I am worried thinking about What I should do to keep the flag of CFTRI high.

3. As the First Lady Director, what are some of the hurdles you have faced/are facing?

I think the beauty of India is that we do accept women and men much more equably than many of the other countries I have seen. They make it a law that its equal, we don't have laws, but we know and we accept. Many of my colleagues, my seniors, now my juniors all of them were very nice, very kind. And I don't think that I ever felt that difference, not really. And I think Science is a great equaliser. There cannot be gender bias in Science right. So, I really don't think there were too many hurdles as a professional. For the personal level, probably I think as women, our culture teaches us to generally do a lot of unpaid jobs without any complaints and not expect returns for it. From birth if you are into that route you tend to feel a little guilty at times that you are not giving

But I think once you determine yourself that this is what I want to do, you will find that the people who care for you really rally around so you can live your dream. That is what happened with me also. Somewhere in my mind I thought that I should never be dependent on anybody in my life. I should have my own identity and a little bit of money so that I will not have to face what she met. And that probably little bit of a drive and I also wanted that I want to stand on my own two feet and I want recognition because I am Sridevi Annapoorna, not because I am somebody's wife, somebody's sister, somebody's mother. So, that made me do whatever I did. I am a very normal, very average kind of a person.

4. Ma'am, if I am asking specifically, How has Nilabh Sir's support contributed towards your achievements?

Nilabh has never complained. In fact, sometimes I lose my temper when things get too much on top of me. He has given up a lot for me to chase my dreams.

5. You must have noticed some drastic changes in CFTRI campus since you have been here. What are some of the most remarkable changes, as per your opinion?

Actually, not much. You know this is a heritage building, even to drive a nail you need to take permission. So, I think the grounds are as they were. Of course, the library was in mansion, entire TTBD until up to the computer center was the library. So, we were the ones who shifted books from here to the new building. A couple of new buildings did come up when we were students. One was library, and then FSAQCL came up when I was employee, then PCBT new building, that was not existing. Some more buildings have come but otherwise, I think more or less it's the same. There were many species of birds. It was my dream to become a forest officer and this campus had lots of birds. There were no peacocks in those days, now they found home here. There were many birds, I don't see that many species- Sparrows, lot of sparrows were there. It's something I really miss.

6. Coming to your student life, How was the experience of attending classes in Mansion back then?

We were not having our classes in the mansion. You all are the lucky ones. You know, 1st floor of FMBCT was HRD Department, where we had our classrooms and that's where we had Dr. Ranganna, Dr. Lakshminarayan Shetty, Dr. Zacharia, Dr. Subba Rao, Dr. Vasima Rahim. They were the in-house faculty who were always in HRD. They used to sit there and there were 3-4

people who taking care of glassware, laboratory things. We only had our library in mansion.

7. Share some fun or unforgettable anecdotes from your Fresher's day.

There was little bit of fear because in 80's especially there used to be a lot of ragging in many colleges. So, most parents used to be a little afraid and I was localite, it was compulsory to stay in hostel. I do remember all of us were very scared and when we went to classroom and we had our first class, that was namely introduction to our teachers and while we were walking and coming back, in front of the bank, the whole gang of seniors were walking very fast towards us. We were scared, and we thought we were going to be ragged. After 2-3 steps, they broke into a run and we thought, "Okay, we are finished". But actually, they came and hugged us. They were so happy to see us, and told, we were waiting for you to come and welcome you all.

I don't think there was a single time that I went around with any senior anywhere and paid my own bill. They would pay for us and also it was kind of taken for granted. Because we were hungry by evening and starving. I think there were 2-3 things that were restricted in mess- one was Dahi and Papad. Umashankar used to work in the mess as temporary and today he is permanent and also makes tea for me.

If I remember, those are the memories that stay with me. I don't really remember any specific kind of instances. We used to go for a lot of trips- we will go in the morning and come back by evening. Sometimes it would be late, the bus would break down but our entire mess would wait for us. 11 o' clock in the in the night we would come, they would still keep the food warm for us and make sure that we ate and go to sleep. If you were sick, they would come to the room and feed us.

It was very close-knit community coming from different backgrounds, not necessarily biological science or physics, but many were from agriculture, home science, and other backgrounds

8. Tell us about your intros. How did the interactions between juniors and seniors begin and how was the rapport by the end?

So, we didn't have anything formal. Like I said, they just came and thereafter took us back to the mess and in the evening, we went to the King's court or somewhere, we had Dosa and we came back, throughout the night we were talking. Each one were from different state, all of us came from different backgrounds so we did not have so much in common in the beginning. So, whole night we would talk all kinds of things and I don't think at any point of time we had anything formal. But yes, we had comparative grading which meant that my grade

record book and copy that. So, finally in 10th generation, the cockroach will look more like a ladybird!

9. Time for some rapid fire questions. Tell us the first thing that comes to your mind when you hear these-

a. Favourite spot in the campus to hang out with friends.

The slope in front of the mess was one of the spots where we used to sit and talk for hours together. Back then, there was no fence around the lawn in front of mess. During evening times, we used to spend our maximum time chatting, playing etc. Adding on, the night walks during full moon days was one of our favourite things to do.

b. Favourite department and scientist/mentor/guide.

