

DEPARTMENT OF METALLURGICAL AND MATERIALS
ENGINEERING

COURSE PLAN – PART I			
Name of the programme and specialization	B.Tech Metallurgical and Materials Engineering		
Course Title	Particulate Processing Laboratory		
Course Code	MTLR20	No. of Credits	1
Course Code of Pre-requisite subject(s)	MTPC25		
Session	January 2019	Section (if, applicable)	NA
Name of Faculty	Ms. P. Anbarasi	Department	MME
Official Email	anbarasi@nitt.edu	Telephone No.	9566121219
Name of Course Coordinator(s) (if, applicable)	NA		
Official E-mail		Telephone No.	
Course Type (please tick appropriately)	<input checked="" type="checkbox"/> Core course	<input type="checkbox"/> Elective course	
Syllabus (approved in BoS)			
Determination of a) Metal powder size and shape b) Apparent density and tap density c) Flow rate d) Compressibility e) Green density and sinter density Cold upset forming of aluminium Extrusion of aluminium [Demonstration]			
COURSE OBJECTIVES			
To study the characteristics of Powder particles.			

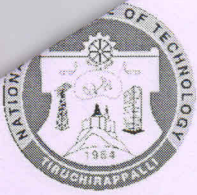


MAPPING OF COs with POs	
Course Outcomes	Programme Outcomes (PO) (Enter Numbers only)
At the end of the course, student will be able to	
1. Determine the Particle size and shape	1, 2, 3, 11, 12
2. Measure various type of density, flow rate and compressibility	1, 2, 3, 5, 11, 12
3. Compare the density of Green and sintered compacts	1, 2, 5, 8, 11, 12

COURSE PLAN – PART II			
COURSE OVERVIEW			
<ul style="list-style-type: none"> ➤ Particle size distribution – Sieve analysis ➤ Flow rate determination ➤ Determination of Apparent and Tap density ➤ Compressibility of powders ➤ Sintering ➤ Extrusion of aluminium 			
COURSE TEACHING AND LEARNING ACTIVITIES			(Add more rows)
S.No.	Week/Contact Hours	Topic	Mode of Delivery
1	2 nd to 4 th week, Jan	Introduction, particle size distribution by sieve analysis	Practicals
2	5 th week Jan – 2 nd week Feb	Flow rate determination, determination of apparent and tap density	Practicals
3	3 rd week Feb – 2 nd week March	Compressibility of powders, sintering, Extrusion of aluminium (demonstration)	Practicals
4	3 rd week March – 2 nd week April	Demonstration of advanced techniques	Practicals



COURSE ASSESSMENT METHODS (shall range from 4 to 6)				
S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	Weekly practical sessions	2 nd week Jan – 2 nd week April	35 hrs	50
2	Record	3 rd week April		10
3	Viva voce	May	10 minutes	10
4	Final Assessment *	May	3 hrs	30
*mandatory; refer to guidelines on page 4				
COURSE EXIT SURVEY (mention the ways in which the feedback about the course shall be assessed)				
Student's feedback				
COURSE POLICY (including compensation assessment to be specified)				
MODE OF CORRESPONDENCE (email/phone etc): Communication through class representative and E-mail				
ATTENDANCE POLICY (A uniform attendance policy as specified below shall be followed)				
<ul style="list-style-type: none"> ➤ At least 75% attendance in each course is mandatory. ➤ A maximum of 10% shall be allowed under On Duty (OD) category. ➤ Students with less than 65% of attendance shall be prevented from writing the final assessment and shall be awarded 'V' grade. 				
ACADEMIC DISHONESTY & PLAGIARISM				
<ul style="list-style-type: none"> ➤ Possessing a mobile phone, carrying bits of paper, talking to other students, copying from others during an assessment will be treated as punishable dishonesty. ➤ Zero mark to be awarded for the offenders. For copying from another student, both students get the same penalty of zero mark. ➤ The departmental disciplinary committee including the course faculty member, PAC chairperson and the HoD, as members shall verify the facts of the malpractice and award the punishment if the student is found guilty. The report shall be submitted to the Academic office. ➤ The above policy against academic dishonesty shall be applicable for all the 				



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programmes.		
ADDITIONAL INFORMATION, IF ANY		
FOR APPROVAL		
Course Faculty <u><i>[Signature]</i></u>	CC- Chairperson <u><i>[Signature]</i></u>	HOD <u><i>[Signature]</i></u>