



VIEWPOINT - A PHARMA MAG.

DR B.C. ROY COLLEGE OF PHARMACY & AHS

MEGHNAD SAHA SARANI, BIDHANNAGAR, DURGAPUR-713206

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VOICE OF THE EDITOR

The year 2008 is on the verge of completing its journey. At the end of this year's voyage Dr. B.C. Roy College of Pharmacy and AHS is going to start a new flight with its *Viewpoint: A Pharma Mag.*

Dr. B.C. Roy College of Pharmacy and AHS is like a family in itself – an organization concerned primarily to train young and potential students for the field of Pharmaceutical Technology. So day in and day out, our students as well as faculty members work in their technical fields with a target to make the future of our students prosperous.

Science and technology is the need of the day. Without its progress, life will perhaps come to a standstill. But life can be made more beautiful with our imagination and creation. There are moments in our life when we try to think beyond science, technology and logic. These thoughts may not be fruitful for our life to progress, but definitely makes us feel better. We enjoy our thoughts, feelings and expressions that helps our mind to relax. Our thoughts can be refreshing to others as well.

Viewpoint is therefore an open space for our college members to share their reflections, imaginations and transient thoughts. This is the best place to show their creative talents beyond the daily study schedules, course contents, academic curriculum and the nerve-killing examinations, making life at Dr. B.C. Roy College of Pharmacy and AHS entertaining and memorable as well.

As the college stands upright like a family in itself, every academic semester of the college is a witness to various events and incidents.

Viewpoint, being the college magazine, will also prove to be our college-family diary to hold back our memorable incidents, facts, events and news of every semester.

With bunches of news at stake of the odd semester of academic year 2008, and a bouquet of creative writing, the first issue of *Viewpoint* is in our hands.

We hope that the flight of our *Viewpoint* would never end.

Shukla Chatterjee
Indrani Bhattacharya

LOOK OVER ...

1. ORIENTATION PROGRAMME FOR FRESHERS 2008

Dr B.C. Roy College of Pharmacy and Allied Health Sciences had a glorious 2008 to pass over. At the best of its spirits, the college has reached its youth, housing all the four batches of B-Pharm students. In the month of July, through a very beautiful orientation programme held in the college premises, this year's first year batch was welcomed. The programme was chaired by our honourable Secretary Mr. Dulal Mitra. Director Mr. Jornal Singh, our Principal Prof. (Dr) S Chakraborty and one of our very dear senior Professor, Dr Dhananjoy Pal spoke to the freshers and their parents about the prospect of B- Pharm course and what the college promises to impart to its students. With the 1st year joining this year, our college is running with four batches of B -Pharm students. Now she is looking ahead to grow up still more and reach her adulthood by starting the M-Pharm Course. May the coming year help us grow more.



Orientation programme for freshers 2008

2. INDUSTRIAL TRAINING FOR FINAL YEAR STUDENTS

No Technical college is complete without proper Industrial Training for its students. So this year, the college had knocked some of the best Pharmaceutical Companies, both within the State as well as all over India and arranged Industrial Training for all the fourth year students to grow and boost up their confidence. Our sincere thanks to all the Companies for their cooperation and support. They are:

In West Bengal : Dey's Medical Stores (Mfg), Albert David Ltd., Martina Bio Genics Pvt. Ltd., East India Pharmaceutical Works Ltd., Caplet India Pvt. Ltd., Befam Pharmaceuticals Pvt. Ltd., Diamond Drugs Pvt. Ltd., Bengal Chemical & Pharmaceutical Works Ltd., Burnet Pharmaceutical Pvt. Ltd. and Stadmed Pvt. Ltd.

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Outside Bengal: Ind- Swift Ltd., Jubilant Organosys Ltd., Dr Reddy's Laboratories Ltd., Ally Pharma Options Pvt. Ltd., Mediybiotech Pvt. Ltd., Emami Ltd., Nicholas Piramal (I) Ltd., Emil Pharmaceuticals Inds. Pvt. Ltd.

3. STUDENTS PERFORMANCE OF THE EVEN SEMESTER 2008

"Committed to excellence in Education" is the motto of the college. The fruits of hard work and positive effort of our faculty and staff in the previous semester are:



3rd YEAR, 6th sem
NANIGOPALGURIA
(9.47GP)



2nd YEAR, 4th Sem
MAYURI NATH
(9.29GP)

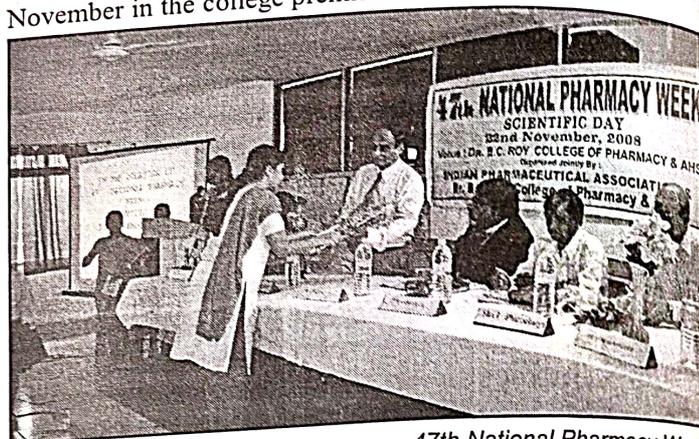


1st YEAR, 2nd sem
SOMRITA BHATTACHARYA
(8.9GP)

We hope our students excel in their field of study and secure university ranks in the coming years.

