

TECH

Technology: All Around Us

K

E

Y

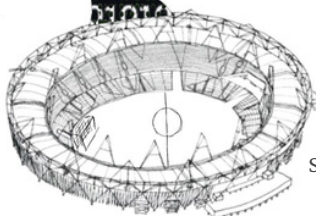
Matters that
Matter



Space



Healthcare



Sports



Economy

EDITOR'S

"I'm interested in things that change the world or that affect the future and wondrous, new technology where you see it, and you're like, 'Wow, how did that even happen? How is that possible?'" – Elon Musk

Dear Reader,

If today, I ask you where you see technology in the next 5 years, you may be extremely skeptical and ambitious in your understanding of the answer. Although, (if you're not Elon Musk) you would find yourself in two different places while answering that question, either in a Star Wars world that encompasses unrealistic sci-fi elements or in a world that's barely different from the one we have with measly advancements in the present products. But, a **breakthrough** is exactly what is in the middle of that. Something realistically so absurd and unbelievable that is brilliantly beneficial, eccentric and doable.

Computer Science and Technology are themselves breakthroughs that have triggered and completely transposed entire lives, economies, careers and cultures all across the globe.

These elements to me have meant the world and beyond. In a sense of passion, accompaniment and career, they have become a static in my life. The meagre yet giant idea of *innovation* that technology alone encompasses is the most fascinating thing that has me forever lost in its world. By the means of TechKey, I wish to enlighten a similar spark within each reader. A revelation that urges them to grow closer to Technology with ease, self-trust and restraint.

Since 2019, TechKey has been a very tech-centred magazine. I believe this concept shadows the true power and potential of the subject itself. Technology is really nothing without its application. Therefore, this edition of TechKey'23 brings to you an **all-embracing and multidisciplinary** variety of articles. The theme, "**Technology: All Around Us – Matters that Matter**" environs Technology and its breakthroughs as it seeps into all possible prospects of our lives and careers. The edition includes Technology with respect to its social impact, healthcare, sports, journalism, the film-making industry, space and human connection.

The TechKey Ed Board invites you to delve into the articles, embrace the knowledge, and join us on this journey of discovery. We hope you enjoy this issue as much as we enjoyed putting it together.

Happy reading!

Arshiya Sharma
Editor-in-Chief

TECHNOLOGY THE GAME CHANGER



What is the first image that comes to your mind when you think of an athlete? It's probably not someone hunched over a computer with their eyes glued to the screen. Unfortunately, the stereotype often associated with computer users implies physical inactivity, lack of athletic abilities and entirely fictional hand-eye coordination.

Technology revolves around us or rather we revolve around it, either way, it has become imperative to our day-to-day functioning as it increases the efficiency of every field. Technology naturally has also made its place in sports, ironically enough by becoming one. The world is tech's oyster, with screens for grounds. E-sports is short for "electronic sports," where instead of watching a physical event, spectators watch video gamers compete against each other in virtual reality. Shockingly, it keeps the viewer as reeled in as watching, let's say Stephen Curry play.

In the world of competitive video gaming, sports encompass competitions from different leagues or teams and face off across a variety of video games like Fortnite, League of Legends, etc.

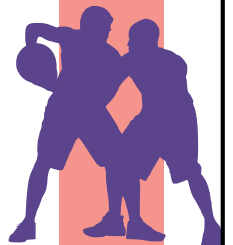
As hard as it may be to imagine for staunch devotees of traditional sports leagues like the NBA, eSports, at its highest levels, functions in a similar way. The NBA held a draft for the launch of its new eSports league centred around the basketball-themed NBA 2K game franchise. During the draft, 102 professional eSports players were selected, with all the pomp and circumstance normally reserved for players on the court.

Technology has also crept its way into traditional sports. Wearables, Sensors, Data Tracking, Virtual Imaging, Digital Fan Engagement, Instant Replay, Equipment Development, equipment for people with disabilities, etc. have made life easier for players.

Esports has transformed the idealistic dream of equality and inclusivity into a tangible reality. In the gaming world, physical attributes such as height, weight, gender, and age are irrelevant, and all players are simply recognized as equals through the unique power of esports. Here, the gamers have true free will as they cloak themselves into their avatar and stay in the precious bubble that is esports.

