VEER SURENDRA SAI UNIVERSITY OF TECHNOLOGY, BURLA

LESSON PLAN

Semester:III   **Subject- MATHEMATICS-III**
Session: 2016-17   **Theory**
Branch/Course   **Name of Faculty:**

Period	Module/ Number	Topic to be covered	Remarks
1	I	Vector and Scalar Functions	
2	I	Vector and Scalar Field	
3	I	Derivatives, Gradient of a Scalar Field Directional Derivative	
4	I	Divergence of a Scalar Field Curl of a Vector Field	
5	I	Line Integrals, Path Independence of Line Integrals	
6	I	Double Integrals	
7	I	Green's Theorem in the Plane	
8	I	Surface Integrals	
9	I	Triple Integrals, Divergence Theorem of Gauss	
10	I	Further Applications of the Divergence Theorem	
11	II	Stokes's Theorem	
12	II	Fourier series Introduction. Scope	
13	II	Applications	
14	II	Fourier series of functions of 2pi period.	
15	II	Fourier series of functions of 2p period(general)	
16	II	Fourier series of Even and Odd functions	
17	II	Half range series	
18	II	Parseval's identity	
19	II	Fourier integral	
20	II	Dirichletcriterion,	
21	III	Orthogonal curvilinear coordinates, Jacobians	
22	III	Orthogonal curvilinear coordinates spherical form	
23	III	Orthogonal curvilinear coordinates spherical Divergence	
24	III	Orthogonal curvilinear coordinates spherical Gradient	
25	III	Orthogonal curvilinear coordinates spherical Curl	
26	III	Orthogonal curvilinear coordinates spherical Lapalacian	
27	III	Orthogonal curvilinear coordinates cylindrical Divergence	
28	III	Orthogonal curvilinear coordinates cylindrical Gradient	

29	III	Orthogonal curvilinear coordinates cylindrical Curl	
30	III	Orthogonal curvilinear coordinates cylindrical Lapalacian	
31	IV	Bessel Functions, Bessel Functions of the Second Kind,Legendre's Equation,.	
32	IV	Gama function, The Beta function	
33	IV	Dirichlet integral, Other special functions– Error function, exponential integral, Sine and cosine integrals	
34	IV	Bessel's Equation	
35	IV	Solution of Bessels equation Bessel function	
36	IV	Solution of Bessels equation Bessel function,(Cont.)	
37	IV	Bessel Functions of the Second Kind	
38	IV	Legendre's Equation	
39	IV	Solution of Legendre's Equation	
40	IV	Legendre Polynomials	

VEER SURENDRA SAI UNIVERSITY OF TECHNOLOGY, BURLA

LESSON PLAN

Semester:IV

Session: 2016-17

Branch/Course

Subject- MATHEMATICS-IV

Theory

Name of Faculty:

Period	Module/ Number	Topic to be covered	Remarks
1	I	Complex Numbers , Complex Plane	
2	I	Polar Form of Complex Numbers, Powers and Roots	
3	I	Analytic Function, Derivative,	
4	I	Analytic Function,Cauchy-Riemann Equations	
5	I	Laplace's Equation	
6	I	Trigonometric Functions	
7	I	Exponential Function	
8	I	Hyperbolic Functions, Logarithm, General Power	
9	I	Line Integral in the Complex Plane,	
10	I	Cauchy's Integral Theorem, Cauchy's Integral Formula	
11	II	Derivatives of Analytic Functions	
12	II	Sequences, Convergence of Sequences	
13	II	Series and its convergence test	
14	II	Power Series, Functions Given by Power Series,	
15	II	Taylor and Maclaurin Series	
16	II	Taylor and Maclaurin Series	
17	II	Singularities and Zeros	
18	II	Residue Integration Method, evolution of real integral.	
19	II	Geometry of Analytic Functions, Conformal Mapping	
20	II	Linear Fractional Transformations	
21	III	Random Variables,	
22	III	Probability Distributions	
23	III	Mean and Variance of a Distribution	
24	III	Binomial Distributions	
25	III	Poisson Distributions	
26	III	Hypergeometric Distributions	
27	III	Normal Distribution	
28	III	Normal Distribution(Cont.)	
29	III	Introduction	
30	III	Random Sampling	
31	IV	Point Estimation of Parameters(Maximum L.M)	
32	IV	Confidence Intervals for mean.	
33	IV	Confidence Intervals for variance	

34	**IV**	Testing of Hypotheses	
35	**IV**	Testing of Hypotheses(Cont.)	
36	**IV**	Testing of Hypotheses(Cont.)	
37	**IV**	Testing of Hypotheses(Cont.)	
38	**IV**	Fitting Straight Lines(Cont.)	
39	**IV**	Correlation and	
40	**IV**	regression.	