**SETHU INSTITUTE OF TECHNOLOGY**
**(An Autonomous Institution)**

Pulloor, Kariapatti – 626 115

Estd. 1995

**M.E. COMPUTER SCIENCE & ENGINEERING**

**REGULATION 2015**

**CHOICE BASED CREDIT SYSTEM**

**CURRICULUM & SYLLABUS**

**(1st SEMESTER To 4th SEMESTER)**

**Approved in the Academic Council Meeting held on 21.07.2017**

**Chairperson**

Chairperson
Board of Studies
Computer Science & Engineering
Sethu Institute of Technology
Kariapatti - 626 115

**CHAIRMAN**

**ACADEMIC COUNCIL**

CHAIRMAN
ACADEMIC COUNCIL
Sethu Institute of Technology
Pulloor, Kariapatti - 625 115

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**SETHU INSTITUTE OF TECHNOLOGY**

Pulloor, Kariapatti – 626 115

**M.E. Degree Programme**

**CURRICULUM & SYLLABUS**

**Regulations 2015**

**(Applicable to the students admitted from the Academic Year 2015-2016 onwards)**

**Master of Engineering in   COMPUTER SCIENCE AND ENGINEERING**

**OVERALL COURSE STRUCTURE**

| Category | Total No. of Courses | Credits | Percentage |
|---|---|---|---|
| Basic Science | 1 | 4 | 5.71 |
| Programme-CORE | 11 | 30 | 42.85 |
| Programme- ELECTIVE | 5 | 15 | 21.43 |
| Open Elective | 1 | 3 | 4.3 |
| Project Work | 2 | 18 | 25.71 |
| TOTAL | 22 | 70 | 100 |

**Course Credits – Semester wise**

| Branch | I | II | III | IV | V | VI | VII | VIII | TOTAL |
|---|---|---|---|---|---|---|---|---|---|
| M.E.-CSE | 18 | 18 | 19 | 15 | - | - | - | - | 70 |

Employability Courses
Skill Development Courses
Entrepreneurship Development Courses
Any two or all of the above

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# Master of Engineering in Computer Science and Engineering REGULATION – 2015

**(Applicable to the students admitted from the Academic Year 2015 – 2016 onwards)**

## CURRICULUM

## PROGRAMME CORE

## WINTER SEMESTER

| S.No. | COURSE CODE | COURSE TITLE | L | T | P | C | OFFERED DURING SUMMER OR WINTER | Category |
|---|---|---|---|---|---|---|---|---|
| 1. | 15PMA121 | Advanced Mathematics for Computing | 3 | 1 | 0 | 4 | Winter | BS |
| 2. | 15PCS101 | Analysis of Algorithms and Data Structures | 3 | 0 | 0 | 3 | Winter | PC |
| 3. | 15PCS102 | Machine Learning Techniques | 3 | 0 | 0 | 3 | Winter | PC |
| 4. | 15PCS103 | Advanced Operating Systems | 3 | 0 | 0 | 3 | Winter | PC |
| 5. | 15PCS104 | Advanced Data Structures Laboratory | 0 | 0 | 3 | 2 | Winter | PC |
| 6. | 15PCS303/ 15PNE301 | Mobile and Pervasive Computing | 4 | 0 | 0 | 4 | Winter | PC |
| 7. | 15PCS301 | Multicore Architecture | 3 | 0 | 0 | 3 | Winter | PC |
| 8. | 15PCS302 | Project Phase I | 0 | 0 | 6 | 3 | Winter | PC |
| **SUMMER SEMESTER** | | | | | | | | |
| 9. | 15PCS201 | Data Science and Big Data Analytics | 3 | 0 | 0 | 3 | Summer | PC |
| 10. | 15PCS205/ 15PNE203 | Network Security | 3 | 0 | 0 | 3 | Summer | PC |
| 11. | 15PCS202 | Internals of Android | 3 | 0 | 0 | 3 | Summer | PC |
| 12. | 15PCS203 | Cloud Infrastructure Laboratory | 0 | 0 | 3 | 2 | Summer | PC |
| 13. | 15PCS204 | Industrial Training and Internship | 0 | 0 | 2 | 1 | Summer | PC |
| 14. | 15PCS401 | Project Work Phase II | 0 | 0 | 30 | 15 | Summer | PC |