-Varija Manglik

SC-B



MEDIA IN THE AGE OF ALGORITHMS



The advent of technology, particularly in the field of journalism has resulted in an inundation of information and an increasingly efficient channel for the effusion of knowledge. However, while studying the association between Technology and Journalism, one must answer some questions pertaining to the relationship between the two. Can journalism, especially when given a platform as penetrable as the internet, become a tool for propagation for a biased agenda? And is obtaining political outlook and ideology from news channels healthy for the audience?

Journalism, when given an accessible platform, can become a tool for the propagation of a biased agenda. For instance, last August, PM Modi's ally, Adani expressed his desire to control a majority stake in New Delhi Television (NDTV), which sent the country into an uproar as Adani, as head of a national news programme, could potentially influence any news for his own political and financial gain. That event raised questions pertaining to the freedom of press, the censorship of information and the parameters that are set to control the information that is censored for certain segments of society. As stated before, biased news can affect the ideologies of common men.

This also highlighted another evil of this relationship, that is the political outlook and ideology from news channels can be extremely detrimental to the socio-political consciousness of the youth of the country because it often moulds their personal political beliefs. Regardless of whether they are leftist or rightist in nature, it impacts their actions as members of the society in the future. It is quite obvious that technology has aided the reach of journalistic information and is actively harmful to the young minds it shapes, as it doesn't give them the opportunity to look at an event from an unbiased lens to form their own opinions.

Thus, this argument definitively proves that the union of technology and journalism, though an important one in the virtual world of today, has the potential to cause immense damage and is one that should be navigated with an abundance of caution.

-Ahana Gupta
SC-B

AVATAR

THE WAY OF WATER

13 years after the celebrated original Avatar, James Cameroon's much awaited sequel 'Avatar: The Way of Water' did not disappoint. Avatar 2 has been labeled 'ground-breaking' being the most immersive 3D experience available to date with innovative underwater VFX and motion capture technology.

Mr. Cameroon, a visionary, wanted Avatar 2 to be a meaningful experience and for that his team needed futuristic technology. Although Avatar 1 was the debut of 3D CGI technology, its machinery was obsolete for the world that had been visualized for Avatar 2. Debuting new tech like Deep X and the lofty combination of advanced CGI and practical effects add layers to Pandora's new landscape. The human aspect of the movie is still retained, with driven actors working for 6 months with diving professionals and picking up skills to complement their remarkable acting.

Avatar 2 is Cameron's most ambitious effort to share his belief in the power of cinema with the world.

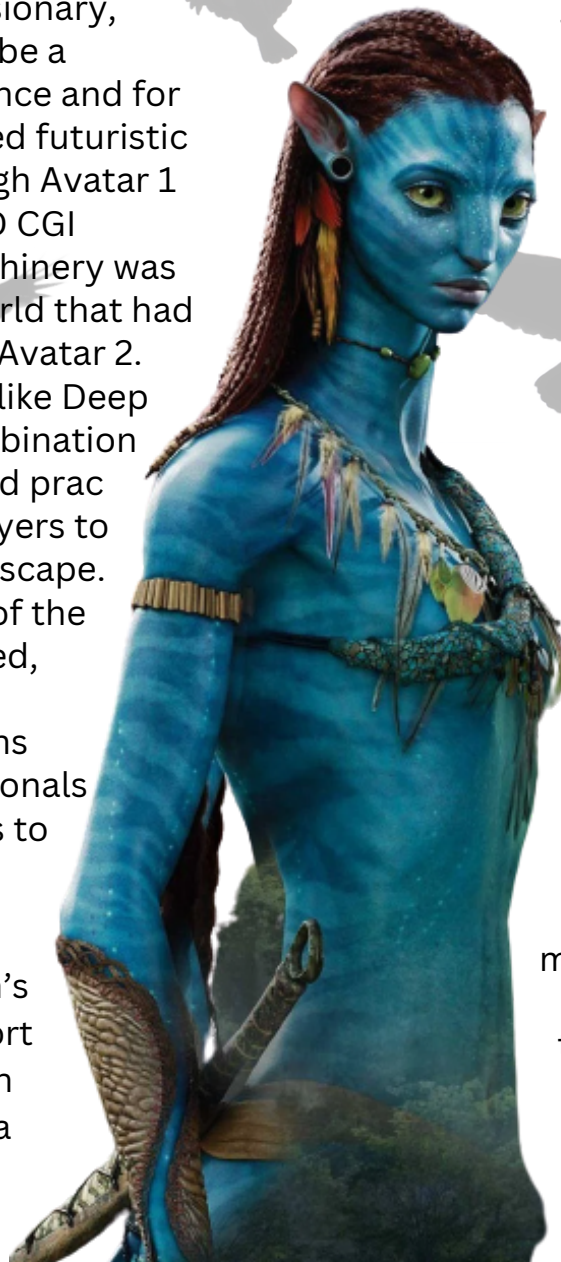
After 13 long years, viewers reunite with Jake Sully, Neytiri and their new family as they explore the seas of Pandora. The main theme lying at the heart of Avatar 2 is that of the trials and tribulations of family, and passing the baton to the next generation. Much of the film's focus is on Jake's and Neytiri's children as they become the next

