



# **INDUSCAN**<sup>®</sup> **PETROLEUM INSTITUTE**

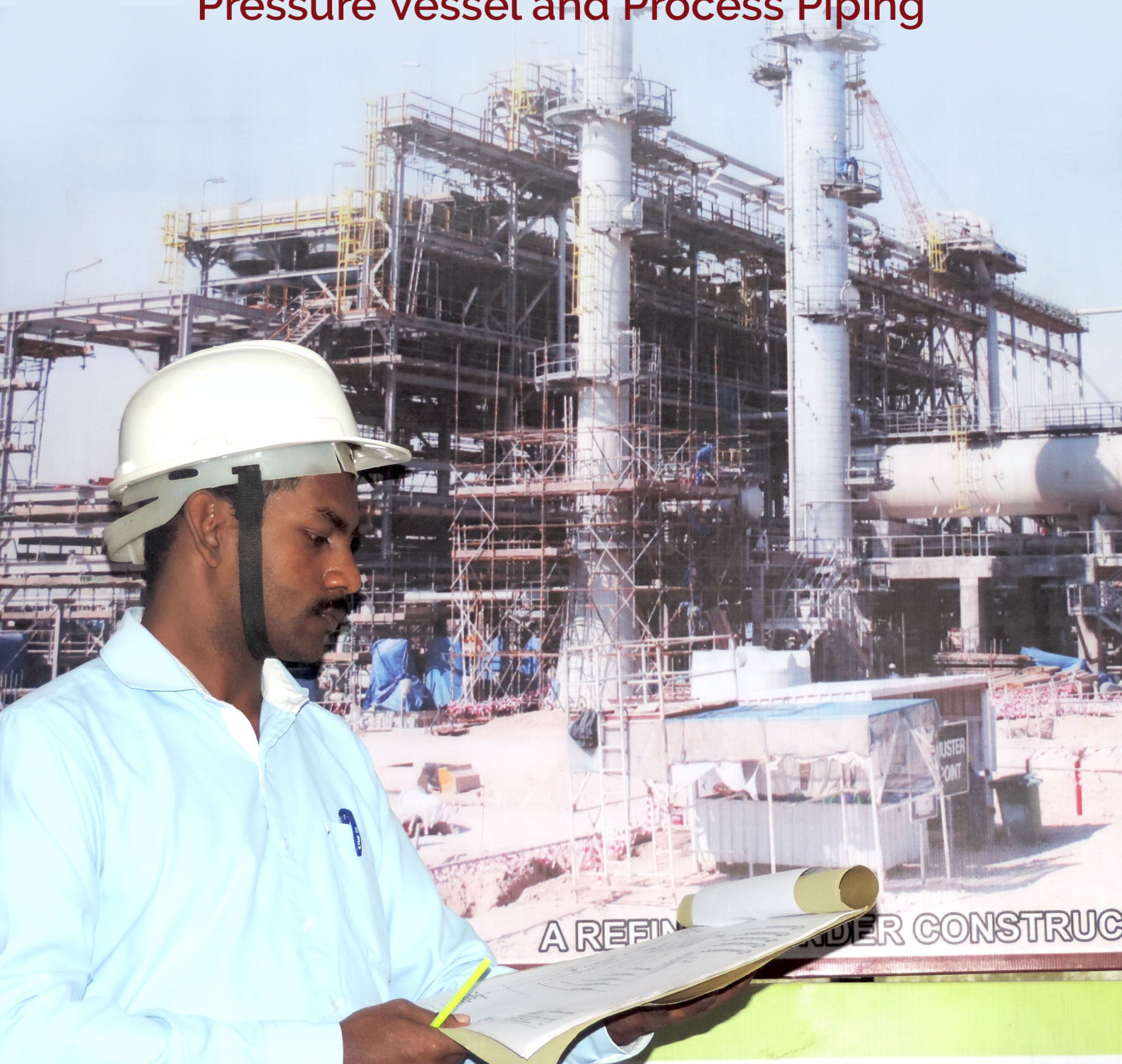


An ISO 9001-2015 Certified Institution

Established in 2002

ENGINEERING CONSULTANCY ♦ SKILLED PROFESSIONAL RESOURCES ♦ ENGINEERING SKILL DEVELOPMENT PROGRAMMES

## **DESIGN ENGINEER** **Pressure Vessel and Process Piping**



A REFINERY UNDER CONSTRUCTION



## 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).





# DESIGN ENGINEER

## Pressure Vessel and Process Piping

### SCOPE

Design Engineer (Pressure Vessel and Process Piping) is a skill development program for Mechanical Engineering Post Graduates and Factory or site experienced Mechanical Engineering Graduates towards Oil and Gas, Thermal Power, Petrochemical and heavy steel industries. After successful completion of the course engineers are capable of handling Design and Drafting of various types of Pressure vessels, Columns, Heat exchangers, Boilers and related Process Piping activities just like an engineer with relevant experience in this field.

### THE COURSE

The course syllabus is so designed that engineers can take responsibilities in any position as listed below with best pay scale and plenty of opportunities.

