



**M.E VLSI DESIGN  
REGULATIONS – 2019  
CHOICE BASED CREDIT SYSTEM**

**CURRICULUM FOR I TO II SEMESTERS**

**SEMESTER I**

| SL.NO.            | COURSE CODE | COURSE TITLE                      | CATEGORY | L         | T        | P        | C         |
|-------------------|-------------|-----------------------------------|----------|-----------|----------|----------|-----------|
| <b>THEORY</b>     |             |                                   |          |           |          |          |           |
| 1                 | P19VL101    | Analog Integrated Circuits Design | PC       | 3         | 0        | 0        | 3         |
| 2                 | P19VL102    | Digital CMOS VLSI Design          | PC       | 3         | 0        | 0        | 3         |
| 3                 |             | Professional Elective I           | PE       | 3         | 0        | 0        | 3         |
| 4                 |             | Professional Elective II          | PE       | 3         | 0        | 0        | 3         |
| 5                 | P19VL103    | Research Methodology              | HSM      | 3         | 0        | 0        | 3         |
| <b>PRACTICALS</b> |             |                                   |          |           |          |          |           |
| 6                 | P19VL104    | VLSI Design Laboratory I          | PC       | 0         | 0        | 4        | 2         |
| 7                 | P19VL105    | VLSI Design Laboratory II         | PC       | 0         | 0        | 4        | 2         |
| <b>TOTAL</b>      |             |                                   |          | <b>15</b> | <b>0</b> | <b>8</b> | <b>19</b> |

**SEMESTER II**

| SL.NO             | COURSE CODE | COURSE TITLE               | CATEGORY | L         | T        | P         | C         |
|-------------------|-------------|----------------------------|----------|-----------|----------|-----------|-----------|
| <b>THEORY</b>     |             |                            |          |           |          |           |           |
| 1                 | P19VL201    | Low Power VLSI Design      | PC       | 3         | 0        | 0         | 3         |
| 2                 | P19VL202    | Testing for VLSI Circuits  | PC       | 3         | 0        | 0         | 3         |
| 3                 |             | Professional Elective III  | PE       | 3         | 0        | 0         | 3         |
| 4                 |             | Professional Elective IV   | PE       | 3         | 0        | 0         | 3         |
| <b>PRACTICALS</b> |             |                            |          |           |          |           |           |
| 5                 | P19VL203    | VLSI Design Laboratory III | PC       | 0         | 0        | 4         | 2         |
| 6                 | P19VL204    | VLSI Design Laboratory IV  | PC       | 0         | 0        | 4         | 2         |
| 7                 | P19VL205    | Mini Project with Seminar  | EEC      | 0         | 0        | 4         | 2         |
| <b>TOTAL</b>      |             |                            |          | <b>12</b> | <b>0</b> | <b>12</b> | <b>18</b> |



## PROFESSIONAL ELECTIVES (PE)

### SEMESTER I

#### ELECTIVE I

| SL.NO. | COURSE CODE | COURSE TITLE                | L | T | P | C |
|--------|-------------|-----------------------------|---|---|---|---|
| 1      | P19VLP01    | CAD for VLSI Circuits       | 3 | 0 | 0 | 3 |
| 2      | P19VLP02    | VLSI Physical Design        | 3 | 0 | 0 | 3 |
| 3      | P19VLP03    | Scripting Language for VLSI | 3 | 0 | 0 | 3 |

### SEMESTER I

#### ELECTIVE II

| SL.NO. | COURSE CODE | COURSE TITLE                   | L | T | P | C |
|--------|-------------|--------------------------------|---|---|---|---|
| 1      | P19VLP04    | Advanced Digital System Design | 3 | 0 | 0 | 3 |
| 2      | P19VLP05    | ASIC and FPGA Design           | 3 | 0 | 0 | 3 |
| 3      | P19VLP06    | System Verilog                 | 3 | 0 | 0 | 3 |

### SEMESTER II

#### ELECTIVE III

| SL.NO. | COURSE CODE | COURSE TITLE                            | L | T | P | C |
|--------|-------------|---|---|---|---|---|
| 1      | P19VLP07    | Optimization Algorithm for VLSI         | 3 | 0 | 0 | 3 |
| 2      | P19VLP08    | Semiconductor Device Modeling           | 3 | 0 | 0 | 3 |
| 3      | P19VLP09    | Interconnections and Packaging for VLSI | 3 | 0 | 0 | 3 |

### SEMESTER II

#### ELECTIVE IV

| SL.NO. | COURSE CODE | COURSE TITLE                     | L | T | P | C |
|--------|-------------|----------------------------------|---|---|---|---|
| 1      | P19VLP10    | Hardware Verification Techniques | 3 | 0 | 0 | 3 |
| 2      | P19VLP11    | IP based VLSI                    | 3 | 0 | 0 | 3 |
| 3      | P19VLP12    | MEMS & NEMS                      | 3 | 0 | 0 | 3 |