leaders of Pandora in the fight against the 'Sky People.'

The movie also manages to put us in the midst of a moral dilemma- Do you run from the enemy to save your family or fight the evil?

Avatar 2 is an aesthetic and awe-inspiring movie, and leaves us with a strong message. Cameroon's dedication towards ocean conservation shines through in the mesmerizing marine landscapes on the planet Pandora. This newfound beauty travels from Pandora to Wakanda as the technology developed for Avatar 2, is being used to bring to life underwater landscapes in many new movies. We highly recommend our dear readers to immerse themselves in the visual treat that is 'Avatar: The Way of Water'.

-Vanshi Agrawal and Aarisha Jain
PreSCs





Accountability The Social

SHOULD SOCIAL MEDIA PLATFORMS BE HELD AND WHAT ARE THE IMPLICATIONS FOR USER

Social media has evolved into an integral part of humanity, mainly because of its accessibility. Unlike traditional media, it allows anyone and everyone to express themselves, and not just sit back on their couch and watch a selective group of people debate over an issue that affects them just as much. But this elimination of exclusivity has led humankind to a world where sensitivity is a thing of the past, and as we spiral deeper into the web of social media, we leave behind empathy and diplomacy.

If we are what we eat, then it's the content that we consume makes us who we are. In a world that is already drowning under the weight of extreme hate and discrimination, it must be the responsibility of influential entities to act and work towards peace.

Think of a young impressionable boy growing up watching videos by creators like Andrew Tate. Yes, Tate went to jail soon after; but it's too late to change the mindset of that kid now, the cement has already dried. He might go out of his way to find similar creators, perhaps even take up the habit of spreading hate speech from them. Owing to the social media algorithm, he doesn't even need to bother as they will automatically suggest videos of similar content. Now, the reality is that Andrew Tate did not just influence ONE child. He influenced thousands. But of course, the opposition will simply argue that Tate was ultimately arrested because of his actions, and how our society will always uphold ethics to ensure just action against such bigots, thus "proving why social media sites need not be held accountable". Dear opposition, my only question for you is- why are you so reluctant to act against this singular platform that is still supporting 1.2 billion people to make unmoderated content?

Even if they arrest the possible 1.2 Billion Tates through some bureaucratic wonder, the arrest will be all but untimely because the damage is already done, and the ideologies already imprinted. Besides the moral obligation of these sites, it is also important to remember one of the main features of these platforms- creating a safe inclusive space for all users. Ironically though, it has become an outlet for numerous harmful things like bigotry, hate speech, and misinformation.

If social media won't protect people's consumer rights, who will? The opposition may naively remark that the users have a right to express their opinion, but dear readers, at what cost? Their rights end, where someone else's begins. Humanity has proven time and again that it cannot be trusted when it comes to morals and ethics- as is evident by the release of Tate to the luxury of house arrest.

All that I have left to say is that the right to speech should come with the responsibility of right to speech, which is why it is valid for social media sites to regulate this right AND take accountability when they fail to do so.



vs. Free Speech Media Dilemma



ACCOUNTABLE FOR MODERATING CONTENT, GENERATED FREE SPEECH AND DEMOCRACY?

