

**AALIM MUHAMMED SALEGH COLLEGE OF ENGINEERING**

**DEPARTMENT OF MECHANICAL ENGINEERING**

**CIRCULAR**

**AMSCE/ME/VAC004/2020-2021**

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** that the course starts from 01.03.2021. to 27/03/2021. 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.**



*Sathish*  
*01/03/2021*  
Head – Mechanical Engineering

*[Signature]*  
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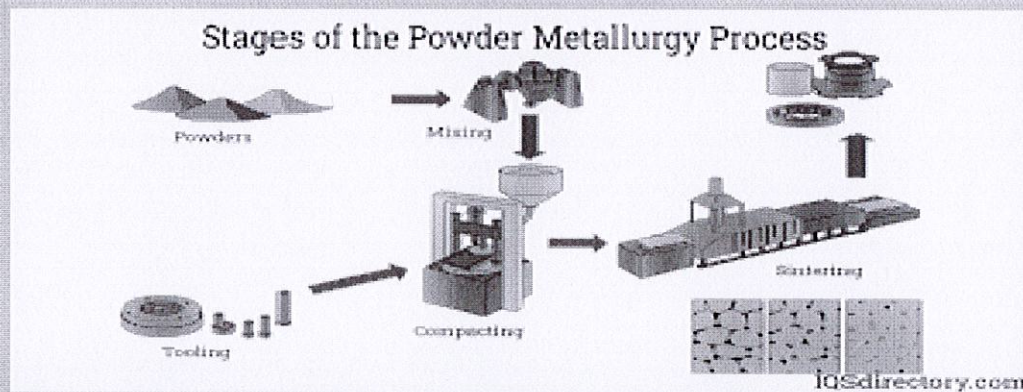
# AALIM MUHAMMED SALEGH COLLEGE OF ENGINEERING

DEPARTMENT OF MECHANICAL ENGINEERING

*Organizes  
Value Added Course*

*on*

***“Powder Metallurgy”***



**Course Details:**

***Resource Person:***

**Dr.S.Sathish, Associate Professor, Department of Mechanical Engineering**

**Sponsored by i3 Design Technologies**

**Aalim Muhammed Salegh College of Engineering.**

**Course start: 01.03.2021 to 27.03.2021**

**Duration: 32Hrs**

**Time: 1:00 PM to 5.00 PM.**

**Venue: CAD/CAM Laboratory, Manufacturing Technology Laboratory**

**Mechanical/Civil Block. Contact (resource person): +91-9894260193**

  
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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 sinter





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**REPORT FOR THE VALUE ADDED COURSE ON POWDER**  
**METALLURGY**

**Course Name:** Powder Metallurgy

**Date:** 01/03/2021 to 27/03/2021

**Time:** 1.00pm to 5.00pm

**Course Hours:**32

**Attended Students:**30

**Students Certified:**30

**Course Objectives**

- To provide a foundational understanding of powder metallurgy processes.
- To explore the properties and applications of metal powders.
- To equip participants with practical skills in powder processing techniques.

**2. Participant Demographics**


- Total Participants: [Insert Number]
- Backgrounds: [Insert Background Information (e.g., students, industry professionals)]

**3. Course Content Overview**

- **Introduction to Powder Metallurgy**
  - History and significance in manufacturing
  - Overview of materials used in powder metallurgy
- **Powder Production Methods**
  - Mechanical milling
  - Atomization techniques
- **Compaction and Sintering**
  - Techniques for shaping powders
  - Sintering processes and parameters
- **Applications of Powder Metallurgy**
  - Automotive, aerospace, and consumer goods
- **Hands-On Practical Sessions**
  - Laboratory demonstrations of powder processing techniques

**4. Feedback Summary**



  
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- **Positive Aspects:**
  - Relevant and practical content
  - Knowledgeable instructor with effective teaching methods
  - Engaging hands-on experiences
- **Areas for Improvement:**
  - More time for in-depth discussions on complex topics
  - Additional reference materials for post-course study
  - Increased interactive components to enhance engagement

## 5. Key Outcomes

- Participants gained a solid understanding of powder metallurgy principles and practices.
- Practical skills were developed through hands-on laboratory sessions.
- Networking opportunities were provided among professionals in the field.

