

INSTITUTE OF TECHNOLOGY, KORBA(C.G.)
SCIENCE & HUMANITIES DEPARTMENT
SUB- APPLIED PHYSICS LAB
Session:-2017

S.N.	NAME OF EXPERIMENT	NAME OF EQUIPMENT	SPECIFICATION	QUANTITY
1	To Verify Demorgans Theorm	Demorgans Kit	<ol style="list-style-type: none"> 1. Power supply requirement:230V AC, 50 Hz. 2. Built in IC based regulated Power supply:0-5V DC/200mA. 3. Following parts provided on single PCB with connecting terminals . NOT Gates:IC 7404-1 No. AND Gates :IC 7411-1 No. OR Gates:IC 4075 -1 No. 4. High /Low switches: 3. Nos provided to apply 0 and 1 level. 5. Logic output indicators: 4 LEDs provided for output level indication. 	2
2	To determine the forbidden energy gap of a semiconductor.	P-N diode, DC regulated power supply, Voltmeter, Milliammeter, 1 KW resistor, Beaker, Thermometer, Heater.	<ol style="list-style-type: none"> 1. Power supply requirement:230V AC, 50 Hz. 2. Built in IC based regulated Power supply:0-5V DC/200mA. 3. Following parts provided on single PCB with connecting terminals . NOT Gates:IC 7404-1 No. AND Gates :IC 7411-1 No. OR Gates:IC 4075 -1 No. 4. High /Low switches: 3. Nos provided to apply 0 and 1 level. 5. Logic output indicators: 4 LEDs provided for output level indication. 	2
3	To determine the wave length of sodium light with the help of Fresnel's Bi-prism	<ol style="list-style-type: none"> 1. Optical bench, 2. Fresnel's Biprism 3. Bi-prism holder 4. Double Convex lense 5. Lense Holder 6. Micrometer eye piece 7. Optical slit 8. Reading Lense 9. Sodium Light Source 	<ol style="list-style-type: none"> 1. Optical bench: Two 150 cm long steel rods 3/4 dia. forming a bench with end supports having leveling screws. One of the steel rods is graduate in cm and mm. It has five riders, two with transvers motion. 2. Fresnel's Biprism : Optical worked made from Crown Glass, 50X40 mm. size. 3. Bi-prism holder : It has fine radial motion operated by fine pitch screw 4. Double Convex lense : 50mm diameter &F.L 10 cm. 5. Lense Holder: Spring action type having well ground stainless steel jaws 6. Micrometer eye piece: A ramsden 10X eye piece carried on a slide which moves along a micrometer screw. The movement is read on a 30-0-30 mm steel scale and directly on micrometer head to .001cm No backlash 7. Optical slit: Optically true, prcision ground stainless steel jaws. 8. Reading Lense: 40/50 mm diameter with handle 9. Sodium Light Source: Sodium light source complete with sodium lamp 35 watt with vacuume jacket. <p>Transformer & wooden box having 4holds with slide covers one each on every side at different hieght.</p> <ol style="list-style-type: none"> 10. Incandescent lamp:with hous on stand: For white light 	2
4	To determine wave length of Laser light byDiffraction Grating method	<ol style="list-style-type: none"> 1. Diode Laser with power supply, 2. Circular Table 3. Laser Detector 4. Diffraction Grating 5. Nanoammeter 6. Reading lense 7. Sprite level 	<ol style="list-style-type: none"> 1. Spectrometer standard: 6" dia circle reading 30seconds, with a long arm in place of Telescope fitted with double convex lens 50mm dia, focal length 40cm on one end and photo voltaic cell with width adjustable slit on the other end. The distance between lens and photo voltaic cell can be adjusted for better focussing. Prism table is provided with three leveling screws and is engraved with concentric rings and lines. The scales and verniers are of stainless steel and are machine divided. 2. Digital Nanoammeter:Range : 100nA, 1mA, 10mA, 100mA. Accuracy : ±0.25% for all ranges Resolution : 0.1nA, 1.0nA, 10nA, 100nA. Input Resistance : 25W, 2.5W, 0.25W, 0.025W. Display : 3½ digit 7segment LED (12.5mm height) with auto polarity and decimal indication. 3. Prism : Optically work with two faces polished , size 38mm*38mm 4. Power supply:0-6V Dc at 3A, IC regluted short circuit protected power supply & fine voltage circuit protected power supply & fine voltage control with two digital pannel meter of 31/2 digit one of 19.99 V DC & other of 19.99Amp DC . 5. Photo voltaic cell: with width adjustable slit 	2

