

AALIM MUHAMMED SALEGH COLLEGE OF ENGINEERING

DEPARTMENT OF MECHANICAL ENGINEERING

CIRCULAR

AMSCE/ME/VAC004/2018-2019

It is informed to all the students of Mechanical Engineering, it is proposed to conduct Value Added Courses on **"POWDER METALLURGY"** (32 hours duration) offered in our campus **CCAD/CAM LABORATORY & Manufacturing Technology LABORATORY** that the course starts from 27.02.2019.. Detailed Schedule along with information for taking up this Industry based courses are shared before the commencement of the program. All the students of third year Mechanical Engineering are requested to follow the guidelines given to derive the maximum benefits from the resource person.

Note:

*Minimum 80 % attendance mandatory to receive the certificates.

*Assessment Test will be conducted at the end of session.

RESOURCE PERSON:

Dr. S. SATHISH, Associate Professor, Department of Mechanical Engineering

Aalim Muhammed Salegh College of Engineering.



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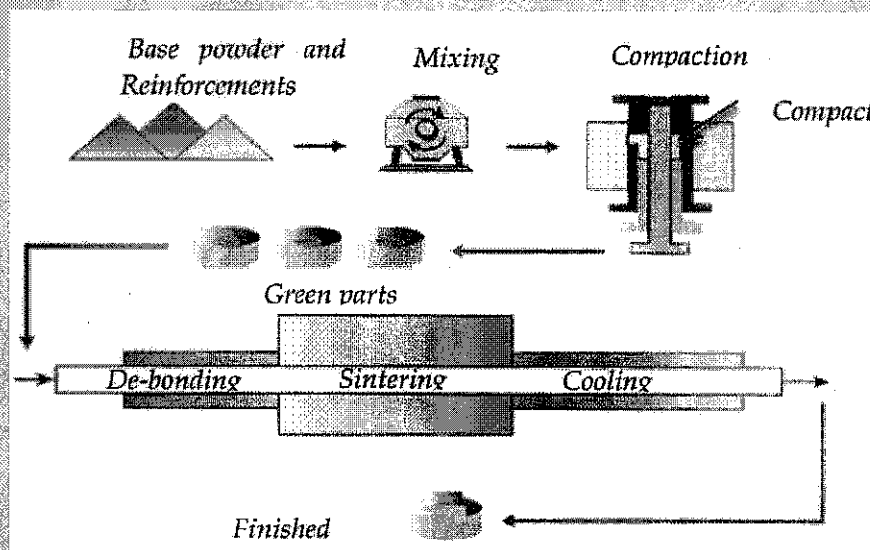
S. Sathish
20/2/19
Head - Mechanical Engineering



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DEPARTMENT OF MECHANICAL ENGINEERING

Organizes



Value Added Course ON "Powder Metallurgy"

Course Details:

Resource Person:

Dr. S. Sathish, Associate Professor, Department of Mechanical Engineering,
Aalim Muhammed Salegh College of Engineering,
Course Start: 20/02/2019 to 21/03/2019
Duration: 32 HRS

Time: 1:00 PM to 3:00 PM.

**Venue: CAD/CAM Laboratory, Manufacturing Technology Laboratory
Mechanical/Civil Block. Contact (resource person): +91-9894260193**

(Signature)
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Course Objectives:

Understand the Basics of Powder Metallurgy:

- Grasp the fundamental principles and concepts of powder metallurgy, including the history and development of the field.

Learn Powder Production Techniques:

- Explore various methods for producing metal powders, such as atomization, chemical reduction, and electrolysis.

Study Powder Characteristics and Properties:

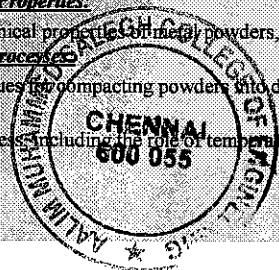
- Analyze the physical and chemical properties of metal powders, including particle size, shape, distribution, and flowability.

Understand Powder Compaction Processes:

- Examine the different techniques for compacting powders into desired shapes, such as uniaxial pressing, isostatic pressing, and extrusion.

Explore Sintering Techniques:

- Learn about the sintering process, including the role of temperature, time, and atmosphere in consolidating powders into solid materials.





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REPORT FOR THE VALUE ADDED COURSE ON POWDER
METALLURGY

Course Name: Powder Metallurgy

Date: 27/02/2019 to 21/03/2019

Time: 1.00pm to 5.00pm

Course Hours:32

Attended Students:30

Students Certified:30

Course Objectives

- To give a basic understanding of the processes involved in powder metallurgy.
- To investigate the characteristics and uses of metal powders.
- To give trainees hands-on experience with powder processing methods

Course Content Overview

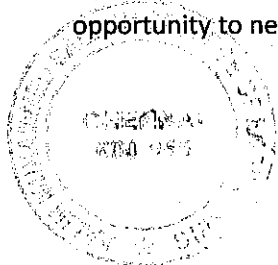
- Overview of Materials Used in Powder Metallurgy , History and Importance in Manufacturing, Introduction to Powder Metallurgy ,Methods of Powder Production ,Mechanical milling, atomisation methods, sintering and compaction and powder shaping procedures Processes and parameters for sintering; uses of powder metallurgy; consumer, automotive, and aerospace products; hands-on practical sessions; and laboratory demonstrations of powder processing methods

Feedback Summary

Advantages: o Useful and pertinent material o Skilled teacher with efficient teaching strategies Participating in practical experiences ,
• Opportunities for Improvement: o More time for in-depth conversations on challenging subjects ,More resources for post-course research o More interactive elements to boost participation5.

