Dear fearlers Sailing in different boats, yet being a part of the same storm, all of us have been going through catastrophic times. We, here at Algorithm, hope and pray for nothing but the safety and well-being of each one of you. Through this edition, we hope to stimulate and revitalize you with our wide range of articles, a gateway to happiness! Resilience and buoyancy will surely lead to brighter days ahead, with a euphoric sense of freedom.

TA

NEWSLETTER - DEPARTMENT OF MATHEMATICS, JMC

Please stay safe and take care. We are here for you♥

# TECHNOLOGY'S MENDIR



ILLUSTRATION BY: AAN MARIA JAMES

Once upon a time, in a world so huge, walked the hero of our story, from his home to the same old, grey monotone office. He was tired and done. Why? Well, he was an engineer, but he hated the tedious calculations in his job. There were so many and so, so repetitive - he needed someone else to do that for him. But the one thing he did get from his job was metal plates, and not only plates, but pins too, and discarded movie films. He accumulated lots of them, until he was done, and then with courage, so much as a lone engineer could conjure, he quit his job.

part

Far away but in Germany itself, in a family other than our hero's, lived grandparents, having none but their grandson alone. When the first war came, it hadn't come for their army, or their resources, for them, it came for their son and his wife. Now, they had only their grandson.

With his metal plates and time, he took over his parent's living room, like a hero in the war field. But the war he was fighting was long - it dragged for years, but he fought on, with his parent's living room looking less homely, and more a machine, until the day finally came. Our hero won his war. And made what was the first freely programmable computer in the world - V1.

EDITOR'S MESSAGE, PAGE 4 ROBOT REBOOT, PAGE 5 HEPHAESTUS, PAGE 6 ARTIFICIALLY ETHICAL, PAGE 7 MIRROR MIRROR ON THE WALL, PAGE 8 ROLLING OUT THE RED CARPET, PAGE 10

#### What's Inside!

HOW TO SECTION, PAGE 15 DEPARTMENT REPORT, PAGE 16 MUSINGS, PAGE 19 ALGORITHM RECOMMENDS, PAGE 25 BATCH OF 2021, PAGE 27 MEET THE TEAM, PAGE 30 The grandson grew up quickly before their eyes, until one day, he stood before them, saying things like he ought to treat them now that he had become something. The grandmother blinked away her happy tears.

There it was - his win and his award, both in front of him, and it led to more. He made V2, V3 and V4- with more resources and more challenges. But he saw it through. Then war came back. And with Germany being air-raided, his computers died- V1, V2 and V3, bombed and gone. To save V4, it got transported until it was secure.

The second war was worse. The first had taken away their son and daughter and now they stood, watching their grandson get recruited away.

part ?

Each day, they prayed for him. His letters were all they had. The grandmother wrote about love and all things nice - not about their decreasing ration or worsening health. When he received the letters, he wrote about nice things too - her food and the idea of him eating it. The last thing she had written about was the new recipe she had learnt, asking him to come home to taste it. But an entire troop had gotten bombed on the front a week before. So, a reply never came.

After World War II ended, V1 got renamed to Z1. And our hero, Konrad Zuse, the man who disliked calculations, became the man who successfully invented the world's first programmable computer. I say successfully, well before Konrad, Charles Babbage, the mathematician, had invented the first automatic digital computer, but couldn't fund it.

HEADLINES November 5, 1969

# DIGITAL AGE IS HERE!

## MOON, HERE WE CONNECTING

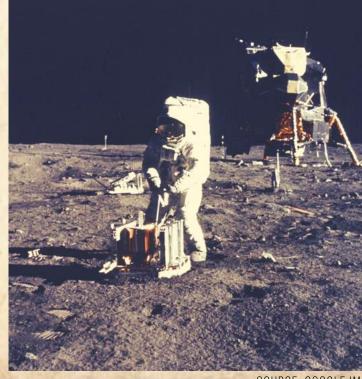
On July 20, 1969, Neil Armstrong, Buzz Aldrin and Michael Collins landed safely on the Moon. As Armstrong said, "That's one small step for a man, one giant leap for mankind." And here we are...

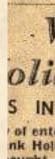
#### THE WORLD'S FIRST SHOP 'ONLINE'

The day has come when you can shop online. CompuServe is the world's first commercial online Columbus, service. In Ohio, CompuServe has been invented for the aim develop as an to independent business in

#### CONNECTING THE WORLD ARPANET

With ARPANET, created because of The Advanced Research Projects Agency (ARPA), an arm of the U.S. Defense Department to accomplish the aim of connecting computers in the Pentagon, being successful, scholars predict this as a huge accomplishment and that the world will change soon. The other countries will come 'online' - a term used for when they are able to connect the computers - as well. Everyone will be able to connect to each other





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SOURCE: GOOGLE IMAGES

"Mai samay hu, aur aaj <del>Mahabharat ki amar katha sunane jaa rhahu"</del> - Woah, wait. That's not the story I am here to tell. Ever since B.R. Chopra made me the narrator of the epic tale, I sometimes forget I am here to tell other tales too - tales that the world wouldn't know otherwise, but important nonetheless.

So, you see, things were getting better. People were no longer afraid to use the gifts I had brought them (I mean, of course it was the humans who made all those inventions, but they couldn't have made them before or after the time they were meant for. I played a crucial role.) and technology was helping them live a better, easier life.

And now before me, I witness grandparents, again. Their grandson

is off to a civil war in a country far away. Said grandson lost his parents years ago, in a car accident, so all he has is his grandparents.

In their house, the television set blares. News reporters are talking excitedly about the latest development in technology.

"Alexander Graham Bell invented the telephone in 1876. An invention deemed uninteresting and useless at the time, has come a long way now. Its latest version is a flip-phone - The StarTAC, created by Motorola in 1996, was the phone that started the whole revolution of flip phones. Most people, college-aged or older, are using it. TechGuru, what are your views about these new developments?"



ILLUSTRATION BY: MEGHA TREASA JOSEPH

"You need to switch off the TV." A mother, in her late thirties, tells her son as she works on her laptop.

"No." The son replies defiantly, as all boys his age do.

"Come on, Rohan. Don't you want to go outside and play?"

"But the cartoons .... "

"The cartoons aren't going anywhere. Switch off the TV and go out."

"Fine."

As Rohan reluctantly gets ready, his mother sits and reminisces about the days before the magic box became a household commodity. What was that radio announcement again, all those years ago? "Where is this remote, love? I cannot listen to this TechGuru explain all about flip-phones one more time. Our own grandchild did a way better job of explaining," the grandfather calls out to his wife.

"So you're saying - this will allow me to talk to you. But we already have a phone for that, don't we?" Grandma, quite skeptical at that time, had asked her grandson.

"Yes, but it's much faster. Easier to use."

"Okay. But I still wish you didn't have to go."

He kissed his grandmother's forehead. "Me neither, ma. But I will talk to you as much as I can."

"And you still can't remember how to set up a call with him." Grandma retorts, clearly impatient.

"Do you really think I have forgotten? We did call him last time too, right? Don't worry. Just give me a minute."

