

Applied Mathematics 1

Playlist

<https://www.youtube.com/playlist?list=PL5fCG6TOVhr4jafvBSrmouZt0aqNjPlhd>

Join our WhatsApp group for Study Material

<https://chat.whatsapp.com/Cxshcwxy7yX6D9nPPyT4dW>

Unit 1

GGSIPU New Syllabus II Maths 1 II Unit 1 - Topics Review <https://youtu.be/W9ir4m2QJ08>

Partial Derivative of 1st and 2nd order - Concept <https://youtu.be/MtQo9FfRD1o>

Partial Derivative of 1st and 2nd order II Numericals <https://youtu.be/QvufScfeRZ0>

Partial Derivative of 1st and 2nd Order || Numericals Part2 <https://youtu.be/he2V9LYzKPY>

Chain Rule II Total Derivative II Diff. of Composite Function <https://youtu.be/6ihKDI2ioB0>

Differentiation of Implicit Function <https://youtu.be/mjoWwyPmypQ>

Partial Derivative - Change of Independent Variables <https://youtu.be/3hyciaX4cSQ>

Exact Differential Equation - Concept & Numericals <https://youtu.be/rhOZTnDKKLU>

Exact differential Equation – Numericals https://youtu.be/XS-lc_erP8E

Maxima and Minima of a Function of Two Variables II Saddle Point

<https://youtu.be/dD8jBW9Aew0>

Lagrange's method of Undetermined Multipliers <https://youtu.be/SFmIHigJugY>

Differentiation under Integral Sign II Leibnitz's Rule II Numericals
<https://youtu.be/4ZkcUsoWfpU>

Jacobians II Chain Rule $JJ' = 1$ II Jacobian of Implicit Function
<https://youtu.be/CaQvxH0eSiU>

Jacobians II Jacobians to determine Functional Dependence II Numericals
<https://youtu.be/kwbSFcbwhUA>

Unit 2

Ordinary Differential Equation - Concept II <https://youtu.be/nvfTUmAijos>

Geometric Meaning of $y' = f(x,y)$ II Direction Fields II ODE https://youtu.be/n8_hRwfY9BE

Euler's Method - Numerical Solution of ODE <https://youtu.be/wsxVuzvYEO8>

Eulers method (Numerical Practice) II Numerical Solution of Differential Equation
<https://youtu.be/iZZ9mD5RG0U>

Solving ODE of Order 1 - Review of all Methods <https://youtu.be/fBG20feNvNs>

Solving ODE - Variable Separable Form <https://youtu.be/pk19SLiC3i0>

Exact Differential Equation- Concept & Numericals <https://youtu.be/rhOZTnDKKLU>

Exact differential Equation – Numericals https://youtu.be/XS-lc_erP8E

Solving Homogeneous Differential Equation Reducible to Exact Form II Integrating factor
<https://youtu.be/Aedo68HNk88>

Solving Non-Homogeneous D.E. Reducible to Exact Form II Integrating factor
<https://youtu.be/5APYU7HVuvY>

Solving Linear Differential Equation - Concept and Numerical II Integrating Factor
<https://youtu.be/ONel4pAxonI>

Solving Differential Equation Reducible to Linear Form (BERNOULLI's Equation) II Concept & Numerical
https://youtu.be/_OjoGmd-BrM

Solving Linear Ordinary Differential Equation of Higher Order II Differential Operator https://youtu.be/-MFkev_EaYg

Solving Higher order Homogenous Differential Equation II Complementary Function
<https://youtu.be/RBJCfOiSBJc>

Solving Homogenous Differential Equation II Complementary Function - Complex Roots
<https://youtu.be/8zDH43yexhw>

Higher order Non- homogeneous - PENDING

Euler's Cauchy , Mass spring , Variation of parameter - PENDING
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Bessel Equation and Its Solution <https://youtu.be/mxqmbLCgwHI>

Bessel Function - First Order and Half order <https://youtu.be/rdqxLnyhCgk>

Generating Function For Bessel's Function($J_n(x)$) <https://youtu.be/3aKKF9msJRk>

Properties - Bessel Function (with proof) https://youtu.be/j6hbFRoTF_A

Bessels Equation – Numericals <https://youtu.be/4Br7PVAymr0>

LEGENDRE – PENDING

UNIT- 3

Applied Mathematics II Matrices II GGSIPU Delhi II Topics Review
<https://youtu.be/XIO9dunLWPQ>

Matrices - Types and Applications || Symmetric, Skew-Symmetric, Orthogonal Matrix, Triangular Matrices <https://youtu.be/FqS-tcdKzNQ>

Gauss Elimination – Matrices <https://youtu.be/IP7UsWtQ8Ys>

Linearly Independent and Dependent Vector || Matrices || Applied Mathematics <https://youtu.be/vTXxXzQ2Hmk>

