

DEPARTMENT OF MECHANICAL ENGINEERING

Lesson Plan & Work-done Diary for AY:2026-27, Odd Semester

Course with Code: Non-Traditional Machining -BME755A				Faculty: Dr. Chethan S			Semester & Section: 7 th sem	
Class No.	Date planned (DD/MM)	Topics to be covered	TLP Planned	Class No.	Date of Conduction (DD/MM)	Topics Covered	TLP Executed	Remarks if any deviation
MODULE - 1								
1	20/07/2026	Introduction to the subject – Non-traditional machining process, Discussion on syllabus, Course outcome and Evaluation methods	PPT					
2	22/07/2026	Introduction to Non-traditional machining, Need for Non-traditional machining process	PPT					
3	24/07/2026	Comparison between traditional and non-traditional machining	PPT					
4	27/07/2026	General classification Non-traditional machining processes	PPT					
5	29/07/2026	Classification based on nature of energy employed in machining	PPT					
6	31/07/2026	Selection of non-traditional machining processes	PPT					
7	03/08/2026	Specific advantages, limitations of non-traditional machining processes	PPT					
8	05/08/2026	Applications of non-traditional machining processes	PPT					
		QUIZ on Module 1	M S Forms					

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MODULE - 2								
9	07/08/2026	Ultrasonic Machining (USM): Introduction, Equipment and material process	PPT					
10	10/08/2026	Effect of process parameters: Effect of amplitude and frequency, Effect of abrasive grain diameter, effect of slurry, tool & work material	PPT					
11	12/08/2026	Process characteristics: Material removal rate, tool wear, accuracy, surface finish,	PPT					
12	14/08/2026	Applications, advantages & limitations of USM	PPT					
13	17/08/2026	Abrasive Jet Machining (AJM): Introduction, Equipment and process of material removal	PPT					
14	19/08/2026	Process variables: carrier gas, type of abrasive, work material, stand-off distance (SOD)	PPT					
15	21/08/2026	Process characteristics-Material removal rate, Nozzle wear, accuracy & surface finish.	PPT					
16	24/08/2026	Applications, advantages & limitations of AJM	PPT					
		Assignment -1	Write-up/ Seminar					

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MODULE - 3								
17	31/08/2026	Electrochemical Machining (ECM): Introduction, Principle of electro chemical machining: ECM equipment, elements of ECM operation, Chemistry of ECM	PPT					
18	02/09/2026	ECM Process characteristics: Material removal rate, accuracy, surface finish, Process parameters	PPT					
19	04/09/2026	ECM Tooling, Electrochemical grinding and electrochemical honing process. Advantages, disadvantages and application of ECG, ECH	PPT					
20	07/09/2026	Chemical Machining (CHM): Elements of the process: Resists (maskants), Etchants	PPT					
21	09/09/2026	Types of chemical machining process chemical blanking process, chemical milling process	PPT					
22	11/09/2026	Process characteristics of CHM	PPT					
23	16/09/2026	Material removal rate, accuracy, surface finish	PPT					
24	18/09/2026	Advantages, limitations and applications of chemical machining process	PPT					
		Assignment -2	Write-up/ Seminar					

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MODULE - 4								
25	21/09/2026	Electrical Discharge Machining (EDM): Introduction, mechanism of metal removal	PPT					
26	23/09/2026	EDM equipment: spark erosion generator (relaxation type), dielectric medium-its functions & desirable properties, electrode feed control system	PPT					
27	25/09/2026	Flushing types; pressure flushing, suction flushing, side flushing, pulsed flushing	PPT					
28	30/09/2026	EDM process parameters, Advantages, limitations & applications of EDM, Electrical discharge grinding, Traveling EDM	PPT					
29	05/10/2026	Plasma Arc Machining (PAM): Introduction, non-thermal generation of plasma	PPT					
30	07/10/2026	PAM equipment mechanism of metal removal	PPT					
31	09/10/2026	Plasma torch, process parameters Process characteristics	PPT					
32	12/10/2026	Safety precautions, applications, advantages and limitations	PPT					
		Assignment -3	Write-up/ Seminar					

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MODULE - 5								
33	14/10/2026	Laser Beam Machining (LBM): Introduction	PPT					
34	16/10/2026	Generation of LASER	PPT					
35	19/10/2026	Equipment and mechanism of metal removal	PPT					
36	23/10/2026	LBM parameters and characteristics	PPT					
37	26/10/2026	Applications, Advantages, limitations of LBM	PPT					
38	28/10/2026	Electron Beam Machining (EBM) -Introduction, Principle and working of EBM	PPT					
39	02/11/2026	Equipment and mechanism of metal removal	PPT					
40	04/11/2026	Applications, Advantages & limitations of EBM	PPT					
		QUIZ on Module 5	M S Forms					

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	Activity	Planned	Actual	Remarks
1	Theory Classes	40		
2	Assignments/ Quizzes/ Self-study	03/02		
3	Tutorials/ Extra classes	00		
4	Internal Assessments	03		
5	ICT based Teaching (% of usage in Curriculum)	100		
Planning			Execution	
Faculty Signature :			Faculty Signature :	
HoD Signature :			HoD Signature :	