

Yenepoya Institute of Technology
Department of Mechanical Engineering
Details of Online Classes

Academic Year: 2020-2021		Semester: III		Course: Mechanics of Materials	Course Code: 18ME32
Serial No:	Date	Module	Topics Covered	Material link (Video/ppt/Notes/ Question Bank)	
1	December- Week-I	Module -3	Numerical Examples on SFD and BMD	https://drive.google.com/file/d/1yPc9HSZySzZWKDTR7ZtXU5kIVNX3jev1/view?usp=sharing	
2			Numerical Examples on SFD and BMD	https://drive.google.com/file/d/1yPc9HSZySzZWKDTR7ZtXU5kIVNX3jev1/view?usp=sharing	
3			Numerical Examples on SFD and BMD	https://drive.google.com/file/d/1yPc9HSZySzZWKDTR7ZtXU5kIVNX3jev1/view?usp=sharing	
4			Numerical Examples on SFD and BMD	https://drive.google.com/file/d/1yPc9HSZySzZWKDTR7ZtXU5kIVNX3jev1/view?usp=sharing	
5	December- Week-II		Numerical Examples on SFD and BMD	https://drive.google.com/file/d/1yPc9HSZySzZWKDTR7ZtXU5kIVNX3jev1/view?usp=sharing	
6			Bending stress in beams. Flexural equation.	https://drive.google.com/file/d/1OoDfN06smInBdCJRz-AM0JmDMYJLniyb/view?usp=sharing	
7			Numerical examples.	https://drive.google.com/file/d/1OoDfN06smInBdCJRz-AM0JmDMYJLniyb/view?usp=sharing	
8	December- Week-III		Numerical examples.	https://drive.google.com/file/d/1OoDfN06smInBdCJRz-AM0JmDMYJLniyb/view?usp=sharing	
9			Shear stress in beams of different cross sections.	https://drive.google.com/file/d/1OoDfN06smInBdCJRz-AM0JmDMYJLniyb/view?usp=sharing	
10			Numerical examples.	https://drive.google.com/file/d/1OoDfN06smInBdCJRz-AM0JmDMYJLniyb/view?usp=sharing	

				AM0JmDMYJLnIyb/view?usp=sharing
11			Numerical examples.	https://drive.google.com/file/d/1OoDfN06smInBdCJRz-AM0JmDMYJLnIyb/view?usp=sharing
12		Module -4	Maximum Principal stress theory and Maximum shear stress theory.	https://drive.google.com/file/d/1a3Uvta8b_Xl-ICN2v-6097kNuWXLdnNt/view?usp=sharing
13			Numerical examples	https://drive.google.com/file/d/1a3Uvta8b_Xl-ICN2v-6097kNuWXLdnNt/view?usp=sharing
14			Numerical examples	https://drive.google.com/file/d/1a3Uvta8b_Xl-ICN2v-6097kNuWXLdnNt/view?usp=sharing
	December- Week-IV			

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Academic Year: 2020-2021		Semester: III		Course: Basic Thermodynamics		Course Code: 18ME33	
Serial No:	Date	Module	Topics Covered	Material link (Video/ppt/Notes/ Question Bank)			
1	December- Week-I	Module -2	First Law of Thermodynamics: Joules experiments, equivalence of heat and work. Extension of the First law to control volume;	https://www.youtube.com/watch?v=VcEaSGUGmzE https://www.youtube.com/watch?v=VqUAhrrW6UA https://drive.google.com/file/d/12pC2q4Fd7BjnKTuux-zWCQgsQTFyOsp/view?usp=sharing			
2			Statement of the First law of thermodynamics, extension of the First law to non - cyclic processes, energy, energy as a property, modes of energy,	https://www.youtube.com/watch?v=SUVVheK0rf4 https://youtu.be/odTsODmMGWE https://www.youtube.com/watch?v=VqUAhrrW6UA			
3			steady flow energy equation (SFEE), important application.	https://www.youtube.com/watch?v=qnJmFdTLMpQ			
4			Numerical on SFEE	https://youtu.be/_clLvHDuMkU			
5			Numerical on SFEE	https://youtu.be/vHG3JUo68uc			
6			Numerical on SFEE	https://youtu.be/OsSnutuiyAA			
7			Numerical on SFEE	https://youtu.be/5jdP39wQ5us			
8			Numerical on SFEE	https://youtu.be/5jdP39wQ5us			
9	December- Week-III	Module-4	Pure Substances: P-T and P-V diagrams, triple point and critical points. Sub-cooled liquid, saturated liquid, mixture of saturated liquid and vapor, saturated vapor and superheated	https://drive.google.com/file/d/12pC2q4Fd7BjnKTuux-zWCQgsQTFyOsp/view?usp=sharing			

