

| Savitribai Phule University of Pune | | | | | | | | | | | | | |
|---|--|---------------------------------|----------|-----------|------------------------------|---------|-----|-----|----|-------|------------|-------|--|
| Third Year Computer Engineering (2015 Course) | | | | | | | | | | | | | |
| (with effect from 2017-18) | | | | | | | | | | | | | |
| Semester I | | | | | | | | | | | | | |
| Course Code | Course | Teaching Scheme Hours / Week | | | Examination Scheme and Marks | | | | | | Credit | | |
| | | Theory | Tutorial | Practical | In-Sem | End-Sem | TW | PR | OR | Total | TH/ TUT | PR | |
| 310241 | <u>Theory of Computation</u> | 03 | -- | -- | 30 | 70 | -- | -- | -- | 100 | 03 | -- | |
| 310242 | <u>Database Management Systems (DBMS)</u> | 03 | -- | -- | 30 | 70 | -- | -- | -- | 100 | 03 | -- | |
| 310243 | <u>Software Engineering & Project Management</u> | 03 | -- | -- | 30 | 70 | -- | -- | -- | 100 | 03 | -- | |
| 310244 | <u>Information Systems & Engineering Economics</u> | 03 | -- | -- | 30 | 70 | -- | -- | -- | 100 | 03 | -- | |
| 310245 | <u>Computer Networks (CN)</u> | 04 | -- | -- | 30 | 70 | -- | -- | -- | 100 | 04 | -- | |
| 310246 | <u>Skills Development Lab</u> | -- | 02 | 04 | -- | -- | 50 | -- | 50 | 100 | 02 | 02 | |
| 310247 | <u>DBMS Lab</u> | -- | -- | 04 | -- | -- | 25 | 50 | -- | 75 | -- | 02 | |
| 310248 | <u>CN Lab</u> | -- | -- | 02 | -- | -- | 25 | 50 | -- | 75 | -- | 01 | |
| Total Credit | | | | | | | | | | | 18 | 05 | |
| Total | | 16 | 02 | 10 | 150 | 350 | 100 | 100 | 50 | 750 | 23 | | |
| 310249 | <u>Audit Course 3</u> | | | | | | | | | | | Grade | |

310249-Audit Course 3 (AC3) Options:

AC3-I: Cyber Security

AC3-II: Professional Ethics and Etiquettes

AC3-III: Emotional Intelligence

AC3-IV: MOOC- Learn New Skills

AC3-V: Foreign Language (Japanese- Module 3)

Abbreviations:

TW: Term Work TH: Theory OR: Oral TUT: Tutorial PR: Practical Sem: Semester

Savitribai Phule University of Pune
Third Year Computer Engineering (2015 Course)
 (with effect from 2017-18)

Semester II

| Course Code | Course | Teaching Scheme Hours / Week | | | Examination Scheme and Marks | | | | | | Credit | | |
|---------------------|---|------------------------------|----------|-----------|------------------------------|---------|-----|-----|----|-------|--------|--------------|--|
| | | Theory | Tutorial | Practical | In-Sem | End-Sem | TW | PR | OR | Total | TH/TUT | PR | |
| 310250 | <u>Design & Analysis of Algorithms</u> | 04 | -- | -- | 30 | 70 | -- | -- | -- | 100 | 04 | | |
| 310251 | <u>Systems Programming & Operating System (SP & OS)</u> | 04 | -- | -- | 30 | 70 | -- | -- | -- | 100 | 04 | -- | |
| 310252 | <u>Embedded Systems & Internet of Things (ES & IoT)</u> | 04 | -- | -- | 30 | 70 | -- | -- | -- | 100 | 04 | -- | |
| 310253 | <u>Software Modeling and Design</u> | 03 | -- | -- | 30 | 70 | -- | -- | -- | 100 | 03 | -- | |
| 310254 | <u>Web Technology</u> | 03 | -- | -- | 30 | 70 | -- | -- | -- | 100 | 03 | -- | |
| 310255 | <u>Seminar & Technical Communication</u> | -- | 01 | -- | -- | -- | 50 | -- | -- | 50 | 01 | -- | |
| 310256 | <u>Web Technology Lab</u> | -- | -- | 02 | -- | -- | 25 | 50 | -- | 75 | -- | 01 | |
| 310257 | <u>SP & OS Lab</u> | -- | -- | 04 | -- | -- | 25 | 50 | -- | 75 | -- | 02 | |
| 310258 | <u>ES & IoT Lab</u> | -- | -- | 02 | -- | -- | 50 | -- | -- | 50 | -- | 01 | |
| Total Credit | | | | | | | | | | | 19 | 04 | |
| Total | | 18 | 01 | 08 | 150 | 350 | 150 | 100 | -- | 750 | 23 | | |
| 310259 | <u>Audit Course 4</u> | | | | | | | | | | | Grade | |