The grandmother paces the room, praying, waiting for her husband to set up the call.

"Eureka! I got it."

The grandmother rushes by his side, as they wait for the call to connect on the other side.

"Hello?" a voice on the other side greets the two grandparents. "Son!" the grandma exclaims with joy.

After talking for a while, the time soon comes to hang up.

"Do you know when you'll come back?"

"No, grandma. I miss you."

"We miss you too. But at least this thing lets us talk comfortably." "That's good enough, innit."

"It is", the grandfather sighs, contentedly.

"Up until now, only seven Indian cities had television services! But now, these television services will be extended to other parts of the nation as well. Get ready to witness bigger-than-life scenes on the small screen!"

This invention of the West took time to reach all parts of India, but now, in 2010, life without this magic box is unimaginable.

And so, as Rohan goes out to play, let's skip a few years ahead to the last tale I must tell you before I leave.



"Can you hear me?"

Snow shakes out of a young woman's hand as she tries waving to her grandparents through the small rectangle screen of a smartphone.

"Yes yes, we can. You look so thin. Have they been feeding you?", grandma asks with concern.

"Oh grandma, of course! It's just the phone, don't worry about me. Where is Grandpa?"

"Here, here. How's my favourite granddaughter doing?", her grandpa says as he bends down to fit in the frame.

"Haha, should you really be calling me that? Millie will have a meltdown if she heard that."

"Millie was the one who helped us set this up! It's so amazing, right? We can now see you through this screen," the grandma sniffles.

"Oh grandma, please don't cry!"

"How can I not? I haven't seen you in months." "Now that's a lie; we see each other every week through this rectangle."

"Don't talk back to me! Okay, now tell me more - how long will this war go on for?" Grandma asks this question, every time they speak, without fail.

"I'll be back before you know it." The granddaughter replies.

They talk for a little while before...

"Grandma, grandpa, I need to go now." "Okay but, you will call back?"

"As soon as I can. Till then, how about you use YouTube to find another recipe for me?"

"They really don't feed you well, do they? I'll do that, love. Goodbye," grandmother smiles warmly.

"Goodbye!"



Ah, so wonderful, isn't it? From writing letters to directly seeing each other, from struggling to remain connected to being a click away - technology has for sure blessed our lives in different ways.

But a lot more is predicted to come from technology in the following years. A few predictions say that manufacturing will be AI-Optimized by 2025, reducing overall waste in manufacturing up to 50%! Robots will be in grocery retails, people could be seen through holographic images, and much more. Technology will continue to make life more convenient and comfortable for all of us. provided we use it judiciously and for the better always.

CONTENT BY: ATIPRIYA DEV SINHA & MONISHA JASRAI

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https://en.wikipedia.org/wiki/Television\_in\_India

## FROM THE EDITOR'S DESK

**Greetings Readers!** 

As another session comes to an end, we bring to you a glimpse of the workings of technology- perhaps, the only thing that kept us all united in the past one year. The palette of technology has become so inveterate in contemporary civilised culture that so often, we don't even take notice of it. Do you remember the last time you marvelled at a television, or a microwave, or even a train? Most of us aren't even intrigued by the wonders of mobile phones and their latest AI-developed features anymore. The sheen of new technology does wear off fast. The technological seesaw passes the point where constant curiosity really matters, people become the heavier side of the equation. This edition is not about what technology can do for us, but what we can do with technology. We need to instil the fact that being pro-tech goes in hand with being pro-conscious. So let's keep the spirit ignited and brush away desolation with strokes of contentment.

This season commences with the advent of spring in JMC (read: Instagram posts showcasing the blossom of trees and flowers), as well as one year of online college.

Prompted by this nostalgia- because let's be honest, it's been ages since we strolled around in the sun kissed buzzing campus- we bring to you an article that rejuvenates and personifies our college departments in the most interesting way possible!

We delve deeper into the mathematics of numbers and their significance around the world with the help of numerology and Mayan calendar, proving yet again that math is an edifice and not a toolbox. This edition also inaugurates the addition of the brand new "How-to" sectionit's fun and vibrant and we earnestly hope that it resonates with each one of you!

To commemorate our beloved batch of 2021, don't forget to glance through the yearbook!

Happy Reading!

Yayafri ('habra Editor-in-Chief





Millions of years ago, Homo Habilis, the first humans, walked the terrain of the earth. They imprinted their first footprints, discovered rainbows and invented weaponry. Fast forward 2.4 million years, where footprints...are mostly carbon.

Millions of years ago, men and women alike discovered that the blues in a butterfly's wings, or the reds of rose petals stayed on their skin. Fast forward to today, where humans don themselves with more colors than ever imagined, and continuously hunt for more.

The question to be asked, is that

## have these acts, of beautification, invention, discovering, evolving, come to an end?

We've all heard of robots and AI, we've all seen movies like Ra.One and Robot, where Shah Rukh Khan and Rajnikant (both apparently operative machines), save us humans from ourselves, in most cases.

But we've all heard that history repeats itself, even if its in variations, which brings me to the crux of my article;

Are we enabling the first robots, like we were, 2.4 million years ago?

Are we simply making machines with "intelligence", or are we beginning a new era, a new civilisation.

When we think about it, it starts to make more and more sense. Continuing mankind's search and innovation, we shall soon have robots or machines for specific purposes, some that can manufacture, some that can identify faces, some that can calculate, some that dispose, etc.

But how different is this. from the theories of division of labour that Marx and Durkheim suggested, that led to the prosperity of humanity?

Are we not already slaves of the next civilisation, to be bettering them, to be creating specialised societies, for them?

Only time will tell.

But the day is not far, when we shall all just have to press a button, and choose a look, stand in front of a machine and achieve that look. When we shall all just have to book tickets, and sit and watch decorated metal create Shakespeare's plays better than flesh and bones ever could. When we shall all have to watch the concept of "talent" vanish in front of our own eyes, under the name of "innovation".

So hold on tight, to the make-up skills you gained over lockdown, the kathak you learnt in class 9th, and the clothes you upskilled. For who knows, whether it could save us, in a matter of years, from our own creations.



# HEPHAESTUS: "THE CELESTIAL ARTIFICER"

CONTENT BY: CHRISTABELLE ROBERT JOSEPH & RADHIKA AGGARWAL ILLUSTRATIONS BY: SAGRIKA MALHAN

From Artificial Intelligence to driverless cars, robots and virtual assistants, Greek mythology has predicted numerous modern technologies way back in time, when civilizations were taking form, dating back to 700BC.

Hephaestus, an extraordinary member of the Olympian Pantheon is bearded, ugly, stocky and lame. But there is more to him than is depicted. He is well-known as the God of Blacksmiths and Fire. Let us find out more about him as he exclusively tells Algorithm.

A: You are often called as the Blacksmith of Gods and are well known for your invention of Talos. Please tell us about the origin of Talos.
H: King Minos wanted to protect his small island, Crete from invaders, but mortal soldiers were not enough to protect his little kingdom, so he came to me for help. I then forged a giant bronze man, Talos and at his core, he had a single vein running from head to toe which contained the ichor, the life source of the gods. This was the first time a robot was ever imagined and thus, created. However, in his greed to become immortal, he was tricked by sorceress Medea, and this brought about his own death.

