Instructions

Instructor: Prof. Rakesh Kumar and Prof. I. S. Rao

L-T-P: 0-0-3 (2 Credits)

Students: Dual Degree Final Year (Mining)

Prerequisites: C, C++, Python, Matlab (anyone will do)

Lab	Topic
1	Simpson's one-third rule and comparison with Trapezoidal rule.
2	Pillar design in Bord & Pillar mining using Tributary area method.
3	Semivarigrom analysis to estimate grade in particular direction in an ore body.
4	Mine cash flow problem.
5	Application of Fuzzy logic to estimate a better choice.
6	Artificial Neural Network method for determination of position of point with respect to a specified line.
7	Hardy cross method to estimate a better ventilation network.
8	Utilising Bishop's method for determination of the minimum factor of safety of a given soil slope.
9	Estimation of subsidence profile using influence method.
10	Using 2D Lerchs and Grossmann Algorithm to design final pit limits.

Report content:
1. Background about the topic in brief with necessary figures, (2 points)
2. Detailed Algorithm with flowchart of the procedure, (4 points)
3. Input data to the code and Results, (2 points)
4. Detailed discussion, (4 points)
5. Code, (8 points)

Code File content: Complete source code with .exe file in a zip file

File format: Lab no_Roll no_Session.ZIP (for example, **1_16MI60R01_2020.ZIP**)

Submit your zip file: ***nm.lab.iitkgp@gmail.com*** has to be submitted within 1 week of the lab.