



Department of Mechanical Engineering

Name of Course: Engineering Graphics

Prepared By: Dr. N. Thangapandian

S.no	Topics	Video Link
1	Conics	https://youtu.be/DBj0cmUc860?si=jSvV3jLjmWuIMbJl
2	Involutes	https://youtu.be/LHOf3GXCvjE?si=a9obCumusvLO4sPx
3	Cycloids	https://youtu.be/BcJA9tivnmU?si=g26Z5poi82LbgUV5
4	Free Hand Sketching	https://youtu.be/FsFIXHuCihg?si=cqZyYDZybnPUygJG
5	Projection of Points	https://youtu.be/Ty39WORVkt8?si=bVz3N651pIWZO5My
6	Projection of Lines	https://youtu.be/fLA1otUpxCA?si=bmp-OeOaNbUJh2J4
7	Mid-Point Problem	https://youtu.be/UfH97o61xT0?si=0m65tOr-A0Vy4SbX
8	Projection of Planes	https://youtu.be/ONHWXU_wGdM?si=1Dc7EyqOfKrqdOu3
9	Projection of Solids	https://youtu.be/TMEa43Cu5yA?si=s6BO23PvZDY5I_Mm
10	Perspective Projection	https://youtu.be/El0Snzl5WU8?si=YYtTeGdiZkStsN3t

Name of Course: Design of Transmission systems

Prepared By: Dr. J.Immanuel Durai Raj, Dr.S.Prathap singh, Mr. S.Muhammed Abraar, Dr. D.Arthur Jebastine Sunderraj, Mr. K.Gnanasekaran

S.no	Topics	Video Link
1	Design of flat belt	https://youtu.be/GumuKaTonCA
2	Spur Gear Without Materials and Life	https://www.youtube.com/watch?v=pee7Fb2ivEM
3	Spur Gear With Materials & Without Life	https://youtu.be/WrZH17rz2bE
4	Spur Gear With Material & Life(Hr)	https://youtu.be/kOI70-o6-w4
5	Helical Gear Problem	https://youtu.be/AxRb5bfII_A
6	Bevel gear design using life equation	https://youtu.be/TdwY11YhNtg
7	bevel gear design using Lewis equation	https://youtu.be/FY3ye9RFdo4
8	worm gear design using gear life equation	https://youtu.be/pzC71buKveA
9	Design of 12 speed gear box	https://youtu.be/yOK_KCYjwDU

10	Design of 6 speed gear box	https://youtu.be/9AsLn58WEDk
11	Introduction to Clutch	https://youtu.be/5cgCe6QT244
12	Single Plate clutch problem	https://youtu.be/Hi3rg1zC5ZI
13	Multi plate clutch problem	https://youtu.be/X5j9csZ5oKo
14	Cone Clutch	https://www.youtube.com/watch?v=a9ZNjnU2apc
15	Introduction to Brakes	https://www.youtube.com/watch?v=R06TT7B2Ils
16	single block brake problem	https://www.youtube.com/watch?v=OKMcVvHvaQk
17	Double block brake problem	https://youtu.be/OgBWx18jhdg
18	Simple band brake problem	https://www.youtube.com/watch?v=JZI1RluRTkA
19	Differential brake problem	https://www.youtube.com/watch?v=FAW4fyFEAcg
20	Design of flat belt	https://youtu.be/GumuKaTonCA
21	Spur Gear Without Materials and Life	https://www.youtube.com/watch?v=pee7Fb2ivEM
22	Spur Gear With Materials & Without Life	https://youtu.be/WrZH17rz2bE
23	Spur Gear With Material & Life(Hr)	https://youtu.be/kOI70-o6-w4
24	Helical Gear Problem	https://youtu.be/AxRb5bfII_A
25	Bevel gear design using life equation	https://youtu.be/TdwY11YhNtg
26	bevel gear design using Lewis equation	https://youtu.be/FY3ye9RFdo4
27	worm gear design using gear life equation	https://youtu.be/pzC71buKveA
28	Design of 12 speed gear box	https://youtu.be/yOK_KCYjwDU
29	Design of 6 speed gear box	https://youtu.be/9AsLn58WEDk
30	Introduction to Clutch	https://youtu.be/5cgCe6QT244
31	Single Plate clutch problem	https://youtu.be/Hi3rg1zC5ZI
32	Multi plate clutch problem	https://youtu.be/X5j9csZ5oKo
33	Cone Clutch	https://www.youtube.com/watch?v=a9ZNjnU2apc
34	Introduction to Brakes	https://www.youtube.com/watch?v=R06TT7B2Ils
35	single block brake problem	https://www.youtube.com/watch?v=OKMcVvHvaQk
36	Double block brake problem	https://youtu.be/OgBWx18jhdg
37	Simple band brake problem	https://www.youtube.com/watch?v=JZI1RluRTkA
38	Differential brake problem	https://www.youtube.com/watch?v=FAW4fyFEAcg

