Department : **Mechanical**

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Group No: **18**

Guided By

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Project Title

DESIGN AND DEVELOPMENT OF EXHAUST SYSTEM OF PLASMA ARC CUTTING MACHINE

Abstract:

In winter vacation we had done our industrial field training at Gujarat Apollo where we had founds ome in appropriate working condition near plasma arc cutting machine. We had decided to design and develop the exhaust system for plasma arc cutting machine. In conventional system the cut material falls down directly on the bottom of workpiece table and fumes are just spreaded over whole area.

Now, in our design of exhaust hood the stated problem is totally eliminated. We had designed the frustum of prism shaped exhaust hood for the collection of waste material. Now problem is still there for the fumes and pollutants so we had designed a duct system for the effective transportation of fumes and small granules. The duct system is preceded by blower and dust collector of cyclone type.

When the cutting is carried out on the worktable huge amount of fumes and pollutants are generated and small amount of waste material are also generated. For the removal off umes and small granules duct system is provided for movement off umes to dust collector and blower is provided for sucking purpose.

Dust collector is used to separate small particles of waste material and some pollutants. Now, fumes with small amount of pollutants are exhausted to the atmosphere hence, this system provides a feandhygienic working condition to each and every employee working near plasma arc cutting machine.

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