



Ref No 2022/04

Dated: 02/5/2022

**Fourth Circular**  
**22<sup>nd</sup> Asian Physics Olympiad, Dehradun, India (23<sup>rd</sup> May 2022 to 31<sup>st</sup> May 2022)**

Dear Colleagues

On behalf of the organizing committee of the 22<sup>nd</sup> Asian Physics Olympiad, we hope this letter finds you well. This circular provides examination protocols that need to be followed for the smooth conduct of the remote examination. It is also assumed that all the students will be assembled in one place in their country. This is a long document. Please read it carefully.

APhO 2022 competition will consist of two examinations:

**1 Theory exam on 25<sup>th</sup> May (12:00 IST - 17:00 IST)** - For this, question paper and blank answer sheets are to be printed in the exam room and distributed to the students.

**1 Experiment exam on 27<sup>th</sup> May (12:00 IST - 17:00 IST)** - For this, question paper and the blank answer sheets are to be printed in the exam room and distributed to the students. Students will also need a Windows OS PC/laptop to access a part of the question on the screen.

**This document has 4 sections:**

- A. Mock Session for the leaders
- B. Exam room requirements
- C. Mock session for the students and the supervisors
- D. Exam day Protocols

**A. Mock Session for the leaders**

We will use APhOrum portal to communicate with the participating teams during the jury meetings. This is based on ExamTools (Oly Exams Team) which has been used widely in the recently conducted olympiad events. APhOrum is accessible at <http://aphorum.in>.

There will be a mock session of APhOrum for the Leaders and Observers via Zoom meeting at **11:00 IST, 21 May 2022**. There will be three categories of login credentials for each country - leaders, observers and supervisors. **Leaders** shall use this platform to communicate with the host country during the Jury meetings, voting, discussion, arbitration, sharing of the results, etc. **Observers** can only access the downloading of question papers and answer sheets for translation. **Supervisors** will have access to the APhOrum to download and print the question paper for the exam, and then scan and upload the answer scripts post-exam. For the supervisors and the students, a separate mock session is scheduled on May 22, 2022 (Refer Sec. C).



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In the mock session, the following topics will be discussed:

- How to access APHOrum for the jury discussion, translation, voting, access marks, and the arbitration.
- How to download the question (both the official English version and the translated version) and answer sheets.
- How to use HireMee for the experiment exam.

The zoom links and both the login credentials for APHOrum will be shared via email separately with the leaders, observers and the supervisors on their registered email IDs prior to the mock meetings. Leaders and observers should be able to log in to APHOrum on May 18 using these credentials. You are requested to explore the portal before the mock session. Instruction manuals on how to use this software can be found from May 18 at <https://aphorum.in/docs>. Team leaders and supervisors should thoroughly read the manuals.

Before entering the zoom room, you should rename yourself as Country\_Leader1, Country\_Leader2, Country\_supervisor1, Country\_supervisor2. For example, Japan\_Leader1, PRC\_Leader1. Designated abbreviation for the country names will be communicated in a later circular. For renaming in Zoom, go to the Participant list -> right click next to your name and select 'Rename'.

## B. Exam room requirement

- 1) The location should have:
  - One PC for the supervisors
  - For the experiment exam, One Windows OS PC/laptop per student. Note that for the theory exam students will not need a PC/laptops.
  - A couple of smartphones with Zoom application or Web cameras for surveillance. PC-built-in camera can be used for the surveillance as long as it is not on the student's worktable.
  - Microphone (PC-built-in microphone can be used)
  - High-quality **Color** printer
  - Scanner with PDF-conversion software
  - Stable internet connection.
  - In case your students are using laptops, you are advised to keep a standby mouse.
- 2) All students (whole-body) and their activities need to be recorded. The APHO Organizer will send the individual Zoom meeting links to supervisors. Supervisors should click on the link at the 10:00 IST on the day of the examination. The recording in the host's cloud will start automatically. All devices must have a stable internet connection and the data-transfer rate must be greater than 2 Mbps.
- 3) All surveillance will be done over Zoom meetings. You should have an adequate number of cameras such that each student's face, hands, and the table of the student is covered for the online recording. Additionally, one camera is needed to show the entire examination room preferably showing the students from the back. While log-in through these cameras over Zoom,



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please rename each camera as Countrycode\_camera1, Countrycode\_camera2, etc. For renaming in Zoom, go to the Participant list -> right click next to Your Name and select Rename. In case of use of phones for online recording, ensure that the incoming calls of two phones are disabled as calls may create issues in the live transmission of video.