		vapor states of pure substance with water as example.	
10		Enthalpy of change of phase (Latent heat). Dryness fraction (quality), T-S and H-S diagrams,	https://drive.google.com/file/d/12pC2q4Fd7BjnKTuuiX-zWCQgsQTFyOsp/view?usp=sharing
11		Representation of various processes on these diagrams.	https://drive.google.com/file/d/12pC2q4Fd7BjnKTuuiX-zWCQgsQTFyOsp/view?usp=sharing
12		Steam tables and its use. Throttling calorimeter	https://drive.google.com/file/d/12pC2q4Fd7BjnKTuuiX-zWCQgsQTFyOsp/view?usp=sharing
13	December- Week-IV	Separating and throttling calorimeter.	https://youtu.be/8V0mW-XOq_M
14		Numerical on pure substance	https://youtu.be/fTagcyIXO3Q
15		Numerical on pure substance	https://www.youtube.com/watch?v=TQRervO0Mn4
16		Numerical on pure substance	https://www.youtube.com/watch?v=TQRervO0Mn4

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Academic Year: 2020-2021		Semester: III		Course: Material Science		Course Code: 18ME34	
Serial No:	Date	Module	Topics Covered	Material link (Video/ppt/Notes/ Question Bank)			
1	December- Week-I	Module -4	Composite Materials : Composite materials - Definition, classification, types of matrix materials & reinforcements, Metal Matrix Composites (MMCs),	https://drive.google.com/drive/folders/1D5Sadqc5pKxNlzlNh6FE4seQ14ygyML			
2			Ceramic Matrix Composites (CMCs) and Polymer Matrix Composites (PMCs)	https://drive.google.com/drive/folders/1D5Sadqc5pKxNlzlNh6FE4seQ14ygyML			
3			Particulate-reinforced and fiber-reinforced composites,	https://drive.google.com/drive/folders/1D5Sadqc5pKxNlzlNh6FE4seQ14ygyML			
4			Fundamentals of production of composites,	https://drive.google.com/drive/folders/1D5Sadqc5pKxNlzlNh6FE4seQ14ygyML			
5			characterization of composites, constitutive relations of composites,	https://drive.google.com/drive/folders/1D5Sadqc5pKxNlzlNh6FE4seQ14ygyML			
6			Determination of composite properties from component properties,	https://drive.google.com/drive/folders/1D5Sadqc5pKxNlzlNh6FE4seQ14ygyML			
7			hybrid composites. Applications of composite materials	https://drive.google.com/drive/folders/1D5Sadqc5pKxNlzlNh6FE4seQ14ygyML			
8			Numerical on determining properties of composites.	https://drive.google.com/drive/folders/1D5Sadqc5pKxNlzlNh6FE4seQ14ygyML			
9	December- Week-III	Module -5	Ceramics: Structure type sand properties and applications of ceramics. Mechanical/ Electrical	https://drive.google.com/drive/folders/1D5Sadqc5pKxNlzlNh6FE4seQ14ygyML			

			behaviour and processing of Ceramics.	
10			Plastics: Various types of polymers/plastics and their applications.	https://drive.google.com/drive/folders/1D5Sadqc5pKxNlzlNh6FE4seQ14ygrYML
11			Mechanical behaviour and processing of plastics, Failure of plastics.	https://drive.google.com/drive/folders/1D5Sadqc5pKxNlzlNh6FE4seQ14ygrYML
12			Other materials: Brief description of other materials such as optical and thermal materials.	https://drive.google.com/drive/folders/1D5Sadqc5pKxNlzlNh6FE4seQ14ygrYML
13	December- Week-IV		Smart materials–fiber optic materials, piezo-electrics, shape memory alloys– Nitinol, superelasticity	https://drive.google.com/drive/folders/1D5Sadqc5pKxNlzlNh6FE4seQ14ygrYML
14			Biological applications of smart materials-materials used as implants in human Body, selection of materials,	https://drive.google.com/drive/folders/1D5Sadqc5pKxNlzlNh6FE4seQ14ygrYML
15			performance of materials in service. Residual life assessment– use of non-destructive testing,	https://drive.google.com/drive/folders/1D5Sadqc5pKxNlzlNh6FE4seQ14ygrYML
16			economics, environment and Sustainability.	https://drive.google.com/drive/folders/1D5Sadqc5pKxNlzlNh6FE4seQ14ygrYML