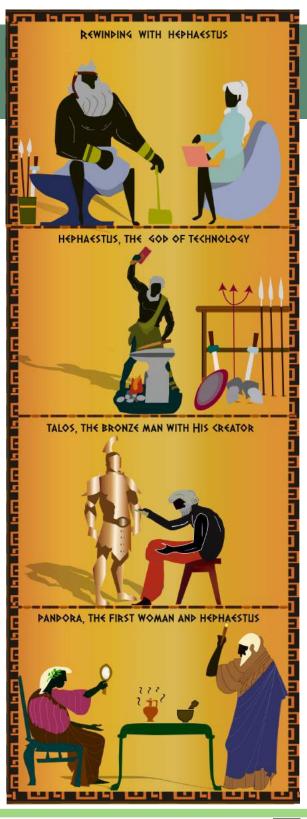
**A:** Pandora is also said to be one of your creations and you are known to be the creator of some of the most stunning thrones of Gods and military equipment. What creations have you made that helped you in all of your metal-working?

**H**: Pandora was the first woman I created on the instructions of my father, the almighty Zeus. As you know, I am lame, and my workshop was under a volcano, making it exceedingly difficult to do everything by myself, so I built automatons of metal to help me out. I also created tripods, that walked me to and from Mount Olympus. Moreover, I had the opportunity to build gold and silver lions and dogs at the Palace of Alkinoos, to avoid invaders.

**A:** Wow!! Those are some amazing inventions. Your inventions date back to almost 2500 years and now man has been able to recreate some of your inventions. What are your thoughts about this?

**H:** My inventions were spontaneous, but looking at people getting inspired by my works and immortalising them, makes me happy. People are so talented and it pleases me that they recreate my handiwork with more sophistication.

For more insights, read @ - The Palace of Illusions, and Gods and Robots: Myths, Machines and Ancient Dreams of Technology.



# ARTIFICIALLY ETHICA



With the advent of the 4th Industrial Revolution as well as the very powerful nudge by COVID-19, technology is not a thing of tomorrow anymore. There is a massive difference between how technology-reliant our world is today versus a year ago.

For Artificial Intelligence and tech to function, we need a database. To be able to employ tech in important fields, a lot of data, oft-private, needs to be shared. For the same, India needs a strong data privacy and ethics framework - The Personal Data Protection Bill, 2019, which is currently pending in Parliament. At the same time, this database seems to be concentrated in the hands of a few private entities, like the mighty Facebook-Instagram-WhatsApp nexus. With the increasing dependence of

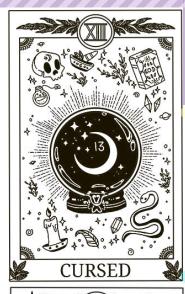
ILLUSTRATION BY: SUHANA DHINGRA

commerce on advertisements, it is essential to ensure that our data is not used frivolously. While that is contingent on the ethical standards of the company with our data, we can also make efforts to contain our digital footprint, i.e., the trail we leave because of the sites we lookup.

Dome ways to do this are - 12

- <u>Discard Old Accounts</u> If you haven't used your social media or shopping account for a year, it's time to bid adieu. Go to your account setting and delete them, or at least deactivate them to remove sensitive data like credit card number, home address, etc.
- **<u>Go Incognito-</u>** Stealth mode prevents trackers from collecting information about you by deleting your browsing session and cookies stored. Go to your browser settings and change to incognito.
- **Password Protection** Create strong, memorable passwords with numbers, characters, and upper/lower case letters. Avoid using birthdates or anniversaries as a combination.
- <u>Use VPN-</u> Virtual Private Network encrypts your data and masks your IP address, securing you in the process from unprotected Wi-Fi connections.
- **<u>Review Mailing Lists-</u>** Unsubscribe from those newsletters that you no longer require.
- **Disable Location Services-** Don't share your home address or your location with anyone. Navigate to settings and ensure that location services remain disabled.
- **Create a Secondary E-mail ID** For unsafe, insecure websites that insist on an email ID, use a secondary ID to avoid sharing personal details and being sold out to a third party.
- <u>Get Bored</u> -Unplug from your digital devices and look at the world around you. Every time you feel an urge, Google yourself and see how much the world already knows about you.

Social media is not just a source of entertainment anymore - it's the most common source of inspiration, basis for work and leisure, as well as commerce and consumption. We also entrust it with a lot of our data. This merits ethics on not only an organizational level, but on community as well as individual levels.



DEATH

CURSED

DEATH

# Mirror Mirror on the Wall DE WHICH NUMBER IS THE LUCKIEST OF THEN ALL?

We have a way with numbers, numbers have a way with astrology!

We often find ourselves guilty of checking our horoscopes, or reading up about personality traits associated with certain zodiac signs, while also claiming to be nonbelievers of astrology. Often associated with the paranormal, alongside astrology and similar divinatory arts, numerology is the study of the numerical value of the letters in words, names, and ideas. It is a section of astrology that is often ridiculed for its accuracy and beliefs. However, that doesn't eliminate the validity of numerology and its ways. In our attempt to distinguish between numerology and superstitions, we hope you also find yourselves relating with at least some of the issues mentioned below.

#### NUMBERS WITH A BAD OMEN

If you have traveled to a Western country, there is a huge probability that you have seen a building, a floor, or a neighborhood with no number 13, boarded a plane or a train without 13th row. Humans are not new to superstitions, they exist everywhere, be it a black cat crossing your path, knocking on wood, or trimming your nails at night. Superstitions may breathe everywhere, but numbers pertaining to bad luck or good luck may vary for different places. 13 is a number which is considered unlucky in the West because 12 is complete (in terms of number of months, zodiacs) and 13 is somewhat... absurd. In China, 4 is a number that makes their blood run cold. The pronunciation of 4 is similar to that of 'death' in Chinese. Hence, many buildings in China omit 4. Just as 4 in China. 9 is feared in Japan because it sounds similar to torture or suffering in Japanese. Italians are superstitious about the number 17, because when we rearrange the Roman numeral XVII, it can create VIXI which translates to "my life is over" in Latin. The Turin Winter Olympics had the 17th curve on the bobsled track referred to as "Senza Nome" (without name). The number 39 has a bad reputation in Afghanistan owing to a belief among the people that the number 39 translates to morda-gow, which literally means "dead cow". So, when Afghans see a car with number 39 on the license plate, they head to the opposite direction. The natives in the market are well-aware of these kind of superstitions but not the foreigners entering the market. Therefore, sometimes companies make numerical or cultural slips that lead to huge losses to them. So, it can be seen that companies that are well-aware of numerical superstitions in global markets are more likely to succeed. For example, a price of 666 in western countries, or 999 in Japan, or 444 in China, may be frowned upon and may lead to losses, but a company aware of these superstitions may take a well-informed decision and curb the possibility of such losses. These numbers can also be avoided in product names and advertisements for better sales and to increase the outreach of the product.

