# Faculty of Electrical Engineering

## B.E. Electrical and Electronics Engineering

## (R 2017) Semester – II

## EE8261 ELECTRIC CIRCUITS LABORATORY

### Requirements for a batch of 30 students

| Sl. No. | Description of Equipment | Quantity required (R) | Quantity available (A) | Deficiency (R - A) |
|---|---|---|---|---|
| 1. | Regulated Power Supply: 0 - 15 V D.C | 10 | | |
| 2. | Function Generator (1 MHz) | 10 | | |
| 3. | Single Phase Energy Meter | 1 | | |
| 4. | Oscilloscope (20 MHz). | 10 | | |
| 5. | Digital Storage Oscilloscope (20 MHz) | 1 | | |
| 6. | PC With Circuit Simulation Software ( 10 Users ) | 10 | | |
| 7. | e-Sim/Scilab/Pspice / Matlab /other Equivalent software Package) | 10 | | |
| 8. | Printer | 1 | | |
| 9. | AC/DC - Voltmeters | 10 | | |
| 10. | Ammeters | 10 | | |
| 11. | Multi-meters | 10 | | |
| 12. | Single Phase Wattmeter | 3 | | |
| 13. | Decade Resistance Box, Decade Inductance Box, Decade Capacitance Box (Each) | 6 | | |
| 14. | Circuit Connection Boards | 10 | | |

# Faculty of Electrical Engineering

## B.E. Electrical and Electronics Engineering

## (R 2017) Semester – III

## EC8311 ELECTRONICS LABORATORY

### Requirements for a batch of 30 students

| Sl. No. | Description of Equipment | Quantity required (R) | Quantity available (A) | Deficiency (R - A) |
|---|---|---|---|---|
| 1. | Semiconductor devices like Diode, Zener Diode, NPN Transistors, JFET, UJT, Photo diode, Photo Transistor | 10 | | |
| 2. | Resistors, Capacitors and inductors | 10 | | |
| 3. | Necessary digital IC 8 | 10 | | |
| 4. | Function Generators | 10 | | |
| 5. | Regulated 3 output Power Supply 5 +_ 15V | 10 | | |
| 6. | CRO | 10 | | |
| 7. | Storage Oscilloscope | 1 | | |
| 8. | Bread boards | 10 | | |

# Faculty of Electrical Engineering

## B.E. Electrical and Electronics Engineering

## (R 2017) Semester – III

## EE8311 ELECTRICAL MACHINES LABORATORY I

### Requirements for a batch of 30 students

| Sl. No. | Description of Equipment | Quantity required (R) | Quantity available (A) | Deficiency (R - A) |
|---|---|---|---|---|
| 1. | DC Shunt Motor with Loading Arrangement | 3 | | |
| 2. | DC Shunt Motor Coupled With Three phase Alternator | 1 | | |
| 3. | Single Phase Transformer | 4 | | |
| 4. | DC Series Motor with Loading Arrangement | 1 | | |
| 5. | DC Compound motor with loading arrangement | 1 | | |
| 6. | Three Phase Induction Motor with Loading Arrangement | 2 | | |
| 7. | Single Phase Induction Motor with Loading Arrangement | 1 | | |
| 8. | DC Shunt Motor Coupled With DC Compound Generator | 2 | | |
| 9. | DC Shunt Motor Coupled With DC Shunt Generator | 1 | | |
| 10. | Tachometer -Digital/Analog | 8 | | |
| 11. | Single Phase Auto Transformer | 2 | | |
| 12. | Three Phase Auto Transformer | 1 | | |
| 13. | Single Phase Resistive Loading Bank | 2 | | |
| 14. | Three Phase Resistive Loading Bank | 2 | | |

# Faculty of Electrical Engineering

## B.E. Electrical and Electronics Engineering

## (R 2017) Semester – IV

## EE8461 LINEAR AND DIGITAL INTEGRATED CIRCUITS LABORATORY

### Requirements for a batch of 30 students

| Sl. No. | Description of Equipment | Quantity required (R) | Quantity available (A) | Deficiency (R - A) |
|---|---|---|---|---|
| 1. | Dual ,(0-30V) variable Power Supply | 10 | | |
| 2. | CRO (30MHz) | 9 | | |
| 3. | Digital Multimeter | 10 | | |
| 4. | Function Generator (1 MHz) | 8 | | |
| 5. | IC Tester (Analog) | 2 | | |
| 6. | Bread board | 10 | | |
| 7. | Computer (PSPICE installed) | 1 | | |
| 8. | IC 741/ IC NE555/566/565 | 10 | | |
| 9. | Digital IC types | 10 | | |
| 10. | LED | 10 | | |
| 11. | LM317 | 10 | | |
| 12. | LM723 | 10 | | |
| 13. | ICSG3524 / SG3525 | 10 | | |
| 14. | Transistor - 2N3391 | 10 | | |
| 15. | Diodes, IN4001, BY126 | 10 | | |

| | | | | |
|---|---|---|---|---|
| 16. | Zener diodes | 10 | | |
| 17. | Potentiometer | 10 | | |
| 18. | Step-down transformer 230V/12-0-12V | 10 | | |
| 19. | Capacitor | 10 | | |
| 20. | Resistors 1/4 Watt Assorted | 10 | | |
| 21. | Single Strand Wire | 10 | | |