**ELECTIVES**

| S.No. | COURSE CODE | COURSE TITLE | L | T | P | C |
|---|---|---|---|---|---|---|
| 1. | 15PCS501 | Software Requirements Engineering | 3 | 0 | 0 | 3 |
| 2. | 15PCS502 | Software Architectures and design | 3 | 0 | 0 | 3 |
| 3. | 15PCS503 | Software Quality Assurance | 3 | 0 | 0 | 3 |
| 4. | 15PCS504 | Open Source Systems and Networking | 3 | 0 | 0 | 3 |
| 5. | 15PCS505 | Compiler Optimization Techniques | 3 | 0 | 0 | 3 |
| 6. | 15PCS506 | Information Storage Techniques | 3 | 0 | 0 | 3 |
| 7. | 15PCS507 | Energy Aware Computing | 3 | 0 | 0 | 3 |
| 8. | 15PCS508 | Web Data Mining | 3 | 0 | 0 | 3 |
| 9. | 15PCS509 | Mobile Applications Development | 3 | 0 | 0 | 3 |
| 10. | 15PCS510 | Information Retrieval Techniques | 3 | 0 | 0 | 3 |
| 11. | 15PCS511 | Robotics | 3 | 0 | 0 | 3 |
| 12. | 15PCS512 | Web Services | 3 | 0 | 0 | 3 |
| 13. | 15PCS513 | Image Processing and Analysis | 3 | 0 | 0 | 3 |
| 14. | 15PCS514 | Managing Big Data | 3 | 0 | 0 | 3 |
| 15. | 15PCS515 | Enterprise Application Integration | 3 | 0 | 0 | 3 |
| 16. | 15PCS516 | 4G Mobile  Technologies | 3 | 0 | 0 | 3 |
| 17. | 15PCS517 | Cloud Application Development | 3 | 0 | 0 | 3 |
| 18. | 15PCS524/ 15PNE502 | Video Analytics | 3 | 0 | 0 | 3 |
| 19. | 15PCS525/ 15PNE512 | Network Protocols | 3 | 0 | 0 | 3 |
| 20. | 15PCS526/ 15PNE514 | Social Network Analysis | 3 | 0 | 0 | 3 |
| 21. | 15PCS527/ 15PNE517 | Information Security | 3 | 0 | 0 | 3 |
| 22. | 15PCS528/ 15PNE518 | TCP/IP Design and Implementation | 3 | 0 | 0 | 3 |
| 23. | 15PCS529/ 15PNE521 | Next Generation Networks | 3 | 0 | 0 | 3 |

## OPEN ELECTIVES

| S.No. | COURSE CODE | COURSE TITLE | L | T | P | C |
|---|---|---|---|---|---|---|
| 1. | 15PSE601 | Research Methodology | 3 | 0 | 0 | 3 |
| 2. | 15PEN602 | Pedagogy for Engineering Education | 3 | 0 | 0 | 3 |
| 3. | 15PEN603 | Professional and Communication Skill | 2 | 0 | 2 | 3 |
| 4. | 15PPE604 | Soft Computing | 3 | 0 | 0 | 3 |
| 5. | 15PCD605 | Industrial Safety | 3 | 0 | 0 | 3 |
| 6. | 15PCD606 | Business Management and Leadership | 3 | 0 | 0 | 3 |
| 7. | 15PCS607 | Management Information Systems | 3 | 0 | 0 | 3 |

## ELECTIVES FOR Ph.D. CANDIDATES

| S.No. | COURSE CODE | COURSE TITLE | L | T | P | C |
|---|---|---|---|---|---|---|
| 1. | 15PCS518 | Protocols and Architectures for Wireless Sensor Networks | 3 | 0 | 0 | 3 |
| 2. | 15PCS519 | Language Technologies | 3 | 0 | 0 | 3 |
| 3. | 15PCS520 | Multi objective Optimization Techniques | 3 | 0 | 0 | 3 |
| 4. | 15PCS521 | Machine Learning | 3 | 0 | 0 | 3 |
| 5. | 15PCS522 | Data Mining Techniques | 3 | 0 | 0 | 3 |
| 6. | 15PCS523 | Industrial and Systems Engineering in Healthcare | 3 | 0 | 0 | 3 |

