VEER NARMAD SOUTH GUJARAT UNIVERSITY,SURAT

SCHEME OF TEACHING AND EXAMINATION B.E.-I

CHEMICAL

SEMESTER – 1

Course No.	Course	Teaching Scheme			Z Examination Scheme				Total Marks
		Theory	Tut.	Pract.	Theory	Prac./viva	TW	Tut.	
101	Mathematics-I	3	1	0	100	0			100
102	Engineering Mechanics	3	1	2	100	50			150
103	Basic Mechanical System	3	0	2	100	50			150
104	Engineering Graphics	1	0	4	100	50			150
105	Engineering Physics	3	0	2	100	50			150
205	Electro techniques	3	1	2	100	50			150
106	Engineering Chemistry	3	0	2	100	50			150
206	Computer Fundamental and Programming	2	0	2	50	100			150

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MATHEMATICS – 1

SEMESTER -I

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

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

(A) THEORY

1) **complex variables** :
Reorientation of complex numbers. De mower's theorem for rational index and its applications, functions of complex variables, special functions, exponential, logarithmic, trigonometric and hyperbolic functions

2) **Calculus**
reorientation of calculus , graphs and differentiation of hyperbolic and inverse hyperbolic functions, successive differentiation, standard forms, Leibniz's theorem and application, techniques of partial differentiation.

Infinite series , convergency and divergency concepts, power series , expansion of functions : Taylor and Maclaurins series.
Indeterminate forms: $0/0$, ∞/∞, $\infty \rightarrow 0$, 1^{∞}, ∞^{0}, 0^{∞}, application of derivations, curvatures.

Curve classing: Cartesian, polar and parametric coordinates, application of integration, area, length of curve, volume of solids of revolution , C.G, M.I, Mass.

3) **Ordinary differential equations (first order) :**

Reorientation, exact differential equations and integrating functions, O. des – first order and higher degree O. des.
Modeling of real world problems, particularly engineering systems, first order differential equation, models in particular, RC and RL networks , spread of technical innovations, spread of epidemic.

(B) PRACTICAL/ DRAWINGS + TUTORIAL ASSIGNMENTS :
Based on the theory courses described above

(C) REFERENCES:

1) Srivastav R.S , engineering mathematics, Vol 1, TMG, (1980)Thomas G.H, calculus and analytical geometry, Narosa, 1986.
2) Bajpal A C, Calcus I. H and Fairly J.A , mathematics for engineering, Vol 1, John Wiley and sons , 1986