GANESH INSTITUTEOFENGINEERINGAND TECHNOLOGY, POLYTECHNIC									
DEPARTMENT OF MECHANICAL ENGINEERING									
Er. Abhijit Dash				LESSONPLAN CUM PROGRESS REPORT					
SUBJECT: TH:2- THERMAL ENGINEERING-II(MEPC204)				SEMESTER:4 th sec-A&B			BRANCH:MECHANICAL ENGINEERING		
LECTURE NO.	CO	BTL	TOPIC TO BE COVERED	BOOK NAME./CHAPT. NO./PAGE NO.	WEB REFERENCE IF ANY	TEACHINGLEARNINGMETHOD	PLAN DATE	ACTION DATE	REVIEW BY HOD
1	CO1	1	Gas Turbines: Air-standard Brayton cycle; Description with p-v and T-S diagrams; Gas turbines	R.S KHURMI&J.K GUPTA PAGENO-707	https://youtube.com/shorts/gZX_8LKnqkE?si=xOsU31x57pumqDCa	1-Introduction 10 min 2- PPT/Smart board-20 min 3-Lecturer-30 min	1/5/2026		
2	CO1	2	Classification: open cycle gas turbines and closed cycle gas turbines; c	R.S KHURMI&J.K GUPTA PAGENO-709	https://www.youtube.com/watch?v=zt5SRSwLXHQ&t=5s	1-Previous class topic Review-10 min 2-Lecturer-50 min	1/6/2026		
3	CO1	3	comparison of gas turbine with reciprocating I.C. engines and steam turbines.	R.S KHURMI&J.K GUPTA PAGENO-711	https://youtu.be/fAvZA59161M?si=aBcAAd0Aivl9ntUR	1-Previous class topic Review-10 min 2-Lecturer-50 min	1/7/2026		
4	CO1	3	Applications and limitations of gas turbines; General lay-out of Open cycle constant pressure gas turbine;	R.S KHURMI&J.K GUPTA PAGENO-714	https://youtu.be/w8usnhxH1UQ?si=undtmgzP0cuDUkxl	1-Previous class topic Review-10 min 2-Lecturer-50 min	1/8/2026		
5	CO1	3	P-V and T-S diagrams and working; General lay-out of Closed cycle gas turbine; P-V and T-S diagrams and working	R.S KHURMI&J.K GUPTA PAGENO-716	https://youtu.be/3K1mxS6M7wk?si=3FnMDigoF8lX16	1-Previous class topic Review-10 min 2- PPT/Smart board-20 min 3-Lecturer-30 min	1/9/2026		
6	CO1	2	P-V and T-S diagrams and working; General lay-out of Closed cycle gas turbine; P-V and T-S diagrams and working	R.S KHURMI&J.K GUPTA PAGENO-716	https://www.youtube.com/watch?v=Su0ICzJFTNk	1-Previous class topic Review-10 min 2- PPT/Smart board-20 min 3-Lecturer-30 min	**1/9/2026**		

7	CO1	2	Jet Propulsion: Principle of jet propulsion; Fuels used for jet propulsion; Applications of jet propulsion; Working of a turbojet engine;	R.S KHURMI&J.K GUPTA PAGENO-778	https://www.youtube.com/watch?v=Su0ICzJFTNk	1-Previous class topic Review-10 min 2- PPT/Smart board-20 min 3-Lecturer-30 min	**1/9/2026**		
8	CO2	2	Principle of Ram effect; Working of a Ram jet engine; Principle of Rocket propulsion;	R.S KHURMI&J.K GUPTA PAGENO-325	https://www.youtube.com/watch?v=Su0ICzJFTNk	1-Previous class topic Review-10 min 2- PPT/Smart board-20 min 3-Lecturer-30 min	1/10/2026		
9	CO2	3	Working principle of a rocket engine; Applications of rocket propulsion;	R.S KHURMI&J.K GUPTA PAGENO-334,336	https://youtube.com/shorts/enNT2olnzk0?si	1-Previous class topic Review-10 min 2- PPT/Smart board-20 min 3-Lecturer-30 min	1/12/2026		
10	CO2	3	Comparison of jet and rocket propulsions.	R.S KHURMI&J.K GUPTA PAGENO-270	https://www.youtube.com/watch?v=tKv-Ilr3AhE	1-Previous class topic Review-10 min 2- PPT/Smart board-20 min 3-Lecturer-30 min	1/13/2026		
11	CO2	3	Properties of Steam: Formation of steam under constant pressure; Industrial uses of steam; Basic definitions: saturated liquid line, saturated vapor line	R.S KHURMI&J.K GUPTA PAGENO-200	https://www.youtube.com/watch?v=4jmv2YsFCI4	1-Previous class topic Review-10 min 2- PPT/Smart board-20 min 3-Lecturer-30 min	1/15/2026		
12	CO2	4	liquid region, vapor region, wet region, superheat region, critical point, saturated liquid, saturated vapor, saturation temperature, sensible heat, latent heat, wet steam,	R.S KHURMI&J.K GUPTA PAGENO-205	https://www.youtube.com/watch?v=4jmv2YsFCI4	1-Previous class topic Review-10 min 2-Lecturer-50 min	1/16/2026		
13	CO2		dryness fraction, wetness fraction, saturated steam, superheated steam, degree of superheat	R.S KHURMI&J.K GUPTA PAGENO-208	https://www.youtube.com/watch?v=JCvdisaEkr4	1-Previous class topic Review-10 min 2-Lecturer-50 min	1/17/2026		