#### 666-THE DEVIL'S NUMBER

One might wonder why the number 666 is feared so much, while being a regular natural number lying between 665 and 667. 666, in the Bible is considered as the "number of the beast". The beast is said to have 'a human number' wherein the represented governments are of a human origin rather than spirit entities. The number is said to identify "gross shortcoming and failure in the eyes of Jehovah". Over the years, 666 has come to be seen as the personification of evil. The fear of the number is so widespread and grave that it has a phobia named Hexakosioihexekontahexaphobia. The fear of this number may showcase in many different ways like refusing to stay in a house numbered 666, panicking on receiving a bill of 666, and adding or subtracting items to change the number, etc. One of the most famous examples of the manifestation of this fear could be seen when the famous American Southwest U.S. Highway 666 was renamed by the American Association of State Highway Officials in 1926. It was also seen that New Mexican Highway 666 became prone to accidents. While many believed this was due to the road's name, it was actually due to the poor design of the road. It soon came to be known as Devil's Highway. Ironically, 666 is considered lucky in China as it sounds like the phrase "things are going smoothly" and is considered so lucky that some businessmen tend to hang the number above their doors.



### MAYAN GALENDAR AND NOSTRADAMUS

 $\downarrow$  We all probably remember the month of December in 2012, when we were dreading the end of the world, which had been predicted ages ago. Although, we did go through a couple of rough years including disastrous earthquakes, political movements and even a widespread pandemic, the world didn't end and we made it to 2021. In spite of this particular prediction proving to be wrong (fortunately!), the numerology based predictions of the Mayan calendar have actually proved to be quite accurate over the years. Several predictions about the destruction of civilization and perhaps, the end of the world have been made by numerous scientists and scientific groups, constructed through different mathematical calculations. While most of these predictions are seen as plausible theories, the fate of these predictions made till date have ended up in the form of captivating documentaries and movies. Nostradamus was another such prophet who published a book on the world. "Centuries" was a work of predictions revealing his theories on what would occur in the near future for those of his time as well as in the far future for those to come after him. For instance, he said that in the year 1792, France would undergo changes that would usher in a "new age" with the people taking charge of the government. This actually came true with the French Revolution which led to the overthrow of France's monarchy. Similarly, Nostradamus had also correctly predicted events like the death of Queen Elizabeth I, the Hiroshima-Nagasaki atom bombs, 9/11 attack in the United States, and interestingly, he even predicted his own death.

#### NAMES AND NUMEROLOGY

While people might not be ready to talk about it publicly, several celebrities including Ayushmann Khurrana and Rajkummar Rao have been known to change the spellings of their names, supposedly for factors accounting to luck and numerology.

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ILLUSTRATIONS BY: NANDIKA AGARWAL

CONTENT BY: KHUSHBOO KARAMCHANDANI

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Lybrate is a mobile healthcare technology company that was founded in 2013 with its headquarters in Delhi, India. It developed an online platform to connect patients with medical care professionals, to get information about medication. This is done through a video call or by scheduling an appointment. In May 2016, Lybrate launched Lybrate Lab+, an online lab testing service that facilitates a patient's sample to be collected right from their home, with results later shared online. It currently has over 1 lakh certified doctors available, and is growing tremendously!

## MoneyTap

Lybrate

MoneyTap is India's first app-based personal credit line, offered in collaboration with banks. With the tap of a button, this app lets you borrow as little as ₹3000 and as much as ₹5 lakhs depending on your credit limit, that is set by their banking partners. More importantly, you pay interest only on the amount of money you use. What's better? Within 24 hours, it guarantees access to money! And yes, it's fully electronic, super fast and secure. From shopping on e-commerce websites to upgrading your bank balance, you can use it however you want.

# **ROLLING OUT THE** RED CARPET AT JNC

The enthralling fictional world of movies and tv shows is brought to life with our college departments. Although, these departments may not be flesh and blood, they definitely share the same spirit as that of the following characters:

> CONTENT BY: ANVITA PUSHKARNA AND SAGRIKA MALHAN ILLUSTRATIONS BY: SHRUTI KEDIA



















English-Ms. Briganza

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HISTO

Ms. Briganza from 'Kuch Kuch Hota Hai' fits perfectly to the English department. Just like the iconic character from the cult movie for the 90s kids, the students also have an extravagant vocabulary and their enthusiasm for extra curricular activities is phenomenal, which is evident from the fact that they win the best march past title on Sports Day every year!

2 Physical Education Terry Jeffords

Lieutenant Terry Jeffords from Brooklyn Nine-Nine is the living embodiment of the Physical Education department. He treats his body as a temple, hitting the gym for most of his day. But unlike the typical muscle macho, he is an excellent team player and is a role model for others in terms of his dedication.

History-Indiana Jones

Indiana The History department is the and scholarly of our college-Jones ancient civilizations. Just learned in this Jones, powerful Dr. like the department is also all about power, 50 don't mess with them because you may be messing with a future IAS officer!

Hindi-S Imran Qureshi

Imran Qureshi, portrayed by Farhan Akhtar in 'Zindagi Na Milegi Dobara', resonates with this department. They are out to change the definition of what it means to be a Hindi honours student and rightly so. They are no longer conforming to any set ideal.

## Commerce-GEO Jules Ostin

They are like the immensely hard working entrepreneur Jules Ostin from the movie, 'The Intern', portrayed by Anne Hathaway. Driven by their desire to achieve perfection in everything they do while applying the best industry knowledge, they may very well be one of the women entrepreneurs of tomorrow to watch out for!

## Mathematics-Sheldon

MATH

The one department where stereotypes might be true is that they are truly intelligent, perhaps like Sheldon from Big Bang Theory. Nothing deters them from their goals, apart from their eccentricity. Self-disciplined, pragmatic and dexterous are some of their traits. A little oddity is required to be able to grip the complexing world of math, for if only equations could speak!

Psychology-Dr. Scan Maguire

The Psychology department is quite relatable to Robin William's character from Good Will Hunting, Dr. Sean Maguire. Like him, they help others with their deep rooted psychological issues, but sometimes end up discovering facts about themselves, in the process.



Gloria from Modern Family, a multifaceted persona, must have been a graduate of this department. Beautiful and charming might be your first impression, but look beyond that and you would find an ambitious and self-motivated individual with a drive for success. She is truly a jack of all trades and master of none!



Political Science-Albus Dumbledore

The greatest playmaker of all time, the Political Science department is our very own Albus Dumbledore, from the Harry Potter series. Wise, modest, yet a quiet rebel, they astutely analyse and advocate their worldview. They know more about the world than their mortal counterparts and devising policies by application of their knowledge, to serve humanity, is their defining characteristic.

Sociology-Daphne

from the Scooby-Doo franchise, Daphne, might not be your quintessential nerd, but that does not diminish her ability to solve crimes. Her intelligence lies in comprehending ever-puzzling the human beings and their culture. It is this emotional intelligence that lies at the heart of this department and a trendsetting attitude which gives them an upper hand over almost anyone.