Key Outcomes

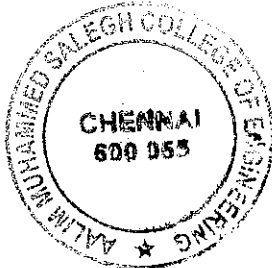
Participants developed a strong grasp of the concepts and procedures of powder metallurgy. Hands-on laboratory activities helped improve practical skills, Professionals in the field had the opportunity to network.




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Conclusion

The goals of the powder metallurgy course were successfully achieved, and participants left with useful information and career-relevant skills. Future cohorts' educational experience will be improved by putting the suggestions into practice.




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From

Date: 18/02/2019

The Head of the Department
Department of Mechanical Engineering,
Aalim Muhammed Salegh college of Engineering,
Muthapudupet, Avadi, I.A.F.,
Chennai- 600 055.

To

The Principal,
Aalim Muhammed Salegh college of Engg.
Muthapudupet, Avadi I.A.F.,
Chennai - 600 055.

Sub: Requisition for the Approval to conduct Value Added Course
in Mechanical department - Regarding.

Respected Sir,

We would like to conduct a Value Added Course on the title "**Powder Metallurgy**" for
third year mechanical students by the resource person Dr S.Sathish, Associate Professor,
Department of Mechanical Engineering, Aalim Muhammed Salegh College of Engineering,
Chennai, who will be leading the course. The scheduled date for the value added course is from
27/02/2019 to 21/03/2019.. We kindly request you to provide approval for the same.

Thanking you

Yours Faithfully



S. *[Signature]*
HOD/MECH
18/2/19

[Signature]
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Permitted
[Signature]
10/2/2019



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Value Added Course Details

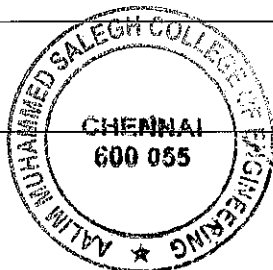


Course Name: Powder Metallurgy

Date : 27-02-2019 to 21-03-2019

Time: 1.00 pm to 5.00 pm

Week	Content	Total Hours
1	Topic : 1 <ul style="list-style-type: none">• Particle Sizing Background• Particle Sizing Analysis• Powder Characterization Tests• Powder Fabrication• Atomization of Melts• Powder Microstructure• Nucleation and Growth	8
2	Topic : 2 <ul style="list-style-type: none">• Powder Modification and Handling• Mixing and Blending• Shaping by Injection Molding• Additive and Freeform Fabrication• Other Shaping Processes• Compaction Mechanics	8
3	Topic : 3 <ul style="list-style-type: none">• Compaction Technology• Binder and Lubricant Removal• Single Phase Sintering• Mixed Phase Sintering:• Sintering Furnaces and Cycles• Sintering Atmospheres and Practice	8
4	Topic: 4 <ul style="list-style-type: none">• Full Density Concepts• Secondary Operations and Finishing• Property Measurement: standard tests; unique tests involving porosity;• Materials and Properties• Cost, Efficiency, Health, Safety, Quality• Markets and Applications	8
Total Hours		32



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Approved by All India Council for Technical Education - New Delhi, Affiliated to Anna University, Chennai
NAAC Accredited Institution

"Nizara Educational Campus", Muthapudupet, Avadi - IAF, Chennai - 600 055.

ANNA UNIVERSITY COUNSELLING CODE: 1101



Value Added Course Tentative Time Table And Schedule

Value Added Course Name: Powder Metallurgy

Date of Commencement: From 27/02/2019

Timing: 1:00 pm to 5.00 pm

Tentative Date of Exam- 21/03/2019

Tentative Course Schedule – 27/02/2019 to 21/03/2019 (As per following)


No. Of Days: 8

Course Hours: 32

Speaker: Dr, S, SATHISH

1. Module -1: Introduction and metal powder characterization
– 27-02-2019 & 28-02-2019 – 8 hrs
2. Module -2: Modification and other processes
– 06-03-2019 & 07-03-2019 – 8 Hours
3. Module -3: Compaction technology and sintering methods
- 13-03-2019 & 14-03-2019 – 8 Hours
4. Module -4: Property Measurement and standard test
- 20-03-2019 & 21-03-2021 – 8 Hours




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DEPARTMENT OF MECHANICAL ENGINEERING

COURSE ON "POWDER METALLURGY"

STUDENTS ATTENDANCE LIST

COURSE INSTRUCTOR: DR. S. SATHISH KUMAR

Table with columns: S.No, REG NO, NAME, and dates from 27/2/19 to 21/3/19. Each date column contains handwritten student names and initials.

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This certificate is proudly presented to


Mr. MD. HAMED SAMEER O.A.

In acknowledgement for completion of the Course entitled "POWDER METALLURGY" organized by the Department of Mechanical Engineering held at Aalim Muhammed Salegh College of Engineering. Your commitment of time, energy and effort is greatly appreciated.


DATE: 26 MARCH 2019



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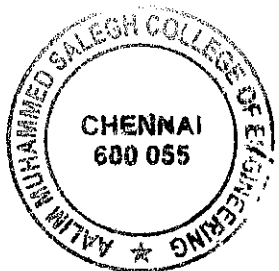

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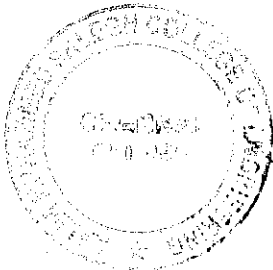

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