

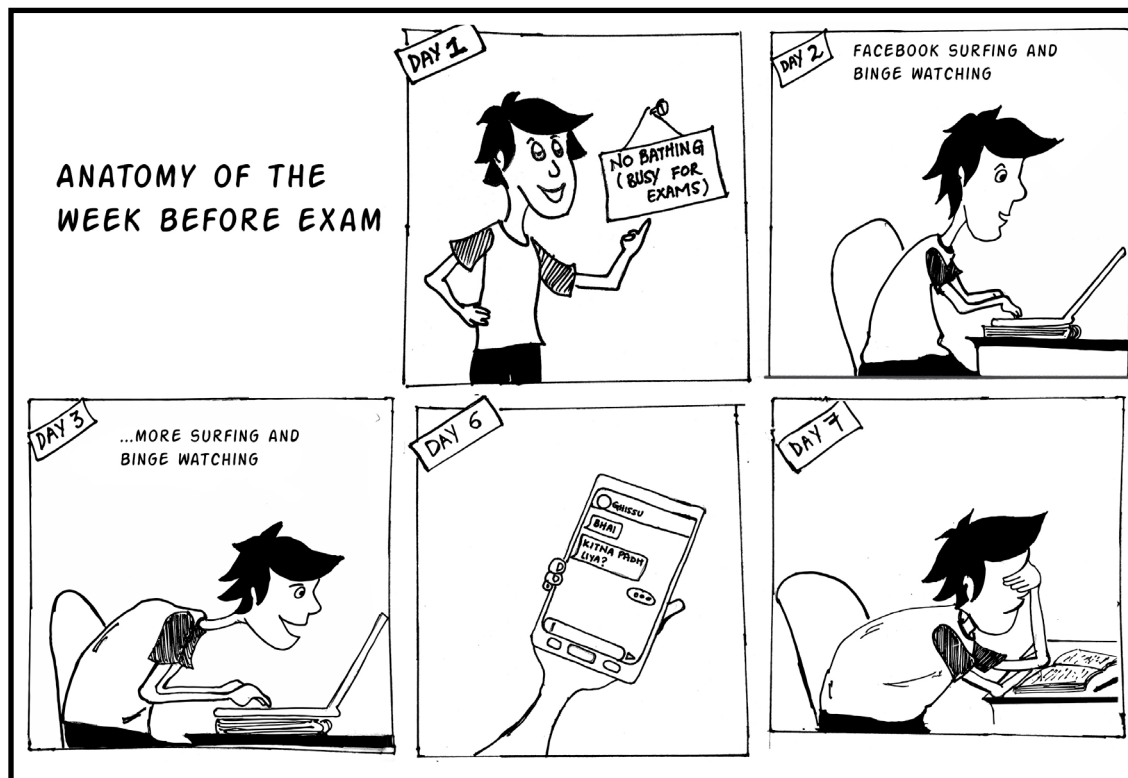
Anatomy of the Week before Exams

By Mimansa Bagri

It is a truth universally acknowledged that a college student- frenetically trying to be in possession of class notes- must be in his last week of freedom before the evil that is the end semester strikes. This make or break week before the exam is the determining factor for things of paramount importance, such as whether or not you'll get a chance to say 'agle sem phod dunga'. In lieu of the upcoming exams, here's a breakdown of the final week depicting how a person goes about doing everything but studying.

Day 1:

The first day of the last week before exams begins with a lazy morning (or afternoon, for some) as you breezily wake up, stretch, start moving towards the bathroom but then make a beeline for the kitchen, congratulating yourself for even thinking about taking a shower. As you go through your Facebook feed, tagging friends in hilarious relatable memes while eating those yummy *aloo ka paranthas*, you vaguely realize that you have exams coming up in a week. After calmly finishing up your business you grab a notebook, lots of coloured pens and some textbooks. Opening up the index page of the very first book, you write down the syllabus and start the lengthy process of concocting a convoluted and laborious weekly sched-



ule that you already know you aren't going to follow. Closing the notebook, you decide to treat yourself to some popular TV show for the rest of the day, in appreciation of the day's tedious work.

