

Universal Engineering College, Thrissur
Vallivattom, ThrissurKerala

Department:ME Batch:ME2022 Semester:S6								
Subject :MET3 0 2 HEAT &MASS TRANSFER								
Subject Plan Report between: 16-12-2024 to 19-03-2025								
SI No.	Topic Name	Proposed Plan			Topic Name	Actual Plan		
		Date	Module	Hour		Date	Teaching Pedagogy	Hour
1	Introduction to heat transfer-thermodynamics and heat transfer	16/12/2024	1	5	Introduction to heat transfer-thermodynamics and heat transfer	16/12/2024	chalk and board	5
2	Typical heat transfer situations	16/12/2024	1	1	Typical heat transfer situations	17/12/2024	chalk and board	1
3	Modes of heat transfer	12/16/2024	1	5	Modes of heat transfer	12/17/2024	board	5
4	Mechanism of heat transfer	17/12/2024	1	6	Mechanism of heat transfer	17/12/2024	role play	6
5	Mechanism of heat transfer	18/12/2024	1	5	Mechanism of heat transfer	18/12/2024	chalk and board	5
6	Basic laws of heat transfer	19/12/2024	1	3	Basic laws of heat transfer	19/12/2024	chalk and board	3
7	Thermal conductivity	30/12/2024	1	5	Thermal conductivity	30/12/2024	chalk and board	5
8	Effect of temperature on thermal conductivity	31/12/2024	1	1	Effect of temperature on thermal conductivity	31/12/2024	chalk and board	1
9	Combined heat transfer mechanism - real life situations	31/12/2024	1	5	Combined heat transfer mechanism - real life situations	31/12/2024	chalk and board	5
10	Differential equations of heat conduction	31/12/2024	1	6	Differential equations of heat conduction	31/12/2024	chalk and board	6
11	Boundary conditions and initial conditions for heat conduction	01/01/2025	1	5	Boundary conditions and initial conditions for heat conduction	01/01/2025	chalk and board	5
12	One dimensional steady state situations - plane wall, cylinder, sphere	06/01/2025	1	5	One dimensional steady state situations - plane wall, cylinder, sphere	06/01/2025	chalk and board	5
13	Concept of thermal resistance	07/01/2025	1	1	Concept of thermal resistance	07/01/2025	chalk and board	1
14	Critical radius in heat conduction	07/01/2025	1	5	Critical radius in heat conduction	07/01/2025	chalk and board	5
15	Conduction with heat generation	07/01/2025	1	6	Conduction with heat generation	07/01/2025	chalk and board	6
16	Two-dimensional steady state situations	08/01/2025	1	5	Two-dimensional steady state situations	08/01/2025	chalk and board	5
							chalk and board	

17	Transient conduction	09/01/2025	1	3	Transient conduction	09/01/2025		3
18	Lumped capacitance model	21/01/2025	1	1	Lumped capacitance model	21/01/2025	chalk and board	1
19	Conduction shape factor	21/01/2025	1	5	Conduction shape factor	21/01/2025	chalk and board	5
20	Numerical methods of analysis in heat conduction	21/01/2025	1	6	Numerical methods of analysis in heat conduction	21/01/2025	chalk and board	6
21	Thermal analysis of rectangular fins	22/01/2025	1	5	Thermal analysis of rectangular fins	22/01/2025	chalk and board	5
22	Fundamentals of momentum and energy equations	23/01/2025	2	3	Fundamentals of momentum and energy equations	23/01/2025	chalk and board	3
23	Order of magnitude analysis of momentum and energy equations	27/01/2025	2	5	Order of magnitude analysis of momentum and energy equations	27/01/2025	chalk and board	5
24	Hydrodynamic and thermal boundary layers	28/01/2025	2	1	Hydrodynamic and thermal boundary layers	28/01/2025	chalk and board	1
27	Remedial	29/01/2025	1,2	5	Remedial	29/01/2025	Remedial	5
28	Laminar flow heat transfer in circular pipe – constant heat flux	30/01/2025	2	3	Laminar flow heat transfer in circular pipe – constant heat flux	30/01/2025	chalk and board	3
29	Laminar flow heat transfer in circular pipe – constant wall temperature	03/02/2025	2	5	Laminar flow heat transfer in circular pipe – constant wall temperature	03/02/2025	chalk and board	5
30	Thermal entrance region in pipe flow	04/02/2025	2	1	Thermal entrance region in pipe flow	04/02/2025	chalk and board	1
31	Turbulent flow heat transfer in circular pipe	04/02/2025	2	5	Turbulent flow heat transfer in circular pipe	04/02/2025	chalk and board	5
32	Heat transfer in pipes of other cross sections	04/02/2025	2	6	Heat transfer in pipes of other cross sections	04/02/2025	chalk and board	6
33	Heat transfer in laminar flow and turbulent flow over a flat plate	05/02/2025	2	5	Heat transfer in laminar flow and turbulent flow over a flat plate	05/02/2025	chalk and board	5
34	Reynolds analogy in heat transfer	06/02/2025	2	3	Reynolds analogy in heat transfer	06/02/2025	chalk and board	3
35	Flow across a cylinder and sphere	10/02/2025	2	5	Flow across a cylinder and sphere	10/02/2025	chalk and board	5
36	Natural convection basics	12/02/2025	2	1	Natural convection basics	12/02/2025	chalk and board	1
37	Free convection heat transfer on a vertical flat plate	12/02/2025	2	5	Free convection heat transfer on a vertical flat plate	12/02/2025	chalk and board	5
38	Empirical relations for free convection heat transfer	12/02/2025	2	6	Empirical relations for free convection heat transfer	12/02/2025	chalk and board	6
39	Condensation heat transfer phenomena	13/02/2025	3	3	Condensation heat transfer phenomena	13/02/2025	chalk and board	3
40	The condensation number	17/02/2025	3	5	The condensation number	17/02/2025	chalk and board	5
							chalk and board	

