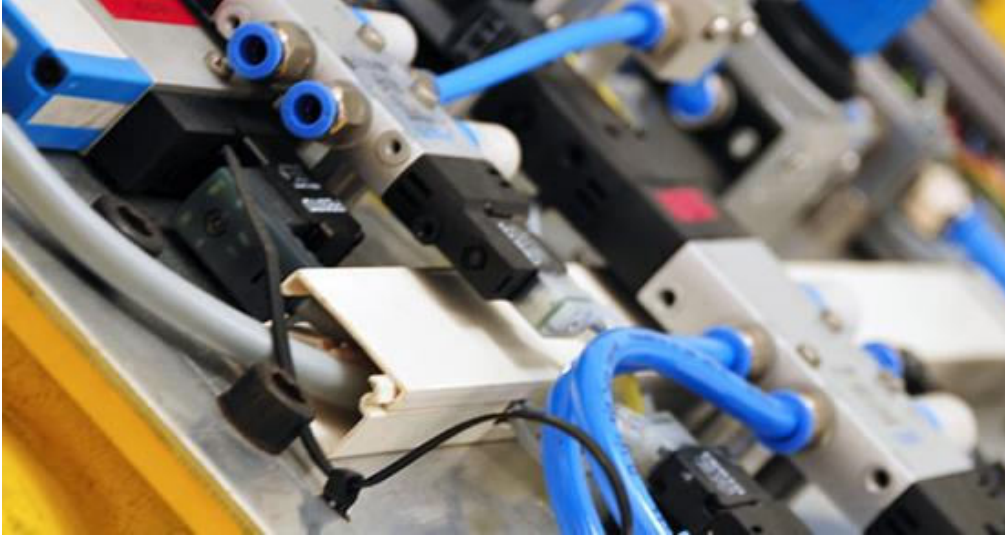


PNEUMATICS AND HYDRAULICS BASED PROJECTS



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- AGRICULTURAL BASED PROJECTS
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- INDUSTRIAL BASED PROJECTS
- MECHATRONICS BASED PROJECTS
- SOLAR AND POWER GENERATION CONCEPTS
- AERONAUTICAL BASED PROJECTS
- PEDAL OPERATED BASED PROJECTS
- PNEUMATICS AND HYDRAULICS BASED PROJECTS

2018 - 19 PNEUMATICS AND HYDRAULICS BASED PROJECTS

TITLE - 3 AXIS HYDRAULIC TRAILER (TPH01)

Modern Three Axis Hydraulic Modern Trailer has been conceived having studied the difficulty in unloading the materials. In several automobile garages, revealed the facts that mostly some difficult methods were adopted in unloading the materials from the trailer. Now the trailer has mainly concentrated on this difficulty, and hence a suitable arrangement has been designed. Such that the material can be unloaded from the trailer in three axes without application of any impact force. By pressing the direction control valve activated. The fluid is goes to the hydraulic cylinder through valve. The ram of the hydraulic cylinder acts as a lifting the trailer cabin. The automobile engine drive is coupled to the pump, so that it stores the high pressure fluid when the vehicle running. This fluid is used to activate the hydraulic cylinder, when the valve is activated. By this research it is easy for the driver to unload the trailer and also it reduces time and fuel consumption.

TITLE - FABRICATION OF 3 AXIS PNEUMATIC TRAILER (TPH 02)

This project work titled –Three axis pneumatic modern trailer|| has been conceived having studied the difficulty in unloading the materials. Our survey in the regard in several automobile garages, revealed the facts that mostly some difficult methods were adopted in unloading the materials from the trailer. The trailer will unload the material in only one single direction. It is difficult to unload the materials in small compact streets and small roads. In our project these are rectified to unload the trailer in all three sides very easily.

TITLE - FABRICATION OF ANDROID BASED HYDRAULIC JACK (TPH 03)

A jack is a device that uses force to lift heavy loads. The primary mechanism with which force is applied varies, depending on the specific type of jack, but is typically a screw thread or a hydraulic cylinder. In Hydraulic types one end of the piston rod is connected to the movable jaw and the piston slides in the cylinder. Here the hydraulic fluid actuates the movement of the piston; this in turn actuates the movable jaw. Here the principle movement is only a reciprocating movement which is controlled using electronic switches and through android app which makes things easy.