4. NATIONAL PHARMACY WEEK

The college has successfully celebrated the 47th National Pharmacy Week in collaboration with IPA Bengal Branch on 22nd November in the college premises.

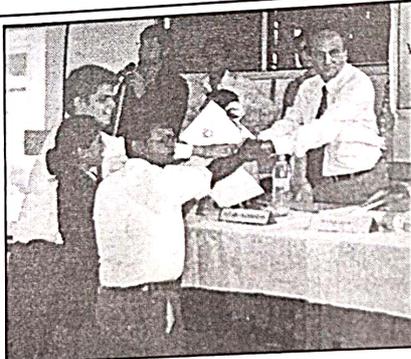


47th National Pharmacy Week

Compiled by Shukla Chatterjee.

ACHIEVEMENTS

- Final year student, Sumanta Kumar Ghosh has secured 1st position in the state level elocution contest organised by IPA Bengal Branch. He has been selected for the zonal level contest representing West Bengal at Coimbatore on 28th November, 2008.
- Students of our college, Ranajit Bhagat, Upasana Banerjee and Ahtashmuddin Khan, have also secured 2nd position in the state level quiz contest at BCDA College of Pharmacy organised by IPA Bengal Branch on 21st November, 2008.

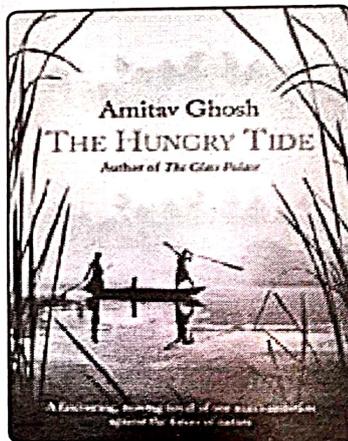


The Hungry Tide- a book review

Amitav Ghosh, short listed for Booker prize, is the author of an amazing novel "The Hungry Tide". The book has been appearing in the best sellers' list for quite some time. It is an amazing story of the land and the people of Sundarban. Their struggle against nature, the tide, the storm, the tiger, the fearful surroundings.

Sundarban, the largest delta is hardly one hundred kilometer away from Kolkata. The island is infested with snakes and crocodiles. The danger of man eater, the Royal Bengal Tiger, makes the life of the people miserable. After reading this book, the vast stretches of the rivers and its mohona, the confluence of the rivers with the sea, innumerable small islands lined with special trees and mangroves are dancing before my eyes. My horizon has definitely got extended.

The story has two dimensions. Piyali Roy, (called Piya) is a scientist, brought up by her ambitious father in USA. She has come to Sundarban to do her research on Gangetic dolphins. She meets a man named Kanai Dutta, on the way to Canning in a local



Prof(Dr.) Subrata Chakraborty, Principal train. Kanai was going to Lusibari, the further most islands, where her aunt Nilima, a social worker has been living for last five decades. In the course of search of dolphins, Piya meets a boatman called Fokir, who takes her to places where these dolphins are in abundance. After two/ three days search, they come back to Lusibari, where Fokir also lived with his wife Mayna and son Tutul. Now Piya starts for journey to the confluence for her study by a motor boat called bhotbhoti. Kanai also accompanies her as a translator. Fokir follows them with his small boat.

At some point, Piya and Fokir sail by the boat in search of dolphins. A very strong storm was approaching Sundarban. Piya and Fokir could take shelter in a tree to face the storm. They tied themselves with a sari to the trunk of a tree. The gale lambasted Sundarban. The fury was extreme in the island. Some very heavy uprooted trunk of a tree hit Fokir and he dies. Piya is rescued and she plans to stayback at Lusibar to carry out a bigger research project.

The other line revolves around Nirmal, the husband of Nilima., who was a headmaster of a local school. During seventies, lots of refugees from East Pakistan who were given land at Dandyakaranya for rehabilitation started coming back to an island in Sunderban, named Maricchapi. But Govt of Bengal was not happy with encroachment by these refugees. They forcefully evicted the people from the island. There was stiff resistance from the people who had nothing to lose but life. Lots of people died. Nirmal was associated with them. He also mysteriously vanished since then.

The author gives a very beautiful description of Lusibari; an island surrounded by seven rivers, its evolution over the years, the hope and aspiration of its residents.

The brutal treatment to these helpless people rocked Bengal at that time. Here arises the question, are the animals more important than human being? Are we not more concerned for the habitat of tigers rather than our fellow brethren?

It is also a strange love story, where the lovers (Piya and Fokir) could never exchange words. They spent days and night in the vast stretches of the rivers, on the tree. Finally Fokir died saving life of Piya. She also plans to name her project after Fokir.

The descriptions of the rivers at different times like in the misty morning or in full moon light are superb. Even after finishing the book, I feel the rocking of the boat;

Thanks to Amitav Ghosh for his amazing creation.

TALES TIME ...

EVENING VERSES

Kajal Ghosal and Aniruddha Chandra

Evening time. Yellow halogen lights are drenching black pitch of the narrow lanes in the campus. I was walking alone. Occasional cool breeze reminds of the long shower that has now stopped. One or, two drops of water further dampening the already moist ground. Take a look at the two-storied quarters arranged in rows and columns, forming a melancholy maze. I can feel the loud TV sets and imagine people inside glued to them. 'Nothing distinct except daily soap opera channels', I uttered and moved on. I was searching for some fun and peeped into one of the apartments. The experience I had is exactly not fun (Gosh! Too serious people stay here), but it is worth sharing.

