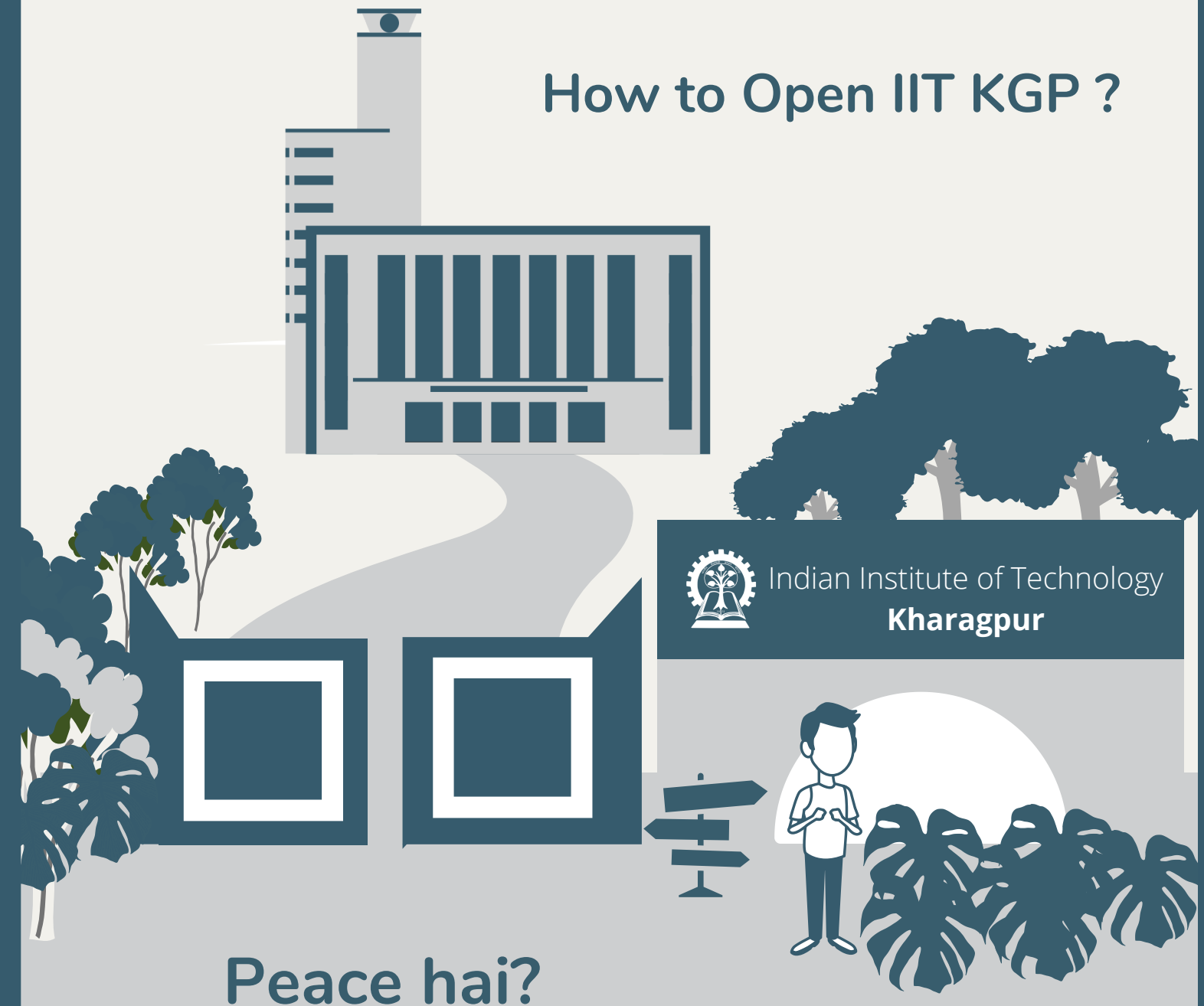
# Team E-missive

"Strength does not come from physical capacity. It comes from an indomitable will."

– Mahatma Gandhi

## How to Open IIT KGP ?




## Peace hai?

# Content



## Introduction

After the period of around 400 days to be completed, we come down to the question of *Why do we need to open Campus and How can we do that*?

Some of the major student grievances are:

- Due to the lack of a good internet connection and limited resources, many students are unable to sit for internships and placements.
- Many students are crippled with resources and don't have a good working environment in their homes.
- Some find complete flaws in online evaluation and aren't ready to continue dealing with it.
- Being locked up inside the room with limited interaction with the fellowmates is building up mental trauma and is just leading to depression causing serious health damage and increase in suicidal tendencies.

Understanding the issues, it's time we come up with a concrete plan and chart out the plan for keeping the learning available and feasible to each and everyone. This Case Study chalks out a sustainable plan which can keep our prestigious campus functional..

## Calling of students and quarantine

A google form will be shared with the students who wish to come back to the campus by Vice President. After the final approval from the administration, the following protocols have to be followed:

### Pre-arrival testing

- The administration will prepare a list of students to call back. At least 15-20 days will be given for booking tickets. The students are expected to book tickets such that they reach the campus between 08:00hrs and 18:00hrs **only.**
- Students have to provide **negative** RT-PCR test reports only, the reports will be considered as **expired** reports if the result receiving time is older than 96 hours (4 days) at the time of screening at the gate.

- Students are expected to get themselves tested accordingly, it is advised to get the testing done 4 days before the time of arrival at the campus as the reports might take time to be generated (maximum 2 days).
- The students will be provided with a form to fill where they will have to mention their tentative time of arrival at the main gate, have to upload the negative test reports, and an undertaking letter.
- A slot will be provided to the students which will be made by the administration considering any delay/early arrivals, hence the slot will be ±3hrs from the tentative time of arrival at the gate.
- Students must have the **aarogya setu** application downloaded on their phones and must ensure that it is active throughout during the journey.
- A compulsory personal kit comprising 4 medical masks, 2 normal cloth masks, 3 pairs of medical gloves, a mercury thermometer and a sanitiser spray bottle must be carried by each student. Any student without these will **not** be allowed to enter the campus.

## Post-arrival testing

***Stage 1- Screening at the gate***

- The screening will be done only between 08:00hrs to 20:00hrs only.
- In case, it is not possible for the student to arrive within the above mentioned time slot, permission from Dean Student affairs, BCRTH, SIS security officials are required.
- In case of any delay/early arrival within the above mentioned time slot permission from BCRTH and SIS security officials is required.
- The checking of statuses on aarogya setu application and screening tests will be carried out by the B.C. Roy Technology Hospital (BCRTH) authorities for each student **one by one** at the main gate of the IIT KGP campus.
- The student will be allotted rooms on the spot.
- Before leaving for the allotted rooms the student and their luggage will be sanitised thoroughly.
- After the sanitation of the student and their luggage is done the student will be taken to their allotted rooms in a sanitised e-rickshaw, rickshaw or cab one at a time.

***Stage 2- After reaching allotted rooms***

- The rooms will have a cot with a mattress, pillow, bucket, mug, dustpan, dustbin, broom, chair and table. An instruction sheet that contains the details of the personnel who can be contacted in the event of an emergency. Hence the students are advised to carry 2 bedsheets, a sheet/blanket for body cover and 2 pillow covers along with toiletries.
- The students will have to monitor themselves for any symptoms and regular temperature checkups using the thermometer. If any symptoms develop, students must **immediately** contact and report at the B.C. Roy Technology Hospital for checkup.
- After **seven** days of under self-observation[1], the Arrival testing will commence.
- After 13 days, the students who are reported to be **negative** will continue using the respective allotted halls only once the quarantine period is over after consultation with their hall council.

- The students who are reported to be **positive** will be immediately accommodated in the isolation zone or hospitalised based on the decision of healthcare personnel if they allow home quarantine then the student can be accommodated in the isolation zone.

*Note : Students would be allowed to leave the campus only in extreme or academic related reasons including internships and family emergencies. Students entering the campus after such a leave would be required to complete a 10 days quarantine period compulsorily. If any symptoms are found, proper procedures would be initiated, starting with a covid test and quarantine till results. If the covid test is found negative, the quarantine period of 10 days would be continued; otherwise isolation till recovery will be followed.*

## Overall Timeline and Process

| PHASE | DATE | EVENT | NUMBER OF INCOMING STUDENTS |
|---|---|---|---|
| 0 | 01 May 2021 to 04 May 2021 | Calling Graduating Batch Students for Laboratory Classes | 1400 |
| | 04 May 2021 to 18 May 2021 | Quarantine period | |
| | 10 May 2021 onwards | Arrival Testing of the Students | |
| | 19 May 2021 to 02 Jun 2021 | Laboratory classes of Autumn Semester Subjects of Graduating Batch Students only | |
| | 03 Jun 2021 to 17 Jun 2021 | Laboratory classes of Spring Semester Subjects of Graduating Batch Students only | |
| | 18 Jun 2021 to 23 Jun 2021 | Evacuation of rooms and handing it over to the hall authorities | |
| 1 | 01 Jul 2021 to 07 Jul 2021 | Calling UG Pre-Final (3rd year B.Tech, 4th year Int. MSc., 4th year Dual Degree students) Year Students | 700 |
| | 01 Jul 2021 to 19 Jul 2021 | Quarantine Period for the Incoming Students | |
| | 08 Jul 2021 14 Jul 2021 | Arrival Testing of the Students | |
| | 13 Jul 2021 to 19 Jul 2021 | The Students are allowed to move to their old rooms | |
| 2 | 14 Jul 2021 to 21 Jul 2021 | Calling UG Pre-Final Year Students (3rd year B.Tech, 4th year Int. MSc., 4th year Dual Degree students) and Final Year Students (4th year B.Tech, 5th year Int. MSc., 5th year Dual Degree students) | 700+350 |
| | 14 Jul 2021 to 01 Aug 2021 | Quarantine Period for the Incoming Students | |
| | 21 Jul 2021 to 27 Jul 2021 | Arrival Testing of the Students | |
| | 26 Jul 2021 to 1 Aug 2021 | The Students are allowed to move to their old rooms | |

| | | | |
|---|---|---|---|
| 3 | 27 Jul 2021 to 2 Aug 2021 | Calling UG Final Year Students (4th year B.Tech, 5th year Int. MSc., 5th year Dual Degree students) | 1050 |
| | 27 Jul 2021 to 14 Aug 2021 | Quarantine Period for the Incoming Students | |
| | 03 Aug 2021 to 09 Aug 2021 | Arrival Testing of the Students | |
| | 08 Aug 2021 to 14 Aug 2021 | The Students are allowed to move to their old rooms | |
| | 10 Aug 2021 | Autumn Semester 2021-22 begins | |
| 4 | 09 Aug 2021 to 15 Aug 2021 | Calling remaining UG Third Year Students (3rd year Int. MSc., 3rd year Dual Degree students), RS Students and PG Students | 500+275+275 |
| | 09 Aug 2021 to 27 Aug 2021 | Quarantine Period for the Incoming Students | |
| | 16 Aug 2021 to 22 Aug 2021 | Arrival Testing of the Students | |
| | 21 Aug 2021 to 27 Aug 2021 | The Students are allowed to move to their old rooms | |
| 5 | 22 Aug 2021 to 28 Aug 2021 | Calling UG RS Students and PG Students | 525+525 |
| | 22 Aug 2021 to 09 Sept 2021 | Quarantine Period for the Incoming Students | |
| | 29 August 2021 to 04 Sept 2021 | Arrival Testing of the Students | |
| | 03 Sept 2021 to 09 Sept 2021 | The Students are allowed to move to their old rooms | |
| 6 | 04 Sept 2021 to 22 Sept 2021 | Repetition of Phase 5 | 525+525 |
| 7 | 17 Sept 2021 to 05 Oct 2021 | Repetition of Phase 5 along with additional calling of students | 450+250+350 |

*Note : Detailed timeline is given in annexure*[1]

## Timeline of the break

It is not cost and time-worthy to give a vacation. According to a survey by our team, more than 70% of students are ready to stay on campus during the break to avoid unnecessary spread.

