



INDUSCAN[®]

PETROLEUM INSTITUTE



An ISO 9001-2015 Certified Institution

Established in 2002

ENGINEERING CONSULTANCY ♦ SKILLED PROFESSIONAL RESOURCES ♦ ENGINEERING SKILL DEVELOPMENT PROGRAMMES

X-RAY QUALITY WELDER (Structural/ Pressure Vessel/ Piping)



ABOUT INDUSCAN

Induscan Petroleum Institute is an ISO 9001: 2008 certified, Trade Mark Registered academy established in February 2002. This institute pioneers in Engineering consultancy, Engineering skill development programs, Human Resources, and Skilled Professional Management for all kinds of mechanical construction industries especially in Oil and Gas Sector, Thermal Power sector, Petro-Chemical sector, and other related Industries. Induscan's skill development programs are available from matriculation level (skilled Technician) throughout Post-graduation level (Skilled Design Engineer). The course elevates employability of youth and ensures employment all around the world. Induscan's skill development programs enhance sufficient clarity in the area of employability and nature of the responsibilities of skilled professionals in the industry. Thousands of skilled professionals have benefited this program since 2002.



VISION

The Global Engineering community shall recognize their skill range in accordance with international standards and specifications. Industry shall recognize the potential of skilled engineering professionals and source of dynamic candidates from Induscan Petroleum Institute.



MISSION

Construct a strong bridge of engineering skills between engineering professionals and the International Mechanical Construction Industry so that need from either side is successfully fulfilled.



RECORDS

Since February 2002, Induscan Petroleum Institute has proven records of successful services in accordance with the vision and the mission of its nature. The system of skill development and industrial customization is introduced as a miniature of the core mechanical engineering industry (Mechanical Construction, Mechanical Production/Manufacturing, and Mechanical Maintenance).



X-RAY QUALITY WELDER

(Structural/ Pressure Vessel/ Piping)

SCOPE

X-Ray Quality Welder is a skill development program for undergraduates for employability in Mechanical Industries especially for Oil and Gas, Thermal Power, Petrochemical, and similar industries. Wide varieties of training programs are available in Induscan to qualify welders at different welding positions, welding processes, and base materials.

THE COURSE

Following are the stages of training and types of qualifications programs of Induscan.

Welding Positions

Structural Welder (1F/2F/3F/4F and 6GR)
Groove Welder (1G/2G/3G/4G/5G and 6G)

Welding Processes

GMAW/SMAW/GTAW/FCAW and SAW

Base Material

Carbon steel is the most common material used to train welders. Other than CS, Stainless steel, Aluminum, Copper, etc are also used as base metal and weld metal. Trainees shall select welding positions, welding processes, and base materials to meet the skill level they need to suit their employment. Upon successful completion of the course, Trainees are capable of handling various responsibilities of Oil and Gas construction sector (factories and sites) just like a welder with relevant field experience. The course syllabus is so designed that welding engineering theories and hands-on practical welding classes are properly experienced to take responsibilities from the day of their employment with the best pay scale.



SYLLABUS IN BRIEF

Total syllabus is divided into three modules. Main subjects are as listed below

Module 1

Basics of Welding Processes
Basics of Welding Materials
Basics of Welding parameters
Practical welding with SMAW process
Practical welding with GMAW process

Module 2

Fillet welding with SMAW (1F to 4F)
Groove welding with SMAW (1G and 3G)
Fillet welding with GMAW (Fillet)
Butt welding with GTAW
NDT (PT, MT)

Module 3

Groove welding with SMAW (2G, 4G,)
Fillet Welding with GMAW (Structural)
Groove Welding with GTAW (1G, 3G,)

Module 4

Groove welding with SMAW (2G, 4G, 5G, 6G)
Structural Welding with SMAW (6GR)
Groove Welding with GTAW (2G)

Module 5

Weld Visual Inspection
Destructive Testing of weld Joints
NDT Inspection of Weld
Pressure Testing (hydrostatic, pneumatic)
(Detailed syllabus is available during course counseling)



DURATION OF TRAINING

Duration of training depends on training positions, training processes, and base materials to be qualified by the candidate. Approximate duration of total Training is 1200 Hours

TRAINING FACILITIES

Induscan Petroleum Institute is well equipped with an advanced classroom, laboratory, and workshop facilities to explain the course content with factory and site experience.