I saw a young dark complexioned tall man, probably just returned home and looks like to be the only man out there. His wife, as nondescript as his husband, was busy cooking something.

Husband: (Wiping his glasses) Let me have my tea quickly. It's late today.

Wife: Late! It's 8:30 now. Don't you think that you are early for your dinner? Why you are so late?

Even worse than the daily soap. I was about to move. Suddenly I felt the urge to hear the answer of the husband. At least the alibi would be new (Believe me; husbands are quite good at it!).

H: Ah, nothing serious. My students ... They are horrible, you know. At 6:30 Nikhil, Rounak, Vishal and Shruti rushed to my room. They were looking very puzzled. I was quite sure that they were trying to delay, if not completely abandon, the class-test scheduled after two days.

The wife returned back to kitchen. Awry smell, I felt pity for the husband. But he seems to enjoy this one-sided conversation.

H: Just listen to their points. Nikhil, wearing a six pocket cargo, a blue tattoo visible on left arm, was pleading. 'Sir, can't you change the date for test? We are under pressure. For two weeks the hostel mess is really in mess. We have to walk our way to a dhaba 2 km from here. No time to read, Sir.' As if he got enough time after computer games and fiddling with Ipod. Then Shruti started, 'Sir, we were practicing hard for a cultural program. Most of the girls belong to the dance group. It is prestige issue. We can't let our hostel mates down.'

H: Are you listening?

W: What else can I do? Carry on.

H: Then I told, final is final. A small gap. Soon it was Vishal, literally living on friend's proxies, the bunker-boy ... 'Please, plz, plz, Sir. I'll die. You tell any other date, and even if Tsunami hits; Vishal is present for the test.' Now it is hard for me not to smile. ... and they started in chorus, 'Plz plzzz Sir....' I was suffocating with the drama, nice actors I must say (why don't they try their luck on screen), and knew I had to tolerate that unless I give up. And I gave up. OK, go ... I'll fix another day, but this time it's hard. 'Thank you Sir, Good Evening Sir' my four warriors jumped out of the room.

The wife came out with a big bowl, opened the fridge and placed it carefully on the rack. Her face became reddened standing in front of the oven for a long time.

W: Here, take your tea. You think you're the only one. Now listen to me. My students ... 'Mam, mam - today will you take class?' Why not? 'No Maaaaam'

H: What's this? Are they trying to dictate you?

W: Ah, let me complete. They were telling, 'From the morning we are having class after class, we need some fresh air.' I tried to look straight-faced. So, I have a class now and I have to finish the syllabus. 'Mam, you don't like us. Nobody likes us. We are so unlucky!' So, my unlucky students go back to your classroom, the fortune won't shine today.

The husband puts the cup on the basin and turns on his laptop. The blue screen started flashing Windows XP and in a few moments the Yahoo login screen appeared.

W: As I enter the classroom, the students were restless. 'Today there is no empty place in our brain to place new things'. I didn't pay heed to. Took a piece of chalk and started writing 'Ozone and atmospheric equilibrium' on the blackboard. I thought the chaos would eventually die out.

H: (Busy typing some assignment) Ya, you need to learn ignore them sometimes.

W: But it didn't work. The word 'plz, plz' was still audible from

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the back. I got angry and told, OK, I won't take your class from now on. When you are interested, meet me. I was about to leave.

W: It's my drama time now. They got fused! 'No, no Mam, please take our class.' See how much effort we have to give just for managing them. We have to be clever.

H: But they are much clever than we are. A few days ago a group of 3rd yr. students were asking me for some contribution towards Bihar relief fund.

The wife had finished with her kitchen work. Tired, she took a seat in the dining table and opened the newspaper. I thought the next day newspaper is ready in the press by now.

W: Hmmm ... gazing through the editorial Tata, Nano, Buddha, Mamta ... well what were you saying, Bihar fund?

H: Yup. The massive flood hit due to Koshi river.

W: I remember.

H: Well, they asked me and I offered Rs. 50/-. They told they are expecting at least Rs. 100/-. I got irritated and told them to come some other time. They were specific. 'When, Sir?' I told tomorrow.

H: Next day, when I saw them to approach my colleague Pranab Da, I hurried my way to canteen. After 30 minutes when I came back, they were still there. But they didn't approach. I thought, strange. The sense of saving 100 bucks, I became happy.

W: Jaguar sold to Tata Motors. Do you think Tata would be biggest car making brand in next five years?

H: It depends. Don't forget Daimler Chrysler, Ferrari, GM or, Toyota. Anyway don't you need the tragic part of my story?

Impatient husbands ... always want to be the centre of attraction. Hardworking wives ... always involved in trivialities.

W: There's Big B and his family on TV, they are coming to 'Ni Re Sa Ma', the famous sing-dance-joke reality show. Forget it, what happened next?

H: In the afternoon, Pranab Da came to me and said he had given Rs. 200/- for the fund. He was having a 1000 Rupee note and no change. So he decided to pay for four more faculties, Deepali Madam, Kingshuk Da, Harpreet Sir, and Me. Alas! I lost 100 Rs. more. Now I understand why they were not interested in us.

