

General Engineering

I Year B.E. / B.Tech. (Common for all branches) (R 2021)

Degree: UG		Name of the Course: All UG programmes	Semester: I
Course Code: GE3171 Course Title: Problem Solving and Python Programming Laboratory			
Sl. No.	Description of Equipment	Required numbers (for batch of 30 students)	
1.	Stand alone desktops (Windows/Linux) with Python 3 interpreter	30	
2.	Server with Python (3 interpreter for Windows/Linux)	1	

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Course code: GE3271 Course Title: Engineering Practices Laboratory Semester: II		
Sl.No.	Description of Equipment	Required Numbers (for batch of 30 students)
Part I: Civil Engineering Practices		
(a)	Plumbing Work:	
1)	Pipe Vice	15 Nos.
2)	Die Holder with Die set	15 Nos.
(b)	Wood Work	
1)	Tri Square	15 Nos.
2)	Hand Saw	15 Nos.
3)	Carpentry bench wise	15 Nos.
4)	Firmer Chisel	15 Nos.
5)	Motrin Chisel	15 Nos.
6)	Iron Jack	15 Nos.
7)	Mallet	15 Nos.
8)	Bench hold fastens	15 Nos.
9)	Wooden Bench Hook	15 Nos.
10)	Wood Cutting Machine	2 Nos.
Part II: Electrical Engineering Practices		
1)	Single phase house wiring setup	2 Nos.
2)	Three phase house wiring setup	2 Nos.
3)	Staircase wiring setup	2 Nos.
4)	Fluorescent lamp wiring setup	2 Nos.
5)	Emergency lamp wiring setup	2 No.
6)	Iron box wiring setup	2 No.
7)	Emergency lamp wiring setup	2 No.
Part III: Mechanical Engineering Practices		
(a)	Welding Work:	
1)	Arc welding unit	5 Nos.
2)	Gas welding unit	2 Nos.
(b)	Basic Machining Work:	
1)	Lathe Machines	5 Nos.
2)	Drilling Machines	5 Nos.
(c)	Assembly Work:	
1)	Centrifugal pump	2 Nos.
2)	Air-conditioner unit	2 Nos.
3)	Household mixer	2 Nos.
(d)	Sheet Metal Work:	
1)	Steel rule	2 Nos.
2)	Bend snips	5 Nos.
3)	Straight snips	5 Nos.
4)	Scriber	5 Nos.
5)	Divider	5 Nos.
6)	Trammel	5 Nos.
7)	Prick Punches	5 Nos.
8)	Centre punches	5 Nos.
9)	Pliers	5 Nos.
10)	Ball pean hammer	5 Nos.

11)	Raising hammer	5 Nos.
12)	Riveting hammer	5 Nos.
13)	Square free hammer	5 Nos.
14)	Anvil	3 Nos.
15)	Swage block	3 Nos.
16)	Wipe gauges	2 Nos.
(e)	Foundry Work	
1)	Cope and Drag Box	5 Nos.
2)	Pattern	5 Nos.
3)	Solid pattern	5 Nos.
4)	Split pattern	5 Nos.
5)	Runner	5 Nos.
6)	Riser	5 Nos.
7)	Sprue	5 Nos.
8)	Sand reamer	5 Nos.
9)	Trowel	5 Nos.
Part IV: Electronic Engineering Practices		
1)	Soldering Iron, Lead	15 Set
2)	Multi meter	15 Nos.
3)	Continuity tester	15 Nos.
4)	Used Laptop	2 Nos.
5)	Used desktop computer	2 Nos.
6)	Used LED TV	2 Nos.
7)	DC Multi-output power supply (0-5V),(0-30V)(+15V,-15V)	2 Nos.
8)	Resistors	200 Nos.
	Capacitors	200 Nos.
	Diodes	200 Nos.
	Transistors	200 Nos.

Science & Humanities**I Year B.E. / B.Tech. (Common for all branches) (R 2021)****List of Laboratory Equipment (PHYSICS)**

Degree: UG		Name of the Course: Common to all branches	
Course Code: BS3171 Course Title: Physics and Chemistry Laboratory		Semester: I	
Sl. No.	Description of Equipment	Required numbers (for batch of 30 students)	
1.	Torsional Pendulum, stop clock, suspension metallic wire: two different thickness, two identical cylindrical mass, screw gauge, wooden scale	5	
2.	Simple harmonic oscillations of cantilever: 1 meter wooden scale, G-clamp, weight hanger with slotted weights, Vernier calliper, Screw gauge, stop clock	5	
3.	Non-uniform bending: 1 meter wooden scale, two-knife edges, travelling microscope, weight hanger with slotted weights, screw gauge, Vernier calliper, pin	5	
4.	Uniform bending: 1 meter wooden scale, two-knife edges, travelling microscope, two weight hanger with slotted weights, screw gauge, Vernier calliper, pin	5	
5.	He-Ne/Diode laser (red), Green diode laser, Grating, Screen, Iron stand (3 Nos), 1m wooden scale, thread.	5	
6.	45° inclined glass plate set-up, two optically plane glass plates, sodium vapour lamp, travelling microscope, thin wire/thin strip of paper	5	
7.	Diode laser (green or red), fiber optic cable, movable arrangement with a screen for measuring spot size (zig), meter scale, stand	5	
8.	Diode laser (green or red), iron stand, compact disc, 1m-wooden scale, screen, stand	5	
9.	He-Ne laser, CCl ₄ liquid or Benzene liquid, Glass cell with sample liquid (kerosene/Toluene/Turpentine/Benzene or CCl ₄ liquid), RF oscillator fitted with a frequency meter, Piezoelectric crystal, Electrodes (crystal holder), Screen, iron stand (two numbers), 1m wooden scale, thread.	5	
10.	Ultrasonic interferometer apparatus with high frequency wave generator, cell, micrometer, PZ crystal, water or other liquids	5	
11.	Post office box, 5V power supply, thermometer, galvanometer, semiconductor (thermistor), variable temperature bath set-up (oil, temperature controller, vessel, hot plate.	5	
12.	Photoelectric effect apparatus with necessary accessories, tungsten-halogen lamp, Cesium-type vacuum photodiode.	5	

13.	Michelson interferometer set-up, sodium vapour lamp and accessories	5
14.	Melde's string apparatus, thread and weight pan, weight hanger and slotted weights.	5
15.	Lattice dynamics kit with built-in audio oscillator and electrical transmission line(for mono and di-atomic lattices), general purpose CRO having XY mode.	5

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List of Laboratory Equipment (CHEMISTRY)

Degree: UG		Name of the Course: Common to all branches	
Course Code: BS3171		Course Title: Physics and Chemistry Laboratory	Semester: I
<u>Chemistry Equipments</u>			
Sl. No.	Description of Equipment	Required numbers (for batch of 30 students)	
1.	PH meter	15 nos	
2.	Conductivity meter	15 nos	
3.	Potentiometer	15 nos	
4.	Flame photometer	4 nos	
5.	Electronic Balance (Four digit)	1 no	
6.	Hotplate with temperature controller	5 nos	
7.	Hot Air Oven	1 no	
8.	Muffle furnace	1 no	
9.	Magnetic stirrer	2 nos	