

Sr. No.	Description	Quantity	Specifications
1.	Bernoulli's theorem App.	1	<p>APPARATUS FOR VERIFICATION OF BERNOULLI'S THEOREM</p> <p>Features: Self-contained water circulation unit. Pump giving adequate flow for meaningful experiments. Service Required: Capacity of water - 108 lit. Approx. Electrical supply - Single phase, 0.5 H.P. Cap. Space requirement: Floor area 1.6m * 0.7m * 1.5 m approx.</p> <p>Description: Apparatus consists of a close circuit through which water is circulated continuously by means of a centrifugal pump of 25mm * 25 mm with 0.5 H.P. motor to make the supply from sump tank. A sump tank 90 cm long, 40 cm wide and 30 cm high fabricated with 1.5mm thick S.S. sheet is provided. A drain valve of 15 mm size is provided in the bottom of the tank. The flow of water through convergent and divergent Perspex acrylic duct of rectangular cross section is studied to demonstrate Bernoulli's Theorem. The duct is having cross section 40mm * 40 mm at the entrance and exit end while 40mm * 20 mm at middle. The total length of the duct is 90 cm. 11 corning glass Piezometer tubes of 35 cm long at an equal distance of 7.5 cm are provided along the length of duct. The duct is connected with the tanks 15cm * 15 cm and 45 cm high at its entrance and exit end. Tanks are made up of 1.5 S.S. sheet. The upstream tank has the provision for over flow and is called as inlet tank. While the downstream tank is provided with a regulation valve of 40 mm size made of gun metal to stabilize the flow and is called outlet tank. The above unit is supported on a stand fabricated from M.S. angle. Discharge of water can be collected by the help of a collecting tank of 40cm * 40 cm and 30 cm high fabricated from 1.5 mm thick S.S. sheet. The tank is provided with gauge glass tube, flow diverting arrangement and a drain valve of 25 mm size. Necessary G.I. piping system & flexible pipe of suitable size, necessary fitting and control valve are provided with the apparatus. Experimental Capabilities: To verify the Bernoulli's theorem experimentally</p>
2.	Orifice & Venturimeter App.	1	<p>FLOW MEASUREMENT APPARATUS BY VENTURI METER AND ORIFICE METER</p> <p>Features: Self-contained water circulation unit. Service Required: Capacity of water - 90 lit. approx. Electrical supply Single phase, 0.5 H.P. Cap. Space requirement: Floor area 2.8 m x 1.2 m x 1.2 m approx.</p> <p>Description: Apparatus consists of a close circuit through which water is circulated continuously by means of a centrifugal pump of 25 mm x 25 mm with 0.5 H.P. motor to make the supply from sump tank.</p>

		<p>A sump tank 80 cm long, 40 cm wide and 30 cm high fabricated with 1.5mm thick S.S. sheet is provided. A drain valve of 15 mm size is provided in the bottom of the tank. Water is drawn from the sump tank and delivered to the G.I. pipe line circuit having parallel pipe lines of sufficient length connected with the respective venturimeter and orifice meter. A venturimeter made of brass is provided (each having $d/D = 0.6$) having inlet size of 25 mm dia while throat size is 15.0 mm dia. Venturimeter is provided with two pressure tapping's, one at upstream and other at the throat section. An orifice meter of 25 mm size at inlet having a bore of 15.0 mm made up of brass is also provided. Orifice meter is also provided with two pressure tapings, one at upstream and other at downstream sections. A 'U' tube differential manometer of 50 cm size is provided with common manifold to measure the pressure difference between two sections of venturimeter and orifice meter. A regulating valve is provided in the downstream side of the circuit to regulate the flow. A supporting stand made from M.S. angle to support the pipe circuit is provided. Discharge of water can be collected by the help of a collecting tank of 40 cm x 40 cm and 30 cm high fabricated from 1.5 mm thick S.S. sheet. The tank is provided with gauge glass tube, flow diverting arrangement and a drain valve of 25 mm size. Necessary G.I. Piping system & flexible pipe of suitable size, necessary fitting and control valve are provided with the apparatus.</p> <p>Experimental Capabilities: To find coefficient of discharge of Venturimeter and orifice meter.</p>
3.	<u>Broad</u> Crested weir app.	<p>APPARATUS TO CALIBRATE BROAD CREST WEIR</p> <p>Features: Self-contained water circulation unit. Pump giving adequate flow for meaningful experiments.</p> <p>Service Required: Capacity of water 170 lit. approx. Electrical supply Single phase, 0.5 H.P. Cap Space requirement: Floor area 2.1 m x 0.7 m x 1.5 m approx.</p> <p>Description: Apparatus consists of a close circuit through which water is circulated continuously by means of a centrifugal pump of 25 mm x 25 mm with 0.5 H.P. motor to make the supply from sump tank. A sump tank 90 cm long, 40 cm wide and 30 cm high fabricated with 1.5mm thick S.S. sheet is provided. A drain valve of 15 mm size is provided in the bottom of the tank. A supply tank 100 cm x 25 cm x 20 cm high fabricated with 5.00 thick PERSPEX sheet is provided. The tank has the provision for fixing the weir. To measure the head over the weir, a pointer gauge of 30 cm length made from brass square pipe is provided. The tank is supported on a stand fabricated from M.S. angle. A Broad crest weir is provided (made of 1.5 mm thick SS sheet). Discharge of water can be collected by the help of a collecting tank of 40 cm x 40 cm and 30 cm high fabricated with 1.5 mm thick S.S. sheet. The tank is provided with gauge glass tube, flow diverting arrangement and a drain valve of 25 mm size.</p>