W: Now have this. Ranjan, my 2nd yr. student, used to copy in every exam. If unfortunately I am there for invigilation, he gets paralyzed. I guess where may be the cheats and every time I am successful. He has to submit those tiny microxeroxes. On one particular exam, the paper was tough and all students became desperate to obtain pass-marks. I became busy while refraining others. Suddenly, I saw Ranjan. He was trying to hide something. I went to him and asked where the cheat is. He stood up, showed his hands, pocket, lifted up his answer sheet. No cheat. He was smiling.

W: He was able to raise a false alarm. Naughty boy, can easily apply for joker in circus!

H: (Finished with his computer job) Feeling hungry. Dear, dinner for us, please. Otherwise it'll be breakfast time.

W: Oh, just the last one. It's even more humorous

They are preparing for their dinner. I thought it's very late and who knows the security guards might come and start asking awkward questions. Standing in front of an unknown person's window! My feet were aching and rashes came out. Mosquitoes, these tiny little creatures can make your life hell. I decided to leave and waved mute goodbye to them.

মা মাটি মানুষ

সুমন্ত কুমার ঘোষ, চতুর্থ

ভগবান বুদ্ধদেবের কাছে ভক্তরা তাদের ঝুলি ভরা আর্জি নিয়ে হাজির। এসব মেটাতে গিয়ে ঈশ্বর বুদ্ধদেব বেশ নাকাল হয়ে পড়লেও তিনি কিন্তু বেশ সহানুভূতিশীল। দফার দফায় তিনি বিভিন্ন শাখার অন্যান্য ভারপ্রাপ্ত দেব-দেবীর সঙ্গে আলোচনা করেছেন, সমাধানের জন্য চেষ্টা করছেন কিন্তু প্রতিরোধের রোষ এতই প্রবল যে তিনি এক পা এগোলে দুই পা পিছিয়ে আসতে বাধ্য হন। রোষের আগুনের লেলিহান শিখার খবর নেওয়ার আগে মর্ত্যলোকের মানুষের আর্জিগুলো একটু দেখে নেওয়া যাক।

আর্জি : ১

বসন্তবাবু অফিস থেকে ফিরে আসার আগেই ইলেকট্রিক কলোনি ছেড়েছে। বারান্দায় বসে একটু আরাম করবে কিন্তু উপায় নেই। দরদর করে ঘাম দিচ্ছে। তার হতাশ কণ্ঠে কাতর প্রার্থনা ওহ ভগবান! বৃষ্টি না হোক একটু হাওয়া তো দিতে পারো।

অন্যদিকে রুমেলি তার প্রেমিকের সাথে লেকের ধারে এক কোণে একটা আপাত নির্জন জায়গা বেছে নিয়ে একটু গল্প করছিলো। খুব মন দিয়ে সে একটা কবিতা পড়ছিল। কোথা থেকে উড়ে আসা একটা দুষ্ট হাওয়ার উস্বানিতে তার শ্যাম্পু করা খোলা চুলগুলো বারবার তার চোখ, কান, মুখ, ঠোঁট জড়িয়ে ধরে অসভ্যের মতো চুমু খাচ্ছিলো। বিরক্ত হয়ে সে বলল - এই বিশি হাওয়াটা আর ভাললাগেনা।

আর্জি : ২

জুটমিলের শ্রমিক উনিয়নের নেতা মানিক দত্তপালের ছেলে মানব দুরারোগ্য এক ব্যাধি আক্রান্ত অনেক ব্যায় করেও চিকিৎসা বিদ্যান কোন সদুত্তর দিতে

পারেনি। ছেলের কষ্ট চোখে দেখা যায়না। বুকফাটা কান্নার তার মায়ের প্রার্থনা - হে ঠাকুর! ছেলেটাকে আর কষ্ট না দিয়ে এবার তোমার কাছে ডেকে নাও।

রাজবংশের শশাঙ্ক মজুমদার পরিবার পরিবর্তনের কোন ভ্রুকুটি মানতে নারাজ। পাঁচটা কণ্যসন্তানের পরেও তার উৎসাহ তুঙ্গে। আসলে তার বিপুল সম্পত্তির দায়িত্ব নেওয়ার মতো তো কেউ সাথে সাথে পুত্রকামনাও করে। তার বিশ্বাস ভাগ্যদেবী নিশ্চয় তার দিকে মুখ তুলে তাকাবেন।

আর্জি : ৩

অভীক চিরকাল একটু টেনশনে ভোগে। আজ আবার ওর interview। জীবনে প্রথম আর্টটর ট্রেনে সে কলকাতা যাবে। প্রকৃতির অভিশাপে আজ ওর একটু দেরী হয়ে গেছে। স্টেশনে এসে শুনলো ট্রেন আজ লেট। চিন্তায় ও দূরভাবনার তার মুখ লালবর্ণ। কারজোড়ে তার বিনতি হে ঈশ্বর! ট্রেনটা যেন আর দেরী না করে প্রভু।