**SEMESTER I**

| S.No. | COURSE CODE | COURSE TITLE | L | T | P | C |
|-------|-------------|--------------|---|---|---|---|
| | | **THEORY** | | | | |
| 1. | 15PMA121 | Advanced Mathematics for Computing | 3 | 2 | 0 | 4 |
| 2. | 15PCS101 | Analysis of Algorithms and Data Structures | 3 | 0 | 0 | 3 |
| 3. | 15PCS102 | Machine Learning Techniques | 3 | 0 | 0 | 3 |
| 4. | 15PCS103 | Advanced Operating Systems | 3 | 0 | 0 | 3 |
| 5. | | Elective I | 3 | 0 | 0 | 3 |
| | | **PRACTICAL** | | | | |
| 6. | 15PCS104 | Advanced Data Structures Laboratory | 0 | 0 | 3 | 2 |
| | | **Total** | 15 | 2 | 3 | 18 |
| | | **Total Number of Credits: 18** | | | | |

**SEMESTER II**

| S.No. | COURSE CODE | COURSE TITLE | L | T | P | C |
|---|---|---|---|---|---|---|
| | | **THEORY** | | | | |
| 1. | 15PCS201 | Data Science and Big Data Analytics | 3 | 0 | 0 | 3 |
| 2. | 15PCS205/ 15PNE203 | Network Security | 3 | 0 | 0 | 3 |
| 3. | 15PCS202 | Internals of Android | 3 | 0 | 0 | 3 |
| 4. | | Elective II | 3 | 0 | 0 | 3 |
| 5. | | Elective III | 3 | 0 | 0 | 3 |
| | | **PRACTICAL** | | | | |
| 6. | 15PCS203 | Cloud Infrastructure Laboratory | 0 | 0 | 3 | 2 |
| 7. | 15PCS204 | Industrial Training and Internship | 0 | 0 | 2 | 1 |
| | | **Total** | 15 | 0 | 5 | 18 |
| | | **Total Number of Credits: 18** | | | | |

## SEMESTER III

| S.No. | COURSE CODE | COURSE TITLE | L | T | P | C |
|-------|-------------|--------------|---|---|---|---|
| THEORY | | | | | | |
| 1. | 15PCS303/ 15PNE301 | Mobile and Pervasive Computing | 4 | 0 | 0 | 4 |
| 2. | 15PCS301 | Multicore Architecture | 3 | 0 | 0 | 3 |
| 3. | | Elective IV | 3 | 0 | 0 | 3 |
| 4. | | Elective V | 3 | 0 | 0 | 3 |
| 5. | | Open Elective | 3 | 0 | 0 | 3 |
| PRACTICAL | | | | | | |
| 6. | 15PCS302 | Project Work Phase I | 0 | 0 | 6 | 3 |
| | | Total | 16 | 0 | 6 | 19 |
| Total Number of Credits: 19 | | | | | | |

## SEMESTER IV

| S.No. | COURSE CODE | COURSE TITLE | L | T | P | C |
|-------|-------------|--------------|---|---|---|---|
| PRACTICAL | | | | | | |
| 1. | 15PCS401 | Project Work Phase II | 0 | 0 | 30 | 15 |
| | | Total | 0 | 0 | 30 | 15 |
| Total Number of Credits: 15 | | | | | | |

**TOTAL NO. OF CREDITS: 18+18+19+15=70**

# SETHU INSTITUTE OF TECHNOLOGY

## (AN AUTONOMOUS INSTITUTION)

## PULLOOR, KARIAPATTI – 626 115.

## M.E COMPUTER SCIENCE AND ENGINEERING (PART TIME)

## REGULATION – 2015

## CURRICULUM & SYLLABUS

# SETHU INSTITUTE OF TECHNOLOGY

Pulloor, Kariapatti – 626 115

**M.E. Degree Programme (Part Time)**

## CURRICULUM

### Regulations 2015

**(Applicable to the students admitted form the Academic Year 2015-2016 onwards)**

**Master of Engineering in   COMPUTER SCIENCE AND ENGINEERING**

## OVERALL COURSE STRUCTURE

| Category | Total No. of Courses | Credits | Percentage |
|---|---|---|---|
| Basic Science | 1 | 4 | 5.71 |
| Programme-CORE | 13 | 30 | 42.85 |
| Programme- ELECTIVE | 5 | 15 | 21.43 |
| Open Elective | 1 | 3 | 4.3 |
| Project Work | 2 | 18 | 25.71 |
| TOTAL | 20 | 70 | 100 |