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5	e/m by Thomson's method	e/m Thomson Kit	Complete Setup	2
6	Study Of Hall Effect	Half Effect Apparatus	Complete Setup	2
7	Flywheel	Stop Clock, Vernier Calipers, Thred, Iron Fly Wheel, Weight 500kg, (3 piece)	Comprising of carefully machined and balanced cast iron wheel and steel spindle is supported on the ball bearings in strong iron brackets The sides of wheel are smoothly red painted. The top of wheel is chrome plated and is marked with a thick red line. A pointer is fixed to one of the brackets. Diametric hole is drilled in the shaft to take a pin and cord the base is provided with four holes so that the apparatus can be fixed to wall complete with cord and hook 15cm wheel dia. 20cm wheel dia	1
8	To determine the frequency of AC mains with Sonometer using an electromagnet and magnetic wire (steel wire).	1. Sonometer 2. Tuning fork 3. Rubber pad for tuning fork Step down transformer Electromagnet Horse shoe magnet, Screw gauge, Retord stand with Clamp, Slotted weights: 1/2 Kg set of 5 including hanger i.e. 2 1/2 kg total. Connecting wires	One metre long, made of soft wood and well polished. Fitted with two metre scale graduated in centimeters. It is provided with wire of two different material steel and brass, sliding knife edges and hook etc. Set of eight, small size, made of steel, nickle plated. Frequency is marked on the tuning forks. The frequencies are 256, 288, 320, 341, 384, 420, 480 and 512Hz.	2
9	Capillary / Jager's Method	1. Jager's apparatus 2. Cappillary Tube 3. Beaker (250ml) 4. glass(250ml) 5. Plastic 500ml 6. Traveling Microscope 7 Rubber Tube 8. One rod	Jaeger's surface tension having a mouth reagent bottle fitted with a cork having two holes, in one hole a dropping funnies is fitted. Complete with manometer, capillary tube. All mounted on suitable wooden stand. Without aspirator.	2
10	Stock's Method.	Five steel balls of different sizes , Glass cylinder with glycerise , Two strong magnet ,Stop watch, Micromer scale Thermometer gravity hydrometer	Complete set up	2
11		Vernier		10
12		Screw Guage		10
13		Stop watch		5

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S.No.	Name Of Equipment	Technical Specification	Quantity
1	Desicator	8" neutral glass stoppered with cap	5Pc
2	Hot Plate round 8"	Round 8" dia, with energy Regulator & thermostatic control	2Pc
3	Lab Oven upto 250C	Upto 250C, 14"X14"X14" electric operated, double walled inside stainless steel, outside mild steel painted in epoxy powder coating. Two indicators and on/off switch. To work on 220/230 volts A.C. With one number air circulating fan & digital temperature controller cum indicator.	1Pc
4	Electronic Balance	Capacity 120 gm Readability 1mg or .0001gm,	1Pc
5	Centrifuge Machine	6tube, Electric operated, with 5 step speed regulator, 4000 rpm, heavy gauge spun aluminium guard bowl stoved enamel paint.	5Pc
6	PH meter	Microprocessor Based, range 0 to 14 ph, display 16x2 digit LCD Display, accuracy 0.01 ph +-1 digit, resolution 0.01 ph, temp compensation auto 0 to 100 degree C auto buffer recall 4.00, 7.00, 9.20 ph, power 230V +10% AC. Size 285x 190x90 mm, storage upto 90 samples, ph electrode, buffer sol & manual, 8 soft touch membrane type touch.	1Pc
7	Bomb Calorimeter	As per IP 12 ASIMD, 4809, IS 1448 Complete with digital thermometer. Complete with oxygen cylinder	1Pc
8	Abels point Apparatus	As per IP 170, with refrigeration system 10 to 70 degree C.	3Pc
9	Pensky's Martyn's apparatus	E- regular FHP stirrer with stand, IPO 004 B,	1Pc
10	Water bath	rectangular, 6 holes, ISO Certified, electric operated. Double walled, top has 75 mm holes with concentric rings. Temp. upto 99 degree C. thermostatically controlled fitted with neon lamp, indicator, main switch and workable on 220V AC. SIZE 325X250X100 mm.	2Pc
11	Deep freezer (vertical)	150 ltr, wheel on rear side, CFC Free heavy duty compressor, plastic body, solid door works on 220V AC/ temp. range -20 c, puff insulated to prevent thermal losses. Specially designed combination of pull out drawer system for storage.	1Pc
12	Dissolved oxygen meter	Microprocessor Based, display 16x2 line LCD, RANGE 0-20 ppm accuracy 0.2ppm, resolution 0.1ppm, calibration automatic, storage upto 90 samples, with soft touch key.	1pc
13	Water and soil analysis kit	7 parameters (ph, conductivity, temperature, TDS, DO, Turbidity, salinity,) Microprocessor Based, 3.5 digit LCD, Power supply 230V +10% AC OR 12V rechargeable battery. With accessories ph electrode, conductivity/TDS/salinity cell, temp probe, Do probe and dry cell container (161) main operational manual, bottles for ph solution & tablets bottles (161) turbidity test set (191).	1Pc

 