Course Type	Course Code	Name of Course	L	T	P	Credit
DP	NGPC540	**Geoelectromagnetic Methods Practical**	0	0	2	1

Course Objective
To facilitate the understanding and use of electromagnetics in solving exploration problems
Learning Outcomes
Upon successful completion of this course, students will: • have a broad understanding of Electromagnetic method: theory, acquisition and interpretation. • understand the advantages of TEM over FDEM. • Understand the effect of conducting overburden and host rock

Unit No.	Details of Lectures	Lecture sHrs.	Outcome
1.	Acquisition of audio magnetotelluric data	**4**	Acquisition of MT data
2.	Robust Processing of magnetotelluric data.	**4**	MT data processing
3	Hybrid Processing of magnetotelluric data sets.	**4**	MT data processing- 2
4.	Interpretation of the provided 2D model(s)	**2**	Model interpretations
5.	Comment on the resolution capabilities of Transverse Electric and Transverse Magnetic mode data for the provided data set.	2	Comparison between TE and TM mode
6.	Comment on the dimensionality and directionality of the data set using Phase Tensor Analysis.	2	Understanding directionality of the data
7.	Interpretation of dip angle profile data.	2	Knowledge of the dip angle
8.	Acquisition of GPR data.	4	GPR Data Acquisition
9.	Interpretation of radarogram.	2	Knowledge of radarogram
10.	Comment on the complexity of the structure by analysing the rose diagram.	2	Representation of data to analyse structure
	Total Hours	28	

Textbooks:

1. Nabighian, M. N., 1988, Electromagnetic Methods in Geophysics, Volume 1, SEG Publication.
2. Nabighian, M. N., 1991, Electromagnetic Methods in Geophysics, Volume 2, Parts A and B, SEG, Publication.
3. Telford, W. M., Geldart, L. P., Sheriff, R. E., and Keys, D. A., 1988, Applied Geophysics.

Reference Books:

1. Grant, F. S., and West, G. F., 1965, Interpretation Theory in Applied Geophysics.
2. Gupta Sarma, D., and Maru, V. M., 1981, A study of some effects of a conducting host rock with a new modelling approach: Geophysics, 36, 166-183.
3. Mining Geophysics, 1967, Volume II, SEG Publication.