## Vocational Studies: Healthcare Management-Shashi

They're probably a Shashi, personated by Sridevi from English Vinglish. Known for her ability to manage a multitude of tasks, this department surely lives up to the expectation. Prepared for administrative roles, they are likely to oversee different tasks with the same ease Shashi used, to divide time between her homework and classwork.



## Vocational Studies: Retail Management & IT-Miranda Priestly

They are quite relatable to the character of Miranda Priestly, played by Meryl Streep in The Devil Wears Prada. Just like Miranda, this department is a paradigm of strong, independent and driven women. They work tirelessly to perfection to become future entrepreneurs and great managers, and details of incompetence do not interest them as they strive to succeed.

RMIT

## Elementary Education-Ram Nikumbh

Innovative, patient and committed are the qualities that truly grasp this department. Probably the only character to come close to describing them is Ram Nikumbh, played by Aamir Khan, from Taare Zameen Par. His open-mindedness and empathy is what the future generation of pupils need.

Economics-Amy Fowler

No character apart from Amy Fowler from The Big Bang Theory is more apt for Economics majors. Hardworking, perseverant and borderline nerd like Amy, they are one of the most contributing members of their teams. Just like Amy, they too are always keen to take up new tasks and projects and are forever on the go for some research or the other! From the smash hit BBC series?

CONTENT BY: JAPITA SINGH

Virtual entertainment offers the best escape from reality to another world. Much-needed in these times to overcome the quarantine-induced loneliness, an all-time companionship is offered by movies and web-series! The last show that got me binge-watching for hours, and being magnetized by the television screen during the lockdown, was BBC's Sherlock.

I am sure we have all been in a situation where we got so engrossed in a show that we forgot all about real life, isn't it?

How to act like

This show surely did the trick and enthralled its viewers!

The brilliant detective Sherlock Holmes, has been impressing generations with his great detective skills and exceptional wit.

The character's latest rendition by Benedict Cumberbatch makes us want to be like him.

## Here are a few things that might help you be more like our favourite high-functioning sociopath.

- Use logic above all else and be sceptical. It is not easy to solve the world's greatest mysteries without being objective. Don't just see, observe.
- Get a sidekick. You need a loyal confidante to help you.
- Build a mind palace to store all the necessary information.
- Throw on a coat and get that iconic scarf!
- If you know a kind, generous lady, maybe she can be the Mrs. Hudson to your Sherlock.



Imagine, it's the last day of your ardent tv series. After the long sleepless nights and endless nail-biting sessions, the day has finally arrived when the final episode of the tv series will be telecasted! You sit down in front of your television after a long day, thinking about nothing but the finale, only to realise that your favourite series has come to an end.

After spending hours watching Gilmore Girls, I felt satisfied but now that it was over, what was I supposed to do? That void is not easy to fill but there are some things that can help. The good news is, you are not alone. As anyone who has ever been a fan, can confirm that it is normal to feel a certain emptiness after a show ends. So, try connecting with the fans of the show. Follow various fan-pages on Instagram, or be a part of Facebook fan-groups and raise your voice for a new season or a spin- off, together!

Pen down your thoughts about the show and share your feelings about the storyline, screenplay, characters and songs.

In short, be an honest critic to your favourite show! Re-watch some scenes that you might have forgotten. Watching favourite scenes might help make you laugh. Get creative. Take a shot at making some art related to the series. Maybe a canvas painting of the actors, or a doodle of famous dialogues! This will not only be a beautiful feeling for you but will also connect with the hearts of other fans of the show.

Write a fanfiction about it. It can help you spend more time in the company of characters you love. And who knows, maybe your fanfiction gets published or maybe the directors love your creativity and your story becomes their outline, for a new season!

You could also try to find a similar book, show or a movie. If all else fails, you can always watch it again and you will definitely find a new aspect to the show!



# The Department of Mathematics

## FRESHER'S PARTY

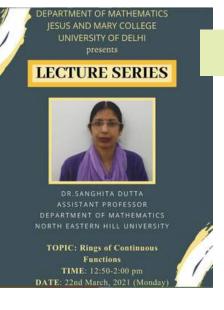
One of the most awaited events in college is the Fresher's party, where throbbing hearts, eyes full of wonder and minds surrounded with apprehensions fade and the new members exhibit their talents while bonding with their seniors. On 20th January, the Department of Mathematics welcomed the new entrants with an online event.

GLANCE

02



With a plethora of performances by the seniors, the celebration concluded by awarding Miss Mathematics to Atipriya Dev Sinha and Miss Personality to Shreyasee Chowdhury.



On 21st April, The Department of Mathematics bid adieu to the graduating batch of 2021, through a virtual farewell organised with lots of love and hearts filled with joy and hope for their bright and successful future!

A special Instagram page was dedicated to the batch, as a memento by the juniors, where their pictures along with beautiful captions were posted. The teachers expressed their well wishes through a heartwarming video.

The farewell ceremony had an amazing combination of dazzling dance performances and soulful music, that left the seniors grooving with happiness. To make the event more engaging, a fun quiz and a Bollywood gibberish session was also organised.

With glistening eyes and proud hearts, the ceremony was concluded!

## EDUCATIONAL TALK

The Department of Mathematics organised a talk on the topic "Rings of Continuous Functions" by Dr. Sanghita Dutta on 22nd March. The lecture covered various concepts, such as zero divisors, invertible elements, maximal ideal and z-filter. The presentation was detailed with graphical representations to help the students understand better. Furthermore, many questions were discussed to provide more clarity on the topic.







THE DEPARTMENT OF MATHEMATICS IFSUS AND MARY COLLEGE DELHI UNIVERSITY

**ALUMNI TALKS** 

## ALUMNI TALK SERIES

To reconnect with our alumni, the department organised a series of Alumni Talks on 10th February, **11th Ma**rch and 17th March respectively.

Ms. Sharmistha Chowdhury was the first guest speaker for the same. She has done her Masters in Finance from Cass Business School, London and her MBA from INSEAD, France. She guided us with her thoughts about work-life balance, work ethics and helped us understand the importance of college societies, and how we can overcome our fear of interviews and face them with confidence.

Our second speaker was Mrs. Shruti Chawla Mudgal, an IIT Delhi post graduate. She is currently the head of Consumer Lending at Freecharge. She spoke on the various advantages of studying mathematics and advised students to seek help from teachers whenever needed. She exemplified on how people should make their decisions in life, specifically career choices, taking instances from her own life.

Our third speaker for the series was Dr. Shreya Gupta, a Machine Learning researcher and product leader at Texas' leading Artificial Intelligence start up, Spark Cognition. She has a PhD in Operational Research from the University of Texas, Austin. In this session, she elucidated on what Machine Learning actually is and juxtaposed it with Al. She further casted light on the career requirements for the same. She shared some basic courses, as well as tips and tricks and doubts were cleared at the end of the session.