I loved PPSFT department for the technologies and knowledge. I did my dissertation in the Human Resource Department (HRD) under the guidance of Dr. Zacharia. We enjoyed our practicals in Food Protectants, Fruits and Vegetables Department, Packaging Department, and Food Engineering Pilot Plant. My memory associated with Meat and Marine Sciences Department is, I would sit and weep as I didn't want to slaughter the poultry.

c. Something you did for the first time after coming to CFTRI.

I stayed in a hostel for the first time and made friends for life.

d. Top 3 legacies followed in your batch.

1. We warmly welcomed our juniors.
2. We celebrated all the festivals.
3. Many found their life partners in campus.

e. Memory with Junior.

We apparently followed the same things as that of our seniors. I think the best thing that attracts a person towards us is their basic nature irrespective of which place they came from. We had a strong bond with some juniors/seniors while comparatively less with others. All together in CFTRI, we never had a feeling of being left out, there was a sense of inclusivity and respect for social interactions. Whenever we meet seniors/ juniors after many years, since me and my husband have common friends from CFTRI, we can speak untiringly about the beautiful memories we cherished in this campus.

10. CFTRI life does not only develop technical and managerial skills, but also a wholesome and responsible human. Do you agree with this statement? If yes, how would you say it applies to your life?

I absolutely agree with this statement. First thing it taught me is adjustment. CFTRI taught

me that I'm not a single person, I am one among many and learnt the value of adjustment. If we don't get adjusted, we will be left out. I was quite disheartened when my marks and grade were not satisfying despite the efforts I had put. But CFTRI life taught me to embrace the fact that it is totally okay. In fact, my teacher walked from test room till my hostel because he thought I might take some wrong steps from the amount of hungama I created in the test room. But many people came to help me after that, including my husband, and that's how we became friends. It's okay if you're not the best; it's not the end of the world. I may have not done well in the tests but I made friends.

Ultimately everybody is looking for the same thing. It doesn't matter what their background is, what their economic strata is, what is their religious beliefs. They are looking for friendship, inclusivity, and livelihood beyond this course. Often you meet a lot of people who come from very different background in this campus. But they are actually very similar in their aspirations.

We had a post office behind E block (now in F block). After lunch, all of us would be sitting, I was the only one who wouldn't get any letters. You could see the pain in somebody's face who did not get a letter at that time. There were no emails, messages, mobiles or even STD calls. We had to make a trunk call. No telephones were available, only telegrams will come in case of emergency. Even after you leave this campus, when you meet that person, you won't remember him/her as a CEO, but from the incidents- the hawaai chappal, the t shirts, the uncombed hair etc. It's the people that makes the difference. CFTRI teaches these fundamental values.

11. What do you think are the top 3 skills an M.Sc. Food Technology student should acquire in CFTRI?

First thing is common sense. Your sense can tell if something can be done or not. Don't let your ego come in the way of asking for help. Many times, we go out of the campus by thinking that we got the best schooling and we are better than others. But when you go out to the work place, you will find that somebody who has spent 20-30 years in that place knows much more than you. We have to respect that experience and learn from them.

The second thing is your management of people. We are very bad in that. From childhood till elderly, if you are able to manage people, you have won the battle. Nothing can stop you. Somebody may listen to emotions, some body may want flattery, someone else may require confidence. You have to help them be in your team. They will be actually very good, but its where your direction, your power of noticing and understanding people, or trying to balance is needed. A leader should lead without being noticed.

The third one is teamwork. The leader will only look as good as the team efforts. You have to manage your man or woman skills. Every person you come across will have a story behind. Without even understanding that, just because you want a job done, if you are going to scream at them, you are going to frustrate them. If you rub people the wrong way, they will put many hurdles in your way so that you cannot move forward. You require your peers, your juniors, your employees, your seniors, all of them to make the way. They have to put in a good word for you. Because as you go higher and higher, your technical skills will take a back seat. Somebody else will be doing that. What you have to do is manage people.

And you have to be very patient. As you go ahead, you can't afford to show your displeasure or breakdown, no expression of emotions is allowed. You can feel very alone, but that's what the job demands. Today the world is open to women also, taking up leadership positions.

12. A message for the upcoming Food Technologists from CFTRI.

Have fun. These 2 years will never come back in life. Pick up all the technical skills you can, but do have fun. At the same time, don't miss your practicals. That's where your real skills will be acquired. And work hard. We have a wonderful library. I don't see many of you going at all to the library and sitting there. You have this knowledge bank here. Please utilize your full time to make sure that you gained something. You don't have any distractions. You are only expected to study and deliver. So please do that. And this will stay throughout your life. Later on, you will pick up knowledge on the job, but you will also forget that easily since you are distracted, "Oh, I have to pay the electricity bill, I have to pick up my child from the school, I have to go and cook food." Your mind is not 100% on what you are doing. But these 2 years you are all in campus, make full use of your chance. Sleep one hour less, doesn't matter. There will be enough time to sleep later.

13. What are the expectations from those who are to succeed this legacy?

Enjoy what you are doing, then your job will become your hobby. That will make things much easier. That is all.