আজ থেকে কলেজে গরমের ছুটি। সকলেই বাড়ি চলে যাচ্ছে। অনুরিমি ও কৃষ্ণা এর ব্যতিক্রম নয়। ওরা স্টেশনে বসে অনেকক্ষন ধরে গল্প করছিল কিন্তু একটু আগেই খবর পেয়েছে ট্রেন অশাল স্টেশনে এসেছে। অর্থাৎ আর ২০ মিনিট। তারপর আবার ১ মাস পর দেখা হবে। একে অপরের কথা শোনার ফাঁকে ফাঁকে তাই দুজনেই মনে মনে বলছে ঠাকুর ট্রেনটা যেন আজ একটু লেট করেই আসে আবার কতো দিন পর দেখা হবে.....।

আর্জি : ৪

দোমোহনা নদীর উপর একটা ব্রিজ আছে। লোকাল M.L.A অনুপমা সরকার

Civil Contractor মৈনাক সাধুর সঙ্গে হাত মিলিয়েছে। ওদের ইচ্ছে ব্রীজটার সংস্কার করার নামে কিছু উপায় করা। কিন্তু বহুদিনের ব্রীজ হলেও সেটা এখনো অটুট। সাধু সরকারের যৌথ অসাধু আবদার সামনের বর্ষায় যেন ব্রীজটার কিছু ক্ষয়ক্ষতি হয়ে যায়।

মৌজলা গ্রামের গরিব জনসাধারণের কাছে একটা গর্বের জিনিস আছে। ৭৮-এর বণ্যার সময় প্রধানমন্ত্রীর সৌজন্যে পাওয়া একটা ছোট সাঁকো। গর্বের বস্তুটির অবস্থা বেহাল। নেতাদের ও নজর নেই। গ্রামবাসীর আবেদন আগামী বর্ষার শেষ পর্যন্ত যেন ব্রীজটা ঠিক থাকে। নাহলে হাট বাজার-সদর-হাসপাতাল যাওয়ার সব উপায় বন্ধ হয়ে যাবে।

এদের সকলের সব দাবি নিয়ে এরা বেশ উতলা ও চিন্তিত। অন্যদিকে সব

দাবিগুলো বিপরীত মুখী হওয়ায় বুদ্ধদেবও যথেষ্ট চাপে রয়েছেন। স্বভাবতঃ দাবিপূরণে দেবী হয়ে যাচ্ছে। এই অবস্থাকে রাজনৈতিক লাভের জন্য কাজে লাগানো যেতে পারে এই ভেবে এক নেত্রী এগিয়ে এলেন। বিরাট সমাবেশ করে দাবিগুলো সকলের সামনে তিনি তুলে ধরলেন। সকলে ভাবলেন মা দুর্গার পর এই মা তার মমতার ক্ষমতায় নিশ্চয় রক্ষা করবেন। মা-ও প্রতিজ্ঞাবদ্ধ। দৃঢ়কণ্ঠে তিনি বললেন এই মাটি, মানুষের জন্য - তাই মাটির উপর দাঁড়িয়ে থাকা সব মানুষের কথাই হলো শেষ কথা। অন্য কোনো ভগবানকে আমরা মানিনা। তাই বুদ্ধদেব যদি আমাদের কথা না শোনেন তাহলে তিনি নিপাত যান। আমরা অন্য রাস্তা দেখবো। নিপীড়িত মাটির মানুষ মন দিয়ে সব কথা শুনলেন। ভাবলেন মা ঠিক-ই বলেছেন। মানছিলা- মানবনা। বিরাট এই সমাবেশের হঠাৎ আরোজনে অন্য অনেক মানুষ কিন্তু বেশ বিপদে পড়লেন। কাজে কর্মে অনেকের দেবী হলো - অনেকে যেতে পারলো না - অনেকে গেল না। কিন্তু এরা মায়ের বিরুদ্ধে কেউ কিছু বললোনা - সবাই মাটির মানুষ কিনা।

BLACK HOLE

Shambhu Nath Mukherjee, Librarian

A star is a huge, amazing fusion reactor. The stars are so massive and made out of gas that there an intense gravitational field is always trying to collapse the star. The fusion reactions happening in the core are like a giant fusion bomb that is trying to explode the star. The balance between the gravitational forces and the explosive forces determines the size of the star.

Types of black holes

There might be three types of black holes:

1. Stellar,
2. Super massive, and
3. Miniature black holes

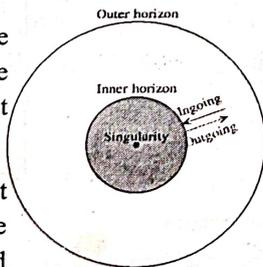
The types of black holes are depending on their size. These black holes have also formed in different ways.

Formation of the black hole

When the star dies, the nuclear fusion reactions stop because the fuel for these reactions gets burned up. At the same time, the star's gravity pulls material inward and compresses the core. As the core compresses, it heats up and eventually creates a supernova explosion in which the material and radiation blasts out into space. The remaining is the highly compressed and extremely massive core. The core's gravity is so strong that even light cannot escape. This object is now a black hole and literally disappears from view. Because the core's gravity is so strong, the core sinks through the fabric of space-time, creating a hole in space-time — this is why the object is called a black hole.

The core becomes the central part of the black hole called the singularity. The opening of the hole is called the event horizon.

Once something passes the event horizon, it is gone for good. Once inside the event horizon, all "events" stop, and nothing can escape. The radius of the event horizon is called the



Schwarzschild radius, named after astronomer Karl Schwarzschild, whose work led to the theory of black holes.

Ergo sphere - An egg-shaped region of distorted space around the event horizon, the distortion is caused by the spinning of the black hole, which "drags" the space around it.