Planning Engineer  
Purchase Engineer  
Welding Engineer  
Piping Engineer  
QA/QC Engineer  
Design Engineer- Pressure Vessel/Process Piping

### SYLLABUS IN BRIEF

There are eight modules as listed below to cover the total course content.

#### Module 1

Construction Diagrams and Drawings

#### Module 2

Construction Materials and Material standards

#### Module 3

Welding Engineering and Welding Procedures

#### Module 4

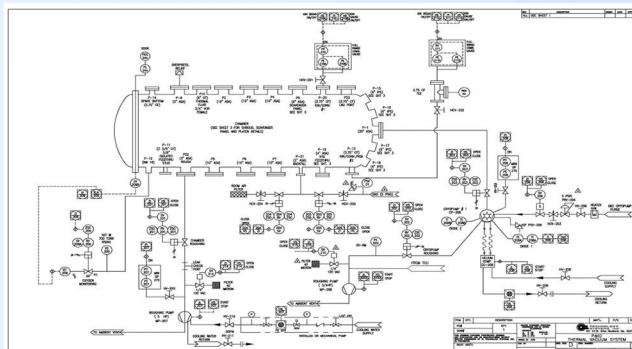
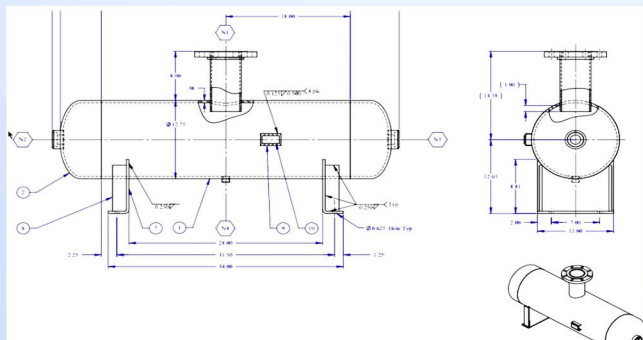
Production and Construction Process

#### Module 5

Non destructive tests and Interpretations

#### Module 6

Project Management, Quality Assurance and Quality Control



**Module 7** Design of Pressure vessels

**Module 8** Design of Process Piping

Note: Detailed syllabus will be available during course counseling

### TRAINING FACILITIES

Induscan Petroleum Institute is well equipped with advanced class room, laboratory and work shop facilities to explain the course content with factory and site experience.

#### Piping Lab

Piping Lab is constructed with the following specification.

Lab 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. Piping lab is facilitated to explain P&ID, GAD, Isometric, Structural supports, co ordinates, elevation etc. 3 types of Static equipment, (Heat exchanger, Horizontal vessels and Column) are installed in 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 kind of mechanical construction materials such as seamless pipes, ERW pipes, flanges, Gasket, fasteners, elbows, tees, reducers, O lets reducers, end cap, valves etc ranging from 1/2NS to 12NS in size.

#### Welding Lab and Workshop

Welding lab/ Workshop is arranged with the following specifications Area is 100 Square Meter Facility to explain different types of 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**

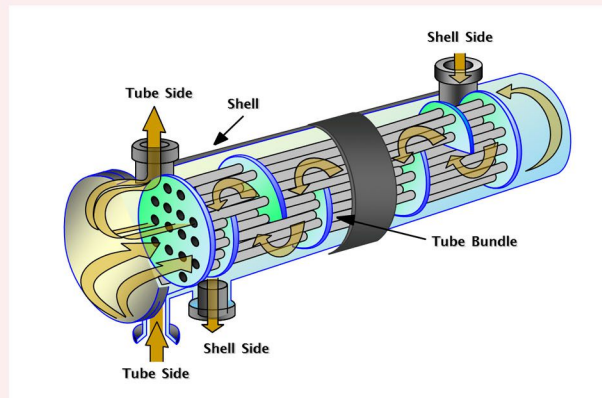
Digital type UT Machines  
Calibration Blocks  
Various types of Transducers  
Various types of Weld Samples and Test specimen

### **ELIGIBILITY CRITERIA FOR ADMISSION**

Course completed certificate of M Tech (Mechanical Engineering) is the basic qualification preferably required for admission. BE or B Tech in Mechanical/Production/Industrial Engineering with minimum 2 years of relevant field experience is also eligible for admission.

### **COURSE REGISTRATION**

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



### **EXAMINATION**

#### **MODULAR EXAMINATIONS**

Total syllabus is divided into eight modules. Modular examination is conducted in three sections (theory, practical and viva voice) upon completion of each module. (Percentage of mark to be scored in each module is specified in course conditions of the batch)

#### **FINAL EXAMINATIONS**

Examination for Module eight will be considered as final examination.

#### **CERTIFICATION**

Course certificate of DESIGN ENGINEER (Pressure Vessel and Process Piping) is issued to successful candidates upon completion of final examination.

#### **COURSE FEE**

(Course fee list will be available during course counselling)

#### **PLACEMENT**

Placement is not guaranteed for the course of DESIGN ENGINEER. Course fee indicated in the Fee list is only for training and certification. Certified DESIGN ENGINEER 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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