INDUSTRY BUZZ

World's First Carbonated Powdered Beer

A brewery in East Germany has developed the world's first powdered beer. This water-soluble beer powder/granulate might be a turning point for the carbon footprint of beer exports because sustainability is a top priority for all manufacturers.

The powder was created by Neuzeller Klosterbräu, a German brewery with over 500 years of experience, and it can be used for making beer the same way as instant coffee or protein shakes. Beer aficionados may now just add a few spoonfuls of the beer powder to a glass of water, swirl it thoroughly, and then sip on their favorite beverage. Stefan Fritsche, general manager of the brewery, claims that the technology might lower shipping weight by 90% by getting rid of the excess weight caused by glass and water.

The general manager of the brewer, stated, "We have calculated that, if we now relate this to Germany, we can save about 3 to 5 percent of the CO2 emissions for Germany alone. And if you take a look at it internationally, we could save around 0.5 percent of global CO2 emissions." A bath beer formulation is also in the pipeline for consumers to take a bath in. "At the moment, we make 42 different types of beer, including gluten-free and non-alcoholic options."

This product is the first product of its sort in the world and is unique from other powdered beers since it is carbonated. The product has the potential to be an unexpected and breakthrough advance.



Bikano Launches New Crispy 'Crunchy Munchy' o Snack Range

Bikano, the popular snack, and packaged food manufacturer in India has expanded its product portfolio with a new range of snacks called Crunchy Munchy. Packed with unique flavors and made from a blend of potato, rice flour, chickpea flour, moth flour, and spices, this snack is perfect for satisfying your cravings at any time of the day.

Winter is a season that triggers a rise in the consumption of snacks in India, and Crunchy Munchy is expected to be in high demand during this time. According to Manish Aggarwal, director of Bikano, "It is the most in-demand product from our snacks range. We have launched a bigger family pack for get-togethers, parties, binge-watching, and hangouts. Crunchy Munchy demand has been quite satisfying so far, and we are expecting the same exponential growth in sales this winter on the back of this popularity.



ITC Launches Nutritious Millet Cookies in Sunfeast Farmlite Range for Healthy Snacking

ITC Foods has reinforced its commitment to the 'ITC Mission Millet' initiative by launching its first-ever millet cookies as part of the Sunfeast Farmlite range. Made from a blend of millets such as ragi and jowar and without added Maida, these cookies are a nutritious snack.

The Sunfeast Farmlite Super Millets Cookies are a rich source of iron, protein, and fiber, available in multi-millet and Choco-chip multi-millet variants.

As a part of the 'Mission Millet,' ITC Foods already offers a range of millet-based products, including Ashirwad multi-millet mix and gluten-free flour. Going forward, the company plans to expand its millet-based product portfolio with a slew of offerings across various segments. Millets are climate-smart crops recognized as superfoods due to their numerous health benefits. The launch of the Sunfeast Farmlite Super Millets Cookies is a significant step towards encouraging people to consume millets and lead a healthier lifestyles.



Strawfit - A milk flavoring straw, with vanilla and strawberry flavor

It is a straw that is filled with flavorings balls full of nutrients, which when dipped into a glass of milk and sipped through, turns our regular milk into a delightful drink. The product "Strawfit" is a straw, the interior of which is filled with tiny, uniform balls (pearls) of consistent flavor.

These tiny balls consist of 25% sugar, 15.35% maltodextrin, 10.54% tapioca starch, 7.37% proteins, 4.30% colostrum powder, 8.36% vitamin, and mineral premix, 2% stevia natural sweetener, 0.45% edible salt, 12.59% flavors, 1.75% natural color (beetroot extract).

Each pearl ensures a constant release of flavor into the milk with 100% natural ingredients. The pearls are carefully packed into a recyclable BPA-free straw, and sealed with hygienic filters that allow a smooth flow of milk from the container to the mouth of the consumer. The milk is flavored while it passes through the straw. It is available in several flavors such as chocolate, vanilla, and strawberry. The product is marketed as helping to boost immunity, promote growth and keep users active.



FSSAI POLICIES AND REGULATIONS

FSSAI re-operationalizes Food Safety Standards (Labelling and Display) Amendment regulations 2022

The FSSAI on January 10, 2023, issued a notification regarding the re-operationalization of Food Safety Standards (Labelling and Display) Amendment regulations 2022 related to Labelling requirements of the non-retail container, minimally processed food, tolerance limit, warning statement related to pan masala etc. According to this, the warning statement on pan masala must cover 50% of the front-of-pack label.

FSSAI retracts the "Dahi" notification

As many representations were received with regard to the notification related to the provisions for the omission of the term "Curd" from the Standards of Fermented Milk Products notified on 11th January 2023, it has been decided that FBOs may use the term "Curd" along with any other designation (prevalent regional common name) in brackets on the label.