Day 2:

You wake up the next day to a pounding headache, thanks to the binge watching you did yesterday. Moving past the bathroom you conveniently try to hide that stinking smell by spraying several layers of perfume over yourself. Promising yourself that you'd start studying today, you decide that it wouldn't hurt to reply to the comments your

friends have mentioned you in on Facebook, proceeding then to procrastinate for half the day.

You finally open up your notes in the evening and try to concentrate on the theorems in front of you. Two minutes into studying, you realise it's tough as hell and remind yourself to complete it tomorrow, moving on to an easy topic that you've already studied. Spending two whole hours on the said topic, you close the book and allow a satisfied grin to take over your face. Done for the day.

Day 3:

Groaning in frustration,

you climb down the bed with yet another throbbing headache, courtesy of that all-nighter you pulled to finish the remaining seasons of the same TV series. It is when you try to walk to the kitchen, expediently trying to avoid the bathroom that your mother comes out of nowhere and bashes you for not showering. Coming out of the shower, feeling invigorated and fresh as a daisy, you open up the schedule to see what's set down for today. You look at the syllabus and the only thoughts running in your head are, 'Too tough. Will do tomorrow. Will do day after tomorrow. What is this topic? When did we do this? Which subject is

this? I'm just going to revise the topic I covered yesterday.' And that's all for day tres.

Day 4:

Guilt is coursing through your nerves, your palms are clammy and there's sweat all over your forehead because it's already noon and you've wasted half the day playing Ludo (with the computer, because you are lonely) and have lost thrice. You realize that you're screwed unless you seriously start studying now. So, that is what you do. You pick up a testing subject, open up the tough-

est topic and begin your journey to doom. Two minutes into this and you find that you're curled on the bed, lying in a fetal position, cursing your life and sobbing uncontrollably. And as has been said innumerable times by some famous poet, his singer friends, a few authors and his philosopher acquaintances, "Life kicks you when you're down", your best friend texts you and asks the one question that leads to your downfall. "Kitna padh liya?"

Day 7:

It's the night before the

exam and you're frantically trying to recall everything that you've studied (or not) so far, simultaneously praying to all the deities, Gods and Goddesses you've ever known. Days 5 and 6 have passed by in supersonic speed as you tried to complete whatever part of the syllabus you could (which wasn't much). After that affrighting message by your supposed best friend, you were thrown into panic by many such others who shamelessly asked doubts and answers to different questions from the book, which by the end of the sixth

day got progressed to different set of previous years' exam papers. As you lie on the bed, surrounded by class notes and textbooks, you think back to the days when you had enough time to study everything, but instead decided to waste it on things you can't even remember now. Closing your eyes, you heave a sigh and move forward to turn off the lights, with one thought spiraling in your mind, 'kal subah uth kar formulas hi dekh lunga.'

Decrypting Cryptography

By Kamalpreet Bhatia

In a world that is slowly being enveloped by advancing day to day technologies, it is virtually impossible to assume that our information stays entirely secure. Attacks on our information networks by viruses and hackers are becoming commonplace. The need to protect data and ensure that it does not fall into the wrong hands is what led to the advent of what we currently call cryptography.

Cryptography is defined as the art and science of generating codes to conceal vital information. Scientifically, it can also be defined as *making a cryptosystem that is capable of providing information security*. It has been in existence since time immemorial. Hieroglyphs, which were used around 4000 years ago in Egypt, are the oldest recorded examples of a cryptographic technique, in which scribes used to transmit messages on behalf of their kings. Now, this technique is used virtually everywhere in network security. The fundamental

idea of cryptography remains the same though: to hide information in transit and make it available to the intended recipients only.

Using mathematical algorithms, cryptography helps in converting plain text into what is commonly known as ciphers. Plain text is the message which needs to be transmitted to the intended recipient and requires hiding. This is done using ciphers. Ciphers are a way of converting these messages into an unknown format using complex algorithms. You can visualize this as using 'code language' to hide information that can only be accessed once it is decoded in the correct pattern. Conversion of plain texts to cipher texts is referred to as encryption and vice versa as decryption.

