

TENTATIVE TEACHING PLAN

DEPARTMENT / INSTITUTE / DIRECTORATE: **BSRS**

Name of Teacher: Erum Soomro

Subject: Complex Variables & Tansforms **Batch:** 15TL-I/II

Year: 2nd **Semester:** 2nd

Code: MTH 213 (04 + 00)

Starting Date: 11-07-2016

Term Suspension Date: 01-10-2016

S. #	Topic	No. of lecture/ hours
01	Complex number system and Complex variable theory: Introduction , Argand's diagram, modulus , argument and polar form of a complex number.	03
02	De Mover's theorem and its applications	03
03	Complex functions, analytical function.	02
04	Cauchy-Reimann equations (in Cartesian coordinates)	01
05	Cauchy-Reimann equations (in polar coordinates)	01
06	Harmonic and conjugate Harmonic functions.	01
07	Line integral	01
08	Green's theorem	02
09	Cauchy's theorem	01
10	Cauchy's integral formula	02
11	Singularities, poles, residues, Residue theorem	03
12	Laplace Transforms: Definition, Laplace transforms of elementary functions.	02
13	Properties of Laplace transform, Linearity, 1 st shifting	01
14	Properties of Laplace transform, 2 nd shifting, change of scale	01
15	Laplace transform of derivatives	01
16	Laplace transform of integrals	01
17	Laplace transform of function multiplication by t ⁿ	01
18	Laplace transform of function division by t	01
19	Periodic functions and their Laplace transforms.	02
20	Laplace Transform of special functions.	01
21	Inverse Laplace transform and its properties.	01
22	Inverse Laplace transform by completing square method	01
23	Inverse Laplace transform by integral	01
24	Inverse Laplace transform by partial fraction methods.	01
25	Convolution theorem	01
26	Heavisides expansion formula.	01
27	Solution of ordinary differential equations by Laplace transforms.	01
28	Fourier Transform.: Definition, Fourier transform of simple function.	01
29	Fourier transform theorems	01
30	Inverse Fourier transform	02
Total Lecture Hours		42

Signature of Teacher:

Date: 11-07-2016

Remarks of DMRC:

Signature of Chairman / Director:

Date: 11-07-2016