#### STUDENT COUNCIL

Ms. Yashika Kapoor (PRESIDENT)

Ms. Aditi Mehra (VICE PRESIDENT)

FACULTY

Teacher in Charge: Dr. Indrakshi Dutta | Association In Charge: Dr. Rashmi Thukral

Dr. Alka Marwaha Ms. Sunita Narain

Dr. Anu Ahuja Dr. Anu Saxena Ms. Rama Saxena Dr. Shruti Kapoor

Ms. Richa Krishna Dr. Monica Rani

Dr. Ambika Bhambani

Dr. Shikha Singh

## ACHIEVEMENTS

Anushka Chhabra : Winner in MIT COVID-19 Challenge - Hack4Future: Al and the Future of Systems Surbhi : AIR 61 in IIT JAM Mathematics 2021: Ist position in Mathematical Quiz PGDAV : Ist position in Ganitya DDUC : 2nd position in Group Theory Battleground Ramanujan College. Kushmita Sharma : 2nd in Cuisine-ae-fusion

Nandika Agarwal : First position in Cartoon Making - Fresher's Competition 21 by Iris JMC Vashima : First position in Poster-Making - Freshers Competition 21 by Iris JMC

#### BATCH'20

Ananya Mishra - M.Sc. Mathematics. St Stephen's College. University of Delhi Apoorva - M.Sc. Mathematics. Delhi University Charu Bajaj - M.Sc. Mathematics. Amity university Elizabeth K Joy - M.Sc. Statistic. Chandigarh University Gauri Tandon - Working at Ernst & Young (EY) as Analyst-Strategy & Transactions (Government Advisory) Jenifa Thomas - M.Sc. Data science. Amity University. Haryana Jessintha Mathew - Master's in Data Analytics. St. Xavier's College. Mumbai Kirti Khanna - MBA Mahima Mariam Varghese - M.Sc. Data Science and Analytics. Devi Ahilya Vishwa vidyalaya Megha Khanna - Masters in Mathematics. Delhi university. Internship with NCR Eduservices as a subject matter expert in Mathematics. Niharika Khurana - Head of Purchasing Department at Rare Earth Conveyors Pvt. Ltd. Neha Sam - M.Sc. Business Administration. Seoul National University. South Korea Nishita - Actuarial Science : Intern at Peoplescient Consulting Llp Pearl Gupta - Product Operations Associate at Gartner Pranshi Sharma - B.Ed. Guru Gobind Singh indraprastha university Preeti - B.Ed. Choudhary Ranbir Singh University Radhika Chanian - Teaching and mentoring at Indian Centre for Development and Rights **Riya Jain** - Actuarial Science. Institute and Faculty of Actuaries Ryna Irengbam - M.Sc. Mathematics. University of Delhi Sheetal - M.Sc. Maths with Computer Science. Jamia Millia Islamia Shireen - M.Sc. Mathematics. University Of Saarland Soni Chauhan - Master's Degree in Operational Research. Delhi University Teres Augustine - M.Sc. Data Science. CHRIST (Deemed to be University). Pune. Lavasa Campus Tanya Agarwal - M.Sc. Economics. London School of Economics and Political Science Tanya Rastogi - M.Sc. IT. Dhirubhai Ambani Institute of Information Communication and Technology Vibhu Sachdeva - M.Sc. Mathematics. Delhi University Yukti - M.Sc. Mathematics. Indian Institute of Technology. Roorkee

COMPILED BY: AISHWARYA MOHAN & DEVIKA RAAJ GUPTA

### ALGORITHM 4.0 PRE-RELEASE EVENT

The Editorial Board of the department organised an event for the release of Algorithm 4.0. A series of competitions were held based on this edition's theme on Dare2Compete. The event involved the following competitions: Prompt-a-Thought (a creative-writing competition). Techno Puzzled (a quiz on technology, in collaboration with the Puzzle Society, JMC), and Meme Maniac (a meme-making contest). Students from all over India participated in huge numbers with utmost zeal and enthusiasm and the winners were provided with exciting gift hampers and vouchers. Winners are as follows:

Techno Puzzled- Ist:Abhinav Mishra 2nd:Deepjyot Ahluwalia 3rd:Anushka Chhabra Prompt-a-Thought- Ist:Saurabh Chauhan 2nd:Anshita Palorkar & Anandita 3rd:Rishika Anastasis Meme Maniac- Ist:Ayush Pradhan & Vaishali Mishra 2nd:Raghav Talwar 3rd:Ananya Lohani & Aditya Mittal

#### We would like to thank our sponsors for their support in making the event a grand success!













-VASHIMA, Ist YEAR

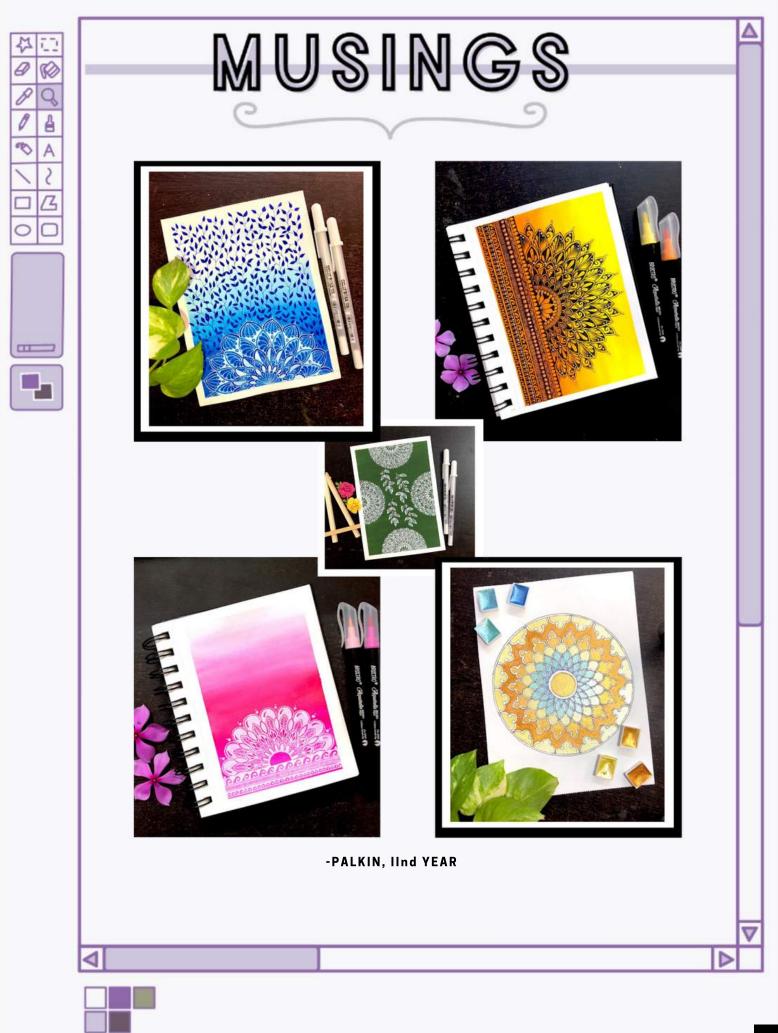
# **MY MODERN SOCIETY**

What's your problem Or better I would say what is our mistake Did you get some fun By seeing us undressed We are still too young To be get raped It's not so pleasurable To make us naked It's your mentality Which needs to be break. They said, girls are pearls that Should be kept in shells. But outside the shell even Pearls could shine so well. The one who think that we need shell there is a better way for you to the hell. Please let us live our life Don't gift us a grave We are also humans like you And not your slave. Crown us with respect And not with shame We need love And not the blame. Being a human it feels so ashamed We live in a society which needs to be trained.