- 4) The examination location should be a calm and quiet room. The students must maintain an appropriate distance from each other in the examination room. Audio and Videos of the students must be recorded from the beginning to the end of the examination. Do not mute audio. To maintain the examination room calm, the speaker volume can be minimized. Audio is to be muted only if specified by the organizer during the inspection.
- 5) In cases where the printing and/or scanning equipment is in another room, a camera will have to be installed there as well to monitor the printing and scanning without interruptions. The resolution of Cameras must be not less than 720p (and 1080p is much more preferable). The frame rate must be between 25 – 30 frames per second.
- 6) We also recommend having an offline recording from the back of the room (as a backup), in case of some malfunction in the online surveillance. This is purely voluntary.
- 7) Please, make sure all computers and other devices are fully charged and well connected to the internet and plugged in to avoid interruptions. It is strongly recommended that recording, printing, scanning, and uploading files are tested before the examination.
- 8) For the experimental task, a part of the question will be on a proctored exam software (**HireMee**) using a computer screen, and part in a printed form. Hence students would need access to a Windows OS-based PC/laptop with Hiremee software installed on it. Supervisors will also need a PC for printing the question paper and the blank answer sheet for the Experimental Exam. If you are unable to arrange an extra PC for printing, the student's PC may be used by the supervisors before the exam for printing and after the exam for scanning.
- 9) During the experimental exam, the back camera should show the student's screens, use multiple cameras if necessary.

### C. Mock session for the students and the supervisors

There will be a mock session for the students to familiarize themselves with the exam settings. Supervisors are requested to keep the exam room ready during the mock session on Zoom at 10:00 IST, 22nd May 2022. All students must be assembled in the exam room for the mock.

The following will be sent to the supervisors on May 18:

- login IDs for the supervisors to download question papers and answer scripts from [aphorum.in](http://aphorum.in)
- a link to download the executable file of HireMee.
- student's codes.
- Zoom meeting link.

Before the mock, supervisors must install the HireMee software on students' PCs. In case of any issues, get in touch with the technical team at [apho.2022.tech@gmail.com](mailto:apho.2022.tech@gmail.com), and resolve them before



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the mock session. They may also share the file with the students to make themselves familiar with HireMee before the exam. No delay in the examination time would be entertained due to any technical reason. In this session, the following topics will be discussed:

- How to access Hiremee
- How to download the question from APhOrum (both the official English version and the translated version), and answer sheets.
- How to upload the scanned answer sheets on APhOrum.

Note that the theoretical exam will be conducted without HireMee. Supervisors will just print the question papers and answer sheets, and scan and upload the scripts.

#### D. Exam day Protocols

1. Zoom room opens at 10:00 IST on both days – Theory (25<sup>th</sup> May 2022) & Experimental (27<sup>th</sup> May 2022). Renaming of the camera is suggested in Sec. B(3).
2. Supervisors will be able to access question and answer sheets (both the translated and the official English version) in Aphorum at 10:00 IST. They must complete the downloading and printing of question and answer sheets (A4 format) for each student before students enter the exam room at 11:45 IST. The question and answer sheets must be printed clearly on only one side (the back must be blank). Note that in each exam, you will have to print approximately 25 pages (one side only) per student. **Students must not write anything on the blank back side.**
3. After the Zoom connection is established, the organizer will inspect the examination room - names of supervisors and students, the face of students, the position of the camera for recording, the distance between students, the calculator, etc. After entering the room, each student must show her/his ID cards with their faces, in front of any one of the cameras.
4. Students should be in the exam room fifteen minutes before starting their examination (11:45 IST). Students should leave all personal belongings outside of the examination room. The only things allowed on their worktable are stationary (pen, pencil, eraser, ruler), a non-programmable scientific electronic calculator and water or snacks. This rule applies to both - Theoretical exam (May 25<sup>th</sup>) as well as Experimental exam (May 27<sup>th</sup>). Students must use only those calculators which are supplied by the organizers.
5. For the Theory exam on May 25, there shall not be any PC/laptop on the student's table. For the Experimental exam on May 27, students will have a Windows PC/Laptop with HireMee installed on it.
6. Supervisors should also ensure that all tasks like printing, inspection by organizers, etc are done before 11:45 IST. No extra time would be given if the supervisors fail to do so. The exam strictly starts at 12:00 IST. After 11:45 IST, no one except for students and the two supervisors are allowed in the exam room. Both the translated and the English version of the question papers may be given to the students.
7. Supervisors should clearly announce the examination timetable to the students before the