310259-Audit Course 4(AC4) Options:

AC4-I: Digital and Social Media Marketing

AC4-II: Green Computing

AC4-III: Sustainable Energy Systems

AC4-IV: Leadership and Personality Development

AC4-V: Foreign Language (Japanese- Module 4)

Abbreviations:

TW: Term Work **TH:** Theory **OR:** Oral **TUT:** Tutorial **PR:** Practical **Sem:** Semester

| Savitribai Phule Pune University | | | | | | | | | | | | |
|---|---|---------------------------------|----------|-----------|-------------------------------|---------|-----|-----|----|-------|----------|----|
| Second Year of Computer Engineering (2015 Course) | | | | | | | | | | | | |
| (With effect from Academic Year 2016-17) | | | | | | | | | | | | |
| Semester I | | | | | | | | | | | | |
| Course Code | Course Name | Teaching Scheme Hours / Week | | | Examination Scheme & Marks | | | | | | Credit | |
| | | Theory | Tutorial | Practical | In-Sem | End-Sem | TW | PR | OR | Total | TH + TUT | PR |
| 210241 | <u>Discrete Mathematics</u> | 04 | -- | -- | 50 | 50 | -- | -- | -- | 100 | 04 | -- |
| 210242 | <u>Digital Electronics and Logic Design</u> | 04 | -- | -- | 50 | 50 | -- | -- | -- | 100 | 04 | -- |
| 210243 | <u>Data Structures and Algorithms</u> | 04 | -- | -- | 50 | 50 | -- | -- | -- | 100 | 04 | -- |
| 210244 | <u>Computer Organization and Architecture</u> | 04 | -- | -- | 50 | 50 | -- | -- | -- | 100 | 04 | -- |
| 210245 | <u>Object Oriented Programming</u> | 04 | -- | -- | 50 | 50 | -- | -- | -- | 100 | 04 | -- |
| 210246 | <u>Digital Electronics Lab</u> | -- | -- | 02 | -- | -- | 25 | 50 | -- | 75 | -- | 01 |
| 210247 | <u>Data Structures Lab</u> | -- | -- | 04 | -- | -- | 25 | 50 | -- | 75 | -- | 02 |
| 210248 | <u>Object Oriented Programming Lab</u> | -- | -- | 02 | -- | -- | 25 | 50 | -- | 75 | -- | 01 |
| 210249 | <u>Soft Skills</u> | -- | -- | 02 | -- | -- | 25 | -- | -- | 25 | -- | 01 |
| Total | | | | | | | | | | | 20 | 05 |
| 210250 | <u>Audit Course 1</u> | -- | -- | -- | -- | -- | -- | -- | -- | -- | Grade | |
| Total | | 20 | -- | 10 | 250 | 250 | 100 | 150 | -- | 750 | 25 | |

Abbreviations:

TW: Term Work
OR: Oral
PR: Practical

TH: Theory
TUT: Tutorial
Sem: Semester

Savitribai Phule Pune University
Second Year of Computer Engineering (2015 Course)
 (With effect from Academic Year 2016-17)
Semester II

| Course Code | Course Name | Teaching Scheme Hours / Week | | | Examination Scheme & Marks | | | | | | Credits | |
|--------------|--|---------------------------------|----------|-----------|-------------------------------|---------|-----|-----|----|-------|------------|----|
| | | Theory | Tutorial | Practical | In-Sem | End-Sem | TW | PR | OR | Total | TH+ TUT | PR |
| 207003 | <u>Engineering Mathematics III</u> | 04 | 01 | -- | 50 | 50 | 25 | -- | -- | 125 | 05 | -- |
| 210251 | <u>Computer Graphics</u> | 04 | -- | -- | 50 | 50 | -- | -- | -- | 100 | 04 | -- |
| 210252 | <u>Advanced Data Structures</u> | 04 | -- | -- | 50 | 50 | -- | -- | -- | 100 | 04 | -- |
| 210253 | <u>Microprocessor</u> | 04 | -- | -- | 50 | 50 | -- | -- | -- | 100 | 04 | -- |
| 210254 | <u>Principles of Programming Languages</u> | 03 | -- | -- | 50 | 50 | -- | -- | -- | 100 | 03 | -- |
| 210255 | <u>Computer Graphics Lab</u> | -- | -- | 02 | -- | -- | 25 | 50 | -- | 75 | -- | 01 |
| 210256 | <u>Advanced Data Structures Lab</u> | -- | -- | 04 | -- | -- | 25 | 50 | -- | 75 | -- | 02 |
| 210257 | <u>Microprocessor Lab</u> | -- | -- | 04 | -- | -- | 25 | 50 | -- | 75 | -- | 02 |
| Total | | | | | | | | | | | 20 | 05 |
| 210258 | <u>Audit Course 2</u> | | -- | -- | -- | -- | -- | -- | -- | -- | Grade | |
| Total | | 19 | 01 | 10 | 250 | 250 | 100 | 150 | -- | 750 | 25 | |

Abbreviations:

TW: Term Work
 OR: Oral
 PR: Practical

TH: Theory
 TUT: Tutorial
 Sem: Semester

Savitribai Phule Pune University, Pune
SE(E&TC/Electronics Engineering) 2015 Course

(With effect from Academic Year 2016-17)

Semester I

| Course Code | Course | Teaching Scheme Hours / Week | | | Semester Examination Scheme of Marks | | | | | | Credit | |
|----------------------|--|------------------------------|-----------|------------|--------------------------------------|------------------|-----|-----|----|-------|-----------|-------|
| | | Theory | Tutorials | Practicals | In-Sem (On line) | End-Sem (Theory) | TW | PR | OR | Total | TH/TUT | PR+OR |
| 204181 | Signals & Systems | 3 | 1 | - | 50 | 50 | 25 | - | - | 125 | 4 | - |
| 204182 | Electronic Devices & Circuits | 4 | - | 2 | 50 | 50 | - | 50 | - | 150 | 4 | 1 |
| 204183 | Electrical Circuits and Machines | 3 | - | 2 | 50 | 50 | 25 | - | - | 125 | 3 | 1 |
| 204184 | Data Structures and Algorithms | 4 | - | 2 | 50 | 50 | - | - | 50 | 150 | 4 | 1 |
| 204185 | Digital Electronics | 4 | - | 2 | 50 | 50 | - | 50 | - | 150 | 4 | 1 |
| 204186 | Electronic Measuring Instruments & Tools | 1 | - | 2 | - | - | 50 | - | - | 50 | 1 | 1 |
| 204192 | Audit Course 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Total | | 19 | 1 | 10 | 250 | 250 | 100 | 100 | 50 | 750 | 20 | 05 |
| Total Credits | | | | | | | | | | | 25 | |

Abbreviations:

Th : Theory

TW: Term Work

OR: Oral

TUT : Tutorial

PR : Practical

Note: Interested students of S.E. (Electronics/E&TC) can opt any one of the audit course from the audit courses prescribed by BoS (Electronics/Computer/IT/Electrical/Instrumentation)