## 6. Recommendations for Future Courses

- **Course Length:** Consider extending the duration to cover topics more thoroughly.
- **Supplementary Resources:** Provide more materials and access to online content for continued learning.
- **Interactive Learning:** Increase the number of group activities and discussions to foster collaboration.

## 7. Conclusion

The Powder Metallurgy course effectively met its objectives, equipping participants with valuable knowledge and skills applicable to their careers. Implementing the recommendations will enhance the learning experience for future cohorts.



  
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From

Date: 21/02/2021

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 final 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 organizing the course. The scheduled date for the value added course is from/ 01/03/2021 to 27/03/21.. We kindly request you to provide approval for the same.

Thanking you

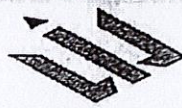


*Permitted  
Prof  
21/2/2021*

Yours Faithfully

*Sathish  
21/02/2021*  
HOD/MECH

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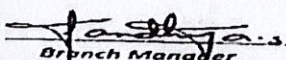
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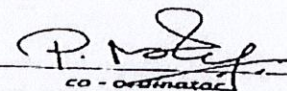
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**MOHAMMED AADHIL SHARIFF**

*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: 14 - APRIL - 2021

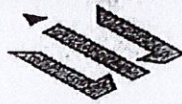
  
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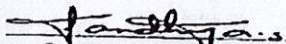
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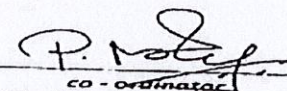
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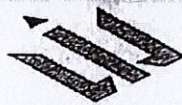
  
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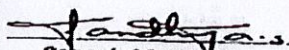
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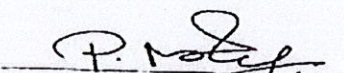
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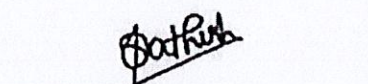
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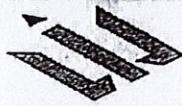
  
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AEZAL KHAN A

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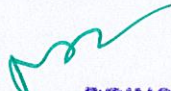
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2020-21

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**DEPARTMENT OF MECHANICAL ENGINEERING**

**CERTIFICATE COURSE ON POWDER METALLURGY**

**COURSE CONTENTS**

DATE: 25-02-2021

DURATION IN WEEKS	TOPICS	TOTAL HRS
<b>WEEK I</b> (01/03/2021 – 06/03/2021)	Introduction to Powder Metallurgy <ul style="list-style-type: none"> <li>– Basic classification</li> <li>– Powder properties and their evaluation methods</li> <li>– chemical, physical and technological properties of powders</li> </ul>	8
	Metal powder characterization <ul style="list-style-type: none"> <li>– Metal powders conditioning and preparation</li> <li>– Methods of powder production</li> <li>– Advantages and disadvantages of Powder Metallurgy</li> </ul>	
<b>WEEK II</b> (08/03/2021 – 13/03/2021)	Metal powder production methods <ul style="list-style-type: none"> <li>– Forming</li> <li>– Pressing</li> <li>– Rolling</li> <li>– Forging</li> <li>– Extruding</li> </ul>	8
	Sintering fundamentals <ul style="list-style-type: none"> <li>– Sintering mechanisms</li> <li>– Technological aspects of Sintering</li> <li>– Furnaces for Sintering</li> </ul>	
<b>WEEK III</b> (15/03/2021 – 20/03/2021)	Sintering best practices <ul style="list-style-type: none"> <li>– dispersive strengthened materials</li> <li>– materials with high melting temperature</li> </ul>	8
	Secondary processing	
<b>WEEK IV</b> (22/03/2021 – 27/03/2021)	Design considerations	8
	Applications	
	Parts/components produced by Powder Metallurgy	
<b>TOTAL HOURS</b>		<b>32</b>

*Sathish*  
25/02/2021  
HEAD/MECH



*[Signature]*  
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*[Signature]*  
25/02/21  
**PRINCIPAL**



## AALIM MUHAMMED SALEGH COLLEGE OF ENGINEERING

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 01/03/2021

Timing: 1:00 pm to 5.00 pm

Tentative Date of Exam- 27/03/2021

Tentative Course Schedule – 01/03/2021 to 27/03/2021 (As per following)