We can do the following activities during the break:

- There are some labs and practicals in many departments which were not completed in online semesters. So we can organise that during the breaks.

- ❏ Those having internships or projects can leave the campus but with prior permission from faculty advisor and hall warden.
- ❏ Those having genuine reason to leave the campus can be allowed at their own risk and only with prior permission from faculty advisor, hall warden and proper undertaking from parents.
- ❏ Along with the Labs, GC and other skill oriented workshops by various societies can be organised in the breaks. This can motivate students to stay during the breaks.
- ❏ We have also planned to start the Spring semester early after the completion of Laboratory classes.

Considering winter break starts from the first week of December onwards. This is our proposed timeline:

| | Activities | DATE | Day |
|---|---|---|---|
| 1 | Starting remaining Laboratory Classes | 29.11.2021 | Monday |
| 2 | Last day of Laboratory Classes | 17.12.2021 | Friday |
| 3 | Starting of Spring Semester 2021-22 | 20.12.2021 | Monday |
| 4 | Last date of Submission of Lab Grades | 22.12.2021 | Wednesday |
| 5 | Christmas Holiday | 25.12.2021 | Saturday |
| 6 | New Year Holiday | 01.01.2022 | Saturday |

*Note1: Final dates of GC events and relevant workshops will be decided as per final decision by administration.*

*Note2: We are planning to shift students to their new rooms in their respective halls, during the given break in a synchronized manner. Only after this, second year(Students enrolled through JEE 2020) and First Years(Students enrolled through JEE 2021) can be called, considering the situation is favourable.*

# Rules and regulation

## Academics

***Faculties***

Rules and regulations to ensure safety for Profs-

- ❏ Toilets to be sanitised after every break.
- ❏ Breaks in Nalanda, avoid visiting Shiru cafe and Nescafe.
- ❏ The sitting arrangement, regular sitting arrangement to be done in the same way as done in exams.
- ❏ Classrooms should be the same for all departmental subjects so that students don't have to change classes for each subject, and thus lowering the spreading of the infection among the student population.
- ❏ Class strength with more than 100 students should be online. For subjects like EVS, BS, economics.

- ❏ The students are prohibited to walk onto the stage where the professors stand and address the lecture.

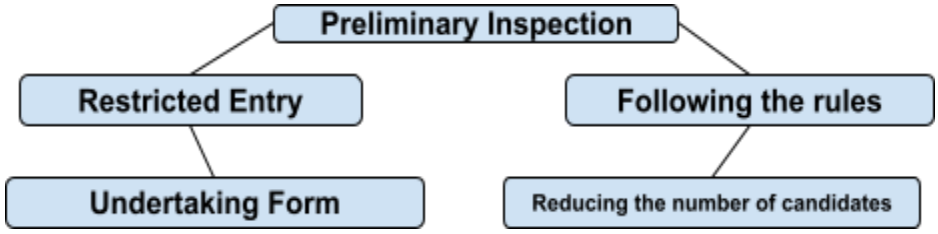
***Students***

- ❏ Checkup of temperature at the entrance of academic premises.
- ❏ Roaming around the academic complex will be prohibited.
- ❏ Should not rush during class hours and maintain social distancing while entering academic premises
- ❏ Avoid coming in contact with any academic materials like dustors, computers unless instructed by Professor/ Teaching Assistants
- ❏ More than 10 students should not meet at a time
- ❏ Students should monitor their health everyday and contact medical team in case of any emergency

***Day Scholars***

Day Scholars who have a purpose for research inside laboratories will only be allowed to visit campus on a daily basis. Following guidelines are to be kept in mind during the whole process.

- ❏ Preliminary inspection of daily incoming students and workers should be done at the gate. They must provide a **compulsory** entry permit at the gates. The entry permit is a must have paper signed by the HOD of the student's department and their Faculty advisor.
- ❏ The students need to follow the defined rules and regulations wherever they go.
- ❏ The day scholar students are **not** allowed inside any hall premises and non-academic areas.
- ❏ The number of workers involved in research work must be reduced wherever possible if students can do it on their own.
- ❏ The day scholar students must sign an **undertaking form** where they clearly mention that they will avoid any social interactions outside the campus as much as possible.




## Non-Academics (General)

- ❏ Double seating will be prohibited on cycles.
- ❏ Spitting in public shall be strictly prohibited and will be punished by a ransom amount.
- ❏ Hand wash and sanitizing facilities will be provided by halls and institutes.
- ❏ Students need to check their health conditions daily (Like temperature or oxygen level(if possible)). Students should bring their own thermometer for personal use.
- ❏ Students are advised to keep in contact with their parents on a daily basis.

## Mess

***Students***

Mess Guidelines:

- ❏ Operating facility of any Mess will be at max 50% of the current capacity
- ❏ Having a lunch hour break of 2 hours (12:00-02:00): so that students can take lunch distributed in two slots.
- ❏ Temperature testing will be done during the dinner timing by a mess worker, before a student enters the mess.
- ❏ Batches should be made on the basis of the year of study the student is currently in.
- ❏ After each use of the mess service it will be sanitized.
- ❏ Dining in the mess will only be allowed during their specific slot or during the buffer slot.

After studying the UGC guidelines the following rules must be implemented:

- ❏ Hostels may redefine the number of students in dining halls at any point in time. Mess timings may be increased to avoid overcrowding.
- ❏ It must be ensured that the meals are freshly cooked. A senior staff should monitor the same.
- ❏ Cleanliness is to be maintained in dining areas.
- ❏ Take away options should be available for students and staff.
- ❏ Hygiene conditions should be regularly monitored in kitchens, dining halls, bathrooms and toilets etc.
- ❏ Eating healthy food and fruits, avoiding junk food, frequently drinking warm water, adopting ways to increase immunity etc. should be encouraged.

***Staffs***

- ❏ All staff members will complete training on proper hygiene and disinfecting of work stations.
- ❏ Additionally, staff members will be encouraged to wash hands every 30 minutes, as feasible.

## Hall

- ❏ Unnecessary visits to other rooms especially in other wings should be reduced. A wing representative should be incharge of this. (To reduce any virus spread between wing)
- ❏ Night canteen with only delivery / takeaway facility will be opened, no dining facility will be allowed in night canteens(With some special care).
- ❏ Entering other halls will be prohibited. Student Id cards will be monitored at the entrance by Guards to ensure its implementation.
- ❏ Social distancing during open field or games should be maintained.
- ❏ Huge Gathering in common rooms will not be allowed.
- ❏ Students have to wear a mask outside rooms.
- ❏ For parking each block will be alloted certain parking space to avoid overcrowding at one place at peak hours. Separate sheds will be allocated based on the block of Hall the student stays.

## Tech-M

**Basic Guidelines**:

- ❑ All halls will be allotted specific slots and each student from that hall should only be allowed to leave their hall to go to Tech-M in that slot only.
- ❑ Proper social distancing should be enforced in TechM, with each shop having designated spots where customers can line up.
- ❑ Social distancing monitoring cameras as were used during the junta curfew times should be continued as per the availability.
- ❑ Masks should all time be required and the security assigned to Tech-M should ensure that it is followed strictly.
- ❑ Shopkeepers should be recommended to open their shops for longer durations to ensure more and longer slots, this would reduce the chance of overcrowding.
- ❑ Everyone would be requested to spend as little time as possible and try to make **mass purchases** so that the need for frequent visits to TechM can be eliminated.

**For the functioning of shops**:

- ❑ Restocking of shops should be brought inside the campus through a single channel, preferably through puri gate.
- ❑ The number of staff in each shop if possible should be minimised based on requirement and a limit for each shop can be determined given the size and the requirement of the shop.
- ❑ Online mode of payment should be preferred over to cash transaction.
- ❑ Delivery options should be incorporated by shopkeepers if possible.

**Guidelines for shopkeepers**:

- ❑ Each shopkeeper should have a temperature check before entering the campus.
- ❑ Shopkeepers should be wearing gloves and/or using sanitisers extensively and frequently.

**Guidelines for students**:

- ❑ Students would be asked to keep their visits to TechM only when strictly necessary and should be encouraged to keep their trip as short as possible for their safety.

## Gymkhana

- ❑ Temperature of each person entering gymkhana will be checked and wearing wask id mandatory.
- ❑ Indoor sports will be allowed to play in slots.
- ❑ No gathering of people is allowed.
- ❑ All the other official activity can be carried out in offline procedure.
- ❑ No Student Body meeting unless authorized by President is permitted near the premises

### Stores in halls

- The xerox shops in the halls can function normally but still, the student will not be permitted to enter inside, all operation is to be communicated at the gate. (if the shop has an entrance)
- The mechanic(s) at various halls for cycle repairs will work normally but still, students are allowed to pump their cycles themselves and it's their responsibility to sanitise their hands **before and after** pumping their cycles.
- The night canteens will remain open and will have to follow the following rules.
    1) The students can order the desired products by **messaging** on the WhatsApp number of the shopkeeper or by **making a phone** call to the shopkeeper.
    2) The food can either be **delivered** to the rooms of the students or the students can **take away** the food when it is ready. This will depend on shopkeeper's/student's convenience.
    3) The shopkeepers need to have a **WhatsApp** account.
    4) The canteens can remain open from 21:00hrs to 03:00hrs.
- The daily needs shops will remain open and will have to follow the following rules.
    1) The students can order the desired products by **messaging** on the WhatsApp number of the shopkeeper or by **making a phone call** to the shopkeeper.
    2) The product(s) can either be delivered to the rooms of the students or the students can take away the product(s) when it is ready to be delivered. This will depend on shopkeeper's/student's convenience.
    3) The shopkeepers need to have a **WhatsApp** account.
    4) The shops can remain open from 10:00hrs to 20:00hrs.
    5) If there is an urgent need for the product(s) the student can visit the shop but still, entry inside the shop is prohibited(if the shop has an entrance).

## Punishments for Violation

- 500Rs fine if found without a mask (without a valid reason like for eating, running, or other depending on the situation) in public places like in markets(Tech-M, shops etc), road, academic area etc.
  Note: Fine will not be in Halls but it is advisable to wear when roaming around the hall.
- 250Rs will be fined if caught spitting in a public area.
- Violation in quarantine rules results in a 1500RS fine or the student might need to leave the campus based on the severity of rule violation.
- Entering other halls without permission of wardens of both halls will be prohibited.
- Any day scholar found in non academic areas, hall premises will be punished.
- Mass gathering should be avoided. Gathering more than 20 people is punishable with a minimum fine of 1000Rs per person.

*Note1: Fine amount will be decided by the administration, we have given a rough amount.*
*Note2: Fine will be uploaded on erp through roll no.*
*Note3: Fine more than a limit (6) will result in sending back to home.*

## Academic operation

**Class Guidelines:**

- ❏ *Having 3.5 hours classes at one stretch, with 3 batches starting from 08:30, 9:00, 9:30 then for evening 2:30, 3:00, 3:30 to reduce rush in the roads and mess.
- ❏ *Class Timetable should be created such that the Depth courses will start at intervals of 30 mins, on the basis of the year of study the student is currently in. Courses consisting of students from multiple years, common time will be allocated to it.
- ❏ Classes having high strength(>100) will be conducted online throughout the semester.
- ❏ *Classes will take place in the Nalanda complex only so that the Basic Temperature Check of students is done centrally. The Department classes can be used as a buffer, if the nalanda classes are fully accommodated, here the authority will be given to the professor to conduct the class to comply with the <50% of capacity, temperature testing before class.
- ❏ *Batches will be allotted Room_No in Nalanda and all the Depth courses will be taught in the same room, for additionals or Breadth Subject:-specific rooms will be allotted
- ❏ A 5 minute Break will be there in between a class of two 2 hours.
- ❏ Odd room numbers will be allowed for using washrooms at odd hours or other facilities and similarly with even room numbers.
- ❏ There will be a choice for professors who want to do online theory classes.