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Academic Year: 2020-2021		Semester: III		Course: Metal cutting and forming		Course Code: 18ME35A	
Serial No:	Date	Module	Topics Covered	Material link (Video/ppt/Notes/ Question Bank)			
1	December -Week-I	Module-3	Cutting fluid-types and applications	https://docs.google.com/presentation/d/1MgkvP1BELezf7zIO9R0Y-B705n4POdvT/edit#slide=id.p4			
2			Effect of machining parameters on surface finish	https://youtu.be/nphMiY8Z2BM			
3			Economics of machining process	https://youtu.be/rN3xKiApZNg			
4			Choice of cutting speed and feed	https://youtu.be/R4v2QJ6kh8k			
5	December -Week-II		Tool life for minimum cost and production time	https://youtu.be/P8wPQY19mLg			
6			Module – 4 - Mechanical Working of Metals	https://docs.google.com/presentation/d/18m7CB-QiNg7DJnNvKVtLak0VamZ0bf73/edit#slide=id.p1			
7			Introduction to metal forming processes & classification of metal forming processes	https://youtu.be/-EG9YAwXh4I			
8			Hot working & cold working of metals.	https://youtu.be/dNbVsmVgOnM			
9	December -Week-III	Module-4	Forging: Smith forging, drop forging & press forging	https://youtu.be/XTU0Z-FkhtU			
10			Forging Equipment, Defects in forging	https://youtu.be/-LXzFSH0WxE			
11			Rolling: Rolling process, Angle of bite	https://youtu.be/KRn73gKQ2YU			
12			Types of rolling mills, Variables of rolling process, Rolling defects	https://youtu.be/BLHwOyaVNiM			
13	December		Drawing & Extrusion: Drawing of wires, rods & pipes	https://youtu.be/Rc8FyKDd55Y			

14	-Week-IV		Variables of drawing process	https://youtu.be/pd4Uk8vk09c
15			Difference between drawing & extrusion	https://youtu.be/yy5B7PS9F5w
16			Various types of extrusion processes	https://youtu.be/CdgBwlz1A14

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Academic Year: 2020-2021		Semester: III		Course: Computer Aided Machine Drawing		Course Code: 18ME36A	
Serial No:	Date	Module	Topics Covered	Material link (Video/ppt/Notes/ Question Bank)			
1	December Week-I	Part A	Thread Forms: ISO Metric (Internal & External), BSW (Internal & External),	https://www.youtube.com/watch?v=DOecmtzzQ_w https://en.wikipedia.org/wiki/ISO_metric_screw_thread http://hsit.ac.in/E-LEARNING/MECHANICAL%20ENGINEERING/III%20SEMESTER/COMPUTER%20AIDED%20MACHINE%20DRAWING(17ME36A)/17ME36A%20CAMD.pdf			
2			Square and Acme. Sellers thread, American Standard thread.	http://hsit.ac.in/E-LEARNING/MECHANICAL%20ENGINEERING/III%20SEMESTER/COMPUTER%20AIDED%20MACHINE%20DRAWING(17ME36A)/17ME36A%20CAMD.pdf https://www.youtube.com/watch?v=EIXyPmhyd78			
3			Hexagonal headed bolt and nut with washer	http://hsit.ac.in/E-LEARNING/MECHANICAL%20ENGINEERING/III%20SEMESTER/COMPUTER%20AIDED%20MACHINE%20DRAWING(17ME36A)/17ME36A%20CAMD.pdf https://www.youtube.com/watch?v=OCQanXYwF5w&list=TLPQMjKxMTIwMjDsj-ZoAjcOjQ&index=3			
4			Square headed bolt and nut with washer	http://hsit.ac.in/E-LEARNING/MECHANICAL%20ENGINEERING/III%20SEMESTER/COMPUTER%20AIDED%20MACHINE%20DRAWING(17ME36A)/17ME36A%20CAMD.pdf https://www.youtube.com/watch?v=RjRYSLclVAg			
5	December-Week-II	Part B	Parallel key, Taper key, Feather key,	http://hsit.ac.in/E-LEARNING/MECHANICAL%20ENGINEERING/III%20SEMESTER/COMPUTER%20AIDED%20MACHINE%20DRAWING(17ME36A)/17ME36A%20CAMD.pdf https://www.youtube.com/watch?v=TboMOL-RjY0			