#### -ANJALI MISHRA, IIIrd YEAR



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The object isn't to make art, it's to be in that wonderful state which makes art inevitable. - Robert Henri

# METRIC SPACES OF LIFE

In a world full of open balls, Finding your closed subset is really difficult. Sometimes you may find your limit points, but they aren't your closure sets. From interior of a set to exterior of a dimensions. Searched every neighborhood of bounded set, But couldn't able to find your diameter Cauchy meet convergence, Cantor meet completeness, But countable is still uncountable because life is full of metric spaces.

#### -ANJALI MISHRA, IIIrd YEAR



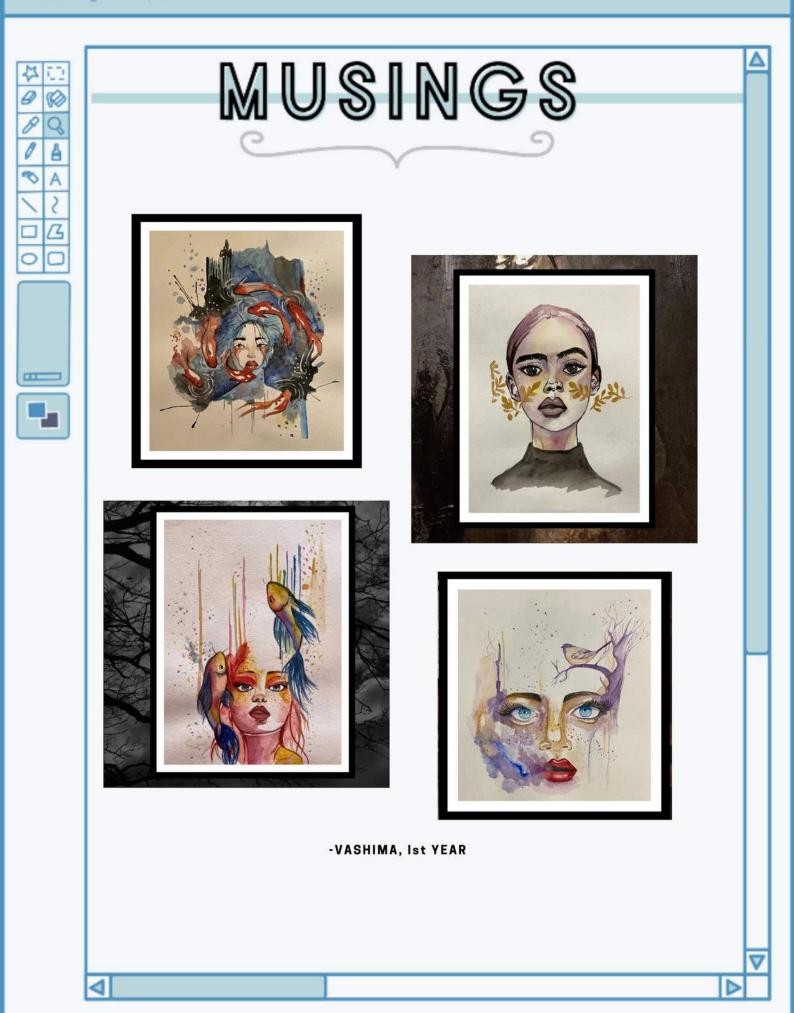
-KUSHMITA SHARMA, Ist YEAR



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# NURSES — THE ANGELS OF THE EARTH

I was getting late for my night shift. The hectic schedule had worn me out. Seriously! I needed a break.

The roadblock and traffic are aggravating reasons for my tardiness. But that day, there was unusual traffic for half an hour. I was getting anxious as I had never been this late for my duty. I got off the auto-rickshaw and started walking hastily.

 $m ar{}$  saw a massive crowd ahead of me, gathered around a child covered in blood. It was deplorable to witness that people were busy taking his photos and videos instead of rescuing him. Immediately, I took the child to a nearby hospital with the help of some benevolent people. The child was rushed to the emergency. After filling in some forms, the doctor informed me that the child was out of danger and was conscious. I went inside, consoled him, and after saying my goodbyes, straightaway went to my hospital.

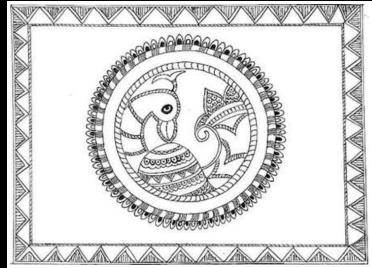
Though I constantly tried to narrate my situation to the nursing superintendent, she didn't pay heed to my explanation. She fired me and asked me to report to the head office the next day.

I reached the head office in time, where the administrative officer handed me an envelope. As expected, it was a suspension letter for my unpunctuality. Though it broke my heart still, the thought of being triumphant in saving a life made me proud. Just as I was about to leave the hospital, a nurse asked me to report to the head office. I quickly went inside and found two people looking intently at me. The head enquired about yesterday's incident. I explained the entire account, and he was astounded. He introduced me to the visitors who turned out to be the child's parents. They requested the head not to suspend me and amically said to me, "We are extremely grateful and indebted to you for saving our son's life.'

The head said to me, " Miss. Jewell, we are extremely sorry for our discourteous behavior. Our hospital needs such responsible and benevolent angels. It would be pleasing for us if you may continue with your philanthropic job in our hospital.

Today I am exultant of being a nurse. Some people look down upon nurses, but they are known to be the "angels of the earth." There is a saying," The sole meaning of a nurse's life is to serve humanity." I could successfully prove that today

successfully prove that today



-JEFFY SABU, Ist YEAR

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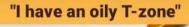




-VANSHIKA, IIIrd YEAR



-VASHIMA, Ist YEAR





"I am sorry. I should probably leave you girls alone!"

-VANSHIKA, IIIrd YEAR



-AAN MARIA JAMES, Ist YEAR

COMPILED BY: DEVIKA RAAJ GUPTA



24

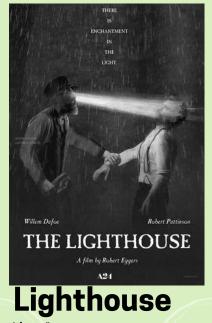






#### Masaan

tale about life and death fantastic characterised bv direction and screenplay. Masaan is about four people who fight their moral conduct and caste system for personal liberty. It is a loophole-free IO9-minute watch that will always make you wonder about what will happen next...



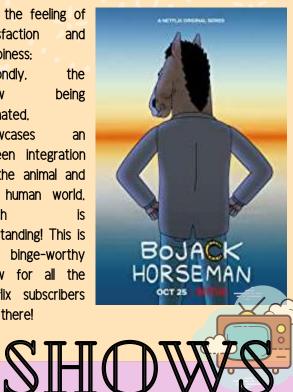
It's all about the very crazy. hallucinogenic, psychosexual. comical, dread surreal, and maddening humour, illuminated with a stellar performance that will leave you baffled. Whether you are a twilight fan or not. this movie should be on your list of the top IO watched movies!!