14	CO2		Determination of enthalpy, internal energy, internal latent heat, entropy of wet, dry and superheated steam at a given pressure using steam tables and Mollier chart	R.S KHURMI&J.K GUPTA PAGENO-206	https://www.youtube.com/watch?v=6qKMcq784hA	1-Previous class topic Review-10 min 2-Lecturer-50 min	1/19/2026		
15	CO2		Determination of enthalpy, internal energy, internal latent heat, entropy of wet, dry and superheated steam at a given pressure using steam tables and Mollier chart	R.S KHURMI&J.K GUPTA PAGENO-206	https://www.youtube.com/watch?v=TwKnDXsuCoI	1-Previous class topic Review-10 min 2- PPT/Smart board-20 min 3-Lecturer-30 min	1/20/2026		
16	CO2		the following processes: Isochoric process, Isobaric process, Hyperbolic process, Isothermal process, Isentropic process, Throttling process, Polytropic process; Simple direct problems on the above using tables and charts	R.S KHURMI&J.K GUPTA PAGENO-208	https://www.youtube.com/watch?v=TwKnDXsuCoI	1-Previous class topic Review-10 min 2- PPT/Smart board-20 min 3-Lecturer-30 min	**1/20/2026**		
17	CO2	2	the following processes: Isochoric process, Isobaric process, Hyperbolic process, Isothermal process, Isentropic process, Throttling process, Polytropic process; Simple direct problems on the above using tables and charts	R.S KHURMI&J.K GUPTA PAGENO-436	https://www.youtube.com/watch?v=TwKnDXsuCoI	1-Previous class topic Review-10 min 2- PPT/Smart board-20 min 3-Lecturer-30 min	**1/20/2026**		
18	CO2	5	Steam calorimeters: Separating, throttling, Combined Separating and throttling calorimeters – problems.	R.S KHURMI&J.K GUPTA PAGENO-742	https://youtu.be/qi80_lXgREM?si=Svkiku7x2uuqhy9	1-Previous class topic Review-10 min 2- PPT/Smart board-20 min 3-Lecturer-30 min	1/21/2026		
19	CO3	2	Steam calorimeters: Separating, throttling, Combined Separating and throttling calorimeters – problems.	R.S KHURMI&J.K GUPTA PAGENO-565	https://www.youtube.com/watch?v=r3l0LKMUAN8	1-Previous class topic Review-10 min 2-Lecturer-50 min	1/22/2026		
20	CO3	2	Steam calorimeters: Separating, throttling, Combined Separating and throttling calorimeters – problems.	R.S KHURMI&J.K GUPTA PAGENO-567	https://www.youtube.com/watch?v=r3l0LKMUAN8	1-Previous class topic Review-10 min 2-Lecturer-50 min	1/24/2026		