** (For Offline Classes)*

Lab Guidelines:

1. Since class will be organised in a hybrid mode with an option for students to stay at home, Labs will be conducted with an upper limit in view of social distancing and be conducted 2-3 times a week including weekends for those students in campus and healthy and not in quarantine. Remaining students will attend labs in virtual mode that is done in online mode.
2. The incomplete labs will be complete in winter or autumn break for those who attend online labs.
3. The theoretical part will be covered using the online mode as many theoretical work doesn't require direct access to the labs.
4. For some personal work; the institute can provide workstation access like param shakti supercomputers to the students wherever possible.
5. As different types of laboratories have different constraints (like space in the laboratory, the various experiment requirements etc.), it is the duty of **the professor and the lab supervisor** to make a proper schedule for the students according to the students' schedule and students' request.
6. The schedule must be made by the professor and the lab supervisor considering the fact that sometimes more than expected time is required for some experiments and any student should **not** be allowed to work alone in the labs to avoid any mishappenings.
7. More slots should be provided for CRF and other labs. Sometimes, nights shifts can also be made available to accommodate more slots
8. Regular sanitization of the lab space by the lab cleaning staff must be done along with maintenance of the equipment.

9. The idea of **task to task working** should be followed in the labs viz. to complete the work and leave the laboratory as soon as the work is done. Data analysis part and other theoretical parts can be done at the hostel rooms/home.
10. Professors are advised to avoid frequent visits to the laboratories as the students can perform the experiments themselves but still, if there is a need the professors can visit the laboratory on students' demands.
11. Attendance can be **manually marked** by the student themselves until normalcy is regained. In this attendance system students are required to scan the QR code which will be displayed during the class/lab by the professors. The student needs to login via ERP for the scanning process.

## Operations of Mess

***General rules:***

- ❏ Social distancing should be strictly followed while waiting, offering, eating food.
- ❏ Students won't be allowed without a face mask.
- ❏ Places and sanitisers would be made available at all the possibility of mess.
- ❏ Where ever possible open windows and adjust air conditioning to enhance fresh air flow.
- ❏ The worktable should be aligned in proper order such that the workers don't face each other.
- ❏ Ensure proper cleaning of vegetables, meat and all other essentials with proper sanitising agents.
- ❏ Keeps raw food and cooked foods separated to avoid cross-contamination.(suggesting that, while storing the cooked food( in the refrigerator mostly), just avoid mixing it with the raw food/ vegetables to avoid cross contamination.)
- ❏ Foods to be served at proper warm temperature and avoid serving cool meals.
- ❏ Viruses need hosts to multiply so there is no evidence of having Corona on food. Just cook raw meat and food above 80degrees. Avoid raw food. Keep it clean

***Formation of batches:***

- ❏ Batches will be made according to the year of study of the student
- ❏ N/4 students in each slot, where N = Number of students present in that hall*(0.8). Here we are assuming that only 80% of the students actually eat in mess. So the total number of students in each slot would be 20% of N.
- ❏ There will be 2 slots( Slots will be distributed by Hall Administration), which are:
    1) Lunch - 12 - 1 pm, 1 - 2 pm*
    2) Dinner - 7:30 - 8:30 pm, 8:30 - 9:30 pm*

* Flexible and can be determined by Hall council

***Mess hierarchy:***

- ❏ Mess General Secretary (4th year)
- ❏ Mess Secretary(3rd year until second and first year will not join)
- ❏ Mess Duty (3rd year until second and first year will not join)

Mess management is done by secys and gsecs too. So when we are not calling 2rd years, to ensure someone does their part of work, we are changing the hierarchy and suggesting that 3rd years do that work. (But no specific change in the responsibility of Gsec and secy, it will remain same as done before )

***Mess duty (Responsibilities added according to covid situation ):***

- ❏ Checking mess sanitization by the students having mess duty.
- ❏ Ensuring that everyone is coming batchwise for having lunch/ dinner etc.
- ❏ Check cleanliness of plates and other utensils.
- ❏ Ensure all the mess workers will wear masks and gloves.

***Training programme for mess staff:***

- ❏ Training programs shall be conducted to reinforce appropriate social distancing, cleaning, disinfection, and hygiene procedures and adopt measures that could protect the tourists and the staff while on duty.
- ❏ All the staff should be properly briefed about the processes and a drill regarding the same must be put in place.
- ❏ Staff training should cover Personal Hygiene, Social Distancing and Sanitation. All Staff to be trained to brief tourists on the following:
    1) Social distancing includes refraining from shaking hands with students as well as among staff. It involves maintaining distance and avoiding anyone who is coughing or sneezing.
    2) Use of alcohol-based hand sanitizers (for at least 20 seconds) can be made wherever feasible.
    3) Also avoid touching eyes, nose, and mouth. Hand sanitization is suggested after exchanging objects (money, credit cards) with students.
    4) Respiratory etiquette to be strictly followed. This means strict practice of covering one's mouth and nose while coughing/sneezing with a tissue/handkerchief and disposing off used tissues properly. The used tissue should be disposed of immediately in a bin with a lid.
- ❏ Promote staff to use their own vehicle for transport rather than depending on public transport.
- ❏ Placing tape or other markings in adherence to social distancing norms in any area where members of the public may form a line or stand.
- ❏ Establish directional hallways and passageways for foot traffic, if possible, to eliminate employees and customers from passing by one another.

This training programme can be conducted by the warden of the respective hall.

***For Phase (1 final yrs):***

- ❏ Mess won't be opened except for some halls, only delivery to respective rooms for everyone.
- ❏ only few mess opening initially, as far I can tell, Mess of BRH, MMM and MS for Boys hall,Gokhale for Girls hall will be operating to keep things working

***Phase 2 (pre final years):***

- ❏ with only a few mess openings initially, Mess of BRH, MMM and MS for Boys hall,Gokhale for Girls hall will be operating to keep things working.
- ❏ Delivery only to quarantine people, rest will have meals in mess or can prefer takeaway.

***Phase 3 (2nd years) and Phase 4 (first years):***

- ❏ Following the normal day mess operations as mentioned below.

***Large scale functioning of mess:***

- ❏ The suppliers should enter the hall premises only with proper precautions i.e. wearing of masks.
- ❏ All the supplied food must be used after 24hrs. Vegetables and washable food items should be properly washed and sanitized by potable water.
- ❏ To avoid any risk to mess workers, they are advised to wash and sanitize their hands after receiving the supplied food.
- ❏ Menu changes are to be proposed-
    1) Ensure proper cleaning of vegetables,meats and all essentials with water or use some sanitising agents. ( WellCare Fruit & Veggie Wash Liquid, SaaFoo Meat Wash, are some of the sanitising agents )
    2) Keeps foods separated to avoid cross contamination.
    3) Foods to be served at proper warm temperature and avoid serving cool.

***General mess operations for all phases:***

- ❏ In quarantine period(14 days):
    - ❏ Room delivery only and preferred to use disposable packets.
    - ❏ Drinking water taken by the individual from the taps present on their respective floors. - Taps might lead to cross contamination, so to avoid that sanitation of taps every 2 hours/to be washed by students after use.
    - ❏ We can make time slots to collect water, keeping in mind the number of students on each floor using the tap for drinking purposes.
- ❏ In normal days:
    - ❏ Operating facility of any Mess will be at max 50% of the current capacity.
    - ❏ Washing and sanitizing hands before entering the mess.
    - ❏ Only asymptomatic students should be allowed.
    - ❏ Entry without a face mask won't be permitted.
    - ❏ If possible separate the entry and exit points of the mess.
    - ❏ Either takeaway or having a meal at the mess itself.
        1) Extra charge for Disposable packets(used for takeaway) will be added to the mess fee. Coupons generated or on spot charges for disposables depending upon respective hall's management.
        2) Personal tiffins can be used with no extra charge.

- Temperature readings to be taken once in a day at the entry point of mess while students come to mess for having meals at any one time( breakfast / lunch / snacks / dinner) time. Timings to be decided by respective halls keeping in mind that tests are to be taken randomly.
    1) If temperature >100°F shall be subject to further testing after a period of 1 hour.
    2) Students subject to high body temperature will be sent in their rooms with a takeaway food package.
    3) Temperature reading after 1 hour equal to or >100°F will require a further 24- hour isolation.
    4) Temperature reading equal to or 100°F for more than 24 continuous hours will be subject to further testing and the site-specific emergency response shall be enacted, and quarantine actioned for a period of 14 days.

***Proposing cubicle dining arrangement***[b]

- Cubical arrangement to be used- optional for halls, can be chosen if they find it easy.
- This will ensure proper distancing. Person faced just in one direction to avoid any “possible incidents”, including sudden sneezing or coughing.
- Also, Not to speak in the mess because everyone has to remove their masks while eating.
- Boundaries to be made by plain clean 12x12 cardboard sheets. It is shown here.

***Cost analysis***

- If we are accommodating N people in mess at one time. Then the cardboards used will be $\frac{3}{2}$N-2. Accounting 30 rupees for 1 piece 12x12 cardboard, total cost will be,
- = ($\frac{3}{2}$N-2)*30
- Now considering the maximum mess capacity to be 100, we get Cubicle cost = 4440

## Sports Operations

- Gyms in the gymkhana will remain closed initially at least till DP vacations. The DP Gym facility will be limited only to the athletes for their training purposes.
- Opening of gyms in halls will depend on the respective hall council.
- Use of face covers/masks is mandatory at all times within the premises. However, during yoga exercise or exercising in gymnasiums, as far as possible only a visor may be used. The use of masks (in particular N-95 masks) during exercise may cause difficulty in breathing.
- Practice frequent hand washing with soap even when hands are not visibly dirty. Use of alcohol-based hand sanitisers can be practised wherever feasible.

- Respiratory etiquettes to be strictly followed. This involves strict practice of covering one's mouth and nose while coughing/sneezing with a tissue/handkerchief/flexed elbow and disposing of used tissues properly.
- Spitting should be strictly prohibited.
- Installation & use of Aarogya Setu App shall be
- A maximum of 50 per cent of the total capacity of a stadium can now be filled with spectators during outdoor sports events.
- Organisers have to make sure that athletes and support staff undergo RT-PCR tests within 72 hours of the event.
- Inter-IIT won't be conducted by IIT Kharagpur this year.
- Audience not allowed, only players allowed while conducting GC
- Events that can happen in GC and that can be allowed for regular practice(Social distancing is maintained so it will not be an issue):

  Cricket, Lawn Tennis, Table Tennis, Athletics, Long Jump, Sprint, Squash, Chess (online mode)

- For training or practice time slots according to Hall will be released to avoid Crowding at the place. (the time allotted to each hall should be different, because if there will be overlapping of time slots then more crowding will occur)

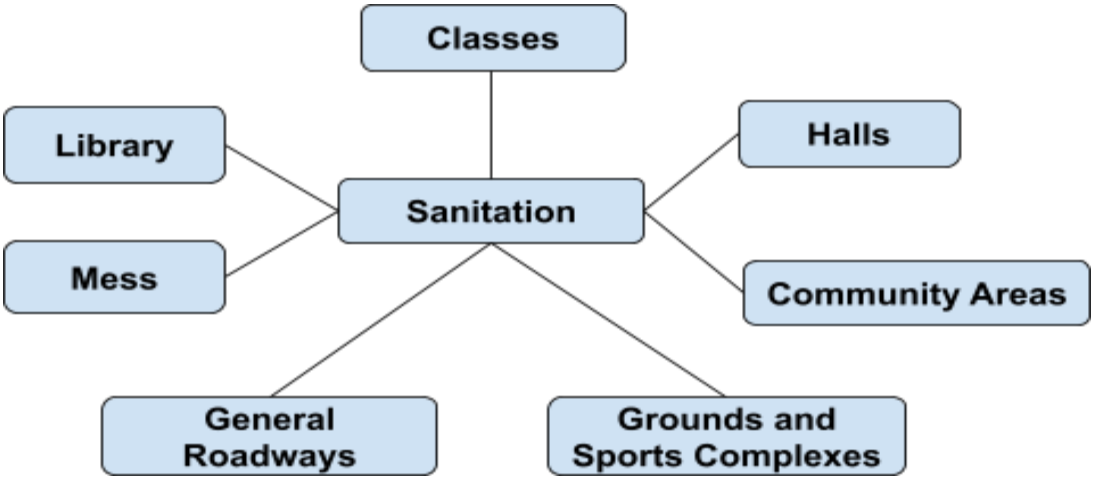
- Extra curricular-
  - For swimming pool -
    - Has to remain closed according to UGC guidelines.
    - But for spring semester: Allowing a fixed number of people to use a pool in allotted slots and for a limited period, according to the situation and the UGC guidelines.
  - For basketball, football and such similar sports practices should be minimised or should be closed
  - For events in GC, which require a Room or Auditorium prior approval should be taken citing the strength, speaker and other people involved in the event. Also an online portal for room availability with their max capacity should be maintained.