Rank of Matrix - Sem 1 Maths <https://youtu.be/EK3c5UEUWNQ>

Solution of Linear Systems : Concept of Existence and Uniqueness https://youtu.be/PLDbghD9K_Q

CRAMER'S Rule || Method of Determinants <https://youtu.be/kGjA5vdCFik>

Gauss Jordan Method - Inverse of Matrix <https://youtu.be/ZU9B3V8iIKc>

Matrix Eigen Value Problem - Concept || Characteristic Equation , Eigen Values and Eigen Vectors <https://youtu.be/iph004CQ9YQ>

Eigen values and Eigen Vectors – Matrices <https://youtu.be/jVeahOIP2Ig>

Diagonalizing a Square Matrix - Concept || Matrices <https://youtu.be/b0a93wJTRA0>

Diagonalizing a Square Matrix - Numerical (Type 1) <https://youtu.be/MIYYpEKNW28>

Diagonalizing a Square Matrix - Numerical (Type 2) <https://youtu.be/IEROCLnoALE>

Reduction of Quadratic Form to Canonical Form [Concept] – Matrices <https://youtu.be/3H5xAaDdA3I>

Reduction of Quadratic Form to Canonical Form - Matrices || Numerical <https://youtu.be/HKzb3Elu1nA>

Caley Hamilton Theorem – Matrices <https://youtu.be/PCe9jUIM4b0>

UNIT- 4

Unit 4 - Applied Mathematics 1 || GGSIPU || Topics Review- <https://youtu.be/Wp7Rp7I0dvU>

Scalar and Vector Point Function || Gradient of a Scalar Function [Concept with Numerical - Part 1] https://youtu.be/MdIT561A8_8

Scalar and Vector Point Function || Gradient of a Scalar Function [Numericals - Part 2] <https://youtu.be/H6w945A6tkk>

Derivative & Directional Derivative - Concept With Numericals || Vector Calculus

<https://youtu.be/PX78MrbdKr8>

Divergence and Curl Of Vector Point Function or Fields - Concept with Numericals ||

Vector Calculus <https://youtu.be/KO6A1JdNIKA>

Line Integral || Path Independence of Line Integral [Concept] || Numericals

<https://youtu.be/JiQW1TQ5MMs>

Double Integral - Concept with Numericals <https://youtu.be/OzaboGyXdFk>

Green's Theorem - Concept with Numericals [Part 1] https://youtu.be/-ljqqb_Vvso

Green's Theorem Numericals [Part 2] <https://youtu.be/ddZYcTb6lrQ>

Surface Integral Concept and Numericals [Part 1] <https://youtu.be/K37VbB5Ukxk>

Surface Integral Numericals [Part 2] <https://youtu.be/KfSbF3MQ0Hs>

Triple Integration Concept with Numerical <https://youtu.be/xoi7LuUrU1o>

Stokes Theorem Concept with Numericals [Part 1] <https://youtu.be/KnChsPboXqc>

Stokes Theorem Numerical [Part 2] <https://youtu.be/tQBIDlmtVSM>

Gauss Divergence Theorem Concept and Numerical [Part1]

https://youtu.be/tbJ_zgs84aY

Gauss Divergence Theorem Numerical [Part 2] <https://youtu.be/GhY56OKu7vs>

Applied Physics – 1

Playlist https://youtube.com/playlist?list=PL5fCG6TOVhr7TVHli9AFALiUaRL-2P_Ax

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Unit 2

Simple Harmonic Motion - Equation of SHM II Periodic and Oscillatory Signal
<https://youtu.be/yL19xQVCbqg>

Wave Motion - Equation of Wave II Applied Physics <https://youtu.be/xvIYCrTxC-g>

Particle Velocity and Wave Velocity - Concept and Mathematical Relation
<https://youtu.be/c17gntWjSm0>

Differential Equation of Wave Motion - Derivation II Applied Physics
https://youtu.be/Ciibz_W4j-g

Introduction to Electromagnetic Theory - Topics to Study (Video Only for GGSIPU AP-1)
<https://youtu.be/gWL0ax-tDI8>

Introduction to Electromagnetic Theory – Gradient <https://youtu.be/Ya4zIYYttqQ>

Introduction to Electromagnetic Theory- Divergence <https://youtu.be/mAm5WFtYOkw>

Introduction to Electromagnetic Theory – Curl <https://youtu.be/AZbYK5jYGmE>

Electromagnetic Theory - Gauss' Law <https://youtu.be/cPdPqizXEZA>

Gauss Divergence Theorem and Stokes Theorem – Concept
<https://youtu.be/n32Va422zrc>

Maxwell's Equations - 1st & 2nd Equation II Gauss Law in Electrostatics & Magnetostatics <https://youtu.be/z4zgF-KiHxQ>