#### CONTENT BY: ADDITI PANDEY AND PURTY KAPOOR SOURCE OF IMAGES: GOOGLE IMAGES

## **Bojack Horseman**

This show is a parody, and throws light on the life of Bojack Horseman (a famous actor in Hollywood). Bojack's life is nothing short of a rollercoaster, with а career. love life. childhood issues. and friendships...who just happens to be famous. This show revolves around Bojack's struggles with finding happiness, his purpose, and connecting with others. Supporting characters include his colleagues and friends, who have a different set of universe-sized life issues. The show serves a dual purpose; by teaching the viewers some of the major life lessons. that running after success is not enough to give

you the feeling of satisfaction and happiness: secondly. the show being animated. showcases an unseen integration of the animal and the human world. which ic outstanding! This is binge-worthy а show for all the Netflix subscribers out there!





#### The Queen's Gambit

A web-series that will change your mind, and will make you realise the beauty of a game of chess through the glorified description of its golden age. This Netflix powered mini-series tracks a chess prodigy's highs and lows through striking visuals and sensitive storytelling. It takes you through the mind boggling game of chess as an amateur, alongside the protagonist Beth Harmon, played by Anya Taylor with utmost perfection. The historical game reveals the original chess played through history. Beth's intriguing journey, that takes a I80 degree turn from a pill-popping orphan to a world-class chess champion is one of those life-changing stories that we have read since childhood! A highly recommended addition to your watch-list!



# Reviews

Are you a Bollywood buff? Do you love Biswa Kalyan Rath and Kanan Gill as much as you love extra cheese on your pizza? Do you think Bollywood movies are a mood and sometimes nonsensical... Did I say sometimes? I mean. usually. What are you waiting for? Watch the two brilliant star comedians poking fun at them. and we guarantee it is totally worthy of your time.



#### 3Blue1Brown

### **3Blue1Brown**

Tired of reading pure mathematics and unable to visualise? We all face that when we transition from school mathematics to university mathematics. Watch Grant Sanderson explain to you everything and anything mathematical, from linear algebra to neural networks, using a geometrical approach. Subscribe and watch him bringing mathematics to the masses and making you fall in love with the beauty of the subject.



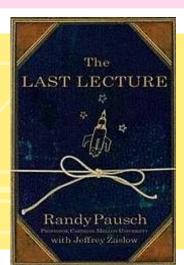
### The Travelling Cat Chronicles by Hiro Arikawa

Meet our exceptional cat narrator. Nana with his companion Satoru as they take us along on their Zindagi na Milegi Dobara- sort of road trip! The nerve tickling observations from Nana's point of view is not to be missed for comic lovers. Robin Williams says in one of my all time favorite movies. Dead Poet's Society. "Sometimes, the most beautiful poetry can be about simple things, like a cat or a flower, or rain. You see, poetry can come from anything with the stuff of revelation in it." Not only The Travelling Cat Chronicles is an apt illustration of this phenomenon, it will definitely turn you into a cat lover!

### The Last Lecture by Randy Pausch

DOKS

This book is an amalgamation of the lifelong experiences of Randy Pausch, delivered in one single lecture, known as the Last Lecture. His lessons range from childhood dreams, to adventures in life, to daily life activities. This book also teaches a very important life lesson, of remaining positive in the gravest of circumstances. Definitely a must buy on your next visit to the bookstore, as it beautifully covers Pausch's knowledge and wisdom!





**ADDITI PANDEY** 

r/All\_information\_about\_revoluti onary\_Theorems\_and\_Conjectur es\_can\_be\_found\_here



Glass

**AMEESHA ARORA** 

Want to sound witty but the word limit is too



**AMISHA SINGH** 

Found my own calmness in the chaos.



ANANYA SHAJI

Probably still pairing all my outfits with crocs XD



ANANYA VASISHT

Let all that you do be done in love.



**ANJALI MISHRA** 

I am A of DIASS, might not the one whom you know before saying last goodbye.



ARCHANA.V.GEORGE For those who think I am silent

l'm just a keen observer. l calculate before l make the move



**ARCHIE GUPTA** 

Math required patience, JMC required attendance. Spent my 3 years trying to increase both.



AYONA BIJU

Enjoy your life given by God in a happy manner



**BEATRICE ROY** 

In college, happiness was having that cup of tea after being late for your 8:30 lecture



**BHARGAVI RAJ** 

Still find basic arithmetic tougher than complex analysis



BLESSY THOMAS

This year I didn't even get to cancel a plan...



**CLEMENTINA THOMAS** 

In the classroom of life there's no back seat.



DEEPJYOT AHLUWALIA

It's completely okay to keep an audience waiting



**DIKSHA JHA** 

This rude looking girl is D of DIASS ('+ile plz')



H A

ESHA KHANNA

When's this due?



ISHA SHAH DEO

College khatam, paisa hazam.



**ISHIKA BANSAL** 

I'm who I'm is a phrase worth remembering



ISHIKA BHUTANI

know that we know they know we know."



**JAGRITI KACHROO** 

Oops, I did it again ;)



These three years were

nothing but the best!



**MELISA JIJI** 

Just a very extra ORDINARY person. (1/5)!



**MUSKAN KHARE** 

Aur bhaii aagya swaad?

125 107



NIKITA JOHNSON

There's no bigger kookie lover than me□



PARNIKA AGARWAL

I didn't understand negative returns till I came here.



PURTY KAPOOR

Kab tak aese chalega?



**RIMJHIM SINGH** 

ust released from my 3 year sentence



RITIKA SEHRAWAT

Gonna be back for sevpuri.



#### **ROSMIN ANN RAJU**

Meri suno, abhi bhi mauka hai. CHOD DO!!!



Claig & Sf

**RUCHI SINGH** 

Some have a story, some have a legacy; we had a pandemic!!!



#### SANSKRITI MISHRA

Kabhi poo, kabhi parvati



SANTRAH REENA JOHN

No more regrets just dreams!!



4/5 for the bhelpuri, but what were all those lectures for?



**SNEH CHIRIPAL** 

l am S of DIASS and a Potterhead.



SNEHA SUNNY

My middle name is funny.



SOUMYA NEGI

It was a classic pyramid graph journey.



SREYAMOL LUKOSE Like becoming myself

instead of more like everyone else



SURBHI TEWATIA

I am S of DIASS , always sleepy!



SURUCHI BECK

l don't have many clothes but just enough to make you believe thay I don't repeat clothes.

COMPILED BY: AISHWARYA MOHAN



VANSHIKA

MISS JMC 2018-19



YASHIKA KAPOOR

Better pay for my therapy now

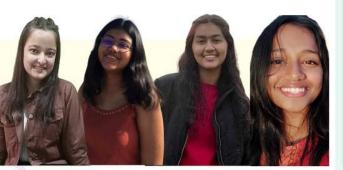
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## eam