Static limit - The boundary between the ergo sphere and normal space is a hole? If an object passes into the ergo sphere it can still be ejected from the black hole by gaining energy from the hole's rotation.

However, if an object crosses the event horizon, it will be sucked into the black hole and never escape. Actually it is not known to us that what happens inside the black hole.

Even though we cannot see a black hole, it does have three properties that can or could be measured:

- Mass
- Electric charge
- Rate of rotation (angular momentum)

As of now, we can only measure the mass of the black hole reliably by the movement of other objects around it. If a black hole has a companion (another star or disk of material), it is possible to measure the radius of rotation or speed of orbit of the material around the unseen black hole.

How We Detect Black Holes

Although we cannot see black holes, we can detect or guess the presence of one by measuring its effects on objects around it. The following effects may be used:

1. Mass estimates from objects orbiting a black hole or spiraling into the core
2. Gravitational lens effects
3. Emitted radiation

Mass

Many black holes have objects around them and by looking at the behavior of the objects we can detect the presence of a black hole.

We then use measurements of the movement of objects around a suspected black hole to calculate the black hole's mass.

For example, if a visible star or disk of gas has a "wobbling" motion or spinning and there is not a visible reason for this motion and the invisible reason has an effect that appears to be caused by an object with a mass greater than three solar masses, then it is possible that a black hole is causing the motion. We can estimate the mass of the black hole by looking at the effect it has on the visible object.

Gravity Lens

Einstein's General Theory of Relativity predicted that gravity could bend space. This was later confirmed during a solar eclipse when a star's position was measured before, during and after the eclipse. The star's position shifted because the light from the star was bent by the sun's gravity. Therefore, an object with immense gravity (like a galaxy or black hole) between the Earth and a distant object could bend the light from the distant object into a focus, much like a lens can.

Emitted Radiation

When material falls into a black hole from a companion star, it gets heated to millions of degrees Kelvin and accelerated. The superheated materials emit X-rays, which can be detected by X-ray telescopes.

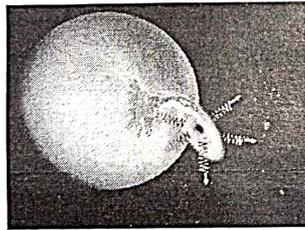


Fig: Schematic of a black hole in a binary system, showing the accretion disk around the black hole and emission of X-rays.

The star Cygnus X-1 is a strong X-ray source and is considered to be a good candidate for a black hole. As pictured above, stellar winds from the companion star, HDE 226868, blow material onto the accretion disk surrounding the black hole. As this material falls into the black hole, it emits X-rays, as seen in the above picture. Black holes can also eject materials at high speeds to form jets. Many galaxies have been observed with such jets. These galaxies have super massive black holes (billions of solar masses) at their centers that produce the jets as well as strong radio emissions.

Black Hole "conclusion"

Black holes are a field that draws theorists and experimenters who want a challenge. Today there is almost universal agreement that black holes exist, though their exact nature is still in question. Some believe that the material that falls into black holes may reappear somewhere else in the universe, as in the case of a wormhole. Despite the blackness of black holes there is evidence of their existence. If a black hole forms near a star it may get gobbled up by the black hole. And this can be seen by Astronomers. Some believe that many if not most galaxies harbor super massive black holes in their cores. These black holes have gobbled so much matter that they have the mass of billions of suns. It is important to remember that black holes are not cosmic vacuum cleaners — they will not consume everything. So although we cannot see black holes, there is indirect evidence that they exist. They have been associated with time travel and worm holes and remain fascinating objects in the universe.

POETRY CORNER ...

FURTIVE MOMENTS

A drop of tear fell from her eye
She said nothing, she said everything
The voiceless glister expressed everything
Nobody saw but by Nature's law
He saw who made her cry.
A gush of blood rushed, her vein cut, she fell.
Not a scream, not a screech, not even a yell.
She felt pain, she was relieved,
From the agony she had achieved.
He felt pain who had deceived.

Upashana Banerjee,
2nd year, 3rd sem.

छात्र के लिए महामन्त्र

स्पष्ट बनो, पर उदण्ड नही।
योगी बनो, पर रोगी नही।
बलवान बनो, पर दुष्ट नही।
सरल बनो, पर मुखर्ष नही।
धीर बनो, पर सुस्त नही।
सावधान बनो, पर वहमी नही।
उत्साही बनो, पर जल्दबाज नही।
न्यायी बनो, पर निर्दयी नही।
दृढ़ बनो, पर हठी नही
नम्र बनो, पर चापलुस नही
चतुर बनो, पर कुटिल नही
वक्ता बनो, पर शासक नही
समालोचक बनो, पर निन्दक नही।

समालोचक
Purnesh Chandra Nag, 3rd Year 5th Sem

वक्त

जब लगे जिंदगी रूक गई है
रफ्तार थम सी गई है
जिंदगी उदास सी हो गई है
और खुशियाँ लुट सी गई है

तो वो जहाँ अत खाहिसो की
बल्कि शुरुआत है नई खुशियों की
तैयार हो जाओ उन खुशियों के आगोश में
समाने के,
क्योकि हर अंधेरी रात के बाद,
खुबसुरत सुबह का आना है।
पंकज की कलम से

Pankaj Panda,
3rd year 5th sem.

