	National Institute of Technology Meghalaya An Institute of National Importance				**CURRICULUM**	

Programme	**Master of Technology in Power & Energy Systems**		Year of Regulation		**2022-23**
Department	**Electrical Engineering**		Semester		**I**

Course Code	Course Name	Pre-Requisite	Credit Structure				Marks Distribution		
			L	T	P	C	Continuous	Exam	Total
EE 565	**Computer Aided Power System Analysis Lab**	**---**	**0**	**0**	**2**	**1**	**70**	**30**	**100**

SYLLABUS			

No.	Content	Hours	
I	**Develop Matlab programs on formulation of topological matrices and bus matrices**	**02**	
II	**Develop power flow program by using Gauss-Seidal concept on Matlab platform**	**02**	
III	**Develop power flow program by using Newton-Raphson concept on Matlab platform**	**02**	
IV	**Develop power flow program by using fast Decoupled concept on Matlab platform**	**02**	
V	**Develop Matlab program to analysis symmetrical faults on a given power system**	**02**	
VI	**Develop Matlab program to analysis unsymmetrical faults on a given power system**	**02**	
VII	**Develop Matlab program to analysis open circuit faults on a given power system**	**02**	
VIII	**Develop the one machine stability analysis program by using Matlab software**	**02**	
IX	**Develop a multi machine stability analysis program by using Matlab software**	**02**	
X	**Develop a Matlab program to compute stability parameters to utilize for protection applications.**	**02**	
Total Hours		**20**	

Essential Readings

1. D P Kothari, I J Nagrath, "Modern Power System Analysis", McGraw Hill, 1st Edition, 1998.
2. M A Pai, "Computer Techniques in Power System Analysis", McGraw Hill, 3rd Edition, 2004.

Supplementary Readings

1. George L Kusic, "Computer Aided Power System Analysis", CRC Press, 4h Edition, 2000.
2. Arrillaga, N R Watson, "Computer Modeling of Electric Power System", Wiley, 2nd Edition, 2001.
3. G T Heydt, "Computer Analysis Methods for Power Systems", Macmillan Company, 2nd Edition, 1995.