Faculty of Mechanical Engineering

B.E. Automobile Engineering

(R 2017) Semester – III

CE8381 STRENGTH OF MATERIALS AND FLUID MECHANICS AND MACHINERY LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Universal Tensile Testing machine with double 1 shear attachment – 40 Ton	1		
2.	Torsion Testing Machine (60 NM Capacity)	1		
3.	Impact Testing Machine (300 J Capacity)	1		
4.	Brinell Hardness Testing Machine	1		
5.	Rockwell Hardness Testing Machine	1		
6.	Spring Testing Machine for tensile and compressive loads (2500 N)	1		
7.	Metallurgical Microscopes	3		
8.	Muffle Furnace (800 C)	1		
9.	Orifice meter setup	1		
10.	Venturi meter setup	1		
11.	Rotameter setup	1		
12.	Pipe Flow analysis setup	1		
13.	Centrifugal pump/submergible pump setup	1		
14.	Reciprocating pump setup	1		
15.	Gear pump setup	1		
16.	Pelton wheel setup	1		
17.	Francis turbine setup	1		
18.	Kaplan turbine setup	1		

Faculty of Mechanical Engineering

B.E. Automobile Engineering

(R 2017) Semester – III

ME8381 COMPUTER AIDED MACHINE DRAWING

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Computers with necessary accessories	30		
2.	Assembly drawings using any 2D /3D CAD Software	30		
3.	Printer	1		

Faculty of Mechanical Engineering

B.E. Automobile Engineering

(R 2017) Semester – IV

AT8411 AUTOMOTIVE COMPONENTS LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Multi Cylinder Petrol Engine	2		
2.	Multi Cylinder Diesel Engine	2		
3.	Petrol and Diesel fuel systems	2		
4.	Heavy duty vehicle chassis frame	1		
5.	Light duty vehicle chassis frame	1		
6.	Front axle	2		
7.	Rear axle	2		
8.	Differential	2		
9.	Clutch and Gear box (light duty, heavy duty)	2		
10.	Steering systems with different gearboxes	4		

Faculty of Mechanical Engineering

B.E. Automobile Engineering

(R 2017) Semester – IV

EC8382 ELECTRONICS AND MICROPROCESSORS LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Voltmeters	5		
2.	Ammeters	5		
3.	PN Diode, BJT, JFET, Logic Gates, Shift Registers and Counters	1		
4.	Digital Logic Trainer Kits	1		
5.	Breadboards	1		
6.	Microprocessor Kits-8085	5		
7.	D/A Converter Interface	1		
8.	Stepper Motor Interface	1		
9.	CRO	1		
10.	Wavefarm Generator	1		
11.	Multimeter	1		

Faculty of Mechanical Engineering

B.E. Automobile Engineering

(R 2017) Semester – V

AT8511 AUTOMOTIVE ELECTRICAL AND ELECTRONICS LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Battery, hydrometer, voltage tester	1		
2.	Starter motor, regulator, cut-out	1		
3.	Distributor, ignition coil, spark plug	1		
4.	Auto electrical wiring system	1		
5.	Rectifiers, filters	15		
6.	Bread board, Logic gates ICs,	15		
7.	Amplifier	15		
8.	IC timer	15		
9.	Data logger	1		
10.	8085 trainer kit	10		
11.	ADC interface board	2		
12.	DAC interface board	2		
13.	Sensors like RTD, Load cell, LVDT	2		
14.	Actuators like stepper motor	2		

Faculty of Mechanical Engineering

B.E. Automobile Engineering

(R 2017) Semester – V

AT8512 AUTOMOTIVE FUELS AND LUBRICANTS LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Flash and fire point apparatus (for petrol)	1		
2.	Aniline point Apparatus	1		
3.	Reid vapor pressure test Apparatus	1		
4.	Bomb and Gas Calorimeters	1		
5.	Carbon Residue Test Apparatus	1		
6.	Copper Strip Corrosion Test Apparatus	1		
7.	Cloud and Pour point Apparatus	1		
8.	Redwood Viscometer	1		
9.	Saybolt Viscometer	1		
10.	ASTM distillation test Apparatus	1		
11.	Ash content Test Apparatus	1		
12.	Drop point and penetration Apparatus for grease	1		

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B.E. Automobile Engineering

(R 2017) Semester – VI

AT8611 COMPUTER AIDED ENGINE AND CHASSIS DESIGN LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Computer nodes	15		
2.	Drafting and Modeling Softwares	15		

Faculty of Mechanical Engineering

B.E. Automobile Engineering

(R 2017) Semester – VI

AT8612 TWO AND THREE WHEELERS LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Two wheeler chassis dynamometer	1		
2.	Coil spring test rig	1		
3.	Chain tension test rig	1		
4.	Shock absorber test rig	1		
5.	Two-wheeler gearbox	2		
6.	Two-wheeler clutch	2		
7.	Three-wheeler brake assembly	2		
8.	Three-wheeler steering assembly	2		
9.	Three-wheeler gear box	2		

Faculty of Mechanical Engineering

B.E. Automobile Engineering

(R 2017) Semester – VII

AT8711 ENGINE PERFORMANCE AND EMISSION TESTING LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Hydraulic dynamometer	1		
2.	Eddy current dynamometer	1		
3.	Engine test rig with electrical dynamometer	1		
4.	Single cylinder two stroke cut section engine	1		
5.	Single cylinder four stroke cut section engine	1		
6.	Two-wheeler engine test rig.	1		
7.	"Automotive multicylinder SI engine test rig with heat balance	1		
8.	Automotive multicylinder CI engine test rig with heat balance	1		
9.	Emission Measuring Instruments for Petrol & Diesel Engines	1		
10.	Piezo-electric pick up, Charge Amplifier, Angle Encoder and (DDAS) Digital data acquisition system	1		

Faculty of Mechanical Engineering

B.E. Automobile Engineering

(R 2017) Semester – VII

AT8712 VEHICLE MAINTENANCE LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Engine Analyzer	1		
2.	Cylinder compression pressure gauge	1		
3.	Vacuum gauge	1		
4.	Spark plug cleaner and tester	1		
5.	Cam angle and rpm tester	1		
6.	Tachometer	1		
7.	Wheel alignment apparatus	1		
8.	Gas welding equipment	1		
9.	Tyre remover	1		
10.	Bearing puller	1		
11.	Head light alignment gauge	1		
12.	Service manuals of petrol, diesel engines	1 No. each		
13.	Cylinder reboring machine	1		
14.	Valve grinding machine	1		
15.	Valve lapping machine	1		
16.	Fuel injection calibration test bench with nozzle tester	1		
17.	HRD tester, Clamp on meter, Hydrometer	1 No. each		