21	CO3	2	Steam Generators: Function and use of steam boilers; Classification of steam boilers with examples; Brief explanation with line sketches of Cochran, Babcock and Wilcox Boilers; Comparison of water tube and fire tube boilers	R.S KHURMI&J.K GUPTA PAGENO-569,571	https://www.youtube.com/watch?v=r3l0LKMUAN8	1-Previous class topic Review-10 min 2-Lecturer-50 min	1/27/2026		
22	CO3	2	Description with line sketches and working of modern high pressure boilers Lamont and Benson boilers; Boiler mountings: Pressure gauge, water level indicator, fusible plug,	R.S KHURMI&J.K GUPTA PAGENO-653	https://youtu.be/qi80_lXgREM?si=PUptsTYG87OO	1-Previous class topic Review-10 min 2-Lecturer-50 min	1/28/2026		
23	CO3	4	blow down cock, stop valve, safety valve, (dead weight type, spring loaded type, high pressure and low water safety alarm)	R.S KHURMI&J.K GUPTA PAGENO-657	https://www.youtube.com/watch?v=c2b160dGpXs&list=PLWM0wjHbgpgVJhZiQTdBOWjysOFDsnz-9	1-Previous class topic Review-10 min 2-Lecturer-50 min	1/29/2026		
24	CO3	4	Boiler accessories: feed pump, economizer, super heater and air preheater; Study of steam traps & separators; Explanation of the terms: Actual evaporation, equivalent evaporation,	R.S KHURMI&J.K GUPTA PAGENO-655	https://www.youtube.com/watch?v=nBQrFonGTgk&list=PLjk-OqI4WmPIyU1nQ3DMB1GchCLYmoXRU	1-Previous class topic Review-10 min 2-Lecturer-50 min	1/30/2026		
25	CO3	2	Boiler accessories: feed pump, economizer, super heater and air preheater; Study of steam traps & separators; Explanation of the terms: Actual evaporation, equivalent evaporation,	R.S KHURMI&J.K GUPTA PAGENO-654	https://www.youtube.com/watch?v=fA2O8X_v3NQ&list=PLPgv9oO0Lgc1l83hSVdOiXwmiAJeS22Hp	1-Previous class topic Review-10 min 2-Lecturer-50 min	**2/2/2026**		
26	CO3	3	, factor of evaporation, boiler horse power and boiler efficiency; F	R.S KHURMI&J.K GUPTA PAGENO-700	https://www.youtube.com/watch?v=lMJjGYECc3U&t=138s	1-Previous class topic Review-10 min 2-Lecturer-50 min	**2/2/2026**		

27	CO3		Formula for the above terms without proof; Simple direct problems on the above; Draught systems (Natural, forced & induced)	R.S KHURMI&J.K GUPTA 362	https://youtube.com/shorts/kCrakwOej14?si=ihp_PJOoOVL0jaIJ	1-Previous class topic Review-10 min 2-Lecturer-50 min	1/31/2026		
28	CO3	5	Formula for the above terms without proof; Simple direct problems on the above; Draught systems (Natural, forced & induced)	R.S KHURMI&J.K GUPTA PAGENO-364	https://youtube.com/shorts/kCrakwOej14?si=KZMwvtvvM77	1-Previous class topic Review-10 min 2-Lecturer-50 min	2/2/2026		
29	CO4	2	Steam Nozzles: Flow of steam through nozzle;	R.S KHURMI&J.K GUPTA PAGENO-473	https://youtu.be/jVuIH_nnAQ8?si=cj1XE8PbygA8C5lW	1-Previous class topic Review-10 min 2-Lecturer-50 min	3/3/2026		
30	CO4	3	Velocity of steam at the exit of nozzle in terms of heat drop using analytical method	R.S KHURMI&J.K GUPTA PAGENO-472	https://youtu.be/uu0tSDG1TvQ?si=uLNKvpjN4e0hyuaz	1-Previous class topic Review-10 min 2-Lecturer-50 min	2/4/2026		
31	CO4	5	Mollier chart; Discharge of steam through nozzles; Critical pressure ratio;	R.S KHURMI&J.K GUPTA PAGENO-521	https://www.youtube.com/watch?v=aP3Gk9KvFoQ	1-Previous class topic Review-10 min 2-Lecturer-50 min	2/5/2026		
32	CO4	3	Mollier chart; Discharge of steam through nozzles; Critical pressure ratio;	R.S KHURMI&J.K GUPTA PAGENO-521	https://www.youtube.com/watch?v=aP3Gk9KvFoQ	1-Previous class topic Review-10 min 2- PPT/Smart board-20 min 3-Lecturer-30 min	2/6/2026		