Maxwell's 3rd Equation II Faraday's Law of Electromagnetic Induction II Integral & Differential Form https://youtu.be/AT6c_gQOHm4

Maxwell's 4th Equation - Modified Ampere Circuital Law II Integral and Differential Form
<https://youtu.be/2GgtF2foHI4>

Maxwell's Equation - Integral and Differential Form (Summary) II Significance of Maxwell's Equation <https://youtu.be/T2oU13kilAo>

Equation of Continuity - Electromagnetism II Conservation of Charge
<https://youtu.be/yuqh5-VONWU>

Work done by Electromagnetic Field <https://youtu.be/qxdYOKDgMdk>

Poynting Theorem - Energy In Electromagnetic Waves II Poynting Vector
<https://youtu.be/msBKVug5HWQ>

Unit 3

Interference of Light II Coherent Sources II Production of Coherent Sources - Applied Physics <https://youtu.be/iE4bWcqaWhA>

Young's Double Slit Experiment II Interference By division of Wavefront II Applied Physics <https://youtu.be/ey5wCj7F-6M>

Fresnel Biprism II Interference by division of wavefront II Applied Physics
https://youtu.be/_nS5UU5nnjA

Interference Due to Parallel Thin Film II Stoke's Law II Applied Physics
<https://youtu.be/56ZFJvgwATU>

Electrical Science

Playlist

https://www.youtube.com/playlist?list=PL5fCG6TOVhr4ZprpcShUfoQyZ7uZoB_nk

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<https://chat.whatsapp.com/Cxshcwxy7yX6D9nPPyT4dW>

UNIT 1

Introduction of Ckt Parameter - Electrical Technology <https://youtu.be/777WPL-bx8w>

Mesh Analysis [Hindi] - Electrical Technology <https://youtu.be/3DDm2wR1MF8>

Mesh and Nodal Analysis (P-2) [Hindi] - Electrical Technology <https://youtu.be/mAsrgDmSLx0>

Thevenin Theorem [Hindi] - Electrical Technology <https://youtu.be/26PDk7-GVKg>

Norton's Theorem [Hindi] - Electrical Technology <https://youtu.be/qw0QExrzoYg>

Star Delta Transformation [Hindi] - Electrical Technology <https://youtu.be/RRUL7vCHelo>

Maximum Power Transfer Theorem - easiest explained [Hindi] <https://youtu.be/-jqmPMY8hHM>

UNIT 2

Introduction AC Fundamentals || Electrical Technology <https://youtu.be/3u1bkWHclGQ>

Quality Factor , Power Factor , Apparent , True and Reactive Power
<https://youtu.be/r6PVrppnMR4>

AC Fundamentals - RMS and Avg. Value , Form Factor , Peak Factor
<https://youtu.be/Syo9a3xdVck>

Phasor Representation – ET <https://youtu.be/Hd1NDqmKWgU>

RL , RC and RLC Circuit - P1 <https://youtu.be/lzuwvGdfU-w>

AC Through R-L Circuit (P 2) <https://youtu.be/4XhdBknOVMk>

AC Through R-C Circuit (P 3) <https://youtu.be/G6BYq2RVnlk>

AC Through R-L-C Circuit (P-4) <https://youtu.be/w5KstDG01E4>

Complex Power and Complex Number - Electrical Technology <https://youtu.be/m-8kiHuaC2A>

Three Phase circuit with Star Connection <https://youtu.be/P-mXM1Gvn4g>

Three Phase Circuit With Delta Connection https://youtu.be/jPFWb_4bf2s

UNIT 4

Introduction Electrical Technology https://youtu.be/u_TcKRbTN0Y

Fundamentals Of Magnetic Circuits <https://youtu.be/9zRodZ2Bj4c>

Single Phase Transformer - Equivalent Circuit <https://youtu.be/ftPRP3EHxol>

Single Phase Transformer – Principle <https://youtu.be/PD8QWCyBR5M>

Voltage Regulation and Efficiency Of Transformer <https://youtu.be/vbYl9-LkHDs>

Basics of Measuring Instruments and Types <https://youtu.be/bQGImvjCfoo>

Moving Coil Instruments - Electrical Technology <https://youtu.be/64dLk7dW-lo>

Moving Iron Instruments - Attraction Type <https://youtu.be/nuqzLK6olsk>

Extension Of Instrument Range - unit 3 ET <https://youtu.be/YDtFcePcN1I>

Extension Of Instrument Range Numericals https://youtu.be/wxS1ZY_8dD4

Dynamometer Type Wattmeter - Electrical Technology <https://youtu.be/Zfgs33Adsa8>

Moving Iron Instruments - Repulsion Type <https://youtu.be/n1EWmcpvdOI>

