

SWARNANDHRA

COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous)

**Seetaramapuram, Narsapur-534280, W.G. Dt.
Andhra Pradesh, India.**



COURSE STRUCTURE

R-19 REGULATION

(CHOICE BASED CREDIT SYSTEM)

Power Electronics (PE)

for

Master of Technology (M. Tech)

(Applicable from batches admitted in AY: 2019-2020)



SWARNANDHRA COLLEGE OF ENGINEERING & TECHNOLOGY

Seetaramapuram, Narsapur-534280

Department of Electrical and Electronics Engineering

SEMESTER-I

| S. No. | Course Code | Course Title | L | P | C | IM | EM | TM |
|--------------|-------------|--|-----------|----------|-----------|------------|------------|------------|
| 1 | 19PE1T01 | Electrical Machine Modeling and Analysis | 3 | - | 3 | 30 | 70 | 100 |
| 2 | 19PE1T02 | Analysis of Power Electronic Converters | 3 | - | 3 | 30 | 70 | 100 |
| 3 | | Elective – I | 3 | - | 3 | 30 | 70 | 100 |
| 4 | | Elective-II | 3 | - | 3 | 30 | 70 | 100 |
| 5 | 19GE1T01 | Research Methodology and IPR | 2 | - | 2 | 30 | 70 | 100 |
| 6 | | Audit Course -1 | 2 | - | - | 50 | - | 50 |
| 7 | 19PE1L01 | Machine Modelling and Analysis Lab | - | 4 | 2 | 30 | 70 | 100 |
| 8 | 19PE1L02 | Power Electronics Converters Lab | - | 4 | 2 | 30 | 70 | 100 |
| Total | | | 16 | 8 | 18 | 260 | 490 | 750 |

| Elective-I | | Elective-II | |
|------------|--------------------------------|-------------|-------------------------|
| 19PE1E01 | HVDC Transmission | 19PE1E04 | Optimization Techniques |
| 19PE1E02 | Modern Control Theory | 19PE1E05 | Smart Grid Technologies |
| 19PE1E03 | Switched Mode Power Conversion | 19PE1E06 | Special Machines |

SEMESTER-II

| S. No. | Course Code | Course Title | L | P | C | IM | EM | TM |
|--------------|-------------|--|-----------|----------|-----------|------------|------------|------------|
| 1 | 19PE2T01 | Power Electronics for Renewable Energy Systems | 3 | - | 3 | 30 | 70 | 100 |
| 2 | 19PE2T02 | Electrical Drive | 3 | - | 3 | 30 | 70 | 100 |
| 3 | | Elective-III | 3 | - | 3 | 30 | 70 | 100 |
| 4 | | Elective-IV | 3 | - | 3 | 30 | 70 | 100 |
| 5 | 19PE2P01 | Mini Project with Seminar | - | 4 | 2 | 50 | - | 50 |
| 6 | | Audit Course -2: | 2 | - | - | 50 | 0 | 50 |
| 7 | 19PE2L01 | Renewable Energy Systems Lab | - | 4 | 2 | 30 | 70 | 100 |
| 8 | 19PE2L02 | Advanced Power Converters and Drives Lab | - | 4 | 2 | 30 | 70 | 100 |
| Total | | | 16 | 8 | 18 | 280 | 420 | 700 |

| Elective-III | | Elective-IV | |
|--------------|----------------------|-------------|------------------------------------|
| 19PE2E07 | FACTS Controller | 19PE2E10 | Artificial Intelligence Techniques |
| 19PE2E08 | Digital Controllers | 19PE2E11 | Distributed Generation |
| 19PE2E09 | Custom Power devices | 19PE2E12 | Hybrid Electric Vehicles |



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SEMESTER-III

| S. No. | Sub.Code | Subject Title | L | P | C | IM | EM | TM |
|--------|----------|----------------------|---|---|-----------|-----------|------------|------------|
| 1. | | Elective-IV | 3 | - | 3 | 30 | 70 | 100 |
| 2. | | Open Elective | 3 | - | 3 | 30 | 70 | 100 |
| 3. | - | Project Phase-I | - | - | 10 | | | |
| | | Total | | | 16 | 60 | 140 | 200 |

| Elective-V | |
|-------------------|--|
| 19PE3E13 | Electrical Distribution Systems |
| 19PE3E14 | Reactive Power Compensation and Management |
| 19PE3E15 | Power Quality |

SEMESTER-IV

| S. No. | Sub. Code | Subject Title | L | P | C | IM | EM | TM |
|--------|-----------|------------------|---|---|-----------|----|----|----|
| 1 | 19PE4P01 | Project Phase-II | - | - | 16 | - | - | - |
| | | Total | | | 16 | | | |

| Open Elective | | |
|----------------------|--------------|---|
| S.No | Subject Code | Subject |
| 1 | 19GM3O01 | Business Analytics |
| 2 | 19GM3O02 | Industrial Safety |
| 3 | 19GM3O03 | Operations Research |
| 4 | 19GM3O04 | Cost Management of Engineering Projects |
| 5 | 19GM3O05 | Composite Materials |
| 6 | 19GM3O06 | Waste to Energy |

| Audit Course 1 & 2 | | |
|-------------------------------|--------------|---|
| S.No | Subject Code | Subject |
| 1 | 19GEXM01 | English for Research Paper Writing |
| 2 | 19GEXM02 | Disaster Management |
| 3 | 19GEXM03 | Sanskrit for Technical Knowledge |
| 4 | 19GEXM04 | Value Education |
| 5 | 19GEXM05 | Constitution of India |
| 6 | 19GEXM06 | Pedagogy Studies |
| 7 | 19GEXM07 | Stress Management by yoga |
| 8 | 19GEXM08 | Personality Development Through Life Enlightenment Skills |