# Faculty of Electrical Engineering

## B.E. Electrical and Electronics Engineering

## (R 2017) Semester – IV

## EE8411 ELECTRICAL MACHINES LABORATORY II

### Requirements for a batch of 30 students

| Sl. No. | Description of Equipment | Quantity required (R) | Quantity available (A) | Deficiency (R - A) |
|---|---|---|---|---|
| 1. | Synchronous Induction motor 3HP | 1 | | |
| 2. | DC Shunt Motor Coupled With Three phase Alternator | 4 | | |
| 3. | DC Shunt Motor Coupled With Three phase Slip ring Induction motor | 1 | | |
| 4. | Three Phase Induction Motor with Loading Arrangement | 2 | | |
| 5. | Single Phase Induction Motor with Loading Arrangement | 2 | | |
| 6. | Tachometer -Digital/Analog | 8 | | |
| 7. | Single Phase Auto Transformer | 2 | | |
| 8. | Three Phase Auto Transformer | 3 | | |
| 9. | Single Phase Resistive Loading Bank | 2 | | |
| 10. | Three Phase Resistive Loading Bank | 2 | | |
| 11. | Capacitor Bank | 1 | | |

# Faculty of Electrical Engineering

## B.E. Electrical and Electronics Engineering

## (R 2017) Semester – V

## CS8383 OBJECT ORIENTED PROGRAMMING LABORATORY

### Requirements for a batch of 30 students

| Sl. No. | Description of Equipment | Quantity required (R) | Quantity available (A) | Deficiency (R - A) |
|---|---|---|---|---|
| 1. | Systems with either Netbeans or Eclipse | 30 | | |

# Faculty of Electrical Engineering

## B.E. Electrical and Electronics Engineering

## (R 2017) Semester – V

## EE8511 CONTROL AND INSTRUMENTATION LABORATORY

### Requirements for a batch of 30 students

| Sl. No. | Description of Equipment | Quantity required (R) | Quantity available (A) | Deficiency (R - A) |
|---|---|---|---|---|
| 1. | PID controller simulation and learner kit | 1 | | |
| 2. | DSO for capturing transience | 1 | | |
| 3. | Personal computers with control system simulation packages | 10 | | |
| 4. | DC motor - Generator test set-up for evaluation of motor parameters | 1 | | |
| 5. | CRO 30MHz | 1 | | |
| 6. | 2MHz Function Generator | 1 | | |
| 7. | Position Control Systems Kit (with manual) | 1 | | |
| 8. | Tacho Generator Coupling set | 1 | | |
| 9. | AC Synchro transmitter& receiver | 1 | | |
| 10. | Digital multi meters, speed and torque sensors | 10 | | |
| 11. | R, L, C Bridge kit (with manual) | 1 | | |
| 12. | Electric heater | 1 | | |
| 13. | Thermometer | 1 | | |
| 14. | Thermistor (silicon type) RTD nickel type | 1 | | |
| 15. | 30 psi Pressure chamber (complete set) | 1 | | |
| 16. | Current generator (0- 20mA) | 1 | | |
| 17. | Air foot pump (with necessary connecting tubes) | 1 | | |

| | | | | |
|---|---|---|---|---|
| 18. | LVDT20mm core length movable type | 1 | | |
| 19. | CRO 30MHz | 1 | | |
| 20. | Optical sensor | 1 | | |
| 21. | Strain Gauge Kit with Handy lever beam | 1 | | |
| 22. | 100gm weights | 10 | | |
| 23. | Flow measurement Trainer kit (1/2 HP Motor, Water tank, Digital Milliammeter, complete set) | 1 | | |
| 24. | Single phase Auto transformer | 1 | | |
| 25. | Watthour meter (energy meter) | 1 | | |
| 26. | Voltmeter Rheostat Stop watch Connecting wires | 20 | | |
| 27. | IC trainer kit | 1 | | |
| 28. | Instrumentation Amplifier kit | 1 | | |
| 29. | Analog - Digital and Digital - Analog converters (ADC and DACs) | 1 | | |