## Sanitation Operations (covers all sanitation part)

Plan to implement the sanitation process at different places like halls, academic areas, and community areas:

- **Classes:** Classes will be conducted in hybrid mode. For the students on campus the classes will be conducted online unless the professor wants to conduct offline if only needed. Labs will be conducted in offline mode in shifts.
  We can have a half an hour gap between the dispersal of classes. And we can hire an authority for getting the classes sanitized once a day after all the classes for the day gets over.

- **Halls:** Sanitation will be once a day(all the corridors and entrance of halls). Code of conduct is to be followed. Washrooms will be cleaned twice a day at least. This times slot can be followed:
  - 7-11AM=usage time
  - 11-12=cleaning time
  - 12-5=usage time
  - 5-6=cleaning time
  - 6-10=usage time
- **Mess:** Social distancing along with masks is to be followed both by the students and the mess staff. Mess staff have to wear gloves and hair marks also. Cleaning of utensils is to be done properly. Students will be appointed for mess duty to ensure sanitation and hygiene in the kitchen of halls. Sanitation will be done twice a week.
- **Library:** Student's temperature will be checked at the entrance. Gloves will be given at the entrance itself, he/she has to wear a mask compulsorily.
  During the time of exit, the student can throw the gloves and the implementation can be ensured by keeping the watch through cctv cameras installed in the library and if anyone breaks the rule can be fined accordingly. Also if a group comes to study, decorum should be maintained and a particular group should be given a specific table according to their needs. Sanitation here will be done once a day at the time of closing of the library (at night).
- **Community areas like gymkhana:** No gatherings will be allowed. Protocols will be followed. Only important meetings are allowed. For that case, the guard should have a thermo gun, all students should have a PPE face mask. All the furniture should be cleaned by staff before and after the meetings.
  After in the later stage if the possibility of a containment zone is ruled out then all the gymkhana meetings can be resumed and provided the staff cleans everything properly. Sanitation will be done twice a week.
- **Grounds and sports Complexes:** All the activities in the grounds and halls can be resumed , masks are not mandatory. The equipment should be sanitized and sprinkler sanitation should be used to sanitize the body. Sanitation will be done daily in the playing area.
- **General roadways across halls**
  Following points will be monitored across roadways to minimize the spreading:
  - Masks are mandatory whenever going outside of the hall.
  - If there is a crowd it will be managed by the guards who manage traffic. People on foot will use the narrow lane on the side of the road and rest traffic will move in the central lane..
  - Sanitization across roadways needs to be done once a day.
  - No mass gathering will be allowed either on cycle or on foot.
  - Special care of sanization at cycle stand (twice a day at least).




## Other Schools/Buildings, Tech-M and Outside hall eateries

### Schools

Schools will operate normally as they are running now. As the students are locally from campus so there is less chances of contamination.

### Basic operations procedure to be followed for Tech-M

- There should be spray sanitisation of TechM regularly (if possible twice daily, one at the start of the day between 6-7:30 am and one towards the mid, around 2-3 pm)
- All the items bought by the shopkeepers for restocking should be sanitised first and then allowed to enter the campus through a single gate(preferably Puri gate).
- There will be slots for the halls for purchasing things from Tech-M[2].
- People having emergencies for some important things can go to the tech-m irrespective of the slots but have to follow proper protocols.

### Outside eateries

- All the Entries like CCD, Mio Amore, Tikka, Veggies, etc should be monitored and gathering should not be allowed.
- Mess Activity should be carried out in shifts to avoid gathering.
- Student interaction in halls and gathering for societal meetings should be strictly prohibited.

## Vaccination of staff

We need to protect some people who are very critical for conducting daily operations. These are: Mess Workers, Cleaning Staffs, Quarantine Staffs, Sanitary Staffs and Maintenance Staffs. There are two effective way by which we can ensure their safety:

- According to government protocols, if sanitary staffs have to be vaccinated then for safely done vaccination, we have two ways to proceed:

- If possible we will call one medical worker, who will come to BC Roy and vaccination of all the staff will be done from the BC ROY hospital only so that there will be very less chances of spreading Corona in our staff and workers.
- And if it is not possible to call any medical worker, then we will send our staff by bus by giving them some incentive, so that everyone will easily be ready to go there.

- If Vaccination of staff will not be possible, then we will ensure maximum testing of staff to be done on a weekly basis.

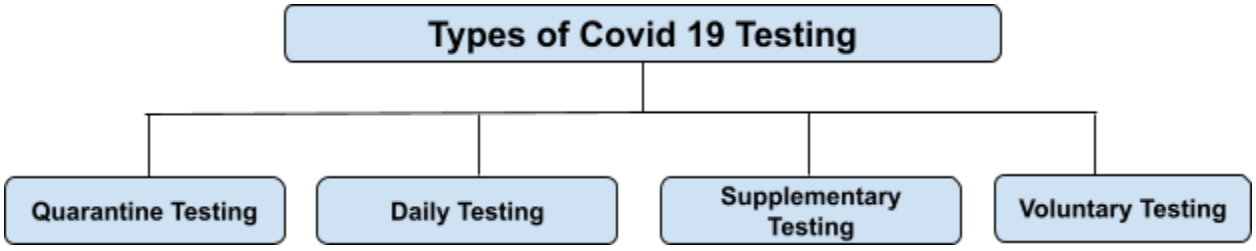
## COVID19 Testing

### Types of Covid19 testing

With different scenes and omnipresent COVID, we will be organizing RTPCR/COVIDWrap testing under following domains (it has be inspired from Cornell Model):

- Quarantine Testing- To be organized for everyone during 6-8th day of COVID testing.
- Daily Testing- To be organized randomly choosing a sample from anyone across campus
- Supplementary Testing- To be organized for those who show severe symptoms of COVID.
- Voluntary Testing- Can be taken up by anyone who is ready to bear extra charges.

*Note: First 3 points will incur no additional charges (everything will be charged through ERP during fees payment/in the next semester), an overhead charge of INR 600 has to be charged additionally in the fourth section at the time of testing.*




### Testing of Students

We are calling students phase wise, so approx 1000 testing of students to be done on a weekly basis. We also consider that the initial rate of testing will be slow, so in the first phase we are calling 700 students only, so that it will be easy for administration to conduct testing according to that. When all the pre - final years and final years will be called, then testing will be done randomly, considering that one student will not be tested again and again.

### Testing of Faculties

According to our proposal, next semester, classes will be online, so faculties are on the safer side, but then too 100 testing kits will be reserved for professors, in any case, it is required.

### Testing of Staffs

As we are calling the students phase wise, so in the first phase, we require less number of staff who will be working in a mess or for maintenance, compared to staffs required in phase 2 and 3.

So initially, we will do testing of our staff, we consider that initially we require approx 400 staff for normal functioning, so according to that we will send staff for testing. After that approx 1000 testing per month will be sufficient. But after phase 5, testing will be done randomly, so that it will not cost much.

## Random testing procedure

Guidelines

- ❏ Testing should be done wing wise appropriately.
- ❏ At least 1 student per wing (approximately 1 student per 10 rooms) should be selected for testing per week. (Can increase/decrease the frequency on the basis of strength per wing)
- ❏ It's the responsibility of the medical staff incharge to monitor the testing of the student and keep the records.
- ❏ Selection of whom to test will be random and in every 10 weeks, each student would have been tested at least once.

Here is the week wise analysis, minimum of 710 tests should be conducted per week and number of students are given as follows. The room wise analysis has been attached in the annexure.

***Single rooms***

| Hall of residence | Number of Rooms | Comments | Total tests in hall |
|---|---|---|---|
| Azad Hall of Residence | 260 | **1 student selected per 10 rooms** | **260/10 = 26** |
| BC Roy Hall of Residence | 160 | **1 student selected per 10 rooms** | **160/10=16** |
| BR Ambedkar Hall of Residence | 1390 | **1 student selected per 10 rooms** | **1390/10=139** |
| Gokhale Hall of Residence | 10 | **1 student selected per 10 rooms** | **10/10=1** |
| Homi J Bhabha Hall of Residence | 163 | **13 students are selected as per 1 student per 10 rooms<br>3 students are selected as per 1 student per 11 rooms** | **16** |
| JC Bose Hall of Residence | 262 | **24 students are selected as per 1 student per 10 rooms<br>2 students are selected as per 1 student as per 11 rooms** | **26** |

| | | | |
|---|---|---|---|
| Nehru Hall of Residence | 263 | **23 students are selected as per 1 student as per 10 rooms<br>3 students are selected as per 1 student as per 11 rooms** | **26** |
| Lala Lajpat Rai Hall of Residence | 334 | **29 students are selected as per 1 student as per 10 rooms<br>4 students are selected as per 1 student as per 11 rooms** | **33** |
| Nivedita Hall of Residence | 35 | **3 students are selected as per 1 student as per 9 rooms<br>1 students are selected as per 1 student as per 8 rooms** | **4** |
| Meghnad Saha Hall of Residence | 397 | **32 students are selected as per 1 student as per 10 rooms<br>7 students are selected as per 1 student as per 11 rooms** | **39** |
| Patel Hall of Residence | 262 | **2 students are selected as per 1 student as per 11 rooms<br>24 students are selected as per 1 student as per 10 rooms** | **26** |
| Radha Krishnan Hall of Residence | 302 | **2 students are selected as per 1 student as per 11 rooms<br>28 students are selected as per 1 student as per 10 rooms** | **30** |
| Rani Lakshmibai Hall of Residence | 250 | **1 student is selected per 10 rooms** | **25** |
| RP Hall of Residence | 307 | **7 students are selected as per 1 student as per 11 rooms<br>23 students are selected as per 1 student as per 10 rooms** | **30** |
| SNIG Hall of Residence | 213 | **3 students are selected as per 1 student as per 11 rooms<br>18 students are selected as per 1 student as per 10 rooms** | **21** |
| Vidyasagar Hall of Residence | 335 | **5 students are selected as per 1 student as per 11 rooms<br>28 students are selected as per 1 student as per 10 rooms** | **33** |