To explain ciphers to you on a basic level, let's rewind a little. The Caesar cipher, named after the famous Roman General Julius Caesar, is one of the most widely cited examples of encryp-

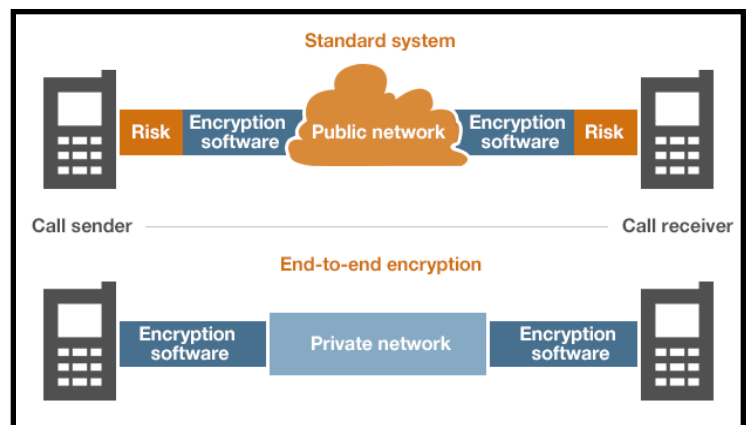
tion ciphers. He used this cipher to communicate with his troops on the battlefield. Using the Caesar cipher, we can encrypt all the letters in a message by shifting the alphabet by a fixed number of places.

Try decoding this out: **Wr eh ru qrw wr eh, Wkdw lv wkh txhvwlrq.**

Were you able to make a coherent message out of it simply at first glance? Try proving your mettle as a cryptographer. **To be or not to be, that is the question,** dear reader. In this example, the message was encrypted by shifting the letter

by three spaces. This is the beauty of ciphers. They take simple information and convert it to seemingly gibberish content, which always holds a special message for those it is meant for. The perfect counterattack against those who aren't very good at keeping secrets.

There are a range of different ciphers that use many more complex mathematical algorithms to conceal messages such as **Playfair Cipher, Four Square Cipher and the Vigenère Cipher**, a little more complex than the Caesar Cipher but definitely a lot of fun decoding.



Where is Cryptography being used in the Modern World?

The answer is simple: all around us. Let's take the social media platform WhatsApp as an example. Available in various mobile platforms, WhatsApp guarantees that the message that is being sent only reaches the intended receiver and no other third party to ensure the privacy of personal data. This is achieved through end-to-end encryption.

End-to-end encryption in WhatsApp is implemented using asymmetric cryptography also known as public key systems. During installation, the public keys of the clients are registered

with the WhatsApp servers due to which, an encrypted session is created between the two clients conversing with one another. For example, if client 1 wants to send a message to client 2, the public keys of client 2 are retrieved from the WhatsApp server, and this is used to encrypt the message and send it to client 2. Client 2 then decrypts the message with his own private key.

End-to-end encryption has many benefits, not just in platforms such as WhatsApp but in many other fields where security is an issue. These include protection of digital signatures, ensuring safe online payment through credit card and taking out cash from the ATM.

In a situation where attackers place themselves between the message making software and the encryption system, the attackers will get a chance to see the information in plain text format before the algorithms get a chance to scramble it up. End-to-end encryption closes this gap by having the message making software apply the scrambling directly. By doing so, the chances of the information to 'leak' are highly reduced.

As engineers who deal with handling data, cryptography is an area of interest that we all should be well acquainted with, especially those who want to pursue a career in fields such as information technology or data manage-

ment and services. If this article spurred an interest in you for this subject, do take out some time to read further about cryptography, particularly the many interesting ciphers mentioned here.

In a world where there is constant threat to our information, having a secure and well thought out system to protect data is much needed, especially one that has been so heavily infused with the technology of computers and other devices that are designed to generate, manipulate and modify such data. The need for having a thorough and a well built knowledge of the art and science of cryptography is more important than ever.

Newsflash

By Trishla Verma

The Admin has declared a stricter check on the attendance as well as the use of unfair means in examinations. Depending on the severity of the breach of examination rules, one could face consequences that can extend from getting the paper cancelled to receiving a year back as per the norms set by the University of Delhi. Keep yourself updated with the attendance in your IMS account, and make sure to stray away from anything which could be perceived as 'unfair means' in your examinations.

