## **REGISTRATION FORM**

I wish to attend the "**Underground Blasting Course 2019**" from 25 - 28 February 2019.

Name:
I/C No:(Kindly enclose photocopy of your IC)
Date of Birth:
IQM Membership No (if any):
Company Name:
Address:
Position Held:
Telephone: Fax:
Email:
Enclosed is Cheque / Bank Draft / Money Order
No for RM payable to

#### "Institute of Quarrying Malaysia Bhd"

#### A/C No: 014187 208342 Maybank

(kindly email bank transaction advise)

#### PLEASE FORWARD PAYMENT TO:

INSTITUTE OF QUARRYING MALAYSIA BHD

No. 23, Jalan Utama 1/7, Taman Perindustrian Puchong Utama (Puchong Perdana), Seksyen 1, 47100 Puchong, Selangor DE, Malaysia. Tel: 03-8062 4194/5 Fax: 03-8061 8258 Website: www.iqm.com.my Email: nirmala@iqm.com.my

Date: .....

Signature & Chop

(Please photocopy the Registration Form if required)

## GENERAL INFORMATION

A. Registration Fee	
Member	: RM 1800.00 **
Non-Member	: RM 2000.00
Government Officers	: RM 1800.00

HRDF CLAIMABLE

\*\*1 Year Good Standing

This is inclusive of course materials, morning and afternoon tea, lunch and transport for site visit.

#### B. Course Size

Participation is limited to not more than 25 persons and will be based on first-come first-served basis.

#### C. Registration and Payment

Please note that participant's registration will be submitted to the Police Department for verification. We advise that all participants should register before the closing date as stated. Registration Forms received after the closing date will not be entertained.

For further information, contact: Mdm Nirmala Devi Tel: 03-8062 4194/5 Fax: 03-8061 8258 Website: www.iqm.com.my Email: nirmala@iqm.com.my

#### **D.** Accommodation

You may arrange your accommodation with the following hotels:

1) Sri Puchong Hotel	03-80623373
2) Green Hotel	03-80686666
3) Four Points By Sheraton Puchong	03-58918888

#### E. Cancellation

A deduction of 50% of the Registration Fee will be made being handling charges for cancellation after confirmation by phone or facsimile. No refund shall be made for cancellation after the closing date of the course. A substitute is accepted.

#### F. Examination

Participants will be required to sit for a 2 hour written examination upon completion of the course

Exam date: 28 February 2019 Time: 2.00pm - 4.00pm

#### G. Closing Date

The closing date for registration is 15 February 2019.

NOTE: Cheque enclosed with the Registration Form does not necessarily mean that you have been automatically accepted until official confirmation by the Institute of Quarrying Malaysia Bhd. Continuous Professional Development Programme



### Course Date: 25 - 28 February 2019 Exam Date: 28 February 2019

Organised by:





to be held at INSTITUTE OF QUARRYING MALAYSIA BHD 23, Jalan Utama 1/7, Tmn Perindustrian Puchong Utama (Puchong Perdana), Section 1, 47100 Puchong, Selangor D.E.



## INTRODUCTION

**COURSE CONTENT** 

## **KEY SPEAKERS**

Rock blasting works in the country have been mainly carried above ground, such as in quarry to create basement for building, road construction etc. However, as the country progresses, the competition of land usage requires many utilities to go underground, such as roads, rails, sewage, cavern and so on, as in many developed countries. Further, in the quest of valuable minerals, mining operation may have to go deeper into the ground following the geological settings of the ore bodies. A good knowledge of UGB is required.

Participants of the Underground Blasting Course (UGBC) will gain valuable knowledge from qualified lecturers from oversea University and Company. A shot-firer with prior knowledge of explosives and surface blasting operation will have the advantage.

In the UGBC, participants will learn the selection of correct drilling machines, drill patterns, calculation of explosive charges, blast initiation sequences in shaft-sinking, tunnelling, drives, stopping etc. Included also are the safe usage of Permitted Explosives for UG coal mining, suitable Powder Factor for roof, floor and wall safety control, handling of misfire, UG transportation of explosives, environmental impacts. Rules and regulation for UGB operation will also be presented.

The UGBC is sanctioned by both JMG and PDRM. At the end of course, participants are required to pass a written exam. Successful UGBC participants will be awarded Certificates by JMG. IQM through its education arm, The Academy of Quarrying (AOQ) will issue all participants with Certificates of Attendance and CPD points.

#### 1. UG drilling

Definitions-Classification of drilling methods for UG – Application & Selection procedures – Small dia. UG drills – Percussion (ex: Jack Hammers, Air legs etc), Rotary& Rotary percussion Drills (for over 32mm dia drills like drifters, Jumbos etc) – Drillability-Bits (Types, how to select bits – how use bits for higher meterage of drilling etc) – Drill steel – Safety while drilling – How to calculate drilling cost and efficiency ?

## 2. Blast designs for control blasting in shaft sinking, tunelling, stoping, raises.

UG Blasting parameters – Blasting Theories – Explosive-Rock interaction – Role of delay timing in blast design - Case study for blasting round design for shafts-tunnels-stopes and raises – Why Controlled Blasting ? Methods of Controlled blasting (aided by case studies).

#### 3. Safety in UG blasting operation

Unsafe areas of operations in UG (roof, support, fumes, etc) – (For explosives and accessories like detonators, shock tubes, electronic delay detonators etc) Safety in manufacture (when ANFO or Pumpable emulsion is used) – Transport – Storage – handling in the blasting site – while using – while charging & firing –

Handling Misfires – Reporting Blasting and pre and post blast inspections – Assessment – Latest gadgets used for making blasting safe etc.

# 4. Prediction calculation on resulting airblast, ground vibration and other possible environmental impacts from a blasting round

Definitions – Source and origin of vibrations-airblast-sound etc; Environmental impacts due to blasting – Method of Prediction - Statutory norms to control-measure and predict etc. **G.K.Pradhan** holds Ph.D in Mining Engineering from Visvesaraya National Institute of Technology, Nagpur(India); B.Tech(1980) and M.Tech(in Mining Engineering from Indian SChool of Mines).

Served mines of SAIL(Steel Authority of Inida Ltd), Worked as Technical Services Manager and Bulk Explosives Plant Manager for over 25 years at Bulk Explosives Units of Indian Oil Corporation Ltd catering to Coal-Limestone-Copper-Iron Ore Mine Blasting Operations.

During 2008-13 worked with Ministry of Petroleum & Natural Gas as Addl. Director (worked for Energy Audit, Energy savings related studies etc). Trained at Japan on Energy Efficiency in Industries.

## WHO SHOULD ATTEND

This course is tailored to meet the needs of existing Shot-Firers with a valid Licence issued by JMG/PDRM. Shot-Firers will gain first-hand knowledge of underground blasting.

## TRAINING METHODOLOGY

Course methods include combination of :

- Lectures
- Group Discussions
- Presentations
- Training Videos