চতুর্থ বর্ষের সতীর্থরা

সুধাময় মন্ডল, সুমন্ত কুমার ঘোষ, চতুর্থ বর্ষ

আরতো ঠিক একটা বছর - শেষ হবে একসাথে পথ চলা
কতো না কথা হয়ে গেল বলা - সাথে কতো রইল না বলা।

সেই না বলা কথায় বলবো এখন।

একটা বছর পরে -

এই কথাগুলোকেই সামনে রেখে তোদের খুজবো সারাফন।
চোখের জলকে থমকে দেবো - এই কথাগুলোকে দিয়ে
আগামী দিনের পথ চলবো - তোদের স্মৃতি নিয়ে।

অনেক কিছু plan করি - আবার অনেক কিছু ভুলি
তবে এসব এখন থাক - চল সেই না বলাটাই বলি।

দায়িত্ববান ননীগোপাল হিসেবেতে পাকা,
নিরামিষি কুমার, অমায়িক দীপক একসাথে বেঁচে থাকা।

চুলের style - এ বোধি - সিদ্ধার্থ নীরবতার মাঝে একটু প্রতিবাদী।
মৃগালের বক বক, মাতিনের দেশের খবর রাখার শখ
আর মাঝে prasenjit - টা কথা বলে একটু ছাড়া ছাড়া
আর মৌমিতা শীল একলাফে চাই ছুঁতে আইফেলের চূড়া।

বিশ্বকর্মা masood quadri কারকারণে নিপুণ।
হাসি মজার ক্লাস মাতাচ্ছে উঠতি তারকা মিঠুন।
মিষ্টিমুখো পল্লব তার ছোট্ট চিহ্নসমূহ
বেলুড়ের মেয়ে পৌলমী চ্যাম স্বস্তি পরিপাটি।

বিপ্লবী কথা বলে মেপে মেপে এই ডয়ে তুলি যদি হয় পাছে
আর সুভাষটা বাংলা চলো ডাক দিয়ে আজ দিল্লী থেকে বাংলায় ফিরেছে।

বিরুদ্ধ প্রতাপ বনে গেছে আজ universal brother abhijit kar মনে করে
ক্লাস বাস্কটা ছাত্রগত অধিকার।

রোগে ভোগে রোগা তারক ঘোষ অভিজিত এর মতো তার
pancreas এর দোষ

আর ওর আসতে ব্যাইধা - বলে মিটিং-এর ফাঁকে অনুপম ঘোষ।
গড়গড় করে seminar দেয় টিপটপ শৌভিক - লিঙ্গ নিয়ে
ছিল doubtful ডানকুনির অভিক।

খেয়ালহীন তনুশ্রী এদিক ওদিক চাই - শমীষ্ঠার স্ববাবটা সবাইকে ভাবায়
মৈনাকটা কলেজ মাঝে গারস্থিতায় ব্যস্ত
সৌমেনের প্ল্যানটা ভেঙ্গে যেতেও পারে কারণ তার প্রভাতেই সূর্যাস্ত।

কবিতা বলে বৈশাখী ভালো লেখে ভালো সুধাময়
নৃত্যে ভালো নিত্যানন্দ - সুমন রসময়।

ইন্দ্রনাথ ৮৫ কেজি - অভিষেক একটু বেশী তবু জীবনের মানে বোঝে
সব ছেড়ে তাই প্রেম সাগরে - মণি মুক্তা খোঁজে।

দায়িত্ববান অলোক হালদার একটু হিসাবী
বাগ্নার কাছে পাওয়া যাবে বাকচাতুর্যের চাবি।

রিমার নাচে এয়ুগের বিপ্লবিত্র জাগলেও পারে
রিমা নাচতে যেনন জানে আবার বোনোদের শাসন করতেও পারে।

সৌমেন আসে কলেজ ছাড়ে আবার ভর্তি হয়
কাকে যেন দেখে মৌমিতার দিগে কুছ কুছ হয়।
সায়রী লেখে আসিফ আলি রিপোর্টিং আছে kar
কুছ খাটি কুছ মিঠি আলোক রঞ্জন নিবাস দেওবর।

সুমন্ত যেন ঘুমন্ত আগ্নেয়গিরি।
শৌভিক বলে, কলেজের প্রাচীরটা চিনের প্রাচীর হলেও,
টপকে দিতে পারি।
হেসে চলে একটানা মাসুদুলের গিটিসে মুখকানা,
সুপারম্যান উপাধি নিয়ে পরীক্ষা মাঝে পল্লবটার, ক্যান্টীনে আনাগোনা।

অধেশু ঘুরে এলো জারোয়ার দেশ থেকে
রোজ রবিবার চ্যাটার্জী যায় troika park এর lake - এ।
ঝাড়খন্দী অজিতাত বড়ই careless,
flying butterfly বাগ্না জানে ক্লাস is needless.

