

Standard Operating Procedure (SOP)
PhD Admission Online Exam using Remote Monitoring
Department of Aerospace Engineering, IIT Bombay

General Instructions:

1. You are not permitted to get up from your seat, go to washroom, etc. during the examination.
2. You require a laptop with webcam (or a desktop with a webcam and microphone) and smartphone. If you do not have a laptop/computer, use another smartphone with camera. Both the devices should be connected to internet. Both devices should have sufficient charge (or UPS) to run for at least 2.5 hours without regular power supply and sufficient disk space to store recording as mentioned below.
3. The primary smartphone will be used for the SAFE App on which the exam is to be conducted. The computer (or smartphone #2) will be used for proctoring.
4. The computer (or smartphone #2) must have (a) webcam application (b) screen recording application (c) video conferencing application installed.
5. Recommended screen capture application for laptop computer:
 - On all platforms: [Screen Recorder Chrome Extension](#) should be first preference.
 - Alternate options for screen recorder applications:
 1. Linux:
 - 1 use the Cheese app (preinstalled on Ubuntu).
 - 2 Kazam
 - 3 Recordmydesktop (Make sure it can record audio also)
 2. Windows:
 - 1 Screen Recorder Pro.
 3. Mac:
 - 1 QuickTime Player.

Test the screen recorder you install and your system by recording your screen along with microphone audio for 2.5 hours and save the file. This trial is to ensure that you do not lose the recording during the exam. You will be asked to upload the recording if you qualify for the interviews.

6. Keep your Government-issued ID Card handy to record your identity at the time of taking the examination. This will be used to verify your identity.
7. Keep sufficient number of blank papers for rough work while writing your examination.
8. Find a convenient place to take the exam (place should be well lit, be quiet, nobody should be moving around in background, etc.)
9. Keep pen, paper, calculator, water-bottle, etc. on your table within easy reach. All of these items and your hands should be visible from the laptop webcam. *(For this, you should be seated at sufficient distance away from the laptop)*
10. You should not approach the laptop computer or do anything on it after the start of the recording until the end of the exam.
11. SAFE App should be downloaded and installed on the primary smartphone. SAFE can be downloaded from [Google Play Store](#) or [Apple Store](#). The exam will be conducted using SAFE. More instructions about the app and the procedure have been provided in the instructions document.

Full-View Proctoring Instructions before Start of Exam:

1. Laptop computer should be connected to internet and kept at a suitable distance from you. It should be facing you so that your face, hands, answer papers and smartphone are visible. Part of surrounding area near you should be also seen on camera.
[Another smartphone can be used in place of laptop computer with above setup. In this case, activate the screen recorder application which is available on both, android and iOS, by default.]
2. Make sure that the time on your laptop computer is correct, and that it is shown somewhere on the screen. The screen recorder software would then also record the time shown on the screen.
3. Start the screen recording application on the laptop.
4. Connect the laptop computer to the meeting link sent by the Aerospace Department on the day of the exam. Laptop computer's camera should be ON. Your video should be shown in *nearly full-screen size*. No other application or tab should be open on the computer (or smartphone #2)
5. Switch off incoming video on webconferencing software to preserve bandwidth.
6. Turn the volume of your laptop speaker to low. Make sure that your laptop/computer microphone is not accidentally muted. Microphone must remain active for the entire duration of the exam.
7. The screen recording application will automatically record your video being displayed on your screen.
8. In case of any internet disruption, immediately turn on the laptop's web cam application to show your video on the screen. DO NOT turn of your screen recorder in any scenario.

Full-View Proctoring Instructions at Start of Exam:

1. After sitting down at the place from where the exam will be taken, login on your smartphone using SAFE app. Connect to the page name shared with you. The registration code will also be provided in advance.
2. SAFE may ask to take a selfie. Take a photo that clearly shows your face.
3. From your seat, show your Government-issued ID card to the laptop webcam running the meeting. Next, show the screen of your smartphone running SAFE app to the laptop webcam.
4. The exam will start at the specified time. You are allowed to use blank papers for rough calculations.
5. You will need to select the correct options on the SAFE App itself.
6. NOTE THAT ALL THIS SHOULD BE DONE IN ONE SESSION WHILE SITTING. No breaks are allowed for any reason, and getting up from your seat or leaving the exam location may be construed as indulging in unfair practice.
7. You are also not allowed to stand up from the spot and leave the meeting and/or turn off screen recording and webcam before the prescribed exam time is over, even if you submit your answers on the SAFE App before time.

Full-View Proctoring Instructions after Submission of Exam Paper:

1. End recording of screen on your laptop computer. Save the recording video file on your hard disk.
2. Upload the video file to the google form that will be provided to you if you qualify for the interview round

Disruption of Internet during Full-View Proctoring Exam:

1. Immediately turn on your webcam app and get it to display your video if your video feed stops in the video conferencing application.
2. The recording of the screen on your laptop computer with your video feed will permit us to review the entire exam session after you have uploaded it. The file can be uploaded after the internet has been restored.
3. Don't worry if there is disruption of internet on your smartphone while submitting the answer paper. The answer sheets (photographs) taken using SAFE will be locally stored and then uploaded on the server as and when internet is re-established. Even if that happens after the end of exam time, as long as the paper was submitted using SAFE within time, the paper will be counted as submitted on time.
4. If the SAFE app shuts down expectedly, just open it again and resume the exam from where you left.