

Course Name: -Engineering Mathematics-III (BMS-04)

UNIT-I

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Table of Content

Lecture No.	Topic	Link
1.	Differentiability, Necessary (C-R equations) and Sufficient condition for differentiability in cartesian and polar form.	https://youtu.be/X9UeuxC3SqA https://youtu.be/CKrB-SiGjyQ https://youtu.be/2snJOFHck0o https://youtu.be/vbBx40RWG4M
2.	Analytic function, Harmonic function, and Harmonic conjugate	https://youtu.be/5zgXI325Y_I https://youtu.be/LQchSQ9CFBc https://youtu.be/vVMKpLMghZs
3.	Complex Integration, Cauchy-Integral Theorem,	https://youtu.be/_RBaHXvTLlc https://youtu.be/WxnqvaUbK-s
4.	Cauchy-Integral formula and Cauchy integral formula for derivative	https://youtu.be/gkHG0EOB44E
5.	Taylor's Series	https://youtu.be/StsbDIj6QCw
6.	Laurent Series,	https://youtu.be/KmvW5T5VeHw https://youtu.be/7ZOt_vyGmwE
7.	Zero's and Singularities,	https://youtu.be/3Wal2cJKHxY https://youtu.be/R0nb4S-Dzg0
8.	Residue theorem,	https://youtu.be/AJMQFPK_2Eg https://youtu.be/0PvXCjV9FuU
9.	Evaluation of the real integrals of the type $\int_0^{2\pi} f(\cos \theta, \sin \theta)d\theta$ and $\int_{-\infty}^{+\infty} f(x)dx$.	https://youtu.be/6Pt1yXawIxM https://youtu.be/0UQLZ6Y1yLI

Books:

1. **B.S. Grewal - Higher Engineering Mathematics; Khanna Publishers.**
2. **B.V. Ramana - Higher Engineering Mathematics, Tata McGraw Hill Education Pvt. Ltd., New Delhi.**