গীটার বাজাই শুভ, অনুপম গাই গান স্বপ্ন দেখে অমিত দে,
clean bold করে saileshwar, সঙ্গে স্বরাজ প্রাণ।
রণ মন্ডল পেতে চাই যুদ্ধবাহীন জয়
পৌলোমী আবার গান গেয়ে চাই গলাতে হিমালয়।

তরল না হয়েও স্নিগ্ধ শিশির remington - এর পাতায় রণজিৎ
বুলাদির পাশে বুলুদা নামে মেদিনীপুরের অমিত।
সর্বগুণে গুণমতি আবার বর্ধমানের রিমা,
অনুগত প্রেমে মৈনাক ঘোষ কখনো ছাড়াই সীমা।

পরিতোষ orkut - এ বন্ধু জোগাতে ব্যস্ত
শুভেন্দুর বাক্যজালে গোপীনিরা নিরস্ত।
নামের কলঙ্ক নরোত্তর বড় বেশী বকে
automatic অভিজিৎ চলে হকে হকে।

রাশভারী ছেলে কৌশিক আর খোলামেলা ছেলে মিঠুন
কৌস্তব আবার পুরুষোত্তম - নাটকের রাম
আলিপুরের দীপক রীতিমত cartoon.
সত্যম দিল কে পাস দিয়া দিল - yeh silsila hai pyaar ka
কাভী মিঠা কাভী নমকীন - yeh hai anjan ka tarka.

ভালোবাসা ছাড়া আর আছে কী ? ভালোবাসার অপর নাম পিনাকী
চুল না বেঁধে রাখে মৃগাল।
বালির তনুশ্রী রুমালটা তার বড়ো বিশী,
হাতে হাতে রেখে ঘোরে উজ্জল পাল।
টুম্পা অঞ্জন বাশদ্রোণীর দাশ ছোপ ছোপ প্যাট পরে
কলেজ আসেনা, principal ভাবেন, এরা Hostel - এ কী করে।
সুপ্রিয় আবার ম্যাচিস বেচে বহুতল ঘরে
একা সৈকত রাত দশটায় ফেণ্টের হিসাব করে।

এই আমরা ৬৪ কেউ দুই কেউ মিষ্ট
আর পিতা মোদের হারাধন
বয়স যাটের কাছে হলেও - সবুজ তাহার মন।।



Students enjoying their lesson in Pharmacology Laboratory



Principal, Prof. (Dr.) S. Chakraborty delivering keynote address in IPGA Seminar



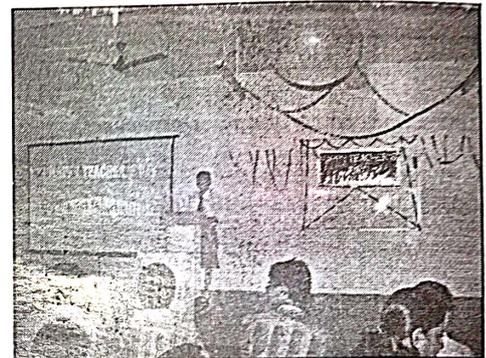
PCI Inspection of the College



Mayor, Rathin Roy inaugurating Acharya PC Roy Seminar Hall



Dr. Satyajit Basu, Chairman, The Mission Hospital lighting the lamp on 47th National Pharmacy Week Celebrations



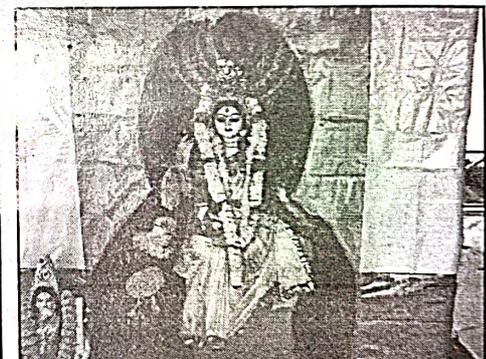
Teacher's Day Celebration by students.



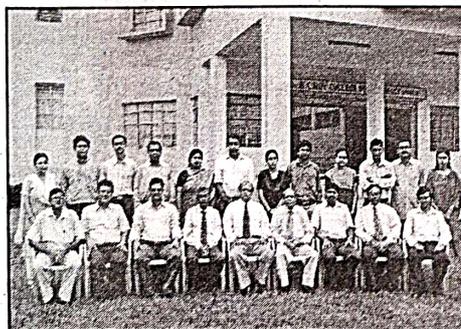
Secretary, Mr. D. Mitra and Principal Prof. (Dr.) S. Chakraborty at IPGA Seminar



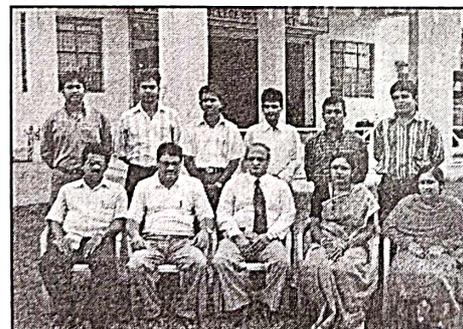
Students in a unique fancy dress for the College fest



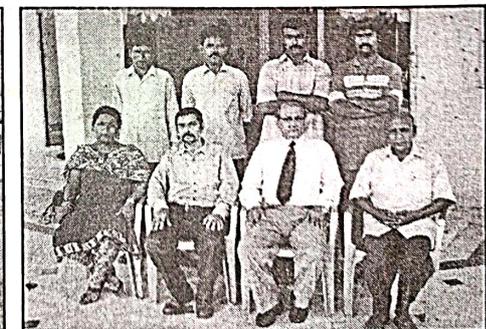
Celebrating Saraswati Puja in the college.



Principal with all faculty members



Principal with all laboratory technicians



Principal with college staff.

We gratefully acknowledge the contribution made by our Principal, Faculty and Students.
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