

ON THE ETCH

EVENT OBJECTIVE:

On the Etch is an event which provides a platform for the students who are passionate about metallurgy and materials science to present their metallographic skills. Not only metallographic skills but also the practical thinking and logical reasoning ability of the participants will be tested in the competition.

The main objectives are as follows:

1. To test the metallographic skills of students for sample preparation.
2. To test the logical reasoning ability of students by observation of microstructures of metals and alloys.
3. To make students explore more about the metallic parts used in day to day life and in industry at large scale and to explore their microstructural features by thinking broader at “Micro” level.

EVENT STRUCTURE:

Round 1: It is a metallographic quiz which comprises of 40% weightage of total evaluation.

Round 2: This round consists of making and presentation of microstructure of the sample followed by small question answer session with judges. This round comprises of 60% weightage of total evaluation.

RULES:

1. Display of Microphotograph (captured on Optical microscope/SEM/TEM) during presentation is mandatory. Participants failing to produce the microphotograph may be disqualified.
2. Fake micrographs will lead to the disqualification of the team.
3. The sample must strictly be prepared by the participants.
4. The sample selected for microstructural observation should be mounted by either hot or cold mounting method. Both, cross section (Radial in case of a cylindrical specimen) and longitudinal section of the same sample must be mounted together. Only longitudinal section of the sample will be accepted if the sample has very thin diameter i.e. less than 5 mm.
5. The microphotograph captured on either Optical Microscope OR Scanning Electron Microscope(SEM) OR Transmission Electron microscope(TEM) is expected to be presented with following mandatory specifications:
 - i) The magnification or scale must be burnt into the micrograph.

ii) The size of the printed microphotograph must be 200mm*250 mm or A4 size.

iii) The composition of the sample is to be presented along with the micrograph.

If participants are unable to know the composition of their specimen sampled from an unknown component, they can refer the available research papers and literature regarding the component. If still they are unable to solve the problem, they are free to contact the event heads.

iv) The typical features (advantages, disadvantages etc.) of the concerned microstructure.

v) Typical applications of the components having the concerned microstructure in industry.

vi) A 1 or 2 page hand-out comprising of summary of the specimen preparation to introduce it to judges in least possible words.

vii) The mount comprising of the sample whose micrograph is captured.

6. Participants are expected to prepare a sample of any failed industrial component or any other metallic spare part which is readily available and free of cost. The metal objects which are generally used by us in day to day life will also be accepted. Ferrous alloys will be preferred for sampling. This change has specifically been made in the competition to develop practical approach towards sampling of specimens.

7. To give more clarification regarding the points '5.iii' and '5.iv', **a small session will be conducted few days prior to the event** which will help participants to apply the theoretical concepts about different microstructures in revealing the microstructures of the components used in practice. Date, timings and more details about the session will be informed afterwards to the registered participants.

8. Micrographs are not allowed to be captured on the day of the event.

9. Presentation of photographs on laptops is not allowed. Only printed micrographs are allowed to present before the Judges.

10. Participants should carry their college ID cards as a proof for identity on the day of the event along with the receipt of registration.

11. Decision made by the judges and organizers will be final and binding for all the participant teams in case of any tie.

12. Rules may be changed without prior intimation. Participants are expected to check the MindSpark website (www.mind-spark.org) for the updates. In case of any small query or doubt, feel free to ask the event heads.

TEAM AND FEES STRUCTURE:

Team size : Maximum 2 participants are allowed.
Participation Fee : ₹ 50/- per team.

FAQs:

Q. Who can participate in this event?

A. Anyone who is keen on testing their metallographic knowledge and wants to demonstrate their skills regarding the same are welcome to participate.

Q. Can I participate in other events of MindSpark'16?

A. You are free to participate in as many events as you wish. However, you have to manage your own schedule.

Q. Do team members have to be from the same college?

A. No, team members can be from any year, any branch and any institution. However, one person cannot be a part of 2 teams for the same event.

Q. I don't know how to make a microstructure or use any microscope. Can I still participate?

A. Yes, you can participate. Event organizers will take a small workshop about it and the time and venue will be communicated by the organizers.

EVENT HEADS:

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