Name of Course: Kinematics of Machinery

Prepared By: Dr. N. Suresh

S.no	Topics	Video Link
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1	Basics of Mechanism and Problems on Degrees of Freedom	https://www.youtube.com/watch?v=pWm14yg2LV4
2	Kinematics - Basics of Four Bar Mechanism	https://www.youtube.com/watch?v=_7c5jEKYQyM
3	Basic Concepts of Quick Return Mechanisms	https://www.youtube.com/watch?v=IICuijweIow
4	Velocity and Acceleration Analysis of 4 bar mechanism	https://www.youtube.com/watch?v=OBmKflwvR2A
5	Kinematics - Instantaneous Centre of Rotation	https://www.youtube.com/watch?v=k02Wh9fRLCA&t=751s
6	Problems on Instantaneous Centre of Rotation	https://www.youtube.com/watch?v=mMB2yb5-Ec0
7	Problems on Instantaneous Centre - 6 link mechanism	https://www.youtube.com/watch?v=yUA0cmttIS4&t=3s
8	Problems in Relative Velocity method - 4 bar and slider crank	https://www.youtube.com/watch?v=BfOENd6wwuw&t=386s
9	Problems in Velocity & Acceleration analysis of quick return mechanism	https://www.youtube.com/watch?v=9rzaj69hP3M
10	Introduction to Cam and Follower mechanism	https://www.youtube.com/watch?v=Ro84W6pw9mw
11	Cam Designs based on follower motions - I	https://www.youtube.com/watch?v=lpOpJA4yIm0&t=2s
12	Cam Designs based on follower motions - II	https://www.youtube.com/watch?v=Ug3HNga5BwU&t=170s
13	Cam Design with oscillating roller follower	https://www.youtube.com/watch?v=TaVCtPJjsO4
14	Cam Design with Specific Contour	https://www.youtube.com/watch?v=c30FkcB6J5c
15	Kinematics - Construction of Cam profile I	https://www.youtube.com/watch?v=5qA1ATc4GVo
16	Kinematics - Construction of Cam profile II	https://www.youtube.com/watch?v=VGNk63SYXOc&t=1s
17	Basics of Gears - Part I - Gear Nomenclature & Classification	https://www.youtube.com/watch?v=XMTcMqkk9OU
18	Basics of Gears - Part II - Law of Gearing	https://www.youtube.com/watch?v=j4lnEjZrOc
19	Basics of Gears - Part III - Path of Contact & Contact ratio	https://www.youtube.com/watch?v=uKahxbmgYug&t=70s
20	Problems in Gears	https://www.youtube.com/watch?v=kdG3lO5PfVc&t=6s
21	Introduction to Gear Trains	https://www.youtube.com/watch?v=W7lhknYP0jk&t=636s
22	Problems in Gear Train - I	https://www.youtube.com/watch?v=iv6Bk_CBTGs&t=303s
23	Problems in Gear Train - II	https://www.youtube.com/watch?v=0EycAa2Qlj4
24	Application of Mechanical Engineering (Kinematics of machinery) in Agriculture	https://www.youtube.com/watch?v=PPvvirvoCEY&t=12s
25	Introduction to Friction and Friction Clutches	https://www.youtube.com/watch?v=Fr0Qc0Mu5tg&t=282s

Name of Course: Strength of Materials

Prepared By: Mr. R.Ranjith Kumar, Mr. A. K. Arun Raja

S.no	Topics	Video Link
1	Shear Stress In Beams	https://youtu.be/a6wafVgldNE
2	Shear Stress And Distribution Diagram In 'T' Section Beam - Part 1	https://youtu.be/RJdk8Zi4V_U
3	Shear Stress And Distribution Diagram In 'T' Section Beam - Part 2	https://youtu.be/Zo-T5CLJaUQ
4	Sfd & BMD Introduction	https://youtu.be/31zBhFWWhO88
5	Sfd & BMD Relationship Between Rate Of Loading, Shear Force & Bending Moment Diagram	https://youtu.be/1Jyl5IPREgs
6	Sfd & BMD - Problem - Ssb With Point Load	https://youtu.be/rJ7H*WTVTxZo
7	Sfd & BMD - Problem - Ssb With Udl & Point Load	https://youtu.be/yrceWWljZio
8	Torsion In Shaft	https://youtu.be/J5SqlzWl0yo
9	Deflection Of Beams- Introduction	https://youtu.be/dZyF7NdNAPU
10	Deflection Of Beams - Euler Equation Of Deflection	https://youtu.be/O5oGNZeW3Yk