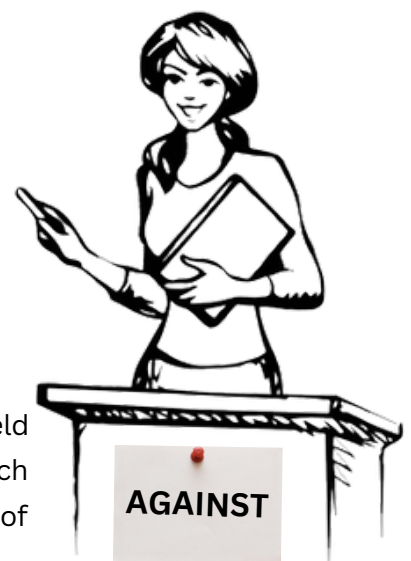
Social media is defined as a computer-based technology that facilitates the sharing of ideas, thoughts, and information through virtual networks and communities. Moderation of user generated content is accepting or rejecting content according to a social media platform's specific guidelines and rules. Section 230 of the communications decency act is a part of the United States Code. This act embodies that principle that we should all be responsible for our own actions and statements online, but generally not those of others. This should be the case with social media as well.

The freedom of being able to voice our thoughts and opinions online empower many who may be silenced in the real world, and thus every person should have the liberty to share their own opinions, whatever they may be, with the world. In addition to this, moderation of user generated content, guided by any bias or socio-political association, would be a clear infringement on people's right to freedom of speech.

Artificial intelligence and algorithms designed to moderate content, many times cannot comprehend the context of certain posts, resulting in occasional flagging of harmless content or failing to catch actual inappropriate content. Social media companies being held accountable for the content generated by users would also defeat its very purpose which is to facilitate the sharing of ideas and information. Its work should end at assisting users in being able to voice out their thoughts, ideas, and opinions, rather than blocking or restricting them, which moderation does.

Moderation may lead to censorship, which can be defined as "the suppression of speech, public communication, or other information". When censorship takes place, it leads to, again, infringement of freedom of speech. When freedom of speech is infringed upon, people may be afraid of saying what they truly feel about the faults in society. In the name of blocking harmful information, censorship can actually restrict important and beneficial information, which may lead to ignorance as well as incorrect representation.

Hence, I strongly believe that social media platforms should not be held accountable for moderating user generated content due to reasons such as infringement of basic rights, suppression, lack of representation of truth, and censorship.



-Shubhangi Jain (For) and Vaanya Bhandari (Against)

SCs

Neuralink

Neuralink considers itself - "Breakthrough technology for the brain."

In the year 2021, Elon Musk's company Neuralink shared a video of a monkey playing Ping-Pong with its mind. This was possible because of a chip that was surgically inserted into the brain by neuroscientists, who used robotics to control the application. (The baseline of every dystopia movie ever). That's probably the closest we have come to bridging the gap between Sci-fi and reality.

So, how does Neuralink work? Most readers would know that the transmission of impulse in the brain is both a chemical and electrical affair. The minority should probably utilise their time more efficiently with the assistance of their Biology textbook instead of asking questions for Boomers Explain. This chip intercepts the electrical signals from the neurons and then converts it to signals that can be sent to other technological devices. This extremely invasive process, hence, cannot be conducted externally as the chip will simply not be able to intercept the signals accurately.

As its founder and advocate, Musk claims the chip to serve several functions in the common man's daily life. Not only does he think he can make a paralysed person walk, or a blind person see, but also operate encephalopathy, a disease in which functioning of the brain is affected). Neuralink will also serve as a link between technology and our brain where it will allow a person to directly use their phones or computers through our thoughts. They took the parents nagging – 'your phone's a parasite' a tad too literally.

For all of its wide array of applications, this innovative technology is being heavily criticized and examined under the harsh public gaze. Neuralink has allegedly killed more than 1500 animals in its trials including over 280 sheep, monkeys, and pigs since 2018. Despite an extremely high mortality rate, the company has predicted on at least four occasions since 2019 that they would soon start human trials.



Even after a year of rejections for securing FDA approval for human testing, Musk predicted, highly uncharacteristically, that the company would be able to start human-trial this spring. Yet, Musk has such confidence in the Neuralink, that he claims to be willing to implant them in his own children.

In public comments, Musk has held an ambitious plan for the Neuralink. From curing obesity or depression to telepathy, eventually Musk wants to turn humans into cyborgs powered by artificial intelligence, starting with his own army of children it seems.



-Keya Aggarwal

SC-A

Asteroid Proof Earth

The world is going to end. Soon, a big asteroid would strike the surface, causing an impact so great that humanity would meet its doom. And before the earth sees this noxious calamity, NASA saves the day.