SE(E&TC/Electronics Engineering) 2015 Course**(With effect from Academic Year 2016-17)****Semester II**

| Course Code | Course | Teaching Scheme Hours / Week | | | Semester Examination Scheme of Marks | | | | | | Credit | |
|----------------------|---------------------------------|------------------------------|-----------|------------|--------------------------------------|------------------|-----|-----|----|-------|-----------|-------|
| | | Theory | Tutorials | Practicals | In-Sem (on line) | End-Sem (Theory) | TW | PR | OR | Total | TH/TUT | PR+OR |
| 207005 | Engineering Mathematics III | 4 | 1 | - | 50 | 50 | 25 | - | - | 125 | 5 | - |
| 204187 | Integrated Circuits | 4 | - | 2 | 50 | 50 | 25 | 50 | - | 175 | 4 | 1 |
| 204188 | Control Systems | 3 | - | - | 50 | 50 | - | - | - | 100 | 3 | - |
| 204189 | Analog Communication | 3 | - | 2 | 50 | 50 | - | 50 | - | 150 | 3 | 1 |
| 204190 | Object Oriented Programming | 3 | - | 4 | 50 | 50 | - | - | 50 | 150 | 3 | 2 |
| 204191 | Employability Skill Development | 2 | - | 2 | - | - | 50 | - | - | 50 | 2 | 1 |
| 204193 | Audit Course 2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Total | | 19 | 1 | 10 | 250 | 250 | 100 | 100 | 50 | 750 | 20 | 05 |
| Total Credits | | | | | | | | | | | 25 | |

Abbreviations:

TH: Theory
 TW: Term Work
 OR: Oral

TUT: Tutorial
 PR: Practical

Note: Interested students of S.E (Electronics/E&TC) can opt any one of the audit course from the audit courses prescribed by BoS (Electronics/Computer/IT/Electrical/Instrumentation)

Third Engineering-E&TC (2015 Course)**(With effect from Academic Year 2017-18)**

| Semester I | | | | | | | | | | | | | |
|-------------|---|-----------------|--------|-----------|--------------------------------------|--------|---------|-----|----|-----|---------|----------------------|-----------|
| Course Code | Course | Teaching Scheme | | | Semester Examination Scheme of Marks | | | | | | Credits | | |
| | | Hours / Week | Theory | Tutorials | Practicals | In-Sem | End-Sem | TW | PR | OR | Total | TH/TW | PR+OR |
| 304181 | Digital Communication | 4 | -- | -- | 30 | 70 | -- | -- | -- | 100 | 4 | -- | |
| 304182 | Digital Signal Processing | 4 | -- | -- | 30 | 70 | -- | -- | -- | 100 | 4 | -- | |
| 304183 | Electromagnetics | 3 | 1 | -- | 30 | 70 | -- | -- | -- | 100 | 4 | -- | |
| 304184 | Microcontrollers | 3 | -- | -- | 30 | 70 | -- | -- | -- | 100 | 3 | 1 | |
| 304185 | Mechatronics | 3 | -- | -- | 30 | 70 | -- | -- | -- | 100 | 3 | 1 | |
| 304191 | Signal Processing and Communications Lab (DC/DSP) | -- | -- | 4 | -- | -- | 50 | 50 | -- | 100 | -- | 2 | |
| 304192 | Microcontrollers and Mechatronics Lab | -- | -- | 4 | -- | -- | 50 | 50 | -- | 100 | -- | -- | |
| 304193 | Electronics System Design | 2 | -- | 2 | -- | -- | -- | -- | 50 | 50 | 2 | 1 | |
| | Audit Course 3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ---- | |
| | Total | 19 | 1 | 10 | 150 | 350 | 100 | 100 | 50 | 750 | | | |
| | | | | | | | | | | | | Total Credits | 25 |

Abbreviations:

TH: Theory
TW: Term WorkOR: Oral
PR: Practical

Note: Interested students of T.E (Electronics/E&TC) can opt any one of the audit course from the audit courses prescribed by BoS (Electronics/Computer/IT/Electrical/Instrumentation)

Third Engineering-E&TC (2015 Course)

