FORM NO. - GITM-FRM-73 (REV. NO. 00)

	GURGAON INSTITUTE OF TECHNOLOGY & MANAGEMENT	
	Department___Mathematics_____Session__Jan-April 2018_____ Branch/Sem_____ME/CSE/ECE/EE_____ Subject Name & Code Mathematics II&MATH-102-F_____	
COURSE PLAN		**TEACHER__Ms. Manisha Gill__**

Books Referred:

Higher Engg. Mathematics, B.S. Grewal, Vinayak Publishers.
Engineering Mathematics, N.P.Bali, Lakshmi Publications.
Engineering Mathematics **,** B.V. Ramana. T.M.H.

S. No.	TOPIC	No. OF LECTURES PLANNED	No. OF LECTURES TAKEN	SIGNATURE OF HOD (random)
1	Exact differential equations	1		
2	Equations reducible to exact differential equations	1		
3	Applications of differential equations of first order	1		
4	Application of first degree to simple electric circuits	1		
5	Newton's law of cooling, heat flow and orthogonal trajectories	1		
6	linear differential equations of second and higher order	1		
7	Complete solution, complementary function and particular integral,	1		
8	method of variation of parameters to find particular integral	1		
10	Cauchy's and Legendre's linear equations, simultaneous linear equations with constant co-efficients	1		
11	Applications of linear differential equations to simple pendulum, oscillatory electric circuits	1		
12	Differentiation of vectors, scalar and vector point functions	1		
13	Gradient of a scalar field and directional derivative,	1		
14	Divergence and curl of a vector field and their physical interpretations	2		
15	Integration of vectors, line integral	1		
16	surface integral, volume integral	1		

17	Green and Stoke's theorems (without proof) and their applications	2		
18	Gauss theorems (without proof) and their applications	1		
19	Laplace transforms of elementary functions,	1		
20	properties of Laplace transforms, existence conditions, transforms of derivatives	2		
21	Transforms of integrals, multiplication by t, division by t, Evaluation of integrals by Laplace transforms	2		
22	Laplace transform of unit step function, unit impulse function and periodic function	2		
23	Inverse transforms	1		
24	convolution theorem	1		
25	application to linear differential equations and simultaneous linear differential equations with constant coefficients and applications to integral equations	2		
26	Formation of partial differential equations	1		
27	Lagrange's linear partial differential equation	1		
28	first order non-linear partial differential equation	1		
29	Charpit's method	1		
30	Method of separation of variables and its applications to wave equation	2		
31	one dimensional heat equation and two-dimensional heat flow (steady state solutions only)	2		

REMARKS/ RECOMMENDATIONS FOR FUTURE:

Signature of Faculty:_____ Signature of HOD:_____

Date: _____ Date: _____