# Faculty of Electrical Engineering

## B.E. Electrical and Electronics Engineering

## (R 2017) Semester – VI

## EE8661 POWER ELECTRONICS AND DRIVES LABORATORY

### Requirements for a batch of 30 students

| Sl. No. | Description of Equipment | Quantity required (R) | Quantity available (A) | Deficiency (R - A) |
|---|---|---|---|---|
| 1. | Device characteristics(for SCR, MOSFET, TRIAC,GTO,IGCT and IGBT kit with built in / discrete power supply and meters) | 2 | | |
| 2. | Single phase SCR based half controlled on verter and fully controlled converter along with built-in/separate/firing circuit/module and meter | 2 | | |
| 3. | MOSFET based step up and step down choppers(Built in/ Discrete) | 1 | | |
| 4. | IGBT based single phase PWM inverter module/Discrete Component | 2 | | |
| 5. | IGBT based three phase PWM inverter module/Discrete Component | 2 | | |
| 6. | Switched mode power converter module/Discrete Component | 2 | | |
| 7. | SCR &TRIAC based 1 phase AC controller along with lamp or rheostat load | 2 | | |
| 8. | Cyclo converter kit with firing module | 1 | | |
| 9. | Dual regulated Dc power supply with common ground | 5 | | |
| 10. | Cathode ray Oscilloscope | 10 | | |
| 11. | Isolation Transformer | 5 | | |
| 12. | Single phase Auto transformer | 3 | | |
| 13. | Components (Inductance, Capacitance ) | 3 | | |
| 14. | Multimeter | 5 | | |
| 15. | LCR meter | 3 | | |
| 16. | Rheostats of various ranges | 2 | | |
| 17. | Work tables | 10 | | |
| 18. | DC and AC meters of required ranges | 20 | | |

# Faculty of Electrical Engineering

## B.E. Electrical and Electronics Engineering

## (R 2017) Semester – VI

## EE8681 MICROPROCESSORS AND MICROCONTROLLERS LABORATORY

### Requirements for a batch of 30 students

| Sl. No. | Description of Equipment | Quantity required (R) | Quantity available (A) | Deficiency (R - A) |
|---|---|---|---|---|
| 1. | 8085 Microprocessor Trainer with Power Supply | 15 | | |
| 2. | 8051 Micro Controller Trainer Kit with power supply | 15 | | |
| 3. | 8255 Interface board | 5 | | |
| 4. | 8251 Interface board | 5 | | |
| 5. | 8259 Interface board | 5 | | |
| 6. | 8279 Keyboard / Display Interface board | 5 | | |
| 7. | 8254 timer counter | 5 | | |
| 8. | ADC and DAC card | 5 | | |
| 9. | AC & DC motor with Controller | 5 | | |
| 10. | Traffic Light Control System | 5 | | |

# Faculty of Electrical Engineering

## B.E. Electrical and Electronics Engineering

## (R 2017) Semester – VII

## EE8711 POWER SYSTEM SIMULATION LABORATORY

### Requirements for a batch of 30 students

| Sl. No. | Description of Equipment | Quantity required (R) | Quantity available (A) | Deficiency (R - A) |
|---|---|---|---|---|
| 1. | Personal computers (Intel i3, 80GB, 2GBRAM) | 30 | | |
| 2. | Printer laser | 1 | | |
| 3. | Dot matrix | 1 | | |
| 4. | Server (Intel i5, 80GB, 2GBRAM) (High Speed Processor) | 1 | | |
| 5. | power system simulation software | 5 | | |
| 6. | Compliers: C, C++, VB, VC++ | 30 | | |

# Faculty of Electrical Engineering

## B.E. Electrical and Electronics Engineering

## (R 2017) Semester – VII

## EE8712 RENEWABLE ENERGY SYSTEMS LABORATORY

### Requirements for a batch of 30 students

| Sl. No. | Description of Equipment | Quantity required (R) | Quantity available (A) | Deficiency (R - A) |
|---|---|---|---|---|
| 1. | Personal computers (Intel i3, 80GB, 2GBRAM) | 15 | | |
| 2. | CRO 30MHz | 9 | | |
| 3. | Digital Multimeter | 10 | | |
| 4. | PV panels - 100W, 24V | 1 | | |
| 5. | Battery storage system with charge and discharge control 40Ah | 1 | | |
| 6. | PV Emulator | 1 | | |
| 7. | Micro Wind Energy Generator module | 1 | | |
| 8. | Potentiometer | 5 | | |
| 9. | Step-down transformer 230V/12-0-12V | 5 | | |