(With effect from Academic Year 2017-18)

| Semester II | | | | | | | | | | | | |
|----------------------|---|-----------------|--------|---------|-----------------------------|-----|-----|-------|----|-----|-----------|-------|
| Course Code | Course | Teaching Scheme | | | Semester Examination Scheme | | | | | | Credit | |
| | | Hours / Week | | | of Marks | | | | | | TH/TW | PR+OR |
| Theory | Tutorials | Practicals | In-Sem | End-Sem | TW | PR | OR | Total | | | | |
| 304186 | Power Electronics | 4 | -- | -- | 30 | 70 | -- | -- | -- | 100 | 4 | -- |
| 304187 | Information Theory, Coding and Communication Networks | 4 | -- | -- | 30 | 70 | -- | -- | -- | 100 | 4 | -- |
| 304188 | Business Management | 3 | -- | -- | 30 | 70 | -- | -- | -- | 100 | 3 | -- |
| 306189 | Advanced Processors | 4 | -- | -- | 30 | 70 | -- | -- | -- | 100 | 4 | 1 |
| 304190 | System Programming and Operating Systems | 3 | -- | -- | 30 | 70 | -- | -- | -- | 100 | 3 | 1 |
| 304194 | Power and ITCT Lab | -- | -- | 4 | -- | -- | 50 | 50 | -- | 100 | -- | 2 |
| 304195 | Advanced Processors and System Programming Lab | -- | -- | 4 | -- | -- | 50 | 50 | -- | 100 | | |
| 304196 | Employability Skills and Mini Project | 2 | -- | 2 | -- | -- | -- | -- | 50 | 50 | 2 | 1 |
| | Audit Course 4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Total | | 20 | --- | 10 | 150 | 350 | 100 | 100 | 50 | 750 | | |
| Total Credits | | | | | | | | | | | 25 | |

Abbreviations:

TH: Theory

OR: Oral

TW: Term Work

PR: Practical

Note: Interested students of T.E (Electronics/E&TC) can opt any one of the audit course from the audit courses prescribed by BoS (Electronics/Computer/IT/Electrical/Instrumentation)

**Structure of S.E. (Mechanical Engineering/ Automobile Engineering)
2015 Course**

Semester-I

| Subject Code | Subject | Teaching Scheme | | | Examination Scheme | | | | | Total Marks | Credits | |
|--------------|--------------------------------|-----------------|-----------|-----------|--------------------|------------|------------|-----------|------------|-------------|-----------|-----------|
| | | Hours/Week | | | In-Sem (online) | End-Sem | TW | PR. | Oral | | Lect/Tut | PR/OR |
| | | L | Tut. | PR | | | | | | | | |
| 207002 | Engineering Mathematics – III | 04 | 01 | - | 50 | 50 | 25 | - | - | 125 | 05 | - |
| 202041 | Manufacturing Process-I | 03 | - | 02 | 50 | 50 | 50 | - | - | 150 | 03 | 01 |
| 202042 | Computer Aided Machine Drawing | 01 | - | 02 | -- | -- | | 50 | - | 50 | 01 | 01 |
| 202043 | Thermodynamics | 04 | - | 02 | 50 | 50 | - | - | 50 | 150 | 04 | 01 |
| 202044 | Material Science | 03 | 01 | - | 50 | 50 | 25 | - | - | 125 | 03 | 01 |
| 202051 | Strength of Materials | 04 | - | 02 | 50 | 50 | - | - | 50 | 150 | 04 | 01 |
| 202055 | Audit course | | | | | | | | | | | |
| | Total | 19 | 02 | 08 | 250 | 250 | 100 | 50 | 100 | 750 | 20 | 05 |
| | Total of Part-I | 29 Hrs | | | | | 750 | | | | 25 | |

Note: Material Science and Engineering Mathematics-III practical may be carried out fortnightly for two hours, so that the tutorial hours may be used as practical.