6			Gib-head key and Woodruff key.	http://hsit.ac.in/E-LEARNING/MECHANICAL%20ENGINEERING/III%20SEMESTER/COMPUTER%20AIDED%20MACHINE%20DRAWING(17ME36A)/17ME36A%20CAMD.pdf https://www.youtube.com/watch?v=iSc4gWDbCzE
7			Cotter joint (socket and spigot),	http://hsit.ac.in/E-LEARNING/MECHANICAL%20ENGINEERING/III%20SEMESTER/COMPUTER%20AIDED%20MACHINE%20DRAWING(17ME36A)/17ME36A%20CAMD.pdf https://www.youtube.com/watch?v=7sUjb-uQwOI
8			Knuckle joint (pin joint) for two rods.	http://hsit.ac.in/E-LEARNING/MECHANICAL%20ENGINEERING/III%20SEMESTER/COMPUTER%20AIDED%20MACHINE%20DRAWING(17ME36A)/17ME36A%20CAMD.pdf https://www.youtube.com/watch?v=rj7o5R7TtCI
9	December- Week-III	Part C	Split Muff coupling, ,	http://hsit.ac.in/E-LEARNING/MECHANICAL%20ENGINEERING/III%20SEMESTER/COMPUTER%20AIDED%20MACHINE%20DRAWING(17ME36A)/17ME36A%20CAMD.pdf https://www.youtube.com/watch?v=_ZHqcoHGkfY&v1=en
10			Protected type flanged coupling	http://hsit.ac.in/E-LEARNING/MECHANICAL%20ENGINEERING/III%20SEMESTER/COMPUTER%20AIDED%20MACHINE%20DRAWING(17ME36A)/17ME36A%20CAMD.pdf https://www.youtube.com/watch?v=2sAU7crQUqU
11			Pin (bush) type flexible coupling,	http://hsit.ac.in/E-LEARNING/MECHANICAL%20ENGINEERING/III%20SEMESTER/COMPUTER%20AIDED%20MACHINE%20DRAWING(17ME36A)/17ME36A%20CAMD.pdf https://www.youtube.com/watch?v=1_biBovv_RM
12			Universal coupling (Hooks' Joint)	http://hsit.ac.in/E-LEARNING/MECHANICAL%20ENGINEERING/III%20SEMESTER/COMPUTER%20AIDED%20MACHINE%20DRAWING(17ME36A)/17ME36A%20CAMD.pdf

			https://www.youtube.com/watch?v=yihDuwCbdsE
13	December- Week-IV	Screw jack (Bottle type)	http://hsit.ac.in/E-LEARNING/MECHANICAL%20ENGINEERING/III%20SEMESTER/COMPUTER%20AIDED%20MACHINE%20DRAWING(17ME36A)/17ME36A%20CAMD.pdf https://www.youtube.com/watch?v=bb3zelbCEAY https://www.youtube.com/watch?v=FvKCIIs0V7DY https://www.youtube.com/watch?v=r7ajkX1DrYw
14		Plummer block (Pedestal Bearing)	http://hsit.ac.in/E-LEARNING/MECHANICAL%20ENGINEERING/III%20SEMESTER/COMPUTER%20AIDED%20MACHINE%20DRAWING(17ME36A)/17ME36A%20CAMD.pdf https://www.youtube.com/watch?v=QkAGpKUkyJM https://www.youtube.com/watch?v=LW2d92BBpJY https://www.youtube.com/watch?v=Cpb4T1AcohY
15		Machine vice	http://hsit.ac.in/E-LEARNING/MECHANICAL%20ENGINEERING/III%20SEMESTER/COMPUTER%20AIDED%20MACHINE%20DRAWING(17ME36A)/17ME36A%20CAMD.pdf https://www.youtube.com/watch?v=yKl_FiUdAu4 https://www.youtube.com/watch?v=MOYAKccMxFU