

Smt Sindhutai Jadhao Arts and Science Mahavidyalaya, Mehkar

B.Sc.III SEMESTAR V

MATHS

Topic	Link for Material
Paper- IX	
Unit 1	
Riemann Integral	https://youtu.be/16D27h_1MQM
Integrability of continuous and monotonic function	https://youtu.be/S9xaE0A6kW4
Fundamental theorem on integral calculus	https://youtu.be/HQGwkeWdtl4
Mean value theorem of integral calculus	https://youtu.be/MQaxz82LV6s
Unit 2	
Improper integral	https://youtu.be/0AmKR1UKEAs
Limit comparison test	https://youtu.be/Zm25mixeLS4
Beta and gamma function 1	https://youtu.be/DUZHGiL_3r4
Beta and gamma function 2	https://youtu.be/bycH8aNt9e8
Unit -3	
Continuity of complex function	https://youtu.be/TzcIvKhN3bo
Differentiability of complex function	https://youtu.be/SwJZvjK-Qdg
Analytic function	https://youtu.be/t9xW7UaZwZ0
Cauchy -Riemann equation	https://youtu.be/CCMnwZHeW6w
Harmonic conjugate function	https://youtu.be/ZGzNz-8pKOk
Milne Thomson method	https://youtu.be/UKPAR8pQz2Y
Unit -4	
Mapping by elementary function	https://youtu.be/ZvjKI4X5OOo
Mobius (bilinear) transformation- cross ratio , fixed point	https://youtu.be/fQQEPhmm16o
Conformal mapping	https://youtu.be/XvLnHIPsWqY
Unit -5	
Metric spaces definition and example	https://youtu.be/dudDDlxDxl4
Neighborhood	https://youtu.be/yYEgGlo1OPk
Limit point and interior point	https://youtu.be/ZaCm3y0Vi0c
Open and close sets	https://youtu.be/1L56J8Did1Y
Cauchy sequence	https://youtu.be/MQHwPgSjB2w
Completeness	https://youtu.be/kg6tkOcyRFs
Paper- X	
Unit 1	
Orthogonality of Legendre's polynomial	https://youtu.be/MA3VyL9x348
Legendre's function or Legendre's polynomial	https://youtu.be/QgSfbyDYMul
Generating function of $p_n(x)$	https://youtu.be/owDJBzude6U
Recurrence formula for $P_n(x)$	https://youtu.be/DC57qsQICLU
Orthogonality of Legendre's polynomial	https://youtu.be/Lal9fEw9Q_k
Orthogonality of Legendre's polynomial (2)	https://youtu.be/F2F2FvhnROs
Rodrigues formula	https://youtu.be/R6yL5g9tb6g
Unit 2	
Bessel equation	https://youtu.be/rxm3eLDefBI
Solution of Bessels equation	https://youtu.be/rxm3eLDefBI
Generating function for $J_n(x)$	https://youtu.be/CKjeyChdFIQ
Recurrence formula for $J_n(x)$	https://youtu.be/3ys69O5LvoM
Strun-Liouville boundary value problem	https://youtu.be/Wzb0soa_xNw

Unit 3	
Fourier series	https://youtu.be/dGdp7QOq9rc
Fourier series for odd and even function	https://youtu.be/8RuVD7eyv-w
Half range Fourier sine and cosine series	https://youtu.be/lF5bovh-oXE
Half range Fourier sine and cosine series (2)	https://youtu.be/8bXBZlCdERY
Unit 4	
Laplace transform of some elementary function	https://youtu.be/W0Qb6PMAOX8
Existence of Laplace transform	https://youtu.be/0l-bW6LRtjU
Properties of Laplace transform	https://youtu.be/jfKTnTyd4ec
Laplace transform of derivative and integral	https://youtu.be/xH3MFkLJA08
Multiplication by tn	https://youtu.be/_yO8FB1xbJE
Division by t	https://youtu.be/21SCInntTWM
Inverse of Laplace transform	https://youtu.be/EoHJ8DRtGdM
Convolution of Laplace transform	https://youtu.be/DaDSWWrBK6c
Application of Laplace transform in solving ordinary and partial differential equation	https://youtu.be/3KtUt78p9a4
Unit 5	
Finite Fourier sine Transform	https://youtu.be/Grwbtl1kW6M
inverse finite Fourier sine & cosine transform	https://youtu.be/R_SBPrdYuB0
infinite Fourier transform	https://youtu.be/SKbXVBdVoZ4
Properties of Fourier Transform	https://youtu.be/U8Sqj0EFv-c
Application of Partial Differential equation	https://youtu.be/3amLat9aY7E