Semester-II

| Subject Code | Subject | Teaching Scheme | | | Examination Scheme | | | | | Total Marks | Credits | |
|--------------|--|-----------------|-----------|-----------|--------------------|------------|------------|------------|-----------|-------------|-----------|-----------|
| | | Hours/Week | | | In-Sem (online) | End-Sem | TW | PR. | Oral | | Lect/Tut | PR/OR |
| | | L | Tut. | PR | | | | | | | | |
| 202045 | Fluid Mechanics | 04 | - | 02 | 50 | 50 | - | 50 | - | 150 | 04 | 01 |
| 202047 | Soft Skills | - | - | 02 | -- | -- | 25 | - | - | 25 | - | 01 |
| 202048 | Theory of Machines – I | 04 | 01 | - | 50 | 50 | 25 | - | 25 | 150 | 04 | 01 |
| 202049 | Engineering Metallurgy | 03 | 01 | - | 50 | 50 | - | - | 25 | 125 | 03 | 01 |
| 202050 | Applied Thermodynamics | 04 | - | 02 | 50 | 50 | - | 50 | - | 150 | 04 | 01 |
| 203152 | Electrical and Electronics Engineering | 03 | - | 02 | 50 | 50 | 25 | - | - | 125 | 03 | 01 |
| 202053 | Machine Shop – I | - | - | 02 | -- | -- | 25 | - | - | 25 | - | 01 |
| | Total | 18 | 02 | 10 | 250 | 250 | 100 | 100 | 50 | 750 | 18 | 07 |
| | Total of Part-II | 30 Hrs | | | | | 750 | | | | 25 | |

Note: Theory of Machine-I and Engineering Metallurgy practical may be carried out fortnightly for two hours, so that the tutorial hours may be used as practical.

**Structure of S.E. (Mechanical Engineering/ Automobile Engineering)
2015 Course**

Semester-I

| Subject Code | Subject | Teaching Scheme | | | Examination Scheme | | | | | Total Marks | Credits | |
|--------------|--------------------------------|-----------------|-----------|-----------|--------------------|------------|------------|-----------|------------|-------------|-----------|-----------|
| | | Hours/Week | | | In-Sem (online) | End-Sem | TW | PR. | Oral | | Lect/Tut | PR/OR |
| | | L | Tut. | PR | | | | | | | | |
| 207002 | Engineering Mathematics – III | 04 | 01 | - | 50 | 50 | 25 | - | - | 125 | 05 | - |
| 202041 | Manufacturing Process-1 | 03 | - | 02 | 50 | 50 | 50 | - | - | 150 | 03 | 01 |
| 202042 | Computer Aided Machine Drawing | 01 | - | 02 | -- | -- | | 50 | - | 50 | 01 | 01 |
| 202043 | Thermodynamics | 04 | - | 02 | 50 | 50 | - | - | 50 | 150 | 04 | 01 |
| 202044 | Material Science | 03 | 01 | - | 50 | 50 | 25 | - | - | 125 | 03 | 01 |
| 202051 | Strength of Materials | 04 | - | 02 | 50 | 50 | - | - | 50 | 150 | 04 | 01 |
| 202055 | Audit course | | | | | | | | | | | |
| | Total | 19 | 02 | 08 | 250 | 250 | 100 | 50 | 100 | 750 | 20 | 05 |
| | Total of Part-I | 29 Hrs | | | | | 750 | | | | 25 | |

Note: Material Science and Engineering Mathematics-III practical may be carried out fortnightly for two hours, so that the tutorial hours may be used as practical.

Semester-II

| Subject Code | Subject | Teaching Scheme | | | Examination Scheme | | | | | Total Marks | Credits | |
|--------------|--|-----------------|-----------|-----------|--------------------|------------|------------|------------|-----------|-------------|-----------|-----------|
| | | Hours/Week | | | In-Sem (online) | End-Sem | TW | PR. | Oral | | Lect/Tut | PR/OR |
| | | L | Tut. | PR | | | | | | | | |
| 202045 | Fluid Mechanics | 04 | - | 02 | 50 | 50 | - | 50 | - | 150 | 04 | 01 |
| 202047 | Soft Skills | - | - | 02 | -- | -- | 25 | - | - | 25 | - | 01 |
| 202048 | Theory of Machines – I | 04 | 01 | - | 50 | 50 | 25 | - | 25 | 150 | 04 | 01 |
| 202049 | Engineering Metallurgy | 03 | 01 | - | 50 | 50 | - | - | 25 | 125 | 03 | 01 |
| 202050 | Applied Thermodynamics | 04 | - | 02 | 50 | 50 | - | 50 | - | 150 | 04 | 01 |
| 203152 | Electrical and Electronics Engineering | 03 | - | 02 | 50 | 50 | 25 | - | - | 125 | 03 | 01 |
| 202053 | Machine Shop – I | - | - | 02 | -- | -- | 25 | - | - | 25 | - | 01 |
| | Total | 18 | 02 | 10 | 250 | 250 | 100 | 100 | 50 | 750 | 18 | 07 |
| | Total of Part-II | 30 Hrs | | | | | 750 | | | | 25 | |