No. Of Days: 8

Course Hours: 32

Speaker: Dr, S, SATHISH

1. Module -1: Introduction to powder metallurgy and Metal powder Characterization – 01-03-2021 & 06-03-2021 – 8 hrs
2. Module -2: Metal powder production methods and Sintering Fundamentals – 11-03-2021 & 13-03-2021 – 8 Hours
3. Module -3: Sintering best practices and secondary processes 18-03-2021 & 20-03-2021 – 8 Hours
4. Module -4: Design Consideration and Applications 25-03-2021 & 27-03-2021 – 8 Hours



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**COURSE ON "POWDER METALLURGY"**

**STUDENTS ATTENDANCE LIST**

**COURSE INSTRUCTOR: DR. S. SATHISH**

REG NO	NAME	5/3/21	6/3/21	11/3/21	12/3/21	18/3/21	20/3/21	25/3/21	27/3/21
110118114003	AFZAL KHAN . A	Att	Att	Att	Att	Att	Att	Att	Att
110118114006	AHAMED MUNASIM. S	Att	Att	Att	Att	Att	Att	Att	Att
110118114007	AJIMEER . T	Att	Att	Att	Att	Att	Att	Att	Att
110118114010	ASRAR AHAMED IBRAHIM . M	Att	Att	Att	Att	Att	Att	Att	Att
110118114014	HAMEED RAHMAN . M	Att	Att	Att	Att	Att	Att	Att	Att
110118114015	IRSHAD AHAMED . S	Att	Att	Att	Att	Att	Att	Att	Att
110118114018	MAHMOOTH NAFIL . U	Att	Att	Att	Att	Att	Att	Att	Att
110118114021	MOHAMED AL HAFEES.M	Att	Att	Att	Att	Att	Att	Att	Att
110118114022	MOHAMED AYAS.M	Att	Att	Att	Att	Att	Att	Att	Att
110118114023	MOHAMED HUSSAIN.S	Att	Att	Att	Att	Att	Att	Att	Att
110118114024	MOHAMED JAVITHL	Att	Att	Att	Att	Att	Att	Att	Att
110118114027	MOHAMED SALMAN FARZI	Att	Att	Att	Att	Att	Att	Att	Att
110118114030	MOHAMED VASEEM	Att	Att	Att	Att	Att	Att	Att	Att
110118114031	MOHAMMED AADHIL SHARIFI	Att	Att	Att	Att	Att	Att	Att	Att
110118114032	MOHAMMED ABOOBACKER	Att	Att	Att	Att	Att	Att	Att	Att
110118114040	MOHAMMED RASHEED.B	Att	Att	Att	Att	Att	Att	Att	Att
110118114041	MOHAMMED TAWFEEQ NASAR	Att	Att	Att	Att	Att	Att	Att	Att
110118114044	NAVEED KHAN M	Att	Att	Att	Att	Att	Att	Att	Att
110118114049	SEYED MOHAMMED AZHAR Q S	Att	Att	Att	Att	Att	Att	Att	Att
110118114053	SHOJAB KHAN.A	Att	Att	Att	Att	Att	Att	Att	Att
110118114054	SYED IMRAN.S	Att	Att	Att	Att	Att	Att	Att	Att
110118114058	ZARAR AHAMED.A	Att	Att	Att	Att	Att	Att	Att	Att
110118114059	ZIAUL FAYAZ.Z	Att	Att	Att	Att	Att	Att	Att	Att
110118114301	ABDUL RAZITH M B	Att	Att	Att	Att	Att	Att	Att	Att
110118114303	KADHER MOHIDEEN M	Att	Att	Att	Att	Att	Att	Att	Att
110118114306	MOHAMED ASLAM M	Att	Att	Att	Att	Att	Att	Att	Att
110118114307	MOHAMED IMRAN A W	Att	Att	Att	Att	Att	Att	Att	Att
110118114309	SARAVANAN AJ	Att	Att	Att	Att	Att	Att	Att	Att
110118114310	SHAHUL HAMEED J	Att	Att	Att	Att	Att	Att	Att	Att
110118114312	SYED MOHAMMAD FAREED M	Att	Att	Att	Att	Att	Att	Att	Att



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 Alim Muhammed Salegh  
 College of Engineering

*Sathish*

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