Veer Surendra Sai University of Technology,Burla

Semester-I sub-Modern Algebra

Session-2016-17 Name of faculty- Dr . I. Nayak.

Period	Module/ number	Topic to be covered	Remark
1	I	Review of group theory	
2	I	Continuing	
3	I	Groups	
4	I	Sub groups	
5	I	Normal sub groups	
6	I	Quotient groups, homomorphism	
7	I	Isomorphism, cyclic groups	
8	I	Permutation groups	
9	I	Symmetric groups	
10	I	Caylay's theorem	
11	II	Direct product	
12	II	Series of groups	
13	II	Groups action on a set	
14	II	Continuing	
15	II	Sylow's theorem	
16	II	Continuing	
17	II	Application of Sylow's theorem	
18	II	Continuing	
19	II	Free abelian groups	
20	II	Free groups	
21	III	Vector spaces	
22	III	Subspaces	
23	III	Quotient spaces	
24	III	Linear independence	
25	III	Basis and dimension	
26	III	Projection	
27	III	Algebra of matrices	
28	III	Rank of a matrix	
29	III	Characteristic roots and vectors	
30	III	Continuing	
31	IV	The algebra of linear transformation	
32	IV	Kernel, range of a matrix	
33	IV	Matrix representation of linear transformation	
34	IV	Change of bases, linear functional	
35	IV	Dual space	
36	IV	Eigen values and eigen vectors	
37	IV	Caylay Hamilltorn theorem	
38	IV	Diagonal form and triangular form	
39	IV	Jordan form and quadratic form	
40	IV	Inner product spaces	