**Course Credits – Semester wise**

| Branch | I | II | III | IV | V | VI | TOTAL |
|---|---|---|---|---|---|---|---|
| M.E.-CSE (Part Time) | 12 | 11 | 9 | 10 | 13 | 15 | 70 |

**SEMESTER I**

| S.No. | COURSE CODE | COURSE TITLE | L | T | P | C |
|---|---|---|---|---|---|---|
| | | **THEORY** | | | | |
| 1. | 15PMA121 | Advanced Mathematics for Computing | 3 | 2 | 0 | 4 |
| 2. | 15PCS101 | Analysis of Algorithm and Data Structures | 3 | 0 | 0 | 3 |
| 3. | | Elective I | 3 | 0 | 0 | 3 |
| | | | | | | |
| 4. | 15PCS104 | Advanced Data Structures Laboratory | 0 | 0 | 3 | 2 |
| | | **Total** | 9 | 2 | 3 | 12 |
| | | **Total Number of Credits: 12** | | | | |

**SEMESTER II**

| S.No. | COURSE CODE | COURSE TITLE | L | T | P | C |
|---|---|---|---|---|---|---|
| | | **THEORY** | | | | |
| 1. | 15PCS201 | Data Science and Big Data Analytics | 3 | 0 | 0 | 3 |
| 2. | 15PCS205/ 15PNE203 | Network Security | 3 | 0 | 0 | 3 |
| 3. | | Elective II | 3 | 0 | 0 | 3 |
| | | **PRACTICAL** | | | | |
| 4. | 15PCS203 | Cloud Infrastructure Laboratory | 0 | 0 | 3 | 2 |
| | | **Total** | 9 | 0 | 3 | 11 |
| | | **Total Number of Credits: 11** | | | | |

**SEMESTER III**

| S.No. | COURSE CODE | COURSE TITLE | L | T | P | C |
|-------|-------------|--------------|---|---|---|---|
| THEORY ||||||| 
| 1. | 15PCS102 | Machine Learning Techniques | 3 | 0 | 0 | 3 |
| 2. | 15PCS103 | Advanced Operating Systems | 3 | 0 | 0 | 3 |
| 3. | | Elective III | 3 | 0 | 0 | 3 |
| PRACTICAL |||||||
| | | **Total** | 9 | 0 | 0 | 9 |
| **Total Number of Credits: 9** |||||||

**SEMESTER IV**

| S.No. | COURSE CODE | COURSE TITLE | L | T | P | C |
|-------|-------------|--------------|---|---|---|---|
| THEORY |||||||
| 1. | 15PCS202 | Internals of Android | 3 | 0 | 0 | 3 |
| 2. | | Elective IV | 3 | 0 | 0 | 3 |
| 3. | | Elective V | 3 | 0 | 0 | 3 |
| PRACTICAL |||||||
| 4. | 15PCS204 | Industrial Training/Internship | 0 | 0 | 2 | 1 |
| | | **Total** | 9 | 0 | 2 | 10 |
| **Total Number of Credits: 10** |||||||

**SEMESTER V**

| S.No. | COURSE CODE | COURSE TITLE | L | T | P | C |
|-------|-------------|--------------|---|---|---|---|
| | | **THEORY** | | | | |
| 1. | 15PCS303/ 15PNE301 | Mobile and Pervasive Computing | 4 | 0 | 0 | 4 |
| 2. | 15PCS301 | Multicore Architecture | 3 | 0 | 0 | 3 |
| 3. | | Open Elective | 3 | 0 | 0 | 3 |
| | | **PRACTICAL** | | | | |
| 4. | 15PCS302 | Project Work Phase I | 0 | 0 | 6 | 3 |
| | | **Total** | 10 | 0 | 6 | 13 |
| | | **Total Number of Credits: 13** | | | | |

**SEMESTER VI**

| S.No. | COURSE CODE | COURSE TITLE | L | T | P | C |
|-------|-------------|--------------|---|---|---|---|
| | | **PRACTICAL** | | | | |
| 1. | 15PCS401 | Project Work phase II | 0 | 0 | 30 | 15 |
| | | **Total** | 0 | 0 | 30 | 15 |
| | | **Total Number of Credits: 15** | | | | |

**TOTAL NO. OF CREDITS: 12+11+9+10+13+15=70**