33	CO4	3	Methods of calculation of crosssectional areas at throat and exit for maxi- mum discharge	R.K.Bansal ,Laxmi publicationspage no-520	https://www.youtube.com/watch?v=ahjJ74EcctI	1-Previous class topic Review-10 min 2-Lecturer-50 min	2/7/2026		
34	CO3	3	Methods of calculation of crosssectional areas at throat and exit for maxi- mum discharge	R.S KHURMI&J.K GUPTA PAGENO-297,301	https://www.youtube.com/watch?v=aP3Gk9KvFoQ	Clearing the doubt	2/8/2026		
35	CO4	3	Methods of calculation of crosssectional areas at throat and exit for maxi- mum discharge	R.S KHURMI&J.K GUPTA PAGENO-520	https://www.youtube.com/watch?v=IXMDDmSiXZw	1-Previous class topic Review-10 min 2-Lecturer-50 min	**2/8/2026**		
36	CO4	3	Effect of friction in nozzles and Super saturated flow in nozzles;	R.S KHURMI&J.K GUPTA PAGENO-471	https://www.youtube.com/watch?v=BnYBEbmVX98	1-Previous class topic Review-10 min 2-Lecturer-50 min	**2/8/2026**		
37	CO4	5	Effect of friction in nozzles and Super saturated flow in nozzles;	R.S KHURMI&J.K GUPTA PAGENO-472	https://www.youtube.com/watch?v=ajBJnT5FTJI	1-Previous class topic Review-10 min 2-Lecturer-50 min	2/9/2026		
38	CO4	5	Working steam jet injector; Simple numerical problems.	R.S KHURMI&J.K GUPTA PAGENO-535	https://www.youtube.com/watch?v=xSII-cTgkMM	1-Previous class topic Review-10 min 2- PPT/Smart board-20 min 3-Lecturer-30 min	2/10/2026		
39	CO5	2	Steam Turbines: Classification of steam turbines with examples; Difference between impulse & reaction turbines; Principle of working of a simple De-lavel turbine with line diagrams- Velocity diagrams	R.S KHURMI&J.K GUPTA PAGENO-535	https://www.youtube.com/watch?v=V07SpHuIYjU	1-Previous class topic Review-10 min 2-Lecturer-50 min	2/11/2026		

40	CO5	3	Steam Turbines: Classification of steam turbines with examples; Difference between impulse & reaction turbines; Principle of working of a simple De-lavel turbine with line diagrams- Velocity diagrams	R.S KHURMI&J.K GUPTA PAGENO-535	https://youtube.com/shorts/qRllCGMfD3s?si=JOrbIfK2Bpt0PWrs	1-Previous class topic Review-10 min 2-Lecturer-50 min	2/12/2026		
41	CO5	3	Expression for work done, axial thrust, tangential thrust, blade and diagram efficiency, stage efficiency, nozzle efficiency; Methods of reducing rotor speed; compounding for velocity, for pressure or both pressure and velocity;	R.S KHURMI&J.K GUPTA PAGENO-518	https://www.youtube.com/watch?v=aP3Gk9KvFoQ	1-Previous class topic Review-10 min 2-Lecturer-50 min	2/13/2026		
42	CO5	3	Expression for work done, axial thrust, tangential thrust, blade and diagram efficiency, stage efficiency, nozzle efficiency; Methods of reducing rotor speed; compounding for velocity, for pressure or both pressure and velocity;	R.S KHURMI&J.K GUPTA PAGENO-518	https://www.youtube.com/watch?v=-Dt_VnjlLfo	1-Previous class topic Review-10 min 2- PPT/Smart board-20 min 3-Lecturer-30 min	2/14/2026		
43	CO5	5	Working principle with line diagram of a Parson's Reaction turbine–velocity diagrams; Simple problems on single stage impulse turbines (without blade friction) and reaction turbine	R.S KHURMI&J.K GUPTA PAGENO-521	https://www.youtube.com/watch?v=aP3Gk9KvFoQ	1-Previous class topic Review-10 min 2-Lecturer-50 min	2/16/2026		
44	CO5	2	blade height. Bleeding, re-heating and re-heating factors(Problems omitted); Governing of steam turbines: Throttle, By-pass & Nozzle control governing.	R.S KHURMI&J.K GUPTA PAGENO-538	https://www.youtube.com/watch?v=aP3Gk9KvFoQ	1-Previous class topic Review-10 min 2-Lecturer-50 min	2/17/2026		
45	CO5	2	blade height. Bleeding, re-heating and re-heating factors(Problems omitted); Governing of steam turbines: Throttle, By-pass & Nozzle control governing.	R.S KHURMI&J.K GUPTA PAGENO-538	https://www.youtube.com/watch?v=aP3Gk9KvFoQ	1-Previous class topic Review-10 min 2-Lecturer-50 min	2/18/2026		

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