



# G H RAISONI COLLEGE OF ENGINEERING NAGPUR

(An Autonomous Institute affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)

CRPF Gate No.3, Hingna Road, Digdoh Hills, Nagpur. Maharashtra-440016 (India)

## Course wise Teaching Plan for Session : Summer Term 2018

Course : Engineering Thermodynamics

Faculty : vpkalbande - Vednath P  
Kalbande

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Introduction to Thermodynamics, basic concepts, systems.	03/05/2018	BMEL205	A
1	2	Microscopic & macroscopic approaches properties and state of system.	03/05/2018	BMEL205	A
1	3	Point & path functions, thermodynamic equilibrium.	04/05/2018	BMEL205	A
1	4	Processes and cycles. Properties such as specific volume, pressure, temperature	04/05/2018	BMEL205	A
1	5	Zeroth law of thermodynamics, temperature scales	07/05/2018	BMEL205	A
1	6	Difference between gases and Vapour, Ideal Gases.	07/05/2018	BMEL205	A
1	7	Gas Laws, Equation of state.	08/05/2018	BMEL205	A
1	8	Gas constant, Heat and work, Work in compressible system.	08/05/2018	BMEL205	A
1	9	Heat transfer – a path function, Comparison of heat and work	10/05/2018	BMEL205	A
2	10	First law applied to closed system, Joules Experiment.	10/05/2018	BMEL205	A
2	11	Energy-a property of system, Internal energy – a function of temperature.	11/05/2018	BMEL205	A
2	12	Enthalpy, Specific heat at constant volume and pressure. Change in internal energy during non flow processes.	11/05/2018	BMEL205	A
2	13	Work done during various processes, P – V Diagram	14/05/2018	BMEL205	A
2	14	First law applied to Flow processes, Steady state process, mass & energy balance.	14/05/2018	BMEL205	A
2	15	SFEE and its applications.	15/05/2018	BMEL205	A
2	16	Work and heat transfer during flow processes.	15/05/2018	BMEL205	A
3	17	Limitations of first law, Heat engine, Refrigerator, Heat pump.	17/05/2018	BMEL205	A
3	18	Statements of second law & their equivalence, PMM II	17/05/2018	BMEL205	A



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3	19	Reversible & irreversible process, Carnot cycle & reversed Carnot cycle.	18/05/2018	BMEL205	A
3	20	COP of heat pump & refrigerator	18/05/2018	BMEL205	A
3	21	Numericals	21/05/2018	BMEL205	A
4	22	Entropy, Property of system, Clausius inequality	21/05/2018	BMEL205	A
4	23	Change in entropy for ideal gases & during irreversible process.	22/05/2018	BMEL205	A
4	24	Principal increase of entropy	22/05/2018	BMEL205	A
4	25	Numericals	24/05/2018	BMEL205	A
4	26	Availability, Reversible work & Irreversibility	24/05/2018	BMEL205	A
4	27	Numericals	25/05/2018	BMEL205	A
5	28	Gas power cycles, Engine terminology	25/05/2018	BMEL205	A
5	29	Otto Cycle, Work done, MEP	28/05/2018	BMEL205	A
5	30	Diesel, Dual cycles, Numericals	28/05/2018	BMEL205	A
5	31	Comparison of Otto, Diesel, Dual Cycles	29/05/2018	BMEL205	A
5	32	Sterling cycle, Ericsson cycles	29/05/2018	BMEL205	A
5	33	Numericals	31/05/2018	BMEL205	A
5	34	Numericals	31/05/2018	BMEL205	A
6	35	Vapour power Cycles: Properties of steam, specific volume and entropy	01/06/2018	BMEL205	A
6	36	Phase change process of pure substance, Specific, sensible, Latent heat	01/06/2018	BMEL205	A
6	37	Triple point, critical point, and Total heat of system.	04/06/2018	BMEL205	A
6	38	Dryness fraction, throttling of steam.	04/06/2018	BMEL205	A
6	39	Steam tables and their use T - s & H - S Diagram	05/06/2018	BMEL205	A



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6	40	Numerical treatment.	05/06/2018	BMEL205	A
6	41	Determination of dryness fraction.	07/06/2018	BMEL205	A
6	42	Rankine & modified Rankine cycle, Carnot cycle and its representation.	07/06/2018	BMEL205	A
6	43	Revision	08/06/2018	BMEL205	A
6	44	Revision	08/06/2018	BMEL205	A