Fundamentals of Tribology

21st September 2013

L D College of Engineering, Ahmedabad

Objective of the Seminar

A seminar on

Fundamentals of Tribology

For Engineering Faculties, ME / BE Students, Researchers, Industry Persons

Objective

One of research report has established that only 26% engineers are available with tribological skills in India. Inadequacy of trained tribologists is a major bottleneck constraining operational excellence & challenging further growth of Indian industries. This issue directly results from inferior and inadequate tribological education and/or training infrastructure in the country, which are mostly inter-related. It is proposed to categorize academic issues between Tribo-science and Tribo-technology; Tribo-technology (Tribology) education problems lead to large techno-managerial nature, integral, inferential & decisive. At the time of the World Conference on Industrial Tribology (WCIT) in 1972, there were only a few academic institutions for tribology education. Earliest tribology education in India started in 1970 at IIT Delhi with Norwegian collaboration, Industrial Tribology, Machine Dynamics and Maintenance Engineering Centre (ITMMEC) was established in which some sophisticated tribological equipment were installed. Current tribology course syllabi in India are mainly limited to finding & applying some governing equations of friction, flow and fracture in solids, just making it more of another analytical topic. To impart the fundamentals of Tribology knowledge the one day seminar is going to be organized at Gujarat Technological University on 21st September 2013. Successively, Gujarat Technological University and L. D. College of Engineering are going to organize an international conference on advances in Tribology during 15 – 17 October 2013.

Steering Committee:

- Dr. Akshai Aggarwal, (Patron) Vice Chancellor, Gujarat Technological University, Ahmedabad.
- Dr. M. N. Patel, (Chairman) Principal, L. D. College of Engineering, Ahmedabad.
- Dr. H. C. Patel, (Coordinator) Associate Professor, L. D. College of Engineering, Ahmedabad.

Programme Schedule:

10:00 to 10:30	**Registration**
10.30 to 11.00	**Inauguration Function** Welcome address by Dr. M N Patel, Principal, LDCE Address by Dr. G P Vadodaria, Registrar, GTU Address by Dr H C Patel, Associate Professor, LDCE Vote of Thanks by Dr. H. S. Patil
11.00 to 11.15	Tea Break
11.15 to 1:00	Dr. K. N. Mistry Principal, GIDC Degree Engineering College Abrama, Navsari, and Dean, GTU Ahmadabad, (Speaker on Fundamentals of Tribology)
1:00 to 1:30	Lunch Break
1:30 to 3:00	Dr. D V Bhatt Professor, Mechanical Engineering Department S V NIT, Surat
3:00 to 4: 00	Dr. H N Shah Principal, Venus International College of Engineering
4:00 to 4: 30	Discussion & Valedictory

The seminar was inaugurated on 21 September 2013, by Chief Guest Dr G P Vadodaria. Dr. M N Patel invited all participants and Dr. Vadodaria has encourages participants to take advantage of such programmes. Dr.H.C.Patel highlighted on introduction of tribology and about International conference on Advances in Tribology and Engineering System to be held at GTU Amedabad.

Chief Guest and Invitees on the dais

Welcome of Chief Guest Dr G P Vadodaria by Dr. H. C. Patel

Welcome of Dr M N Patel by Dr H C Patel

Welcome address by Dr M N Patel, Principal

Dr G P Vadodaria, Chief Guest of the function delivering the inaugural address

Eminent gathering of the function

A lecture deliver by expert

The basic knowledge about Tribology is introduced. The scientific definition of Tribology can be derived, as “It is the science and technology of interacting surfaces in relative motion and applications related to such interactions during relative motion.
Also the examples of tribology in day-to-day life are discussed. Discussed knowledge about current research topics in Tribological Process

- Tribological process in Engine components: mainly
- Piston Ring assembly and Valve Train system.
- Lubrication mechanisms.
- Lubricant formulations and its compatibility.
- Cylinder liner and follower shims materials and coatings.
- Tribo-chemistry, surface analysis and evaluation of friction, wear and molecule/elements transfer using Tribometers, Taly-Surf, Wyko white light interferometer, FEG-SEM, SEM-EDX, AFM, Raman spectroscopy, mini SIMS, Nano-Indenters and Optical Microscope.
- And many more…