

CSIR-IIP Training Programs 2017



**Two Weeks Training Program
on
OPERATION AND MAINTENANCE
OF CFR ENGINES
August 28 to September 8, 2017**

Organized by: CSIR-Indian Institute of Petroleum, Dehradun

Key Topics

- **Basics of CFR engines**
- **Reference and Standard Fuels**
- **Dismantling of CFR engines**
- **Inspection & Measurement of Engine Components**
- **Assembly of CFR Engines**
- **Calibration & Standardization of CFR Engines**
- **Operation and Trouble-shooting**

Who Should Attend

- **Laboratory personnel working in quality control and R&D department of oil refineries.**

Course Fee

Training fee for participation is Rs 80,000 per person plus 18% GST or as applicable. The fee is to be paid through DD payable in the name of Director, Indian Institute of Petroleum at Dehradun. The course fee includes boarding/lodging, course material and local transport. The Bank details for E-transfer of course fee are given below.

INSIGHT OF IIP

CSIR-Indian Institute of Petroleum (IIP) is located in the beautiful valley of Dehradun situated at the foothills of Himalayas. One of the constituent laboratories of the Council of Scientific & Industrial Research (CSIR), it is a premier organization dedicated to Research & Technology development in hydrocarbon sector. The Institute has continued its efforts to grow into an internationally renowned R&D organization, providing quality research and innovative technologies for the national and international market place and to provide technical support to the industry. IIP was established in September 1960 with initial technical collaboration with Institut Francais du Petrole (IFP), France. IIP is equipped with State-of-the-art equipment, bench/pilot scale facilities and other infra-structural support for research in petroleum refining, petrochemicals, alternate fuels and utilization of petroleum products as well. IIP assist refineries in absorption, adaptation and selection of technologies and in optimization of unit operations. It has more than 2000 publications in National and International journals. IIP has been granted 250 patents (in India & abroad) for several processes & products. Since 2010 onward IIP has also started a Professional Post Graduate Research Program in Engineering entitled "Advanced Petroleum Science & Technology".

SCOPE OF TRAINING PROGRAM

• BASICS OF CFR ENGINES

The CFR engines are used to measure anti-knock property of fuels in terms of OCTANE/CETANE Number by using standard and reference fuels. The combustion characteristics of SI and CI engines, Ignition delay etc. will be explained in details

• REFERENCE AND STANDARD FUELS

Determination of Octane number is done using series of standard fuels. Standard fuels can be blends of Iso-octane and normal Heptanes (primary reference fuels) to ensure that the CFR engine is in perfect working.

• DISMANTLING OF CFR ENGINES

Normally CFR engine can be used up to 300 hrs of continuous operation. After that minor overhauling is required. Complete engine will be dismantled and shown to the participants.

• INSPECTION & MEASUREMENT OF ENGINE COMPONENTS

After this Inspection of components is carried out to estimate possible wear. It is vital for gauging the dimensional accuracy of a feature without reference to its actual size. Measurement is the act of deriving quantitative information about a physical object or by comparison with a reference.

• ASSEMBLY OF CFR ENGINES

After measurement, assembling of the engine components will be done. Adjustments as per ASTM Test Procedure will be carried out

• CALIBRATION & STANDARDIZATION OF CFR ENGINES

After assembly before conducting any test, calibration and standardization of CFR engines will be carried out using standard primary and secondary fuels.

• OPERATION AND TROUBLE SHOOTING

Hands-on training will be imparted, so that the participants are well familiar with the engine. Fine-tuning and correct operation is necessary for efficient trouble free operation and correct results. Preventive maintenance schedule will be discussed to get the participants familiarized with the aspects of IC Engines.

Participants will also have the opportunity to work on CFR-XCP engine which has been recently acquired by IIP having digital octane panel, useful for "Advanced Fuel Rating Technology". XCP digital octane panel has become widely accepted in today's fuel testing laboratories and is now in ASTM Methods D-2699-10 & D-2700-10 and confirms to IP-237 and IP-236.

The XCP Digital Octane Panel incorporates many easy to-use features including increased function automated functions and enhanced documentation capabilities. The XCP digital octane panel is user-friendly, intuitive and will accommodate users all levels. The Main features are as follows:

1. Easy-to-Use Panel Interface
2. More Consistent Results
3. Automated data Recording
4. Automated Digital knock Meter
5. Electronic Barometer
6. Laser cylinder height Sensor
7. Equipment Protection System
8. Faster Testing Time and Less Variability

TECHNICAL PROCEEDINGS, FACULTY & CERTIFICATION

Technical proceedings covering the presentations shall be provided to each participant, in the form of soft copy (CD). Faculty shall be from IIP. At the end of program the participants shall be awarded certificate of participation. Since there is a limit on number of participants, so the registration for the participants shall be made on first come first serve basis.

ABOUT PROGRAM DIRECTOR

Mr. Kalyan Singh, Senior Scientific Officer (Mechanical Engg.) in Automotive Fuel & Lubricants Application Division.



He has been working at Indian Institute of Petroleum, Dehradun for the last 31 years. He has worked in many areas viz- conservation studies, application of alternative fuels and measurement of PM from diesel engine exhaust. He is currently working in Fuel Quality & Engine Emission Area and also looking after Laboratory Infrastructures. Mr. Singh has published / presented over 21 papers in national / international journals / conferences and has some 69 technical reports and one patent to his credit.

CONTACT ADDRESSES

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NOMINATION FORM FOR TRAINING PROGRAM IS ENCLOSED

Kindly fill the enclosed Nomination Form(s) and send to the above address / online. Information regarding the Training Program is also displayed at IIP website: www.iip.res.in

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"OPERATION AND MAINTENANCE OF CFR ENGINES"
(August 28 to September 8, 2017)



Organized by:
CSIR-INDIAN INSTITUTE OF PETROLEUM, DEHRADUN



NOMINATION FORM

Name _____ **Designation** _____

Company/ Institution _____

Address _____

Qualification _____

Experience _____

Address of contact _____

Contact Nos Ph/Fax/Email _____

Signature

FOR NOMINATION PLEASE CONTACT

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Bank Account Details Facilitating e-transfer of Funds/Payment

Name of Bank: State Bank of India
Name of the Account holder: Director, Indian Institute of Petroleum,
Dehradun.
Bank Account No. : 30266912400
Account Type : Saving Bank Account
Branch: IIP Township, Mohkampur, Dehradun., India
Contact Person : Dr Anil K Jain, Email : aniljain@iip.res.in
SWIFT Code SBININBB380
11 Digit IFS Code : SBIN0002359, MICR No. 248002007
Income Tax PAN : AAATC2716R
GSTIN : 05AAATC2716R2ZK