***Double Rooms***

| Hall of residence | Number of Rooms | Comments | Total Test in Hall |
|---|---|---|---|
| SNIG Hall of Residence | 16 | **2 students are selected as per 1 student as per 8 rooms** | **2** |
| SAM Hall of Residence | 92 | **2 students are selected as per 1 student as per 10 rooms<br>8 students are selected as per 1 student as per 9 rooms** | **10** |
| RP Hall of Residence | 22 | **2 students are selected as per 1 student as per 11 rooms** | **2** |
| Radha Krishnan Hall of Residence | 23 | **1 student is selected per 11 rooms<br>1 students is selected per 12 rooms** | **2** |
| Patel Hall of Residence | 19 | **1 student is selected per 10 rooms<br>1 student is selected per 9 rooms** | **2** |
| Nivedita Hall of Residence | 43 | **3 students are selected as per 1 student as per 11 rooms<br>1 student is selected per 10 rooms** | **4** |
| MMM Hall of Residence | 789 | **78 students are selected as per 1 student as per 10 rooms<br>1 student is selected per 9 rooms** | **79** |
| Nehru Hall of Residence | 21 | **1 student is selected per 10 rooms<br>1 student is selected per 11 rooms** | **2** |
| Azad Hall of Residence | 21 | **1 student is selected per 10 rooms<br>1 student is selected per 11 rooms** | **2** |

***Triple Rooms***

| Hall of Residence | Number of | Comments | Total test in hall |
|---|---|---|---|

| | Rooms | | |
|---|---|---|---|
| Azad Hall of Residence | 143 | **1 student is selected per 11 rooms** | **13** |
| Gokhale Hall of Residence | 44 | **1 student is selecrer per 11 rooms** | **4** |
| Nehru Hall of Residence | 45 | **3 students are selected as per 1 student as per 11 rooms<br>1 student is selected per 12 rooms** | **4** |
| LBS Hall of Residence | 650 | **1 student is selected per 10 rooms** | **65** |
| Mother Teresa Hall of Residence | 164 | **12 students are selected as per 1 student as per 10 rooms<br>4 students are selected as per 1 student as per 11 rooms** | **14** |
| Nivedita Hall of Residence | 1 | **1 student per 2 weeks** | **1** |
| Patel Hall of Residence | 45 | **3 students are selected as per 1 student as per 11 rooms<br>1 student is selected per 12 rooms** | **4** |
| RK Hall of Residence | 96 | **1 student is taken per 8 rooms** | **96/8=12** |
| RP Hall of Residence | 160 | **1 student is taken per 10 rooms** | **16** |
| SNIG Hall of Residence | 20 | **1 student is taken per 10 rooms** | **2** |

## Modelling

We have studied the mathematical model proposed by Cornell and used the stimulation mentioned in the research paper by Lopman [d] and utilizing the direct simulation software tool by Epimodel.[d]

We divided the whole student community into 3 Groups on the basis of their proximity to infection:

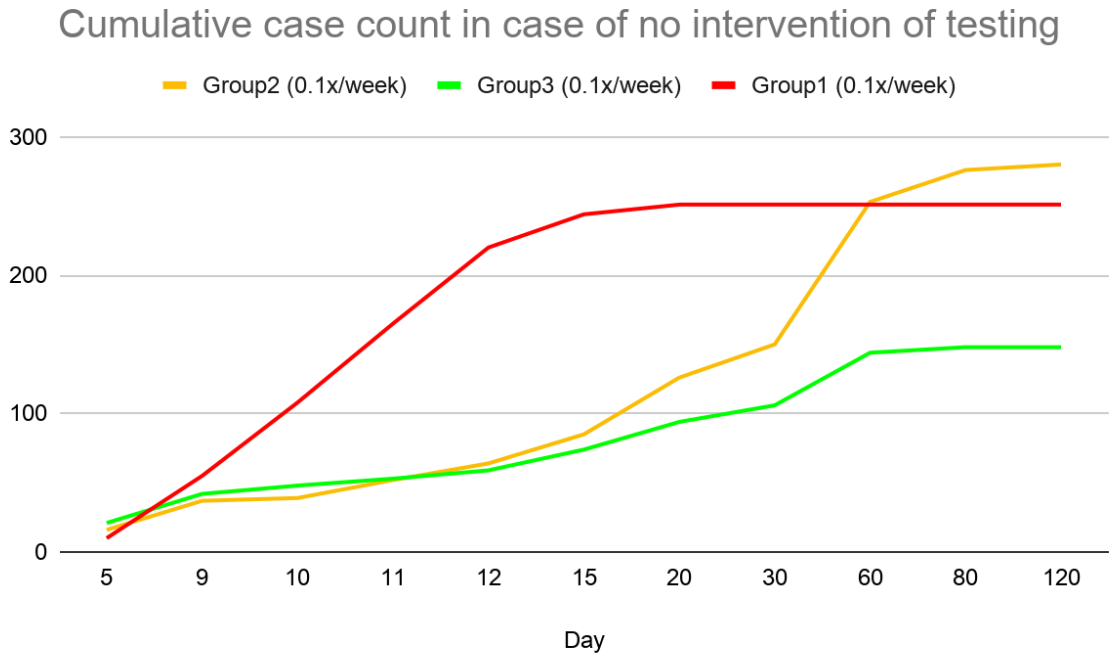
1. Group1 - This Category Includes Undergraduates (UG) with athletic affiliation
2. Group2 - It includes other UG
3. Group3 - Post-Graduate and Professional students

Following assumptions have been taken while preparing the simulations:

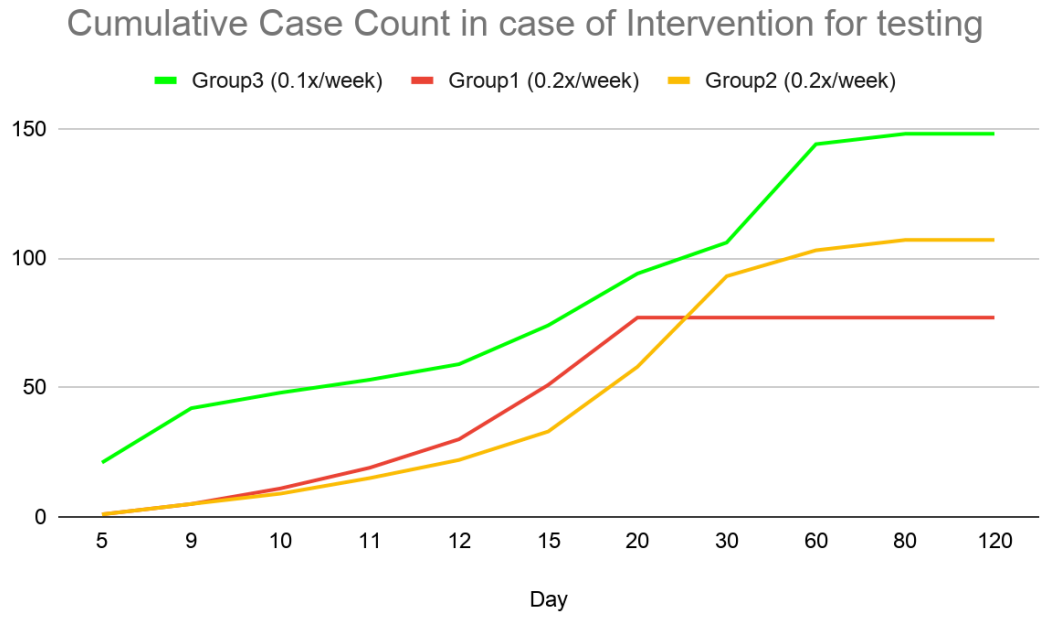
| Assumption | Category (if any) | Values |
|---|---|---|
| Testing Frequency | Group1 | 0.2/per week |
| | Group2 | 0.1-0.2/per week |
| | Group3 | 0.1/per week |
| Rate of Spread | Group1 | 0.764 |
| | Group2 | 0.194 |
| | Group3 | 0.067 |
| Strictness of Rule Imposition | Group1 | 0.5 |
| | Group2 | 0.4 |
| | Group3 | 0.3 |
| Population | Group1 | 1250 |
| | Group2 | 3750 |
| | Group3 | 1500 |
| Time Period | | 3 month (Oct-Dec) |

Finally simulating the scenario on Epimodel, we have got the following results and plots:

1. Cumulative case count in each category for **non-Intervening** Model:
   For this case we kept the testing frequency to be 0.1 times per week, under which all the on-campus student population of KGP can be tested in 70 days.




2. Cumulative case count for **intervention** in testing for Group1 and Group 2:
   For this case we kept the testing frequency to be 0.2 times per week for high prone Groups i.e. Group 1 and Group 2, under which all the on campus population of these two groups can be tested in 35 days. This intervention we used because from the above graph Group 1 and Group 2 contributes for the maximum number of positive cases.



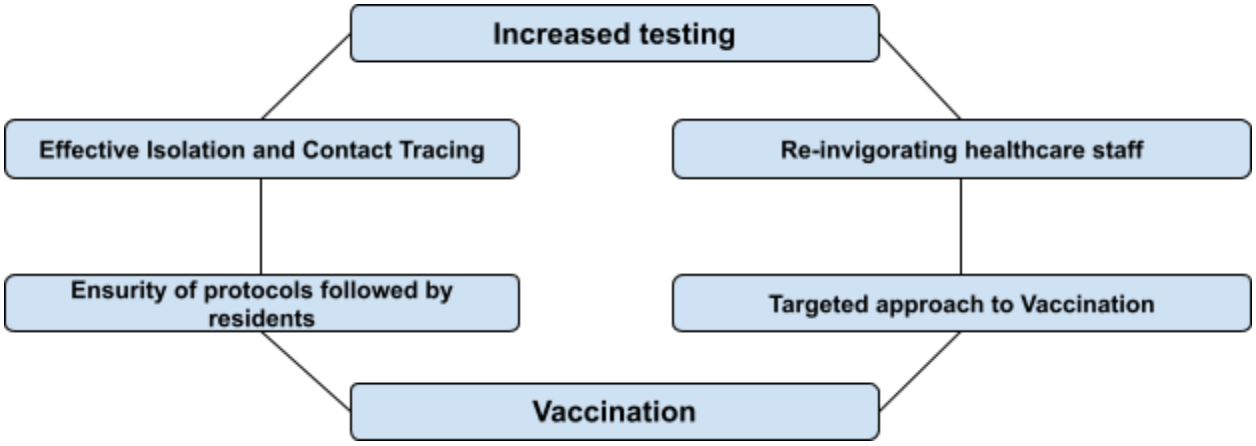
We can conclude to the following final points:

- Increasing the frequency test for Group 1 to 0.2/week; 0.1/week to 0.2/week for Group 2 and 0.1/week for group 3 can efficiently reduce the rising surge of COVID-19 positive cases in case of any outbreak if happens
- Increasing the strictness of rules imposition like wearing a mask, social distancing and proper sanitization can reduce the spread of the virus to a certain limit (a limiting effect)
- The spread of infection between the students community is much higher than in staff or faculty, also spread between faculty or staff and students is lower than 1. Between students also the one who are involved in Athletics or Sports are much prone to get infection and spread it.
- Effect of contact tracing is still unknown as observed in other renowned universities and hence can play a major in controlling any upsurge of cases
- Further impacts of Vaccination especially among Group1 category and Staffs can play a major role as they are much prone to get the infection and spread it among the population.

## Action plan for sudden covid breakout

There are **5 important steps** that will facilitate our action plan in case there is a sudden increase in covid-19 positive cases in the campus-

- Increased testing with a higher share of RT-PCR tests along with sealing containment zones:- In the zone where the cases are increasing, testing will be increased and the maximum number of students will be tested in order to reduce the spread. The zone where cases will be increased will be sealed and it will be ensured that there is no external movement without permission by the officials.Every student will be tested in 2 weeks in the containment zone.
- Effective isolation and contact tracing:- Covid positive students will be shifted to BC Roy Hospital and SAM hall of residence for isolation. Contact tracing will be done in order to detect suspected students and will be quarantined separately with strict protocols. Other asymptomatic students will be quarantined and will be monitored closely.
- Re-invigorating healthcare staff:- Healthcare staff will be given all the necessary equipment so that they are not exposed to the virus. All workers will be taken care of properly and their contribution will be critical to counter the spread.
- Ensuring all the protocols are followed by all residents:- All the officials will be given freedom in order to ensure that all students and workers are abiding by guidelines laid by the administration.
- A targeted approach to vaccination:- Faculties,Health care workers,Covid Positive Students and Containment zone students will be vaccinated .Covid positive students will be closely monitored by the healthcare staff. Proper medication and routine checkup will be conducted for the other hall students.




