

St.Joseph's College of Engineering, Chennai 600 119
Department of Mechanical Engineering
Workshop Laboratory Equipment Details

S.No	Name of the equipment	Description of the equipment	Quantity
1	Center Lathe	A lathe is a machine tool that rotates the work piece on its axis to perform various operations such as cutting, sanding, knurling, drilling, or deformation, facing, turning, with tools that are applied to the work piece to create an object with symmetry about an axis of rotation	14
2	Capstan and Turret Lathe	The turret lathe is a form of metalworking lathe that is used for repetitive production of duplicate parts, which by the nature of their cutting process are usually interchangeable.	01
3	Shaper	A shaper is a type of machine tool that uses linear relative motion between the work piece and a single-point cutting tool to machine a linear tool path. Its cut is analogous to that of a lathe, except that it is (archetypally) linear instead of helical.	03
4	Radial Drilling	A radial arm drill press is a large geared head drill press in which the head can be moved along an arm that radiates. A vise may be used with a radial arm drill press , but more often the work piece is secured directly to the table or base, or is held in a fixture.	02
5	Centre Cylindrical Grinding	The cylindrical grinder is a type of grinding machine used to shape the outside of an object.The cylindrical grinder can work on a variety of shapes, however the object must have a central axis of rotation. This includes but is not limited to such shapes as a cylinder, an ellipse, a cam, or a crankshaft.	1

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6	Centre less Grinding	In-feed centerless grinding is used to grind work pieces with relatively complex shapes, such as an hourglass shape. Before the process begins, the work piece is loaded manually into the grinding machine and the regulating wheel is moved into place.	1
7	Vertical Milling	Milling machines are very versatile. They are usually used to machine flat surfaces, but can also produce irregular surfaces. They can also be used to drill, bore, cut gears, and produce slots. The type of milling machine most commonly found in student shops is a vertical spindle machine with a swiveling head.	1
8	Horizontal Milling	The Horizontal Milling Machine is a very robust and sturdy machine. A variety of cutters are available to removed/shape material that is normally held in a strong machine vice. This horizontal miller is used when a vertical miller is less suitable	01
9	Gear Hobbing	Hobbing is a machining process for gear cutting, cutting splines, and cutting sprockets on a hobbing machine, which is a special type of milling machine. The teeth or splines are progressively cut into the workpiece by a series of cuts made by a cutting tool called a hob.	01
10	Slotting Machine	Slotting machines generally utilize vertically mounted cutting tools, but can have horizontal or angled blades fixed to a vertical ram.	01
11	Planer	A planer is a type of metalworking machine tool that uses linear relative motion between the workpiece and a single-point cutting tool to cut the work piece. A planer is similar to a shaper, but larger, and with workpiece moving, whereas in a shaper the cutting tool moves.	01

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12	Tool Grinder	A grinding machine, often shortened to grinder, is any of various power tools or machine tools used for grinding, which is a type of machining using an abrasive wheel as the cutting tool. Each grain of abrasive on the wheel's surface cuts a small chip from the workpiece via shear deformation.	01
13	Bench Grinder	A bench grinder is a type of bench top grinding machine used to drive abrasive wheels. A pedestal grinder is a larger version of a bench grinder that is mounted on a pedestal, which is bolted to the floor. These types of grinders are commonly used to hand grind cutting tools and perform other rough grinding.	01
14	Lathe Tool Dynamometer	Lathe Tool Dynamometer is a cutting force measuring instrument used to measure the cutting forces coming on the tool tip on the Lathe Machine. The sensor is designed in such a way that it can be rigidly mounted on the tool post, and the cutting tool can be fixed to the sensor directly.	01