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		<p>Necessary G.I. piping system & flexible pipe of suitable size, necessary fitting and control valve are provided with the apparatus.</p> <p>Experimental Capabilities</p> <p>Determination of coefficient of discharge of Broad crest weir</p> <p>APPARATUS FOR CONDUCTING ORIFICE EXPERIMENTS</p> <p>Features</p> <ul style="list-style-type: none"> Self-contained water circulation unit. Pump giving adequate flow for meaningful experiments. Service Required Capacity of water - 135 lit. approx Electrical supply - Single phase, 0.5 H.P. Cap. Comprehensive Instruction Manual covers experiment presented in the form of a full Laboratory report. Space saver as collecting tank is mounted over the sump tank. Space requirement: Floor area in approx. 1.8m * 0.6m * 2.2 <p>Description:</p> <p>Apparatus consists of a close circuit through which water is circulated continuously by means of a centrifugal pump of 25mm * 25 mm with 0.5 H.P. motor to make the supply from sump tank. A sump tank 100 cm long, 40 cm wide and 35 cm high fabricated with 1.5mm thick S.S. sheet is provided. A drain valve of 15 mm size is provided in the bottom of the tank.</p> <p>A supply tank 30cm * 30 cm and 80 cm high fabricated with 1.5 mm thick S.S. sheet with over flow arrangement, gauge glass tube and 15 mm size drain valve is provided. The tank has the provision for fixing the various orifices (inter changeable). The tank is supported on a stand fabricated from M.S. angle.</p> <p>A set of orifices is provided (made of 3 mm thick brass plate).</p> <ul style="list-style-type: none"> (i) 10 mm dia (ii) 15 mm dia <p>A set of mouthpieces made of brass is provided</p> <ul style="list-style-type: none"> (i) 10 mm dia x 25 mm length (ii) 10 mm dia x 40 mm length (iii) 10mm * 25mm * 25 1 mm long divergent (iv) 25mm * 10mm * 25 mm long convergent <p>To measure the X-Y coordinates of jet coming out of orifice scale and sliding apparatus made of brass square pipe is provided.</p> <p>Scale and sliding apparatus is 50 cm long in X direction and 25 cm in Y direction.</p> <p>Discharge of water can be collected by the help of a collecting tank of 30cm * 40 cm and 30 cm high fabricated from 1.5mm thick S.S. sheet. The tank is provided with gauge glass tube, flow diverting arrangement and drain valve of 25 mm size.</p> <p>Necessary G.I. piping system & flexible pipe of suitable size, necessary fitting and control valve are provided with the apparatus.</p> <p>PILOT STATIC TUBE APPARATUS</p> <p>Features:</p> <ul style="list-style-type: none"> Self-contained water circulation unit. Pump giving adequate flow for meaningful experiments. Service Required Capacity of water - 90 lit. approx.
5.	Velocity Distribution for pipe line flow with pitot static probe	1

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			<p>Electrical supply Single phase, 0.5 H.P. Cap. Comprehensive Instruction Manual covers experiment presented in the form of a full lab report.</p> <p>* Space saver as collecting tank is mounted over the sump tank. Space requirement: Floor area 2.6 m x 0.7 m x 1.5 m approx.</p> <p>Description:</p> <p>Apparatus consists of a close circuit through which water is circulated continuously by means of a centrifugal pump of 25 mm x 25 mm with 0.5 H.P. motor to make the supply from sump tank.</p> <p>A sump tank 70 cm long, 40 cm wide and 30 cm high fabricated with 1.5mm thick S.S. sheet is provided. A drain valve of 15 mm size is provided in the bottom of the tank.</p> <p>Water is drawn from the sump tank and delivered to a pipe line of 50 mm dia of sufficient length (for stabilization of water) connected with a regulation valve at the downstream side to regulate the flow. At the middle of pipe, a pitot tube of standard design made of stainless steel or brass pipe of 3 mm size is provided. The pitot tube is fixed below a pitot static gauge of 30 cm size. The pitot static gauge is capable to measure the position of pitot tube in the pipe. An inclined U tube manometer of 60 cm size is provided to determine the velocity head.</p> <p>A supporting stand made from M.S. angle to support the pipe circuit is provided.</p> <p>Discharge of water can be collected by the help of a collecting tank of 40 cm x 40 cm and 30 cm high fabricated from 1.5 mm thick S.S. sheet. The tank is provided with gauge glass tube, flow diverting arrangement and a drain valve of 25 mm size.</p> <p>Necessary G.I. piping system & flexible pipe of suitable size, necessary fitting and control valve are provided with the apparatus.</p> <p>Experimental Capabilities:</p> <p>To find the Velocity of water by the help of pitot tube.</p>
6.	Electronic weighing balance capacity 1000gm. Least cout.01gm	1	Electronic weighing balance of Capacity 1000 gm. least count .01gm
7.	Prismatic compass with stand	6	Prismatic Compass, made of full brass and aluminium circle, accurately machine graduated to 0.5 degree with agate stone bearing fitted with automatic lifter, with sliding lenestic prism fitted with Red & Green filter glasses and reflecting mirror
8.	Surveyor's Compass	3	Surveyor's Compass made off all brass with 2 folding sight vanes, fixed aluminium graduated dial, properly machine graduated to 0.5 degree, fitted with 2 cross bubbles placed in Leather cover Size: 100mm dia, With Telescopic Aluminium Tripod

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