As technology continues to defy the barriers of the impossible and the world moves towards a better and safer future, planetary defence breaks through our imagination to build for us a secure tomorrow. Planetary defence encompasses all of the capabilities required to detect potential asteroid or comet impacts with Earth and then either prevent or mitigate their effects.

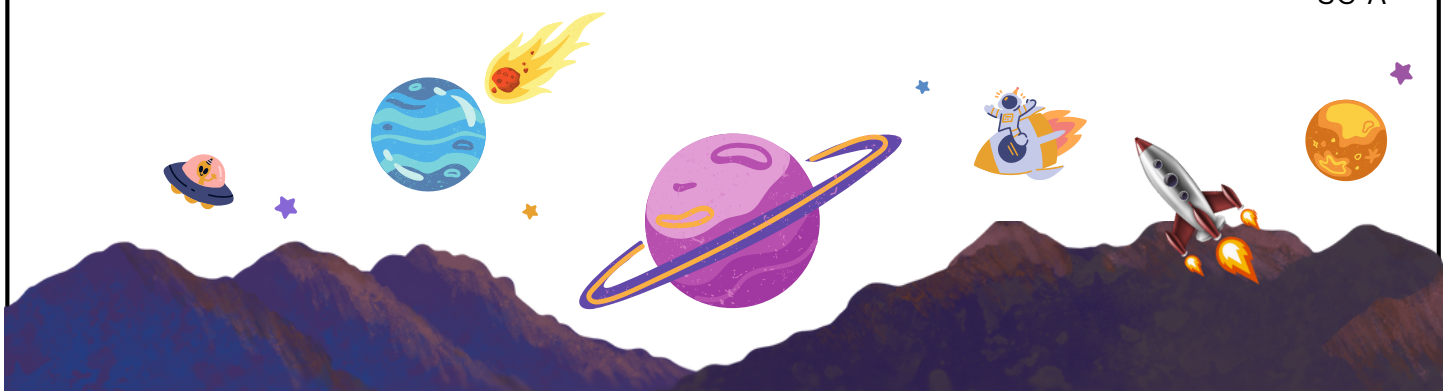
On the 26th of September, Nasa crashed a spacecraft into an asteroid called Didymos. The collision was part of the '**double asteroid redirection test**', the first project under the planetary defence program. There are over 1 million known asteroids in space, some of which cross paths with Earth's orbit. Asteroid impacts have occurred throughout history, and we are well aware (thanks to the sacrifice of dinosaurs), how massive and disastrous an impact on Earth could be. To top off the growing list of possible future apocalypses, asteroid impact has become another such potential threat against which the world much be protected (Now Only if we could protect it from itself!).

The result of this quest was NASA's DART (Double Asteroid Redirection Test). The goal of this mission was to reduce the speed of the asteroid Didymos such that it would have a change in its orbit. For this, scientists used kinetic impactor technology which involves using spacecraft designed to deflect a near-Earth object to change its orbit so that it misses our planet.

DART was designed by the John Hopkins APL and consists of several high-resolution cameras including DRACO and LICIACube, that were used to support navigation, along with measuring the size and shape of the asteroid target to investigate the geology of the impact site. Through the use of such images, and telescopes, NASA can study the possible impact of the spacecraft on the asteroid and find whether similar projects could be used to prevent such impacts. In 2024, another mission 'Hera' would be launched for Dimorphous, a smaller asteroid around Didymos, in order to have an in-depth study of the mission.

We beat the constellation, the planets, the eclipse, and now we are heading straight towards the asteroids, because of course when we run out of problems on earth, we look for them in the sky. The DART not only highlights that space exploration is beyond telescopes and satellites, but also proves that when humans make enemies outside, technology is always there to save the day!

-Bhavya Sangal
SC-A



Politics and Technology



In recent years, technology has played a significant role in shaping the political landscape throughout the world. With the rise of social media platforms and other digital tools, political campaigns and activism have become more accessible to the masses, leading to increased engagement and participation in political activities. We can sympathize with those under the tyranny of the Iranian Morality police all while showing our support for Greta Thunberg in the midst of Twitter wars.

One of the most notable ways that technology has impacted politics is through social media. Platforms like Twitter, Facebook, and Instagram have become key battlegrounds for political messaging and information dissemination. Political campaigns can now reach millions instantly, allowing them to engage with voters in real-time, spread their message and build support. Another way technology has influenced politics is through data analytics and targeting. Campaigns now use sophisticated algorithms to analyse voter data and identify patterns in voting behaviour, which is then used to target voters with tailored messaging, in order to persuade them to vote for a particular candidate.

