

# Impact of COVID-19 on Higher Education: Challenges, Opportunities, Efforts Made and the Way Forward

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## Challenges posed by the pandemic to Educational institutes

- How to impart knowledge without compromise, when there is no tested and well established treatment or vaccine for the highly contagious COVID-19 virus?
- How to complete courses which have been covered midway in an ideal environment.
- Do the faculty members and students have the resources and aptitude for online teaching / learning?
- How to ensure that the faculty members and students are in good physical and mental health for teaching / learning online?
- How to plan for the future without waiting for normalcy to occur?



## Opportunities offered by the pandemic situation

- Learn how to engage students when they are off class room and off campus? e.g., say, in vacation period!
- Availability of mobile data is quite common among students now due to affordable cost. While it is mostly used for social media links, can the same be used for teaching/learning?
- Though skype, Whatsapp and Youtube are commonly used for entertainment, can they be fully adapted for teaching/learning?
- Can other teaching tools / methodologies be adopted / developed for online teaching & evaluation (extension of CBE – JEE, NEET,,,)?
- Teaching has evolved over the years from board-and-chalk mode. Can we evolve further, by adapting to online teaching & learning?



## Efforts made in the last few months

- UGC & MHRD have advised engaging students using online modes.
- Online teaching modes for lecture based courses:
  - (1) Synchronous: Real time video lectures (with audio)
    - (a) By teacher using video conferencing s/w such as MS Teams, Google Meet, Zoom, Google Classroom, Moodle, etc.
    - (b) Web based online courses (say, MOOCs)  
**Interactive + BB effect; Good & continuous network + inflexible**
  - (2) Asynchronous: Recorded lectures (video with embedded audio)
    - (a) By teacher using power point with embedded voice, ppt video uploaded in Youtube, etc.
    - (b) Offline web courses (NPTEL), Youtube, Wiki,..  
**Offline + flexible timing & network; Non interactive+ only email**
- **Lab based courses**: By simulation, Youtube demo videos, **virtual lab**.



## Efforts made (continued)

- On-going course evaluation: (a) Based on performance till mid term  
(b) Performance till mid term + Assign.  
(c) Mid term + online evaluation
- Online evaluation modes:
  - (1) Synchronous: (a) Time bound open book exam (MS Form, Google class room, etc.  
(b) Online video conferencing based viva voce  
**Supervised class room like; Bandwidth & connectivity issues**
  - (2) Asynchronous: (a) Open book take home time exam with large time period (24h / 48 h)  
(b) Assignments, mini project, term paper, etc.  
**Offline + no connectivity issue; No supervision, erroneous eval.**
  - (3) Hybrid: Limited time exam with qp via email and response by MS Form with stipulated time. **Less trade offs than others**



## Assessment of Efforts Made

- **Pan-IIT Faculty survey (May 2020, sample size of 840) revealed:**
  - 74% teachers taught online for the first time.
  - 88% faculty had high to medium preparedness
  - 75% faculty felt 2GB/day data is sufficient.
  - 40% faculty felt 5Mbps data speed is needed.
  - 52% used Zoom/GM/MSTeam, 25% used skype/YTLive/WA/FB, 25% sent hand written notes by email/WA....
  - Doubt clarifications by email (43%), live (40%), disc. gp (48%)
  - Major Pros: Any time, any place, self paced learning
  - Major Cons: Lack of interaction, cannot see non verbal cues
  - Majority of students prefer combination of modes, require flexibility in timing, had no issues with internet speeds.
- **Only 6% of students complained of network issues. No preferred mode/tool for faculty. Need to improve interaction! Faculty had no serious complaint (though they found it more time consuming!).**



## The Way Forward

- It is now clear that it would take long time for normalcy to occur and so online teaching and online evaluation have to continue and evolve. So, let us be better prepared for the task this time!
- Decide which courses are to be taught online for the next semester (Lab courses in science/engg. subjects will be challenging due to limited resources. May postpone lab courses for next year!).
- Let the teacher choose his/her teaching mode. Better to use sample s/w or app for the same batch of students. Ensure good interaction with students through voice call or Whatsapp or email.
- Students prefer assignments, projects, term papers for internal assessment. May also conduct viva voce / limited time exam.
- Please believe in yourself that you can do this! All of us are facing the same situation! We can help each other with our experiences!



# Thank you for your attention!

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