VEER NARMAD SOUTH GUJARAT UNIVERSITY,SURAT

CHEMICAL

SEMESTER – 2

Course No.	Course	Teaching Scheme			Examination Scheme				Total Marks
		Theory	Tut.	Pract.	Theory	Prac./viva	TW	Tut.	
201	Mathematics-II	3	1	0	100	0			150
202	Engineering Drawing	2	0	4	100	50			150
203	Basic Civil Engineering	3	0	2	100	50			150
204	English and Communication skill	2	0	0	50	0			50
205	Electro techniques	3	1	2	100	50			150
105	Engineering Physics	3	0	2	100	50			150
206	Computers Fundamental & Programming	2	0	2	50	100			150
106	Engineering Chemistry	3	0	2	100	50			150

VEER NARMAD SOUTH GUJARAT UNIVERSITY,SURAT

MATHEMATICS –II

SEMESTER -II

TEACHING SCHEME **L=3; P/D=0; TA=1**

EXAMINATION SCHEME **Theory = 3hours; Marks= 100**

(**A) THEORY:**

1) Calculus:

Reorientations, Functions of several variables, Euler's theorem, chain rule, applications: Maxima, Minima, Errors & approximations, series expansions, Tangent planes and normal Lines, Transformations and jacobians.

2) Ordinary differential equations (higher order):

Re-orientations: Solution of linear mode of nth order with constant coeffs., complimentary functions, auxiliary equation having real or complex, distinct or repeated roots, particular integrals, General method, rules for finding P.I. for special forms viz. e^{an} , $\cos^{\sin}(ax + b)$, X^{m}, $v(x)\, e^{ax}$, $xv(x)$ including cases if failures, solution of nth order with variable coeffs. Of homogeneous type (Euler & Cauchy equation).

Modelling of real world problems particulars engineering systems, second order differential Equations, Models in particular LCR networks, bending of beams, detection of diabetes.

Method of variation of parameters, solution in series, regular points, regular singular points, Fibonacci method of solution, Bessel and Legendre different equations, Introduction to Pn (x) and Jn(x).

3) Numerical Methods:

Motivation solution of Algebric and Tracendential equations, Bisection, false position, Newton Raphson methods.

A) Systems of Linear equations :

Guass-elimination, Gauss-seidel, Gauss-Jordon and Jacobi's method.

B) PRACTICAL / DRAWINGS + TUTORIAL ASSIGNMENTS:

Based on the theory course prescribed above.

C) REFERENCES:

1. Srivastava R. S. L. , Engineering Mathematics Vol. I TMS publications, 1980.
2. Kreszig E. , Advanced Engineering Mathematics, Wiley, 1989.
3. J. N. Kapur, Mathematical modeling, Wiley Eastern Ltd., 1989.