41	Boiling heat transfer phenomena	18/02/2025	3	1	Boiling heat transfer phenomena	18/02/2025		1
42	Simplified relations for boiling heat transfer	18/02/2025	3	5	Simplified relations for boiling heat transfer	18/02/2025	chalk and board	5
43	Types of heat exchangers	18/02/2025	3	6	Types of heat exchangers	18/02/2025	chalk and board	6
44	Overall heat transfer coefficient in heat exchangers	19/02/2025	3	5	Overall heat transfer coefficient in heat exchangers	19/02/2025	chalk and board	5
45	Fouling factor in heat exchangers	20/02/2025	3	3	Fouling factor in heat exchangers	20/02/2025	chalk and board	3
46	LMTD analysis of heat exchangers	24/02/2025	3	5	LMTD analysis of heat exchangers	24/02/2025	chalk and board	5
47	Effectiveness-NTU method for heat exchangers	25/02/2025	3	1	Effectiveness-NTU method for heat exchangers	25/02/2025	chalk and board	1
48	Analysis of variable properties in heat exchangers	25/02/2025	3	5	Analysis of variable properties in heat exchangers	25/02/2025	chalk and board	5
49	Compact heat exchangers	25/02/2025	3	6	Compact heat exchangers	25/02/2025	chalk and board	6
50	Heat exchanger design considerations	27/02/2025	3	3	Heat exchanger design considerations	27/02/2025	chalk and board	3
51	Physical mechanism of radiation heat transfer	03/03/2025	4	5	Physical mechanism of radiation heat transfer	03/03/2025	chalk and board	5
52	Radiation properties in heat transfer	04/03/2025	4	1	Radiation properties in heat transfer	04/03/2025	chalk and board	1
53	Black body radiation	04/03/2025	4	5	Black body radiation	04/03/2025	chalk and board	5
54	Planck's law of radiation	04/03/2025	4	6	Planck's law of radiation	04/03/2025	chalk and board	6
55	Wein's displacement law	05/03/2025	4	5	Wein's displacement law	05/03/2025	chalk and board	5
56	Stefan Boltzmann law	06/03/2025	4	3	Stefan Boltzmann law	06/03/2025	chalk and board	3
57	Kirchoff's law in radiation heat transfer	10/03/2025	4	5	Kirchoff's law in radiation heat transfer	10/03/2025	chalk and board	5
58	Gray body radiation	11/03/2025	4	1	Gray body radiation	11/03/2025	chalk and board	1
59	Remedial	12/03/2025	3,4	6	Remedial	12/03/2025	Remedial	6
60	Radiation from infinite parallel planes	13/02/2025	4	6	Radiation from infinite parallel planes	13/02/2025	chalk and board	6
61	Radiation combined with conduction and convection	12/02/2025	5	3	Radiation combined with conduction and convection	12/02/2025	chalk and board	3
62	Radiation combined with conduction and convection	14/03/2025	5	1	Steady state diffusion	14/03/2025	chalk and board	1
							chalk and board	

63	Introduction to mass transfer	17/03/2025	5	5	Solid diffusion types	17/03/2025		5
64	Molecular diffusion in fluids	18/03/2025	5	1	Laminar and turbulent mass transfer	18/03/2025	chalk and board	1
65	Steady state diffusion	19/03/2025	5	5	Convective mass transfer correlations	18/03/2025	chalk and board	5
66	Fick's law	20/03/2025	5	6	Fick's law	20/03/2025	chalk and board	6
67	Solid diffusion types	21/03/2025	5	6	Solid diffusion types	21/03/2025	chalk and board	6
68	Mass transfer coefficients	26/03/2025	5	1	Mass transfer coefficients	26/03/2025	chalk and board	1
69	Laminar and turbulent mass transfer	27/03,2025	5	5	Laminar and turbulent mass transfer	27/03,2025	chalk and board	5
68	Remedial	02/042025	5	1	Remedial	02/042025	Remedial	1
71	Convective mass transfer correlations	03/04/2035	5	5	Convective mass transfer correlations	03/04/2035	chalk and board	5
72	Mass transfer over cylinder	05/04/2025	5	6	Mass transfer over cylinder	05/04/2025	chalk and board	6
66	Course level gap	06/04/2025		5	Course level gap - conduction and convection	06/04/2025	Ansys simulation	5
Staffname & Signature: Mr.SHIBU AUGUSTINE								
Date & Time:19-03-2025 3:16 pm								