Accordingly, Curd can also be labelled as per the following examples:

"Curd (Dahi)" OR
"Curd (Mosaru)" OR
"Curd (Zaamut daud)" OR
"Curd (Thayir)" OR
"Curd (Perugu)"

FSSAI: An official health star rating (HSR) for packaged food and beverages in India to be implemented in 2023

The FSSAI is seeking input from industry associations for evaluation through a scientific panel so that its proposed health star rating (HSR) model can be incorporated into the final regulations drafted by the Ministry of Health and Family Welfare. Milk and dairy products are exempted from the proposed Front of pack labelling (FoPL), as they were covered in the earlier FSSAI draft notified in 2019. In addition, the Scientific Panel recommends voluntary implementation of FoPL in 2023 and a transitional period of four years before making it mandatory.

The Food Safety Compliance System (FoSCoS) licensing application portal by FSSAI will be updated with a new feature where a food business can submit details of their products to generate a Health Star Rating (HSR) certification. FSSAI will analyse the nutritional content of a 100-milligram (mg) serving size of packaged foods. On the basis of the review, the Health Star Rating (HSR) certificate will be issued for the individually packaged food product. These ratings will be given by the Food Safety and Standards Authority of India (FSSAI), depending on the product's facts.

FOOD INCORPORATED

DUG is a delicious, creamy, and vegan-friendly plant-based drink. It's made from potatoes, has a really low climate footprint, and can be used just like any other milk. DUG is a Swedish brand with its roots in science and research by Professor Eva Tornberg at Lund University and is owned by Veg of Lund. Potatoes don't need much to grow at all, making them a super-sustainable crop compared to others like soybeans, almonds, oats, or dairy, are currently sold in stores in Sweden, Ireland, and the UK.

DUG



DUG

THE EVERYDAY HERO

DUG Original is an everyday great-tasting plant-based drink for coffee and tea, to mix with your cereal, or just drink by the glass. It's also great for cooking and baking. Because of its unique potato and rapeseed emulsion, DUG Original won't separate, regardless of how one uses it. Because DUG Original is made from potatoes, it is packed with vitamins, minerals, fiber, protein, and carbohydrates, all of which makes it a perfect alternative to other milk products.



UNSWEETENED DELICIOUSNESS

Most plant-based drinks are too sweet!!! With DUG Unsweetened, they've managed to ditch the sugar without losing out on taste. It works just as well as our other DUG products: in hot drinks, smoothies, for cooking and baking, or chilled in a glass on its own. And it'll never separate in coffee or tea.



THE COFFEE LOVER'S DREAM

Deliciously smooth and creamy, DUG Barista is the best choice for anyone who wants to take their hot drinks up a notch or just loves the slightly creamier feeling. Heat it and whip it for that barista-quality foam or just pour it straight into a cup of coffee or tea. Either way, DUG Barista tastes amazing. We're also proud to be able to say that DUG Barista won't ever separate your coffee or tea. Since DUG Barista is made from potatoes, it is packed with vitamins, minerals, fiber, and protein, Hence, standing out as the best alternative.



EXPERIENCE TALK



MR. SAGAR KEDARE

Batch: 2007-09

***R&D Lead Pringles Base AMEA
(Asia, Middle East, Africa)
Kellogg's Company, Singapore***

Mr. Sagar Kedare has held various positions in different food industries, including General Mills, Britannia, Mondelez, and Reckitt. He possesses a GMB (General Businesses and Management) degree from the Indian School of Business in Hyderabad. We are grateful for his time and patience which is highly valued.

1. Can you tell us about your career journey from academia to your current position as an R&D professional at Kellogg's, considering your previous experiences in reputable food industries like General Mills, Mondelez, and Reckitt?

It has been a story of passion, ambition, and an exciting path filled with challenges and incredible learning opportunities. When I look back, I feel proud of my academic achievements and the progress I have made in my professional journey so far. After graduating from CFTRI, I faced initial struggles in balancing my ambitions with the available opportunities, while also learning the rules of a new game and exploring alternative possibilities. During the early years of my career, I ventured into various roles, including attempts at CAT, UPSC, and MPSC, where I successfully cleared the prelims but couldn't progress beyond mains. Despite the setbacks, these experiences provided valuable clarity and learning opportunities. Eventually, things started falling into place when I got a career breakthrough with Britannia in Chennai, where I had the chance to delve into the vast knowledge of the biscuit industry.

Later, I joined Mondelez at the Thane Technical Center, where I held three distinct roles over six years. I had the privilege of traveling to different countries, initially handling brands like 5 Star and Perk in the India BU and subsequently working in the global chocolate category function. Notable product launches during my tenure included Cadbury Crispello, Cadbury Fuse, and CDM Lickables, which I still come across in the market whenever I visit India. Following my time at Mondelez, I embarked on a new journey with Reckitt in Singapore, focusing on my favorite category of infant and children nutrition formula milk for ASEAN markets. It brings me joy to see my daughter enjoying products like Enfagrow Stage 4 2FL Vanilla & Enfa neuro pro A2, which were developed by her "daddy" (me) at Reckitt. Now, since the last two years, I am working on a fun brand 'Pringles'.

2. Why did you decide to pursue General Business and Management at the Indian School of Business, and how did it further enhance your professional profile?

After dedicating ten years to R&D and core technical functions, I sought a formal business education program to enhance my skills and enable me to assume a more strategic leadership position. The ISB stood out as one of the most reputable institutes that aligned perfectly with my expectations.

