**Problem Statement-4**

**Title of the Problem Statement**:Development of Exploration Methodology for unexplored deeper seams below working coal mines**.**

**Issues:**

Multiple seam working of Under Ground (UG) Coal mining are very prominent in various coal fields especially, BCCL & ECL areas. Some of these mine workings are even dated back to pre-independent era, where in lack of accurate survey/mine plans pose serious problem for planning future mining operations of deeper seams. During course of time, most of the mines have been abandoned which may have potential coal resources. However, with the recent initiative of Govt. of India to extract the potential coal seams, these abandoned UG mines are being allotted to various bidders**.**

For Exploration of coal seams below the abandoned/working mines, following critical challenges need to be addressed:

1. Issues like Drilling through underground galleries (Working and Abandoned), Goaf area, underground water logged area, Gas emissions, fire in Coal seams and surface OB dumps.
2. Non availability of Maps/Plans/documents pertaining to old underground workings.

**Expected Outcomes:**

1. Application of suitable exploration methodology (combination of surface/subsurface geological, geophysical) and suitable drilling techniques.
2. Tackling of the unexpected and uncertain conditions like Gas emission/ blazing fire etc during exploration.

**Mentors:**

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