Note: Theory of Machine-I and Engineering Metallurgy practical may be carried out fortnightly for two hours, so that the tutorial hours may be used as practical.

Savitribai Phule Pune University
T.E. Mechanical Engineering 2015 – Course
T. E. (Mechanical) (2015 Course) Semester – I

| Code | Subject | Teaching Scheme Hrs / week | | | Examination Scheme | | | | | Total Marks | Credits | |
|--------------|--|-------------------------------|----------|-----------|--------------------|------------|------------|-----------|-----------|----------------|-----------|-----------------|
| | | Lecture | Tut | Pract | In- Sem | ESE | TW | PR | OR | | Th | TW / PR / OR |
| 302041 | Design of Machine Elements-I | 4 | - | 2 | 30@ | 70@ | 50 | - | | 150 | 4 | 1 |
| 302042 | Heat Transfer* | 4 | - | 2 | 30 | 70 | | 50 | - | 150 | 4 | 1 |
| 302043 | Theory of Machines-II ^S | 3 | 1 | | 30 | 70 | 25 | - | 25 | 150 | 3 | 1 |
| 302044 | Turbo Machines | 3 | - | 2 | 30 | 70 | - | - | 25 | 125 | 3 | 1 |
| 302045 | Metrology and Quality Control ^S | 3 | - | 2 | 30 | 70 | - | - | 25 | 125 | 3 | 1 |
| 302046 | Skill Development | - | - | 2 | - | - | 25 | 25 | - | 50 | - | 1 |
| Total | | 17 | 1 | 10 | 150 | 350 | 100 | 75 | 75 | 750 | 17 | 6 |
| 23 | | | | | | | | | | | | |

T. E. (Mechanical) (2015 Course) Semester – II

| Code | Subject | Teaching Scheme Hrs / week | | | Examination Scheme | | | | | Total Marks | Credits | |
|--------------|---|-------------------------------|----------|-----------|--------------------|------------|------------|-----------|------------|----------------|-----------|-----------------|
| | | Lecture | Tut | Pract | In- Sem | ESE | TW | PR | OR | | Th | TW / PR / OR |
| 302047 | Numerical Methods and Optimization* | 4 | - | 2 | 30 | 70 | - | 50 | - | 150 | 4 | 1 |
| 302048 | Design of Machine Elements-II | 4 | - | 2 | 30@ | 70@ | 25 | - | 25 | 150 | 4 | 1 |
| 302049 | Refrigeration and Air Conditioning | 3 | - | 2 | 30 | 70 | - | - | 25 | 125 | 3 | 1 |
| 302050 | Mechatronics [%] | 3 | 1 | | 30 | 70 | - | - | 25 | 125 | 3 | 1 |
| 302051 | Manufacturing - Process-II ^S | 3 | - | - | 30 | 70 | - | - | - | 100 | 3 | - |
| 302052 | Machine Shop-II ^S | - | - | 2 | - | - | 50 | - | - | 50 | - | 1 |
| 302053 | Seminar ^S | - | - | 2 | - | - | 25 | - | 25# | 50 | - | 1 |
| 302054 | Audit Course* | -- | -- | -- | -- | -- | - | - | - | - | - | - |
| Total | | 17 | 1 | 10 | 150 | 350 | 100 | 50 | 100 | 750 | 17 | 6 |
| 23 | | | | | | | | | | | | |

Though it is under Oral head Internal Panel to be appointed by Principal and HOD.