It was an incredible experience to learn from world-class faculty and collaborate with a cohort consisting of professionals from diverse backgrounds, boasting an average work experience of 18 years. The program equipped me with invaluable strategies, tools, and insights to enhance my strategic thinking abilities. Furthermore, it provided an opportunity to build a robust professional network, which is truly invaluable.

3. How did the education and training you received at CFTRI prepare you for your role in the food industry?

CFTRI played a pivotal role in establishing a strong technical foundation for me, providing an exceptional platform, and instilling a sense of responsibility to meet the institution's high standards. The comprehensive curriculum, combining robust theoretical concepts, practical training, internships with industry exposure, and connections with alumni, prepared me effectively to step into the food industry.

Additionally, studying alongside a diverse cohort comprising individuals from various cultural and educational backgrounds facilitated the development of a broader network and fostered empathy for different cultures. These connections serve as valuable allies throughout one's career. The resources and opportunities available on campus are a luxury that may not be easily replicated elsewhere, so it is crucial to make the most of this time and maximize the benefits it offers.

4. In your opinion, what are some emerging trends or challenges in the food industry that require a combination of food technology and business expertise?

AI, Machine learning, Data Analytics, and IoT have been game changers in the way business operates. Businesses are making good use of these tools to learn more about consumers, make the supply chain more efficient, and optimize product design.

Still, the food wastages and creating sustainable food packaging solutions are the critical challenges in front of the food industry.

5. Can you discuss any emerging technologies or advancements in the food industry that you find particularly interesting or impactful for Pringles AMEA (Asia, Middle East, and Africa)?

I am unable to share the details due to confidentiality but in general, AI has been a pivotal tool to understand emerging consumer trends and build foresight.

6. How does the working culture of the food industry in foreign countries differ compared to India, based on your experiences?

I cannot generalize as there are many factors that play in. However, based on my personal observations, there are several fundamental principles that people generally expect and respect across different sectors. These include maintaining discipline, professionalism, honoring commitments, being accountable and responsive, establishing a healthy work-life balance, paying close attention to details, and avoiding shortcuts or cutting corners. These principles form the foundation of a strong work ethic and contribute to fostering a positive and productive work environment.

7. How are AI (Artificial Intelligence) and IoT (Internet of Things) helpful in the food industry, and do they have a significant impact on employment?

I view this situation not as a threat, but rather as a significant opportunity for growth and innovation. The food industry still has ample room for improvement and advancement. Emerging technologies can serve as enablers and should be embraced as valuable tools in our arsenal. While it is true that certain jobs may become redundant with the evolution of technology,

I believe it is essential for us to adapt and evolve along with these changes. By staying proactive and keeping pace with advancements, we can harness the full potential of these technologies to drive positive transformations in the industry.

8. What skills or qualities do you believe are crucial for success in the food industry, considering your own journey and observations?

Technical skills are the basic foundation. Beyond that how you connect and collaborate well with others, is the key.

9. Based on your experience, what advice would you give to your juniors who are currently studying food technology or just entering the food industry?

You are standing on a great stage, poised for an incredible beginning. However, it is important not to take things for granted. Maintain your enthusiasm and passion as you navigate both your personal and professional life.

In addition to pursuing your individual goals, consider how you, as a food scientist and technologist, can contribute to society. Perseverance, continuous learning, and adaptability are crucial for long-term growth and success.

Wishing you all the best on your journey ahead.

What The Food (WTF)

Cloud Eggs:

Step into the world of culinary enchantment with cloud eggs—a whimsical and Instagram-worthy breakfast trend that has taken the food scene by storm. These ethereal creations are as delightful to the eyes as they are to the taste buds. Imagine fluffy, billowy egg whites, delicately baked to perfection, cradling a golden, creamy yolk at its center. The result? A heavenly breakfast experience that combines the familiar comfort of eggs with an unexpected twist.



To create cloud eggs, the process begins by separating the egg whites from the yolks. The whites are then whipped into a luscious, velvety foam, seasoned with a pinch of salt and a dash of creativity. Once whipped to glossy peaks, the cloud-like mounds are carefully placed on a baking sheet and baked until they achieve a light, golden hue.

The final touch is the placement of the yolks—gently nestled within the cloud-like base, creating a delightful contrast of textures and flavors. The eggs are then returned to the oven for a brief moment, allowing the yolks to warm and attain a custard-like consistency. The result is a visual masterpiece that is as pleasing to photograph as it is to devour.

Cloud eggs offer a versatile canvas for experimentation. They can be enhanced with a medley of toppings and additions such as cheese, herbs, or crispy bacon bits, offering endless opportunities for personalization. Whether served atop a slice of buttered toast or alongside a vibrant salad, cloud eggs are a delightful addition to any brunch table.

Beyond their aesthetic appeal, cloud eggs provide a lighter alternative to traditional egg preparations. The airy texture of the whites creates a satisfyingly light and delicate mouthfeel, while the creamy yolk adds richness and depth. Together, they create a harmonious balance that will leave your taste buds soaring.