Piping Lab

Piping Lab is constructed with the following specification.
Lab total area is 110 Square Meter
750-inch meter erected piping of heavy wall thickness carbon steel pipe ranging from 1/2 NS to 12 NS using butt and fillet welding. The piping lab is facilitated to explain P&ID, GAD, Isometric, Structural supports, coordinates, elevation, etc. 3 types of Static equipment, (Heat exchanger, Horizontal vessels, and Column) are installed in the piping lab to explain equipment drawing, Equipment construction, Nozzle orientation, etc.





Materials Lab

Materials lab is arranged at 75 Square Meters in area. Sufficient quantity of almost all kinds of mechanical construction materials such as seamless pipes, ERW pipes, flanges, Gasket, fasteners, elbows, tees, reducers, O rings, reducers, end cap, valves, etc ranging from 1/2NS to 12NS in size.

Welding Lab and Workshop

The welding lab/ Workshop is arranged with the following specifications

The area is 100 Square Meter

Facility to explain different types of the welding process, Welding Procedure Qualification (WPS/PQR), Welders Qualification Test, Weld visual Examination, Welding Positions, Weld defects, Welding Electrodes, etc.

NDT Lab

NDT Lab is provided with the following specifications

Lab area is 100 Square Meter

Facility for Practical Training in the following 4 methods

PENETRANT TEST

Solvent Removable Visible Method

Solvent removable Fluorescent Method

MAGNETIC PARTICLE TEST

Electro Magnetic Yoke Method

Permanent yoke Method

Prod Method

RADIOGRAPHY TEST

Weld joints to explain all types of Radiographic techniques and Weld defects. Film samples of various radiographic Techniques

ULTRASONIC TEST

Digital type UT Machines

Calibration Blocks

Various types of Transducers

Various types of Weld Samples and Test specimen



ELIGIBILITY CRITERIA FOR ADMISSION

Academic: Matriculation (SSC) or equivalent Certificate is the qualification required for admission.

Age: Minimum age of 18 years is to be completed on the day of admission. (Proof required)

COURSE REGISTRATION

Properly filled application form along with a copy of the qualification certificate shall be submitted either in person or through the website www.induscan.net. Upon receipt of the application and registration fee, registration detail will be forwarded to the applicants. The applicant shall submit the original of their qualification /course completion certificate at the time of admission.

EXAMINATION / TEST

Visual examination, destructive test, and non-destructive tests will be conducted at each module for each position of welding for each process as well as for each type of material. Other than practical tests, theory examination, and oral examination (viva) will be conducted for each module of training.



FINAL EXAMINATION

Final Qualification Test and Examination will be conducted for the welding position, welding process, and base metal as required by the trainee. For example, a candidate needs a certificate of 2G position on stainless steel base metal with GTAW process, his/her test will be witnessed by a competent person or Third Party representative at 2G Position on stainless steel pipe with GTAW process. When a trainee needs to qualify at 6GR position on carbon steel base metal with SMAW process, the test will be on CS pipe with 6GR set up using SMAW welding process.

Other than practical tests, theory examination, and an oral examination (viva) will be conducted for the final examination.



CERTIFICATION

Upon completion of final examination at a specified position, process, and base metal, certificate of XRAY QUALITY WELDER is issued to successful candidates by INDUSCAN

COURSE FEE

(Course fee list of each quality of welding will be available during course counselling)

PLACEMENT

Placement is not guaranteed for the course of X-ray quality welder (Structural/Pressure vessel/Piping). The course fee indicated in the Fee list is only for training and certification. Certified X-ray quality welder (Structural/Pressure vessel/Piping) is permitted to register through Induscan's campus selection portal for employment. Almost all of our previous batch students are well placed in India as well as abroad through this placement portal.



SKILL DEVELOPMENT COURSES	BASIC EDUCATIONAL QUALIFICATION
X RAY QUALITY WELDER	MATRICULATION (SSC) OR EQUIVALENT
STEEL FABRICATOR	PLUS TWO OR EQUIVALENT
NDT TECHNICIAN	PLUS TWO OR EQUIVALENT
WELDING SUPERVISOR	ENG. DIPLOMA OR NON ENG.GRADUATION
FABRICATION SUPERVISOR	ENG. DIPLOMA OR NON ENG.GRADUATION
SKILLED MECHANICAL INSPECTOR - QAQC	ENG. DIPLOMA (MECHANICAL)
SKILLED MECHANICAL ENGINEER - QAQC	BE/B.TECH (MECHANICAL)
DESIGN ENGINEER (PRESSURE VESSELS & PROCESS PIPING)	M.TECH (MECHANICAL)



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