In 2011 at the height of the Arab Spring, when Egypt was in the throes of a political upheaval as the country turned against the autocratic regime of President Hosni Mubarak, social media played a critical role in organizing protests and mobilizing public opinion against the government (The Mubarak Digital Revolution). Protesters used Facebook to organize demonstrations and share images and videos of the protests, and YouTube was used to livestream the protests.

However, with light comes darkness. Social Media Platforms have been accused of facilitating the spread of misinformation and propaganda, leading to political polarization and the erosion of trust in democratic institutions. Additionally, the collection and use of personal data for political purposes have raised concerns around privacy, leading to calls for stricter regulations and oversight.

In conclusion, technology has undoubtedly had a significant impact on politics, both positive and negative. While it has enabled greater engagement and participation, it has also raised concerns around privacy and security. As technology continues to evolve, it is important for policymakers to consider the implications of these advancements on political processes and to work towards a more transparent, secure, and democratic future.

-Tvisha Mahajan
PreSC

What happens when you give the IP address of your personal laptop to the Welham IT department? (Can Siraj Sir really see everything you do; does he know your celebrity crush and the person you stalked on the class computer?)

We stuck out our necks to get the answer to this pressing question, at the back of every Welhamite's mind, from Mr Siraj himself. And much to our surprise, the answer to your question does not exist, probably because your question itself is flawed. It is the physical (or MAC) address of your laptop that is taken, and much to your dismay dear boomer, no VPN can alter this. WARNING! After a lengthy argument with Mr Siraj, we have realised that you should never use a VPN, free or paid for, on any of your devices, as the network you use passes through this proxy server, hence, allowing the unsafe VPN server to access and mine all the data from your device. Though we are sure you all will head to our warning, perhaps this may strengthen your resolve. It is when a VPN is activated or any prohibited site is accessed on your device, that the firewall detects unauthorized access to the school server, which is then further investigated by the IT department, taking them on a sordid journey through your search history. The Ed board suggests compensating them handsomely for the things they have seen and will surely continue to see in their nightmares.

Is it safe to access random WiFis that require no password for internet? For example, at the airport.

If you think that it is safe to eat the candy handed to you by a stranger, then you are truly worthy of your title, boomer. Just as it is unsafe to consume suspicious sweets, it is also unsafe to access free and public WiFi as any other user of that server, has the ability to use cyber tools to hack your device and access all the deep-dark data hidden on it. That selfie you took five years ago, or your mom's contact, all becomes fair play to the hacker. So next time you want to watch a movie at T3 on the free airport WiFi, someone could be watching your rejected TikTok at that exact moment.

WORD SEARCH

- What is the world's first web browser?
- Which country is the largest producer of electronics?
- This is a form of secure ledger, closely associated with cryptocurrency, that enables organisations to track transactions around an asset without needing a centralised database.
- A small file left on a user's machine by a website.
- Software whose source code is open to the public. This means others can modify it, and it is often designed communally.
- Which company lost more than 8 billion dollars in cryptocurrency?

V	B	K	I	W	C	F	E	N	O	L	Q
G	L	L	F	B	F	S	F	M	E	N	F
D	O	I	U	M	O	S	A	I	C	S	Y
C	C	P	V	I	N	G	H	H	B	L	N
B	K	N	E	I	E	G	A	R	A	G	A
F	C	H	I	N	N	E	X	U	S	L	M
G	H	A	E	N	S	G	L	N	I	B	R
A	A	T	E	N	G	O	R	A	K	O	E
H	I	O	F	O	S	R	U	O	O	A	G
D	N	T	T	I	C	U	O	R	O	F	F
E	T	D	X	E	T	R	A	O	C	M	D
N	F	I	B	X	D	U	O	O	M	E	T

Chocolates await the first 3 people who approach Arshiya with the correct answers.

CREDITS

EDITOR-IN-CHIEF

ARSHIYA SHARMA

EDITORIAL BOARD

VANSHIKA AGARWAL

KEYA AGGARWAL

PARIDHI SABOO

AARISHA JAIN

VAISHNAVI AGARWAL

AKSHITA GOYAL

TEACHER-IN-CHARGE

MS. SAPNA SHARMA

ILLUSTRATORS

SHUBHANGI JAIN

NIMRAT AGARWAL