

**Faculty of Mechanical Engineering**  
**M.E. Mechatronics Engineering**  
**(R 2017) Semester – I**  
**MR5101 CONCEPTS IN ELECTRONICS ENGINEERING**  
**(Requirements for a batch of 25 students)**

<b>Sl. No.</b>	<b>Description of Equipment</b>	<b>Quantity required (R)</b>	<b>Quantity available (A)</b>	<b>Deficiency (R - A)</b>
1.	CRO	1		
2.	DSO	1		
3.	DC Power supply 5V	5		
4.	DC Power supply 12V, 10A	1		
5.	DC Power supply 24V, 10A or higher	1		
6.	Function generator	1		
7.	OP-Amp trainer kit (inverting and non-inverting amplifier module)	1		
8.	Analog filters trainer kit	1		
9.	Sequential circuit trainer kit	1		
10.	Combination circuit trainer kit	1		
11.	A/D Converter trainer kit	1		
12.	D/A Converter Trainer kit	1		
13.	Driver Circuit Module for servomotor	1		
14.	Driver Circuit module for stepper moto	1		
15.	Multi-Meter, bread board, and solder machine	1		
16.	Electronic components for power supply (transformer, regulator, diode, capacitors)	5		

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**MR5103 SENSORS AND SIGNAL CONDITIONING**  
**(Requirements for a batch of 25 students)**

<b>Sl. No.</b>	<b>Description of Equipment</b>	<b>Quantity required (R)</b>	<b>Quantity available (A)</b>	<b>Deficiency (R - A)</b>
1.	Temperature Sensors (RTD, Thermocouple, Thermistor, & IC Temperature sensor)	1		
2.	Optical sensors (Photovoltaic, Photo Conductive, Photo Transistor, & Photo Diode)	1		
3.	Strain Gauge Trainer	1		
4.	Load cell Trainer	1		
5.	Torque Transducer Trainer	1		
6.	LVDT	1		
7.	Acoustics Ranging	1		
8.	Hall Effect Trainer	1		
9.	Pressure sensor	1		
10.	ultrasonic sensor Trainer	1		
11.	Proximity sensor (Eddy current, optical, inductive, capacitive principle) each 1 No's	1		
12.	Gyroscope	1		
13.	Accelerometer	1		
14.	Magnetometer Trainer	1		
15.	Encoders (Absolute, incremental) each 1 No's	1		

16.	Tactile sensor (force and touch) Trainer	1		
17.	DAQ card	5		
18.	PC	5		

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**M.E. Mechatronics Engineering**

**(R 2017) Semester – I**

**MR5104 CONTROL SYSTEM DESIGN**

**(Requirements for a batch of 25 students)**

<b>Sl. No.</b>	<b>Description of Equipment</b>	<b>Quantity required (R)</b>	<b>Quantity available (A)</b>	<b>Deficiency (R - A)</b>
1.	MATLAB/ SCILAB – Control System Tool Box with	15		
2.	Motion control PLC with motor, load setup and feedback setup	1		

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**(R 2017) Semester – I**  
**MR5111 MODELING, SIMULATION AND ANALYSIS LABORATORY**  
**(Requirements for a batch of 25 students)**

<b>Sl. No.</b>	<b>Description of Equipment</b>	<b>Quantity required (R)</b>	<b>Quantity available (A)</b>	<b>Deficiency (R - A)</b>
1.	PC with Solidworks & FEA packages	15		

**Faculty of Mechanical Engineering**  
**M.E. Mechatronics Engineering**  
**(R 2017) Semester – II**  
**MR5252 MECHATRONICS SYSTEM DESIGN**  
**(Requirements for a batch of 25 students)**

<b>Sl. No.</b>	<b>Description of Equipment</b>	<b>Quantity required (R)</b>	<b>Quantity available (A)</b>	<b>Deficiency (R - A)</b>
1.	Adam's Software and MATLAB software packages	1		

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**(R 2017) Semester – II**  
**MR5202 DRIVES AND ACTUATORS FOR AUTOMATION**  
**(Requirements for a batch of 25 students)**

<b>Sl. No.</b>	<b>Description of Equipment</b>	<b>Quantity required (R)</b>	<b>Quantity available (A)</b>	<b>Deficiency (R - A)</b>
1.	Hydraulic Trainer with Pump and Valves	1		
2.	Pneumatic Trainer with Compressor and Valves	1		
3.	Electro Pneumatic Trainer	1		
4.	Electro Hydraulic Trainer	1		
5.	Hydraulics and Pneumatics Simulation Software	1		
6.	System Controlled DCMotor with Feedback Setup	1		
7.	System Controlled ACMotor with Feedback Setup	1		
8.	System Controlled Stepper Motor Setup	1		
9.	MATLAB/SCILAB/ any other Software for Controller Tuning	1		
10.	PC	7		

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**(R 2017) Semester – II**  
**MR5211 MICROCONTROLLERS LABORATORY**  
**(Requirements for a batch of 25 students)**

<b>Sl. No.</b>	<b>Description of Equipment</b>	<b>Quantity required (R)</b>	<b>Quantity available (A)</b>	<b>Deficiency (R - A)</b>
1.	8051 Microcontroller Trainer Kit with Software	3		
2.	PIC Trainer Kit with Software	3		
3.	ARM 7 Trainer Kit with Software	3		
4.	Single Board Computer Evaluation Board with Software	3		
5.	Computers	12		
6.	ADC interface	3		
7.	Servomotor	3		
8.	Stepper motor	3		



## Faculty of Mechanical Engineering

### M.E. Mechatronics Engineering

(R 2017) Semester – II

### MR5212 MACHINE VISION LABORATORY

(Requirements for a batch of 25 students)

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	CMOS Camera (USB/Ethernet)	1		
2.	CCD Camera (USB/Ethernet)	1		
3.	Standard Boom Stand(Bench top setup)	2		
4.	Extension Tube (5mm to 50mm)	2		
5.	Lenses (between 3mm to 50mm focal length)	2		
6.	Tele-centric lense	1		
7.	Lighting (Coaxial, ring lighting, Diffused, backlighting) each 1 No's	1		
8.	Machine vision software	2		
9.	PC	2		