Name of Course: Thermal Engineering- I

Prepared By: Mr. Ramesh K, Mr. T.Prabhuram, Mr. Sakthivel D

S.no	Topics	Video Link
1	Otto or Constant Volume cycle, with one example problem	https://www.youtube.com/watch?v=VYEEB-kjB5s&t=761s
2	Reciprocating Air Compressor - I	https://youtu.be/JfNI7wnNiI4
3	Internal Combustion Engines, Classifications and basic Nomenclature	https://youtu.be/6yr9je4C_ho
4	Two stroke Engine	https://youtu.be/Z7uwYfTjQyc
5	Combustion In IC Engines	https://youtu.be/Jimr_nGDfzc
6	Performance parameters, Different types of Dynamometer and Heat balance sheet	https://www.youtube.com/watch?v=UkEaojC6jkw&t=2s
7	Gas Turbine introduction, Ideal and actual Brayton cycle	https://www.youtube.com/watch?v=cFJffh2ccno&t=1073s

Name of Course: Heat and Mass Transfer

Prepared By: Mr. V Selvaganapathy, Mr. P.Sabarish Kumar, Dr. V. Savithiri

S.no	Topics	Video Link
1	Heat And Mass Transfer Conduction	https://youtu.be/7TUVTphwUI
2	Convection Overview	https://youtu.be/vHpMzuP_vcY
3	LMTD Method	https://youtu.be/cV8czFPRPaq
4	NTU Method	https://youtu.be/qv6SAeIM2BQ
5	Introduction To Radiation	https://youtu.be/SSIDTHxXjYw
6	Radiation In Furnace - Problem	https://youtu.be/LTo5U6QV56w
7	Emissivity - Problem	https://youtu.be/lmG_d9UZfUo
8	Radiation Shield - Problem	https://youtu.be/lpjtWPPq-Lc
9	Mass Transfer- Modes Of Mass Transfer	https://youtu.be/3N0ML9NSBj4
10	Mass Transfer- Definitions And Fick's Law	https://youtu.be/SWA9hSuapNs
11	Mass Transfer - Basic Problems	https://youtu.be/26J39ufp9Ws
12	Mass Transfer - Diffusion Problems-	https://youtu.be/EmrZbwqwij8

Name of Course: Finite Element Analysis

Prepared By: Mr. P.Krishna Kumar, Dr. R.Venkatesh

S.No	Topics	Video Link
1	Fea Unit 1 A Quick Refresher	https://youtu.be/6WRGp1kolZ8
2	Introduction To One Dimensional Problems	https://www.youtube.com/watch?v=f4o1kkJDQy4
3	Problems - One Dimensional Bar Element - Cantilever Bar With Axial Load	https://www.youtube.com/watch?v=sKRc5WwtGrI
4	Problems - Tapered Steel Plate	https://www.youtube.com/watch?v=ggeu7rfPDeE
5	Problems - Stepped Bar With Temperature Effect	https://www.youtube.com/watch?v=obhj9c8vM5Q
6	Problems - Simple Truss Element	https://www.youtube.com/watch?v=CIPT5VtEcBY

Name of Course: Automobile Engineering

Prepared By: Mr. S.A. Muhammed Abraar, Mr.Ashwin Kannan

S.no	Topics	Video Link
1	Introduction to vehicle structures and systems	https://youtu.be/1-X1JYZWgjA
2	Introduction to Engine Auxiliary Systems	https://youtu.be/h0QXXh5NM4Y
3	Transmission System	https://youtu.be/2QZvm61K9XY
4	Suspension System	https://youtu.be/sfMumltwt9Mc

Name of Course: Hydraulics and Pneumatics

Prepared By: Mr. K.Narayanamoorthy

S.no	Topics	Video Link
1	Overview of the Course	https://www.youtube.com/watch?v=ViBegAkrN78
2	Fluid Power Principles and Hydraulic Pumps	https://www.youtube.com/watch?v=Xx-LcVIMaqq&feature=youtu.be