TITLE - FABRICATION OF AUTOMATIC PNEUMATIC RAMMING MACHINE (TPH 04)

To operate this rammer an air compressor is needed. A butt which is attached to the bottom of the piston rod does the operation of ramming. The pressure developed inside the cylinder reciprocates the piston and hence the butt. This rammer is handled by an operator just by moving it over the molding sand. The butt rams the sand at places moved and the sand is uniformly rammed. This rammer reduces the ramming time and labour. Due to this the cost is reduced considerably. So this machine finds application in foundries The compressed air goes to the flow control valve. The flow control valve is used to control the flow of air. It is adjustable one. We have to adjust the lever, so that the required pressurized air goes to the Solenoid Valve. Here solenoid valve is used as a direction control valve. This solenoid valve is controlled by the electronic control timing unit. The ramming time is varied by adjusting the timing (timer 555 IC) control of the electronic unit.

TITLE - PNEUMATIC WATER PUMP (TPH 05)

The concept is pneumatic since it is easy to operate and also a quick process. The concept can bring a drastic change in the field of mechanical especially for lubrication purpose in the machining areas. The process is carried out by the pneumatic cylinder and the compressed air. The model consists of a tank, non return valve and a pneumatic cylinder.

TITLE - FABRICATION OF PNEUMATIC OPERATED EMERGENCY OVERWING EXIT SYSTEM IN AIRCRAFTS (TPH 06)

The primary responsibility of the cabin crew during an evacuation is to direct passengers to evacuate the aircraft using all of the usable exits. The aim of an evacuation is to ensure that passengers and crewmembers leave the aircraft as rapidly and as safely as possible. Many factors contribute to the successful evacuation of the aircraft:

- The procedural knowledge of the cabin crew: This includes training, experience, and behavior
- The environment inside and outside of the aircraft (e.g., the presence of smoke, fire, the cabin lighting, and outside conditions)
- The passengers' behavior, age, level of fitness, and motivation
- The aircraft configuration, and the layout of the cabin.

TITLE - FABRICATION OF HYDRAULIC LIFT (SCISSOR LIFT) (TPH 07)

Generally, a hydraulic scissor lift is used for lifting and holding heavy weight components. Material selection plays a key role in designing a machine and also influence on several factor such as durability, reliability, strength, resistance which finally leads to increase the life of scissor lift. The design is performed by considering hydraulic scissor lift as a portable, compact and much suitable for medium type of load application.

TITLE - FABRICATION OF PNEUMATIC SHEET SHEARING (TPH 08)

In manual sheet cutting operation lot of time is wasted due to repeated works stressful work also sometimes dimensioning may also wrong ,in order to overcome the problems pneumatic sheet shearing machine is made which is operated by a pneumatic hand lever of two way control valve. control valve is operated by a compressor. This includes high speed steel blade, double acting cylinder and pneumatic hand operated valve.

TITLE - FABRICATION OF HYDRAULIC PORTABLE CRANE (TPH 09)

Cranes are versatile lifting and transporting mechanisms that are made adaptable to a wide variety of jobs by the attachment of an almost infinite number of specially designed grabs. motor operated jib crane has along jib, or arm that extends several feet from a heavy base. The and keeps the crane from tipping over. The operator turns on the motor to lift or lower the hook the arm is lowered. Thus a jib crane can move a weight to any point around the circumference of the circle .This type is suited for operation that require constant and relatively rapid movement of the crane around the job such as in a factory or storage yard.

TITLE - PENDULUM BASED WATER PUMP (TPH 10)

This paper discusses the importance of a pendulum pump which can be used as a supplementary device for pumping water and is made to replace hand pumps. One important feature of a pump with a pendulum is that the work is alleviated or in simple terms it makes work rather easier when is compared with a traditional hand water pump. It is due to this underlined feature which enables the pendulum pump to be used as an efficient mode in the irrigation of smaller lots, water-wells and can also be used in extinguishing fires even by old people and children. By the use of pendulum based water pumping system we can increase the efficiency of the plant and reduce the effort, cost of production, production time, manpower requirement.

HEAD OFFICE

TECHNOFIST- R T NAGAR

YES Complex, #19/3&4 , 2nd Floor, Dinnur Main Road , **R. T. Nagar** Post , Bangalore
560032

Ph : 080 40969981, Mob : +91 9008001602

www.technofist.com, www.technofist.in , www.itcdp.in