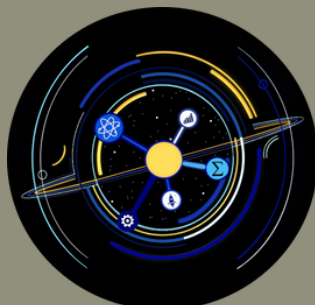




# SCIENCE COGNOPOLIS STUDY GUIDE



Science Cognopolis is the compulsory science category in which delegates will be tested on their scientific knowledge and application. Delegates should have thorough knowledge of their O and A level syllabus, along with major topics in each subject of science.

Additional Topics delegates should review:

Physics:

1. Quantum Mechanics
2. Nuclear Physics

Biology:

1. Genetic Engineering
2. Microbiology
3. Immunology

Chemistry:

1. Physical Chemistry
2. Organic Chemistry
3. Inorganic Chemistry

### **General Guidelines/rules:**

#### **Round 1:**

- Please arrive on time, extra time will not be given to delegates who come late.
- 20 minutes will be provided in Round 1 to complete one scenario. Please hand the paper used to a logistics member who will come to your table and provide you with a new fresh piece of paper for Scenario 2.
- You are not allowed to use the internet, ChatGPT, or Google.

- Please make sure that you have written your school and team name at the top of each paper you get. Inability to do so will lead to immediate disqualification.
- Delegates caught cheating will be disqualified.
- Scenarios will be printed on the paper given to you.
- You have to provide a solution for all scenarios – you may not advance to the next round if even one scenario is missing.

### **Round 2:**

- Phones or any external assistance devices are strictly prohibited inside the challenge rooms. Teams must rely solely on their knowledge and teamwork.
- Each team will be allocated a maximum of 10 minutes per room to solve the puzzle presented.
- Teams must not manipulate or alter any physical elements in the room, such as equipment or fixtures.
- Teams will have the option to request a maximum of three hints throughout the challenge. However, each hint used will add an additional 15 seconds to their room completion time.
- Teams must wait for a signal or announcement before transitioning from one room to the next. No team should proceed without the official signal.
- Teams are expected to treat the challenge rooms with respect, ensuring cleanliness and orderliness during their participation.
- Recording or photographing the challenge rooms during the competition is prohibited.
- The heads' decision regarding timing, hints, or any disputes related to the challenge are final and binding.

### Round 3:

- Delegates must be present in the waiting room at least 10 minutes prior to the start of the category (to make the round walk through easier).
- Delegates will not be required to bring any sort of devices in this round.
- If any delegates are found using phones/devices or seeking help or cheating with other teams, they will be eliminated immediately.
- Delegates must decide which team member will participate in each of the mini buzzer rounds (ideally before the category starts).
- Delegates who misbehave or do not abide by these rules will be immediately disqualified
- Any technical errors with buzzers must be brought to light before the round starts (during testing), delegates will not be accommodated later on.
- Delegates must wait until the question has been announced before pressing the buzzer.
- Whichever delegate presses the buzzer first will be given the chance to answer, if unable to answer correctly then the other teams will be given a try.
- If no team gets an answer correct, then the question will be discarded and a different question will be announced in its place.
- If a delegate interrupts another team as they try to answer, they will not be allowed to buzz in for the following question.
- If a delegate presses the buzzer before the question is read out, the question will not be completed and they will have to answer.

- Failure to answer correctly will not be negatively marked, however, it will provide the other teams with a chance to answer the question.
- If a delegate answers the question without using a buzzer or blurts out the answer, they will be penalised (points will be deducted).
- Only 1 delegate from each team can take part in each of the 5 rounds, team members will therefore alternate for each round (team members cannot help each other when the buzzer round is taking place, if they do then they may be disqualified).

### **Round 1: Scenarios**

Delegate limit: 3

Duration: 2 hours

Round description: In this round, delegates will be presented with multiple nerve-wracking, palpitation-inducing scenarios that will make you question your existence in just a few minutes. You need to come up with the best possible solutions on the spot. Each scenario will also be timed. Delegates who have given the best solutions (that is, if they make sense) for all scenarios in the given time will advance to the next round.

This is an elimination round. 60% of the teams will be eliminated.

### **Round 2: Puzzle and Game Round**

Delegate limit: 3

Duration: (25 minutes total: Ranges from 1–2 minutes per room to 10 minutes)

Round description: In this round, teams will take turns moving through a series of rooms, each presenting increasingly challenging science-based puzzles. Successfully solving the challenge in one room will allow the team to progress to the next room, where they will face an even more challenging puzzle. The primary goal is to swiftly solve these challenges within each room, aiming for the shortest completion time. Each room will impose a time limit, varying from 2–3 minutes to 10 minutes based on difficulty. Correctly answering bonus questions grants teams an advantage, while requesting hints adds extra time. This will be an elimination round, where teams that successfully navigate all rooms in the shortest overall time will proceed to the next round. Victory isn't solely dependent on scientific knowledge but also your strategic planning, effective communication, and decisive decision-making.

This will be an elimination round.

Logistics Requirements: Pens, Paper, Board Marker (depends on final challenges presented) Tentatively, prisms, mirrors, microscope

### **Round 3: Jeopardy Game**

Delegate limit: 3–5

Duration: 1 to 2 hours

Round description: In this jeopardy inspired round, delegates will get to undertake a purely scientific trivia with multiple twists. All the questions in the round will revolve around the

main fields of science; pertaining to Biology, Physics, and Chemistry. The teams of delegates who qualify to the final round will all be paired up against each other in a game of (scientific) jeopardy, where they will have to answer a series of questions which are formatted as questions (just like in a traditional game of Jeopardy). The questions will get progressively harder with each question and so will the points each team scores (if they answer correctly that is). For answering a question, each team will nominate 1 delegate each to answer every question and these single delegates (from each of the remaining teams) will take part in an intense and fast paced buzzer round. They will have to answer a series of questions (in this buzzer round) with 10 minute slots (for each alternation of team members). Alternating between the team members (3-4 per team - as specified in category details above). This round will have points formatted in the jeopardy inspired trivia board which will vary from 200 point questions to 1000 point ones. A total of 5 rounds (with varying points and difficulties) will be conducted and each of these will be of 10 minutes. The marks for this round will be combined with those of the previous ones to determine the winner of the category overall.

*Disclaimer: All the rules mentioned above are preliminary and may be subject to change at the day of the event. The decision of heads is final.*

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