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- examination. Supervisors must not allow the students to open the booklet of problems before the examination starts. At least 5 min before the starting time, supervisors allow the students to read the General Instruction on the first page. At the exact starting time registered, supervisors have to instruct the students to start the examination.
8. Students are not supposed to ask questions during the exam. Supervisors are not to speak with students other than to issue the instructions to begin and end the examination. Students may request a break for the bathroom, water, and snacks.
  9. Students will not be allowed to exchange PC/laptop or any other material during the exam.
  10. The details of the examination (printing time, starting time, ending time, scanning time, and times and length of bathroom breaks) must be recorded by supervisors and reported on an excel sheet to the organizers at [apho.2022.tech@gmail.com](mailto:apho.2022.tech@gmail.com). A sample sheet will be provided before the exam.
  11. Supervisors announce the warning 30 min before the end time (4 hours and 30 min after the start time). They should instruct the students to stop the examination 5 hours after the start time. All students have to stop working.
  12. After the examination, supervisors collect all answer sheets and scan them to prepare one PDF file per problem and per student. The PDF files for each student are submitted to the organizer using Aphorum within 2 hours after the end of the examination. While scanning, only the front side of the answer sheets is to be scanned. The back side need not be scanned.
  13. The answer sheets must be scanned clearly and properly. Even blank answer sheets must be uploaded. All processes must be confidential, and the supervisor must keep the students away from the answer sheets after the examination. During this, students are to be seated at the same place without talking to each other.

### Time Table

Please note all timings are in IST (UTC+5:30)

	Date	EVENT	REMARKS
1	22.3.2022 to 29.4.2022	Formal Registration	Form to be filled in <a href="http://www.apho2022.in">www.apho2022.in</a>
2	18.5.2022	Shared on email with the leaders/observers/supervisors <ul style="list-style-type: none"> <li>● Login IDs for APhOrum</li> <li>● Zoom meeting ID for mock sessions</li> <li>● Student's code</li> <li>● HireMee Software download link</li> </ul>	The link for <a href="#">APhOrum</a> opens at 14:00
3	21.5.2022	Mock run over <i>APhOrum</i> for Leaders & Observers	Zoom meeting to simulate the actual process. Meeting starts 11.00



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4	22.5.2022	Mock exam run for students & supervisors	Starting at 10:00
5	23.5.2022	Opening Ceremony	Virtual ceremony over Zoom 15:00 to 17:00
6	24.5.2022	Jury meeting for Theory Examination	(i) Zoom room opens 10.30
			(ii) Meeting starts and question paper presentation 11:00
			(iii) Comments window 12:00 to 15:00
			(iv) Translation window 11:00 + 15 HRS
			(v) Host Country looks at the comments and uploads second version of the question paper 17:00
			(vi) Second jury meeting to finalise Question Paper(voting if needed) 17:00 to 19:00
			(vii) Final version uploaded on 20:00
7	25.5.2022	Theoretical Examination	(i) Zoom room opens for printing 10:00
			(ii) Exam time 12:00 to 17:00
			(iii) Uploading Answer Scripts ends 20:00
8	26.5.2022	Jury meeting for Experiment Examination	(i) Zoom room opens 10.00
			(ii) Meeting starts and question paper presentation 11:00
			(iii) Comments window 12:00 to 15:00
			(iv) Translation window 11:00 + 15 HRS



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			(v) Host Country looks at the comments and uploads second version of the question paper 17:00
			(vi) Second jury meeting to finalise Question Paper (Voting if needed) 17:00 to 19:00
			(vii) Final version uploaded on 20:00
9	27.5.2022	Experimental Examination	(i) Zoom room opens 10:00
			(ii) Exam time 12:00 to 17:00
			(iii) Uploading Answer Scripts ends 20:00
10	28.5.2022	Uploading Leaders' and evaluators' marks for Theoretical Examination	Latest by 10:00
11	29.5.2022	Uploading Leaders' and evaluators' marks for Experimental Examination	Latest by 13:00
12	30.5.2022	Moderation over Zoom	Zoom meeting starts 8.00. Details to be given during the Event
13	31.5.2022	Jury meeting for deciding awards etc.	10:00
14	31.5.2022	Closing Ceremony	15:00 to 17:00



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