So, if you're seeking a breakfast experience that is as delightful to eat as it is to behold, embrace the magic of cloud eggs. Elevate your brunch game and immerse yourself in the enchantment of these whimsical creations. With their heavenly taste and picture-perfect appearance, cloud eggs are sure to bring a touch of culinary wonder to your morning routine.

The Irresistible Charm of Pizza Cones:

Experience the Pizza in a Whole New Shape and Style

Say goodbye to traditional pizza slices and embrace a revolutionary way to enjoy everyone's favorite Italian dish—pizza cones. These handheld delights have captured the hearts and taste buds of food enthusiasts worldwide.

Pizza cones reimagine the way we savor the timeless combination of cheese, sauce, and toppings. Instead of the traditional flat slice, pizza cones feature a cone-shaped crust, specially designed to hold all the mouthwatering ingredients within. This innovative twist not only offers a unique visual appeal but also presents a convenient and mess-free way to devour pizza on the go.

The magic of pizza cones lies in their delightful texture. The crust, baked to perfection, boasts a satisfying crunch that gives way to a soft interior. With each bite, your taste buds encounter a symphony of flavors—a harmonious blend of tangy tomato sauce, melty cheese, and an array of toppings, all nestled within the savory cone. The combination of textures and flavors elevates the pizza cone experience to new heights.

Pizza cones embrace the spirit of customization, allowing you to curate your flavor adventure. From classic Margherita to bold and inventive combinations, the possibilities are endless. Whether you prefer a meat lover's dream or a veggie-packed delight, the cone-shaped canvas provides ample room for creativity, making every bite a unique and personalized experience.



Environment-Friendly Beer:



The Epic OneWater Brew is a kölsch-style beer made from recycled wastewater, specifically greywater from dishes, laundry, bathroom showers, and sinkwater. It was created as a collaboration between San Francisco water recycling company Epic Cleantec and Northern California-based beermaker Devil's Canyon Brewing Company. Matthew Canton, the Guardian writer who tested the beer, said it to be 'pleasant', 'crisp', and 'drinkable', with no notes of shower or laundry. The Epic OneWater Brew is a creative way to tackle the water crisis, using recycled water instead of traditional tap water. The rigorous testing process ensures the water is safe for consumers, as opposed to other beers that use tap water.

KAMPUS KHABAR

International Women's Day:

On the occasion of International Women's Day on March 8, 2023, students of the first year (samuRYEs) and second year (CORNquerors) attended the Women's Day function hosted by CFTRI. Dr. Sridevi Annapurna Singh, our Honorable Director delivered an inspiring message that motivated young girls and women aspiring to enter the field of Science and Technology. Prof. Bina Joe, Director of Centre for Hypertension and Precision Medicine, University of Toledo College of Medicine and Life Sciences, United States, an alumnus of CSIR-CFTRI, took part in the celebrations on a virtual platform and gave a talk on "Celebrating the pursuit of happiness through womanhood" as the chief guest at the event. On the occasion, Smt. Nagamma from H.D. Kote taluk, who is engaged in the conservation of traditional varieties of amaranth, millets, and vegetables, was felicitated in recognition of her contributions.



Holi Celebration:

Holi is a popular and significant Hindu festival celebrated as the Festival of Colors, Love, and Spring. It celebrates the eternal and divine love of the God Radha and Krishna. Additionally, the day also signifies the triumph of good over evil, as it commemorates the victory of Vishnu as Narasimha Narayana over Hiranyakashipu. The ecstatic CORNquerors and samuRYEs relished the occasion of Holi on March 11, 2023, with utmost fervor and enthusiasm. They smeared colors on each other, water splashing around, mesmerizing songs streaming in the background and they couldn't resist themselves to dance.



Maha Shivarathri Celebration:



Maha-Shivaratri, a prominent Hindu festival for devotees of the Hindu God Shiva. According to Hindu mythology, Lord Shiva married Maa Shakti, his divine consort, for a second time on this night. It is in celebration of their divine union that the day is celebrated as 'The Night of Lord Shiva'. CORNquerors and samuRYES gathered in the IFT room for celebrating Maha Shivaratri on March 20, 2023, with a lot of fervor and glee. IFT room was all set for the Maha Shivaratri Pooja, decorated with flowers and Rangoli, Chants, and Prayers all around. They made the Shivalinga, the manifestation of lord Shiva which added spiritual glory to the occasion.

Ugadi Celebration:

Ugadi is a Hindu festival, celebrated in the south Indian states of Andhra Pradesh, Karnataka, and Telangana. The festival is celebrated on the first day of the "Chaitra" month. CORNquerors and samuRYEs gathered together along with all hostel dwellers to celebrate this auspicious occasion of Ugadi on March 22, 2023, in

International Food Technology Club Room. Like the perfectly balanced combination of different bitter-sweet experiences in life, we made Ugadi special 'Pachadi' with sour tamarind water and mangoes, bitter neem flowers, sweet jaggery, chili powder, and salt - a culinary reminder of what to expect from the rest of the year. Everyone took their turns for Aarti and prayed for a well-balanced, promising new year ahead. A well-decorated IFT room with mango leaves, marigold flowers, rangoli, and diyas shined with the hopes and glimmers of this propitious celebration.