CBCS students cannot appear for improvement examinations. If a student fails in a course, he or she would need to re-register and go through the entire course again. The improvement exams were a widely used tool until now for students to increase their scores, and the scrapping of it for the new batches may prove to be unfavourable.

The rules of the Girls' Hostels are now more stringent as birthday celebrations are no longer permitted in hostel premises. Also, with heavy fines being imposed for every violation in both the Boys' and Girls' Hostels, students are advised to follow the regulations strictly to avoid the punishment.

Quizzes/Surprise tests, along with assignments, are to be used as the mandatory parameter for internal marking for CBCS students.

Security rules for entry into the college have tightened and owner of vehicles (including e-rickshaws, cars) now need to enter their details while students need to show their ID cards at the gate for entering into the campus. Also, rickshaws are no longer allowed to stay inside the campus, causing a great deal of inconvenience among the students.

Professor Profile: Mrs. Sujata Sengar

By Anuja Sharma

After several attempts, the members of team Alliance finally got the chance to interview Prof. Sujata Sengar, who had welcomed us in spite of her busy schedule. Clearing the clutter over her table, she kept aside her file to prepare for the interview.

Q. Please tell us a bit about your professional background. How has your journey as a teacher been so far?

SS: I received my Bachelors and Masters in ECE from Aligarh Muslim University and a Doctoral Degree from the IIT, Delhi. I have worked as a Scientist Fellow at C.E.E.R.I., Pilani. Coming from a family full of teachers, I always aspired to be one and so, I enjoy my work.

Teaching as a profession gives you a lot of freedom and helps you be in touch with the young generation.

In the technical field, I have incorporated new topics for practical learning and organised workshops to enhance the understanding of students. I have also contributed in different cultural activities and encouraged my students for the same. For instance, I have helped the students at 'Prayas' to operate.

Q. How would you compare the current and the past standards of disci-



pline in NSIT? What has changed over time?

SS: More or less, statistically it has been the same since forever. The root cause of indiscipline amongst students is their social environments outside of college and at home. Students' activities need stricter monitoring in the first two years of their college as they tend to mature with age.

Q. What, according to you impacts a student's psychology the most while ensuring proper regulation of all the rules?

SS: Teachers, including me, usually punish students for their wrongdoings. However, it is often not the best way to deal with students as they should always be explained the repercussions of what they do, though practically, corrective punishments cannot be totally replaced.

Q. How important are the cultural fests and other co-curricular activities for a student? What kind of

freedom should they be granted during the same?

SS: They are extremely important as they all contribute to the overall development of students and provide as a source of entertainment. However, this should not be tainted by other activities like drinking or smoking, that this generation easily indulges in. It is also imperative that we spend more time with students to understand their likes and dislikes for they are the future of this nation and have a lot to teach us too. In my opinion, the emphasis on technical fests has also dwindled over time.

Q. Should the rules be different for the two genders?

SS: No, not at all. However, sometimes equal standards are not permissible practically. For instance, a boy found in an intoxicated state is a bad image but a girl in a similar state is even worse for other than the common perils, she might face even greater risks in

a city like Delhi. Hence, the difference in the hostel timings are justified as there are workmen who reside in the campus and the walls behind the Girls' Hostels can be easily breached. Hence, rules are the same but due to our concern for girls, they seem biased.

Q. What are the changes that should be implemented in this college?

SS: The curriculum should be more inclined towards the technical aspects of Engineering. The quality of projects has gone down over the years probably due to the inappropriate ratio of teachers to the students. Interest of a few students in research work should not be subdued by the placement oriented approach of the majority.

Q. Any piece of advice for the students of NSIT?

SS: Since you are training to be an engineer, you should be technically sound. Secondly, being socially responsible marks one's character. Hence, discipline can never be neglected. We often ignore the silent voice of conscience within us every time we cheat, mark proxies or manipulate results of training and placement cell. These little, 'ignorable' gestures only add up to result in corruption and scams at larger scales. The need of the hour is to address such issues at the basic levels.

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