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

***Training Programme of***

**“Press Tools Design”**

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| **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) |

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

(**Press Tools Design Cont…. P/2)**

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| **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** |