## Changes in Curriculum

### 1st year students

- Courses that are the prerequisite for any of the upcoming courses for a particular department can be deemed compulsory, other courses can be given as electives and a minimum credit count of 18 would be maintained, the breakdown for which will be :
  - 2 labs of 2 credits each, totaling to 4 credits
  - 2 main courses of 4 credits each, totaling to 8 credits
  - English course for one semester and Programming and Data Structures for the other semester, both of which are of 3 credits each
  - Environmental science for one semester and Science of living systems, for the other semester, both of which are of 2 credits each
  - EAA will be conducted in both the semesters, for 1 credit each semester.
- A student aspiring for a Department Change would have to follow the complete curriculum.
- The section division will proceed as usual, with the difference being that some students won't be attending some courses, reducing the overall average strength of each class.
- The first year subjects would be divided into two semesters as usual, specifically Physics semester and Chemistry semester. Both the semesters would have a Mathematics course (MA11003 and MA11004)
- We are proposing a new curriculum distribution based on the curriculum distribution that was used in the session 2019-2020 and the new curriculum distribution that was introduced in the session 2020-2021. According to our distribution:
  - Physics semester will offer these courses:
    - Mathematics
    - Physics of Waves (PH11003)
    - Physics Laboratory (PH19003)
    - Basic Engineering Mechanics (ME1100)

- Programming and Data Structures (CS10003)
- Programming and Data Structures laboratory(CS19003)
- Engineering Drawing And Computer Graphics (CE13003)
- Environmental Science (EV10003)

- Chemistry semester will offer these courses:
  - Mathematics
  - English for Communication (HS13003)
  - Electrical Technology (EE11003)
  - Engineering Laboratory (EN19003)
  - Chemistry (CY11003)
  - Chemistry Laboratory (CY19003)
  - DIY Project (DY17003)
  - Science of Living Systems (BS10003)

- Half number of students will be following the chemistry semester in the autumn semester and half number of students will be following the physics semester in the spring semester.
- The courses which would be given as a choice will follow the current division of autumn and spring semester.
- English should also be maintained as a compulsory course as having good exposure to the language is something that is expected from a student graduating from a premier institute like IIT Kharagpur.
- To help students understand these choices and address any doubts regarding this, every faculty advisor can have a meeting/discussion before subject registration.
- Considering that we propose the autumn semester to be conducted in an online mode, we propose the following division of students according to their departments to have physics or chemistry semester as their first semester (autumn):

| Chemistry Semester as their Autumn Semester | Physics Semester as their Autumn Semester |
|---|---|
| Aerospace Engineering | Agriculture and Food Engineering |
| Architecture and Regional planning | Biotechnology |
| Civil Engineering | Chemical Engineering |
| Electrical engineering | Chemistry |
| Industrial and Systems Engineering | Computer Science and Engineering |
| Instrumentation Engineering | Geology and Geophysics |
| Electronics and Communication Engineering | Humanities and Social Science |
| Mathematics and Computing | Metallurgical Engineering |
| Mechanical Engineering | Mining Engineering |
| Physics | Ocean Engineering and Naval Architecture |

- This division has been made such that the maximum number of students, who require a particular lab's experience in their curriculum in later years, can have that lab in their spring semester which will be an offline semester for the first year students according to our suggestions.
- This would reduce the number of high strength classes and more students would be able to take the advantages of in-person classes with lesser risks.
- As there will be less number of students who would be sure of not opting for a department change, In the autumn semester the percentage of students opting for the full curriculum will be high, this won't be a big problem as autumn semester will be held in online mode for 1st year students. In the spring semester, which will be conducted in an offline mode, several students would not opt for the full curriculum after grades for the first semester would be announced.
- Details of curriculum for each department can be found in the annexure[3].

## Latest Innovation

### COVIRAP

This new testing method implements a highly reliable & accurate molecular diagnostic procedure, conducted in an ultra-low-cost portable device unit. It has been developed by IIT Kharagpur researchers. This has been certified by ICMR(Indian Council of Medical research). Testing process can be completed within an hour. COVIRAP technology has been transferred to M/s Aspen Biomedical Private Limited, Rapid Diagnostic Group of Companies ASPEN BIOMEDICAL PVT LTD.

**Approx Cost: INR 500/test**

**Company to mass produce: ASPEN BIOMEDICAL PVT LTD**

We have approached head of the research team Prof. Suman Chakraborty and got a positive response from him[5] that they have licensed the technology to a couple of Companies and are expediting manufacturing upscaling and further validation of the testing via them.
Due to its affordable testing price and taking less time in delivering the result, We can use it for the testing in KGP.

### Website Portal and App

The structure of the website would be similar to some other universities
There would be different dashboard for students and teachers[a]
The website will include :-

- Total number of tests conducted till date.
- The cumulative number of Covid-Positive results.
- Number of students present and its division in UG, PG and RS.
- Percentage of Covid positive patients.
- Number of beds occupied and available for both quarantine and isolation facilities.

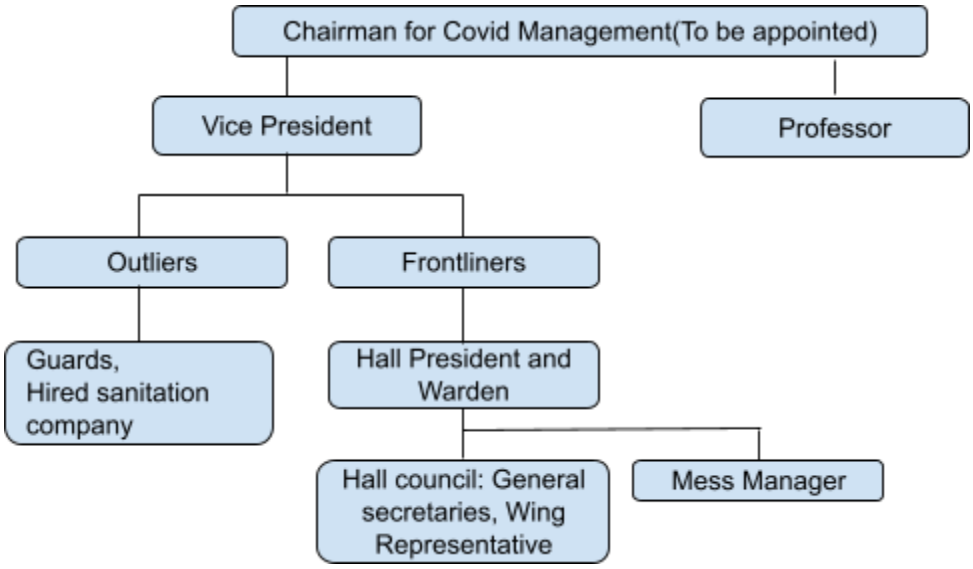
- The cumulative number of Hall wise Covid-Positive students.
- Hall wise and aggregate active cases on campus.
- The number of active severe covid cases.
- Number of people vaccinated on campus.

*Apart from the website portal, we believe an app similar to aarogya setu created exclusively for adjusting with the Kharagpur requirement can be created* (source code of arogya setu) [c]
We present our teah innovation **Nirogya Kgp.** It can be uploaded as an open project and can be developed by students of IIT KGP under MetaKGP portal.
Nirogya Kgp will include which is very much similar to arogya setu app which is owned by the government :-

- All the information which is available on the website like the dashboard of covid cases in campus will be updated in the nirogya kgp.
- Apart from dashboards, certain features similar to that of arogya setu needs to be created. For the creation of the app, we will create and outsource the project open to all to contribute and directed by any professor from CS Dep. Following features are to be updated by the team:
  - The login of this app would be based on the roll number and date of birth of the student.
  - It would show a green color signal if bluetooth and location are turned on in the phone(which are important for contact tracing). It should be verified by guards before allowing any kind of permit for entering academic/non-academic complexes.
  - It would have a dashboard permits approved by dean/hod/Facad/warden
  - Any fine details will be available through login
  - It would list all the rules they should follow based on their current location and thereby will update the penalty for violation of rules and regulations.
  - It would also store the data in the backend which will include time duration, location and date of contact with the infected person. It will be further used by administration for contract tracing.
  - All the data in nirogya kgp would be stored for 30 days in the backend which would include location and contact history.
  - One tab would also show if the person is safe or at some risk or high risk which would be similar to arogya setu
  - Contact tracing would be done by finding the bluetooth connectivity data. If the bluetooth connection would be for more than 15 minutes then it would be considered as a contact and the same would be reflected in nirogya kgp. There is some problem with this method of contact tracing which would show non risk people to be at risk as in hall the rooms are very close to each other so there would be a bluetooth connection between them even if there is no contact between them so this would be used as a secondary contact tracing and the primary one would be manual in which the student would have to be cautious whom he/she is meating.

## Overall Management Team

To manage the overall working of Covid, the following team structure is proposed to be formed and implemented as soon as possible.
General responsibility:




- ***Chairman for Covid Management:*** This post will be governed by a professor. We can approach a professor (DOSA/President) for this or we can hold selections for the post. He or she will be managing the entire team which will be working under him or her.
- ***Professor:*** Warden of each hall will lead all the activities of their respective hall. In the departments, faculty will ensure the implementation of code of conduct and sanitation in the labs and when the classes will be offline(only if needed).
- ***Vice-President:***
  - Will be responsible for maintaining all the forms and communication among the DOSA and student community at the apex level.
  - Will prepare a common proposal for all the halls to be followed.
  - Gymkhana student council will be in contact with every hall's council and help them in any emergency situation. They will be in contact with BC Roy and other hospitals to know the availability of beds for treatment to handle any situation of break out cases.

  **A. Outliers:** Will be allotted responsibility outside and nearby hall premises to ensure following of COVID guidelines. The head of the hired sanitation company who will be monitoring sanitation everywhere will take updates from his workers doing work in different places and then report to the vice-president. Similarly the head of the police guards will take the updates from each guard of different areas and update about it to the vice-president.
    - This will include police guards, the hired company doing the sanitation outside hall premises and academic areas.

- ❏ In places like libraries we can ensure sanitation by getting the process of sanitizing by the guards in the library. They will also make sure each person entering the library is wearing a mask and gloves which will be given at the entrance of the library and while leaving disposal of gloves will also be made sure. Similarly, the guards at the gates of the academic area like vikramshila, nalanda etc will see the same that masks are being worn by everyone and make sure that no gathering happens anywhere.

**B. Frontliners:** Will be allotted responsibility inside hall premises to ensure COVID norms being followed

- ❏ **Hall President:**
  - ❏ Will be responsible for finalising the quarantine facility among discussion with Frontliners
  - ❏ Will prepare a final proposal upon consultation with Hall council regarding the moment inside hall premises and communicating the same to the student fraternity.
  - ❏ Will be responsible for organizing the Hall changing facility during DP/Winter holiday (of various halls)
  - ❏ Hall council will ensure proper implementation of rules in the hall premises strictly. Proper sanitation and hygiene is to be maintained. Rules are to be followed by the working staff of the hall as well which will be noticed by the hall council.
- ❏ **Hall council- General Secretaries and Wing Representative:**
  - ❏ General secretaries can help by keeping a note that everyone if following the rules like social distancing, no frequent roaming in the hall corridors, mask is to be worned by everyone outside rooms compulsorily. They can help the hall council by ensuring the rules are followed at individual level by the boarders.
  - ❏ Wing Representative:
    1) He or she will make sure that people are not gathering at a place and are following the protocols strictly. Hygiene and sanitation is being done on their respective floor.
    2) They have to report to the hall council if any rule is not being followed by a person and when sanitation is not done properly.
    3) Sanitation can be made sure by anyone of the boarder present on the floor at the time it is being done. After the floor is sanitized that person can do a signature to confirm in a register maintained on each floor managed by the wing representative who will get it verified by the hall council everyday.
- ❏ **Mess manager:** He or she will ensure sanitation and hygiene in mess, will manage the mess staff and will make sure that they are following the proper protocols. He or she also has to make sure that the temperature of

each worker is checked at least twice a day, once during morning and second time when they leave the mess. Also, students that will do the mess duty can report to him in case any break of protocol by any of the staff.