Eid-UI-Fitr Celebration:

Eid-UI-Fitr, the festival marks the end of the holy month of Ramadan, during which Muslims hold Roza (fast) from dawn to dusk for a month and engage in acts of worship and spiritual reflection. The day of Eid-UI-Fitr truly symbolizes piety, patience, fortitude, and godliness. Socially, Eid-UI-Fitr reminds us to share the festivities with the poor, underprivileged, the downtrodden, orphans, neglected, and the cast-off besides embracing people from all walks of life. CORNquerors and samuRYES gathered near the mess lawn on April 22, 2023, for the distribution of sweets and celebrated the joy and happiness together

Rama Navami Celebration:

Rama Navami is a Hindu festival that celebrates the birth of lord Rama. This festival is a part of the Chaitra Navaratri in the spring. All IFTTC inmates were invited to the IFT room for Shri Rama Navami Pooja on March,30, 2023, and all of them took part in the celebration with utmost pomp. The whole IFT room was well-lit with diyas and echoed "Jai Shree Ram". The sacred songs and chanting hymns gave spiritual glory to the evening. Arti and the distribution of Prasad Panakam, Kosambari, and Buttermilk marked the highlight of the Rama Navami celebration. Panakam is a traditional South Indian drink made with tamarind, jaggery, black pepper, cardamom, lemon juice, and water whereas Kosambari is a simple moong dal salad comprising soaked moong dal, cucumber, fresh coconut, and coriander leaves, which is undoubtedly festive yet simple and offered as Neivedhyam to Lord Rama on the occasion of the Sri Rama Navami festival.



Easter Celebration:

Easter, also called Resurrection Sunday, is a Christian festival and cultural holiday commemorating the resurrection of Jesus from the dead, described in the New Testament as having occurred on the third day of his burial following his crucifixion by the Romans at Calvary. On the occasion of Easter CORNquerors and samuRYES gathered near the mess lawn on April 9, 2023, for cake cutting and shared the joy of happiness.

CAREER CORNER

Management skills can be defined as certain attributes or abilities that an executive should possess in order to fulfill specific tasks in an organization. They include the capacity to perform executive duties in an organization while avoiding crisis situations and promptly solving problems when they occur.

Some of the management skills one must have are;

Interpersonal skills

Management jobs are all about people and being able to build successful relationships is integral. To lead a team, you'll need to earn the respect of your colleagues. To do this, you need to know how to effectively deal with people.

Setting time aside to get to know team members on both a personal and professional level, through social activities or team-building events while still maintaining professional boundaries, will go a long way to earning their respect.

Communication and motivation

Effective leaders must master all forms of communication including written, verbal and listening skills. As a team manager you're the line of communication between frontline staff and senior management. You'll liaise with a variety of people, from entry-level employees to heads of departments and CEOs, in a number of different ways - via email and social media, over the phone and in presentations, meetings and one-to-ones.

You'll need to establish a trusting relationship with employees, so they feel comfortable sharing information with you, and vice versa. To ensure that lines of communication remain open, you'll need to make yourself readily available and accessible to your employees to discuss any issues or concerns that arise. Having an open-door policy or weekly or monthly team meetings should facilitate this. Let your staff know that they matter by maintaining eye contact, smiling and listening attentively.

Organisation and delegation

As a manager you'll juggle multiple responsibilities, so excellent organisational skills are vital. You'll need to manage your own workload, oversee the work of other employees, attend meetings and training sessions, carry out appraisals and review company policies. Sloppy working practices, tardiness and a general lack of organisation won't be tolerated at this level and will set a bad example to your staff. Effective organisational skills reduce stress, save time and ensure that important deadlines are met.

Forward planning and strategic thinking

It's a manager's job to think of the bigger picture, so as well as focusing on today's tasks and responsibilities you'll also need to plan for the future. This means setting priorities in line with company goals, reviewing systems and policies, and attending training and managing the continuing professional development (CPD) activities of your team. As a strategic thinker, you'll encourage innovation and change to make your team and the organisation as a whole more productive and profitable.

Problem solving and decision-making

Thinking on your feet also comes in useful when you have to make a snap decision about how to successfully complete a task or meet a business goal. Being able to quickly weigh up the pros and cons of a situation and make an informed decision is essential.

Mentoring

As well as being business-focused decision-makers, managers also need to play a supportive role. If you've reached this senior level, you have a repertoire of experience, knowledge and skills, and it's your job to pass this knowledge on and share your skills with others. This involves training and advising staff and building their confidence and skills. In a management position, you'll be the driving force behind the progression of team members.



