

**Registration Form**  
Two-Day Course on  
*Heat Treatment of Industrial Components*  
29<sup>th</sup> and 30<sup>th</sup> July 2011

Sir,  
Please register the following personnel for the above course.  
(For more than one registration, kindly use photocopies)

Name : \_\_\_\_\_

Designation : \_\_\_\_\_

Organization : \_\_\_\_\_

Address : \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Email : \_\_\_\_\_

Tel.: \_\_\_\_\_ Fax: \_\_\_\_\_

**Registration details**

Amount : \_\_\_\_\_

DD/Cheque No. : \_\_\_\_\_

Bank : \_\_\_\_\_

Signature of Deputing Authority

Self with Name and Seal : \_\_\_\_\_

Please send the completed registration form to

**Dr. Srinivasa Rao Bakshi**

Assistant Professor,

Department of Metallurgical and Materials Engineering,

Indian Institute of Technology Madras,

Chennai, India – 600036

Ph. 044-22574781, 8056073710

Email: sbakshi@iitm.ac.in

**The Indian Institute of Metals, Chennai Chapter**  
**Department of Metallurgical and Materials Engg.,**  
**IIT Madras, Chennai**  
**Jointly organize**

**TWO-DAY COURSE**  
**ON**  
**HEAT TREATMENT of**  
**INDUSTRIAL COMPONENTS**

Date: 29<sup>th</sup> and 30<sup>th</sup> July 2011

Venue : IC&SR, IIT Madras, Chennai

*Coordinators*

**Prof. M. Kamaraj**

**Dr. Srinivasa R. Bakshi**



Indian Institute of Metals  
Chennai Chapter



Indian Institute of  
Technology Madras  
Chennai

## About the Course

Recently, there has been a new spurt in the growth of engineering and automotive components. This requires significant inputs from the areas of materials technology, heat treatment and surface modification processes. Heat treatment is widely used to obtain the desired properties of a component after the finishing processes. In many applications, the surface properties need to be improved leading to improved performance and component life. Heat treatment has advanced a lot for different applications. An understanding of the mechanisms and phase transformation kinetics is essential to successfully design a heat treatment operation.

The course will cover fundamental principles behind the heat treatment of ferrous and non-ferrous alloys. The surface heat treatments such as carburizing, carbo-nitriding, plasma nitriding, laser treatment, induction hardening, vacuum heat treatment, boriding etc will be discussed with specific components/applications. Quality control aspects in these processes will also be discussed.

## Topics Covered

Lectures will be delivered by eminent people from academia and industry on the following topics.

- *Fundamentals of heat treatment, ferrous and non-ferrous metallurgy*
- *Hardenability, martensitic transformation and tempering of carbon and alloy steels*
- *Heat treatment of Stainless steels & duplex stainless steels*
- *Surface hardening treatments (carburization, carbo-nitriding, laser hardening, induction hardening, plasma nitriding)*
- *Heat treatment of castings and welded joints*
- *Industrial heat treatment practices, vacuum heat treatment, and quality control*
- *Mechanical testing of materials*

## Who should attend?

This course is useful to designers, technicians, managers, inspection and maintenance engineers, quality control personnel, consultants, sales personnel and entrepreneurs from the industry. Students and teachers from metallurgical as well as non-metallurgical streams will also benefit from this course as this will have significant knowledge on the practices used in the industry.

## Registration Fees

- IIM Members: Rs. 5000
- IIM Non-members: Rs. 5500
- Students: Rs. 2000

This will cover the course notes, course-kit, lunch and refreshments. Organization sending more than 3 participants will be given a concession of 20%.

(Early registration is highly recommended. Email communication will receive an early response and is encouraged)

DD/Cheque drawn in favour of '*Indian Institute of Metals, Chennai Chapter*' may be sent along with the registration form to:

### **Dr. Srinivasa Rao Bakshi**

Assistant Professor,  
Department of Metallurgical and Materials Engineering,  
Indian Institute of Technology Madras,  
Chennai, India – 600036  
Ph. 044-22574781, 8056073710  
Email: sbakshi@iitm.ac.in

Registration at 8.30 AM at the venue on 29<sup>th</sup> July 2011  
Venue: IC & SR Building  
IIT Madras, Chennai 600036