***Note:*** *The meeting will be held once at least twice a week. It will be organized offline/online mode depending on the current situation of the campus.*

## External Agencies to Contact

For the Autumn semester, we will need large scale sanitization almost for everything. Therefore, around 20 workers will be outsourced from **Columbia Asia Hospital- Salt Lake and Global healthcare Private Ltd, Kolkata.** Responsibility for the workers hired will be:

- ❏ Organizing sainationespecially in yellow and Red zones.
- ❏ Collection of samples from Quarantine center (during Testing period) and random collection

Some other procedure and add ups:

- ❏ Proper PPE Kits will be provided from Institute funds while carrying out sanitation drives.
- ❏ They will be temporary workers and will be called only for Autumn Semester (might extend as per the situation of cases in November 21
- ❏ Half of the total number proposed will always be present permanently and other half will be called in case the total cases cross 20.

## Cost Analysis

### COVID Fund

| Description | Weekly Charges (INR) | Overhead Charges (INR) |
|---|---|---|
| [1]Post Arrival Testing | 3,36,500 | - |
| Quarantine Charges | 10,150 | 3,82,000 |
| Regular Sanitation | 2,000 | - |
| Sanitisers in halls | 20,000(Initial Month) | - |
| [2]Surveillance Charges | 3,05,000 | - |
| [3]Daily Check | 37,500 | - |
| Supplementary Testing | 3,000 | - |
| PPE Kits+Mask+Gloves | 22,000(Monthly) | - |
| Testing Staff+Sanitation Worker | 1,75,000 | - |

| | | |
|---|---|---|
| Random Testing Cost after Phase 7 | 6,30,000 | - |

1) Post arrival Testing includes student and mess workers
2) Includes Quarantine Staffs & Guards
3) Detailed description is in annexure[4].

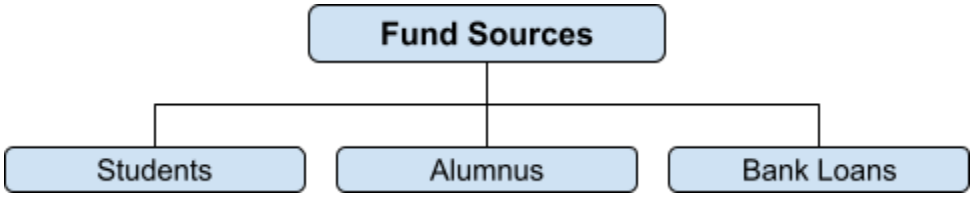
### KGP Funds

| Description | Overall Cost | Source |
|---|---|---|
| Cubicle in hall | INR 4,440 per 100 strength of mess | Mess Fund |

| Total Distribution of Funds (INR) | |
|---|---|
| Students | 1,04,85,400 |
| Professors | 60,000 |
| Staffs | 20,98,800 |

## Revenue Sources

For keeping the campus open, the majority of expenses will be required to carry on frequent tests. Especially in the dramatic increase of cases, the testing and thereby funds needed will just move up exponentially. To tackle the situation, following fund sources are proposed:




1. Students: A new section in ERP with COVID19 Medical Fund will be created and an approx amount of 1500 INR (actual might go upto 2000 INR, rest will be levied from other sections) will be added depending on expenses.
    a. Autumn Semester(21): We will charge only from students who opt to stay inside the campus. The division of funds can be taken up from the cost structure mentioned in section **COVID-19 Medical Fund.**
    b. Spring Semester(22): Considering COVID19 still staying and vaccination of students still a dream, testing will continue at similar rates. However, since almost all students will reach campus, we will increase the testing rates. Henceforth, cost might go upto 4000 INR.

2. Alumnus: A donation drive will be organized among the batch of 1990s under the campaign of ***KGP COVID Saviours***. As for the incentive, certain boards can be added up across the mess of halls with the same name. A lump sum amount of 51,00,000 INR might be needed to deal with the overall situation. Funds will be used for:
    a. Organizing and maintaining quarantine centers
    b. Organizing mass scale testing especially in situations of any dramatic increase.
    c. Keeping halls, academic facilities and sports complexes sanitized.
    d. Paying up the additional workers hired from outsourcing.
3. Bank Loans: Since there might be a delay in completing fundraising from alumni and there will be need to pre organize activities before the next semester starts, we might need a lump sum amount of 20 lakhs to be taken as loan. *We can take the loan from SBI Bank under Personal COVID19 loan.*

## Scope of Improvement

1. All of the working staff coming to work inside the campus from outside daily can increase chances of infection.
2. Around 1000 testing should be done per week when all the students reach the campus but this will increase the cost of testing but due to budget constraint it might be possible.
3. Vaccination of the entire kgp community should be done.
4. Efficiency of contract tracing is unknown as everyone has to keep their mobile data on so it has to be studied further by the operations.
5. Modelling used is just an extension of Cornell model adjusted as per the situation of local Kharagpur. It can be updated and improved (preferably during durga puja break) as we observe the pattern of covid case rise.

# Annexure

## Timeline

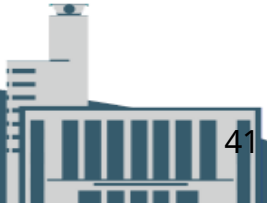
| DATE | BATCH | DAILY ARRIVAL | NUMBER OF STUDENTS IN QUARANTINE | TESTING DAYS (BATCH WISE) | BATCH WHICH IS FREE NOW |
|---|---|---|---|---|---|
| 1 July 2021 | Phase 1 | 100 | 100 | | |
| 2 July 2021 | | 100 | 200 | | |
| 3 July 2021 | | 100 | 300 | | |
| 4 July 2021 | | 100 | 400 | | |
| 5 July 2021 | | 100 | 500 | | |
| 6 July 2021 | | 100 | 600 | | |
| 7 July 2021 | | 100 | 700 | | |
| 8 July 2021 | | | 700 | 1P1 | |
| 9 July 2021 | | | 700 | 2P1 | |
| 10 July 2021 | | | 700 | 3P1 | |
| 11 July 2021 | | | 700 | 4P1 | |
| 12 July 2021 | | | 700 | 5P1 | |
| 13 July 2021 | | | 700 | 6P1 | 1P1 |
| 14 July 2021 | Phase 2 | 150 | 750 | 7P1 | 2P1 |
| 15 July 2021 | | 150 | 800 | | 3P1 |
| 16 July 2021 | | 150 | 850 | | 4P1 |
| 17 July 2021 | | 150 | 900 | | 5P1 |
| 18 July 2021 | | 150 | 950 | | 6P1 |
| 19 July 2021 | | 150 | 1000 | | 7P1 |
| 20 July 2021 | | 150 | 1050 | | |
| 21 July 2021 | | | 1050 | 1P2 | |
| 22 July 2021 | | | 1050 | 2P2 | |
| 23 July 2021 | | | 1050 | 3P2 | |
| 24 July 2021 | | | 1050 | 4P2 | |
| 25 July 2021 | | | 1050 | 5P2 | |
| 26 July 2021 | | | 1050 | 6P2 | 1P2 |
| 27 July 2021 | Phase 3 | 150 | 1050 | 7P2 | 2P2 |
| 28 July 2021 | | 150 | 1050 | | 3P2 |
| 29 July 2021 | | 150 | 1050 | | 4P2 |
| 30 July 2021 | | 150 | 1050 | | 5P2 |
| 31 July 2021 | | 150 | 1050 | | 6P2 |
| 1 August 2021 | | 150 | 1050 | | 7P2 |
| 2 August 2021 | | 150 | 1050 | | |
| 3 August 2021 | | | 1050 | 1P3 | |

| | | | | | |
|---|---|---|---|---|---|
| 4 August 2021 | | | 1050 | 2P3 | |
| 5 August 2021 | | | 1050 | 3P3 | |
| 6 August 2021 | | | 1050 | 4P3 | |
| 7 August 2021 | | | 1050 | 5P3 | |
| 8 August 2021 | | | 1050 | 6P3 | 1P3 |
| 9 August 2021 | Phase 4 | 150 | 1050 | 7P3 | 2P3 |
| 10 August 2021 | | 150 | 1050 | | 3P3 |
| 11 August 2021 | | 150 | 1050 | | 4P3 |
| 12 August 2021 | | 150 | 1050 | | 5P3 |
| 13 August 2021 | | 150 | 1050 | | 6P3 |
| 14 August 2021 | | 150 | 1050 | | 7P3 |
| 15 August 2021 | | 150 | 1050 | | |
| 16 August 2021 | | | 1050 | 1P4 | |
| 17 August 2021 | | | 1050 | 2P4 | |
| 18 August 2021 | | | 1050 | 3P4 | |
| 19 August 2021 | | | 1050 | 4P4 | |
| 20 August 2021 | | | 1050 | 5P4 | |
| 21 August 2021 | | | 1050 | 6P4 | 1P4 |
| 22 August 2021 | Phase 5 | 150 | 1050 | 7P4 | 2P4 |
| 23 August 2021 | | 150 | 1050 | | 3P4 |
| 24 August 2021 | | 150 | 1050 | | 4P4 |
| 25 August 2021 | | 150 | 1050 | | 5P4 |
| 26 August 2021 | | 150 | 1050 | | 6P4 |
| 27 August 2021 | | 150 | 1050 | | 7P4 |
| 28 August 2021 | | 150 | 1050 | | |
| 29 August 2021 | | | 1050 | 1P5 | |
| 30 August 2021 | | | 1050 | 2P5 | |
| 31 August 2021 | | | 1050 | 3P5 | |
| 1 Sept 2021 | | | 1050 | 4P5 | |
| 2 Sept 2021 | | | 1050 | 5P5 | |
| 3 Sept 2021 | | | 1050 | 6P5 | 1P5 |
| 4 Sept 2021 | Phase 6 | 150 | 1050 | 7P5 | 2P5 |
| 5 Sept 2021 | | 150 | 1050 | | 3P5 |
| 6 Sept 2021 | | 150 | 1050 | | 4P5 |
| 7 Sept 2021 | | 150 | 1050 | | 5P5 |
| 8 Sept 2021 | | 150 | 1050 | | 6P5 |
| 9 Sept 2021 | | 150 | 1050 | | 7P5 |
| 10 Sept 2021 | | 150 | 1050 | | |

| | | | | | |
|---|---|---|---|---|---|
| 11 Sept 2021 | | | 1050 | 1P6 | |
| 12 Sept 2021 | | | 1050 | 2P6 | |
| 13 Sept 2021 | | | 1050 | 3P6 | |
| 14 Sept 2021 | | | 1050 | 4P6 | |
| 15 Sept 2021 | | | 1050 | 5P6 | |
| 16 Sept 2021 | | | 1050 | 6P6 | 1P6 |
| 17 Sept 2021 | Phase 7 | 150 | 1050 | 7P6 | 2P6 |
| 18 Sept 2021 | | 150 | 1050 | | 3P6 |
| 19 Sept 2021 | | 150 | 1050 | | 4P6 |
| 20 Sept 2021 | | 150 | 1050 | | 5P6 |
| 21 Sept 2021 | | 150 | 1050 | | 6P6 |
| 22 Sept 2021 | | 150 | 1050 | | 7P6 |
| 23 Sept 2021 | | 150 | 1050 | | |
| 24 Sept 2021 | | | 1050 | 1P7 | |
| 25 Sept 2021 | | | 1050 | 2P7 | |
| 26 Sept 2021 | | | 1050 | 3P7 | |
| 27 Sept 2021 | | | 1050 | 4P7 | |
| 28 Sept 2021 | | | 1050 | 5P7 | |
| 29 Sept 2021 | | | 900 | 6P7 | 1P7 |
| 30 Sept 2021 | | | 750 | 7P7 | 2P7 |
| 1 October 2021 | | | 600 | | 3P7 |
| 2 October 2021 | | | 450 | | 4P7 |
| 3 October 2021 | | | 300 | | 5P7 |
| 4 October 2021 | | | 150 | | 6P7 |
| 5 October 2021 | | | 0 | | 7P7 |