PLACEMENTS



VIDISH KRISHNA Y



POOJA SAXENA



PUNNYA SREE



PRADEEP A



Pernod Ricard



KUSHI NAVIN



VENKTALAKSHMI D



SHIVAKUMAR A R



CHANDANA S V



VASUDEVA S N



KRISHNA KUMAR UPADHYAY



KALANDAR M



PLACEMENTS



VALCEA PEARL D CUNHA



KHRIETSUNUO MERE



RISHI MOHAN SINGH



UNITED BREWERIES LIMITED



BHARATH J



SOMAN RAHUL AJIT



MAHENDRA B



BASI PRIYANSHI A



SOWMYA K

PLACEMENTS



SHREE BHARATHI S



GURU VISHWAS S



NEETHU SAJI



RAFAQUAT HUSSAIN ANSARI

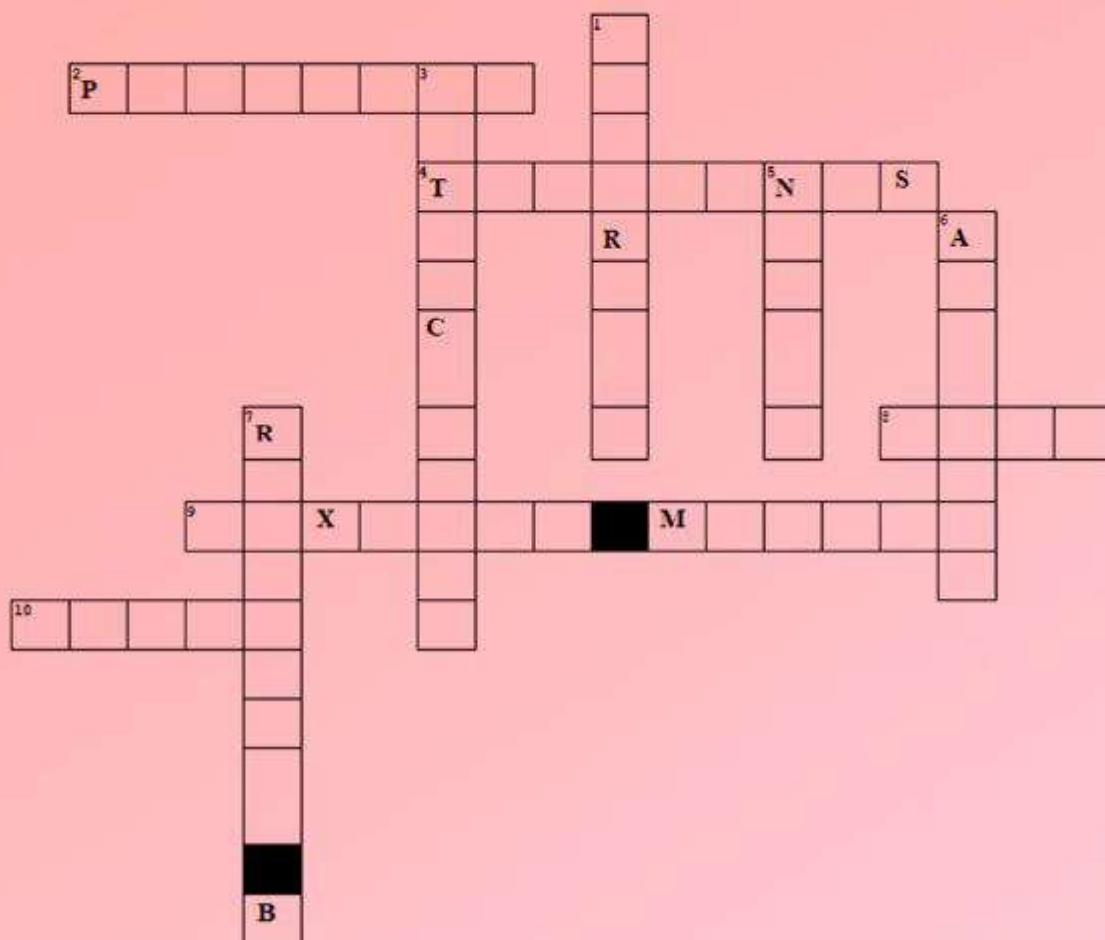


KRISHAN KANT



GAMES

MILLET CROSSWORD



Across

2. Millet grain can undergo a process called _____ to remove the outer husk
4. The word millet has been derived from the French word 'Mille' which means
8. Richest source of calcium
9. Which millet is commonly used in the preparation of a traditional South Indian dish which is called "Bisi Bele Bath"?
10. Which country celebrated the year 2018 as the national year of millets

Down

1. Which Indian religious scripture/Veda has mentioned millet
3. The Government of India has renamed millets as _____ dispensing the nomenclature "coarse cereals"
5. Which vitamin in millet can help lower cholesterol
6. A pseudo millet which is the carrier of lysine and contains lunasin-like peptides and other bio-active peptides that are thought
7. A common adulterant in ragi added to give colour to it

Answers: 1.Yajurveda 2.Pearling 3. Nutricereals 4.Thousands 5.Niacin 6.Amaranth
7.Rhodamine B 8.Ragi 9. Foxtail millet 10. India



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INDUSTRY BUZZ

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DESIGN TEAM

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WTF (WHAT THE FOOD)

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SACHIN ALAGUR
VIDYASHREE H N
MANISHA TOSHNIWAL

ANUROOPA P M
DEEKSHITH GOWDA C P
SRUTHI V
DHORE DIPAK BALIRAM
RUDRESH T O
YAMUNA P
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