**Pakistan Industrial Technical Assistance Centre** (PITAC), **Lahore**

***Training Programme of***

**“Press Tools Design”**

|  |  |
| --- | --- |
| **Sr No.** | **Course Contents** |
| **Week-1** | * **Introduction to Press Tools**
* Parts of Press Tools
* Use of Stripper Plate, Fixed and Finger Stoppers
* Types of Press Tools
* Die Block & Web Calculation
* Selection of Material for Die Block and other Plates
* Introduction of Piercing Die
* Die Punch Clearance
* Exercise of Piercing Tool (Assembly & Details, On Board Training)
 |
| **Week-2** | * **Introduction and Application of:-**
* **Tolerance**
* Advantages of Tolerance
* Types of Tolerance
* Tolerance Showing Method and its calculations
* **Allowance**
* Types of Allowance
* **Fits**
* Types of Fits
* Selection of Die Set
* Selection of Fasteners
* ***Exercise of Blanking*** (Assembly & Details, On Board Training)
 |
| **Week-3** | * Definitions of **Gea**r, **Pinion** and **Rack**
* Difference between **Gear** and **Pinion**
* Use of **Rack** and **Pinion**
* Nomenclature of a **Gear**
* Types of **Gears**
* Left and Right Hand **Helical Gears**
* Gearing Systems (**D.P., Module & C.P System**)
* Difference between **D.P., Module & C.P System**
* Calculations of **Spur Gears**
* Practice of Spur Gear Calculations (Assignment No. 1)
* ***Briefing and Practicing of Compound*** (Piercing & Blanking Die) (Assembly & Details, On Board Training)
 |

Continue ……….. P/2

**Pakistan Industrial Technical Assistance Centre** (PITAC), **Lahore**

(**Press Tools Design Cont…. P/2)**

|  |  |
| --- | --- |
| **Sr No.** | **Course Contents** |
| **Week-4** | * **Introduction of Threads**
* Primary and Secondary Function of Threads
* Threads types and their use including Knuckle (Bottle) Threads
* Trigonometry
* Parts of Tri-angle
* Trigonometric Functions
* Calculations of a right angle tri-angle
* Practice of calculations of a right angle triangle
* Introduction of Various types of Industrial Standards
* Practicing of Blank & Draw Die
* Press Tonnage calculations
* Use of Spring Stripper
* Selection of Springs (Low, Medium & High Pressure)
* Assembly & Details, On Board Training)
 |
| **Week-5** | * **Definition of Heat Treatment**
* Advantages of Heat Treatment
* Classifications of Steels
* Hardness Measuring Scales
* Heat Treatment Processes

(Hardening, Tampering, Annealing, Normalizing, Carburizing)* Introduction of Induction Hardening Machine
* Brief introduction of Welding & Brazing and their difference
* Practicing and Exercise of ***Progressive Die***

 (Pierce, Cut Off & Forming)* Assembly & Details, On Board Training)
 |
| **Week-6** | * ***Design of Blanking & Drawing Die***
* ***Design of Compound Die***
* Assembly & Details, On Board Training
* Visit of different shops of PITAC for Practical observation
* **QCT** (Quick Check Test)
* **Final Evaluation Test + Viva**
 |