## Schedule of Halls for TechM

| Time\Day | Mon | Tues | Wed | Thurs | Fri | Sat | Sun |
|---|---|---|---|---|---|---|---|
| 8am -9am | LBS | BRH + Nehru | RP + SNVH | RK + BC Roy | MT+HJB+SAM | Patel + LLR | MS + VS |
| 9am -10am | MMM | RP + SNVH | Azad + Gokhale | MT+HJB+SAM | RLB+JCB+SNIG | MS + VS | LBS |
| 10am -11am | BRH + Nehru | Azad + Gokhale | RK + BC Roy | RLB+JCB+SNIG | Patel + LLR | LBS | MMM |

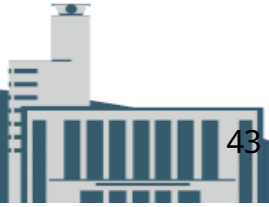


| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 11am -12noon | RP + SNVH | RK + BC Roy | MT+HJB+SAM | Patel + LLR | MS + VS | MMM | BRH + Nehru |
| 12noon - 1pm | Azad + Gokhale | MT+HJB+SAM | RLB+JCB+SNIG | MS + VS | LBS | BRH + Nehru | RP + SNVH |
| 1pm - 2pm | RK + BC Roy | RLB+JCB+SNIG | Patel + LLR | LBS | MMM | RP + SNVH | Azad + Gokhale |
| 2pm -3pm | MT+HJB+SAM | Patel + LLR | MS + VS | MMM | BRH + Nehru | Azad + Gokhale | RK + BC Roy |
| 3pm - 4pm | RLB+JCB+SNIG | MS + VS | LBS | BRH + Nehru | RP + SNVH | RK + BC Roy | MT+HJB+SAM |
| 4pm -5pm | Patel + LLR | LBS | MMM | RP + SNVH | Azad + Gokhale | MT+HJB+SAM | RLB+JCB+SNIG |
| 5pm -6pm | MS + VS | MMM | BRH + Nehru | Azad + Gokhale | RK + BC Roy | RLB+JCB+SNIG | Patel + LLR |

## Proposed curriculum for 1st year students, department-wise:

| Departments | Autumn Semester | | Spring semester | |
|---|---|---|---|---|
| | Compulsory | Optional | Compulsory | Optional |
| **Aerospace Engineering** | Math,EAA,English ET,Engineering laboratory,Science of living system,DIY Lab | Chemistry Chemistry Lab | Math, EAA, PDS, PDS Lab, Mechanics, Physics,Physics Lab, EVS, ED Lab | |
| **Agricultural and Food Engineering** | Math, EAA, PDS PDS Lab, Mechanics, Physics, Physics Lab, EVS | ED Lab | Math, EAA, English Engineering laboratory, Chemistry, Chemistry Lab, Science of living system, DIY Lab | ET |
| **Architecture and Regional Planning** | Math, EAA, English, Engineering laboratory, Science of living system, DIY Lab | ET, Chemistry, Chemistry Lab | Math, EAA, PDS,PDS Lab, Mechanics, Physics, Physics Lab, EVS, ED Lab | |
| **Biotechnology** | Math, EAA, PDS, PDS Lab, Physics, Physics Lab, EVS | Mechanics,ED Lab | Math, EAA, English, Engineering laboratory, Chemistry, Chemistry Lab, Science of living system | ET |
| **Chemical Engineering** | Math, EAA, PDS, PDS Lab, EVS, ED Lab | Mechanics, Physics, Physics Lab | Math, EAA, English, ET, Engineering laboratory, Chemistry | |

| | | | | |
|---|---|---|---|---|
| | | | Chemistry Lab, Science of living system | |
| **Civil Engineering** | Math, EAA, English, Engineering laboratory, Chemistry Lab, Science of living system | ET, Chemistry | Math, EAA, PDS, PDS Lab, Mechanics, Physics,Physics Lab, EVS, ED Lab | |
| **Computer Science and Engineering** | Math, EAA, PDS, PDS Lab, Mechanics, Physics, Physics Lab, EVS | ED Lab | Math, EAA, English, ET, Engineering laboratory, Chemistry Lab, Science of living system | Chemistry |
| **Electrical Engineering** | Math, EAA, English, ET, Engineering laboratory, Chemistry Lab Science of living system | Chemistry | Math, EAA,PDS, PDS Lab,Mechanics, Physics, Physics Lab, EVS,ED Lab | |
| **Physics** | Math, EAA, English, ET, Engineering laboratory, Chemistry Lab, Science of living system | Chemistry | Math, EAA, PDS, PDS Lab, Mechanics, Physics, Physics Lab, EVS, ED Lab | |
| **Ocean Engg and Naval Architecture** | Math, EAA, English, ET, Engineering laboratory, Chemistry, Chemistry Lab, Science of living system | | Math, EAA, PDS, PDS Lab, Mechanics, Physics, Physics Lab, EVS, ED Lab | |
| **Mining Engineering** | Math, EAA, PDS, PDS Lab, Physics, Physics Lab, EVS, ED Lab | Mechanics | Math, EAA, English, ET, Engineering laboratory, Chemistry, Chemistry Lab, Science of living system | |
| **Metallurgical and Materials Engineering** | Math, EAA, PDS, PDS Lab, Mechanics, Physics, Physics Lab, EVS, ED Lab | | Math, EAA, English, ET, Engineering laboratory, Chemistry, Chemistry Lab, Science of living system | |
| **Mechanical Engineering** | Math, EAA, English, ET, Engineering laboratory, Science of living system | Chemistry, Chemistry Lab | Math, EAA, PDS, PDS Lab, Mechanics, Physics, Physics Lab, EVS, ED Lab | |
| **Mathematics** | Math, EAA, English, | Chemistry | Math, EAA, PDS, PDS | |



| | | | | |
|---|---|---|---|---|
| | ET, Engineering laboratory, Science of living system | Chemistry Lab | Lab, Mechanics, Physics, Physics Lab, EVS, ED Lab | |
| **Industrial and Systems Engineering** | Math, EAA, English, ET, Engineering laboratory, Chemistry, Chemistry Lab, Science of living system | | Math, EAA, PDS, PDS Lab, Physics, Physics Lab, EVS, ED Lab | Mechanics |
| **Humanities and Social Science** | Math, EAA, PDS, PDS Lab, Mechanics, Physics, Physics Lab, EVS, ED Lab | | Math, EAA, English, Engineering laboratory, Chemistry, Chemistry Lab, Science of living system | ET |
| **Geology and Geophysics** | Math, EAA, PDS, PDS Lab, Mechanics, Physics, Physics Lab, EVS, ED Lab | | Math, EAA, English, Engineering laboratory, Chemistry, Chemistry Lab, Science of living system | ET |
| **Electronics and Electrical Communication Engg.** | Math, EAA, Mechanics, Physics, Physics Lab, EVS, ED Lab | | Math, EAA, English, ET, Engineering laboratory, Chemistry, Chemistry Lab, Science of living system | Chemical laboratory, Chemistry |

## Cost Analysis

Link to Thorough Cost Analysis with detailed explanation:
https://docs.google.com/spreadsheets/d/1CPo4IIIABgnuNTQk1q_9lzSbUEXPnOvpkBelyDALfu8/edit?usp=sharing

| | | | | No. of Staffs | Total Cost | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **Phases** | **Number of students called** | **No. of Regular Mess Workers in Shift** | **No. of mess workers (Delivery) +Cleaning Staffs +Quarantine Staffs** | Professor | Student | Staffs | Mess workers | **Total Cost (Cost per head = 600)** |
| **Testing** | Phase 1 | 700 | 100 | 100+ 200+ 42 | 60000 | 378000 | 205200 | 60000 | 703200 |
| | Phase 2 | 1050 | 200 | 150+ 200+ 42 | 0 | 567000 | 235200 | 120000 | 922200 |
| | Phase 3 | 1050 | 250 | 200+ 200+ 42 | 0 | 567000 | 265200 | 150000 | 982200 |
| | Phase 4 | 1050 | 250 | 200+ 200+ 42 | 0 | 567000 | 265200 | 150000 | 982200 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Phase 5 | 1050 | 250 | 50+ 50+ 10 | 0 | 567000 | 66000 | 150000 | 783000 |
| | Phase 6 | 1050 | 250 | 50+ 50+ 10 | 0 | 567000 | 66000 | 150000 | 783000 |
| | Phase 7 | 1050 | 250 | 50+ 50+ 10 | 0 | 567000 | 66000 | 150000 | 783000 |
| | **Sub Total for Testing** | 7000 | | | 60000 | 3780000 | | 930000 | 5235600 |

## Mailing

Response of mail from Prof. Suman Chakraborty
Link:- https://drive.google.com/file/d/1TBpHFIt-VbvetS7nqNCtdzy5xsbAa1lU/view?usp=sharing

## Answers References

| Topics | Corresponding questions no. answered |
|---|---|
| **Calling of students and quarantine** | Que 2,Que 22,Que 21 |
| **Rules and regulation** | Que 1,Que 4,Que 6,Que 7,Que 8,Que 9,Que 16,Que 21, |
| **Punishments for Violation** | Que 11 |
| **Academic operation** | Que 1,Que 4,Que 10,Que 19 |
| **Operations of Mess** | Que 14 |
| **Sports Operations** | Que 5,Que 15,Que 17 |
| **Sanitation Operations** | Que 5 |
| **Other Schools/Buildings, Tech-M and Outside hall eateries** | Que 13,Que 15 |
| **Vaccination of staff** | Que 12 |
| **COVID19 Testing** | Que 3 |
| **Action plan for sudden covid breakout** | Que 23 |

| | |
|---|---|
| Changes in Curriculum | Que 20 |
| Latest Innovation | Que 18 |
| Overall Management Team | Que 24 |

## Bibliography


a. **Covid Dashboard of different Universities:-**

- **PURDUE UNIVERSITY -** https://protect.purdue.edu/dashboard/#:~:text=To%20prevent%20a%20possible%20influx,access%20by%20the%20Protect%20Purdue
- **HARVARD UNIVERSITY -** https://www.harvard.edu/coronavirus/testing-tracing/harvard-university-wide-covid-19-testing-dashboard/
- **MASSACHUSETTS INSTITUTE OF TECHNOLOGY** https://covidapps.mit.edu/dashboard
- **CAMBRIDGE UNIVERSITY -** https://www.cam.ac.uk/coronavirus/stay-safe-cambridge-uni/data-from-covid-19-testing-service

b. **CUBICLE DINING ARRANGEMENT**
https://www.thestar.com.my/opinion/columnists/colours-of-china/2020/02/24/solo-dining-and-no-talking-please

c. **AAROGYA SETU GITHUB LINK -**
https://github.com/nic-delhi/AarogyaSetu_Android

d. **Research Paper and simulation link**
https://www.medrxiv.org/content/10.1101/2020.06.23.20138677v3
https://epimodel.shinyapps.io/covid-university/


## References


Self-assessment form (template)