Examination schedule will not be prepared at University level.

* Marked subjects are common with TE (Auto. Engg.) and TE Mech. Sandwich

^S Marked subjects are common with TE (Auto. Engg.) only

[%] Marked subjects are common with TE Mech. Sandwich only

@ Examination time for Insem examination 1 Hr 30 Min. and Endsem examination 3Hrs.

SAVITRIBAI PHULE PUNE UNIVERSITY
BE (COMPUTER ENGINEERING)- 2012 COURSE STRUCTURE
 Term-I

| Subject Code | Subject | Teaching Scheme | | | Examination Scheme | | | | Total Marks |
|--------------|---|-----------------|-----------|-----------|--------------------|------------|------------|---------------|-------------|
| | | Lect | Tut | Pract | In Sem Asmnt | PR/TW | OR/TW | End Sem Asmnt | |
| 410441 | Design & Analysis of Algorithms | 03 | — | — | 30 | — | — | 70 | 100 |
| 410442 | Principles of Modern Compiler Design | 04 | — | — | 30 | — | — | 70 | 100 |
| 410443 | Smart System Design and Applications | 03 | — | — | 30 | — | — | 70 | 100 |
| 410444 | Elective-I | 03 | — | — | 30 | — | — | 70 | 100 |
| 410445 | Elective-II | 03 | — | — | 30 | — | — | 70 | 100 |
| 410446 | Computer laboratory-I | — | — | 04 | — | 50 | 50 | — | 100 |
| 410447 | Computer Laboratory-II | — | — | 04 | — | 50 | 50 | — | 100 |
| 410448 | Project | — | 02 | — | — | 50 | — | — | 50 |
| | Total | 16 | 02 | 08 | 150 | 150 | 100 | 350 | 750 |
| | Term-II | | | | | | | | |
| 410449 | Software Design Methodologies & Testing | 03 | — | — | 30 | — | — | 70 | 100 |
| 410450 | High Performance Computing | 03 | — | — | 30 | — | — | 70 | 100 |
| 410451 | Elective-III | 03 | — | — | 30 | — | — | 70 | 100 |
| 410452 | Elective-IV Open Elective | 03 | — | — | 30 | — | — | 70 | 100 |
| 410453 | Computer laboratory-III | — | — | 04 | — | 50 | 50 | — | 100 |
| 410454 | Computer Laboratory-IV | — | — | 04 | — | 50 | 50 | — | 100 |
| 410455 | Project | — | 06 | — | — | 50 | 100 | — | 150 |
| | Total | 12 | 06 | 08 | 120 | 150 | 200 | 280 | 750 |

Electives:

| Semester-I | | Semester-II | |
|--------------------|---|------------------------------------|---|
| ELECTIVE-I | | ELECTIVE-III | |
| 1. | Image Processing | 1. | Mobile Computing |
| 2. | Computer Network Design and Modeling | 2. | Web Technology |
| 3. | Advanced Computer Programming | 3. | Cloud Computing |
| 4. | Data Mining Techniques and Applications | 4. | Cyber Security |
| ELECTIVE-II | | ELECTIVE-IV (Open Elective) | |
| 1. | Problem Solving with Gamification | 1. | Business Analytic and Intelligence |
| 2. | Pervasive Computing | 2. | Operations Research for Algorithms in Scientific Applications |
| | | | Mobile Applications |

BE (COMPUTER ENGINEERING)- 2008 COURSE STRUCTURE

| Subject Code | Subject | Term-I | | | | | | Total Marks |
|--------------|-----------------------------------|-----------------|-----------|--------------------|------------|-----------|------------|-------------|
| | | Teaching Scheme | | Examination Scheme | | | | |
| | | Lect. | Pract. | Th | TW | Pr | Or | |
| 410441 | Design & Analysis of Algorithms | 04 | | 100 | | — | | 100 |
| 410442 | Principles of Compiler Design | 04 | — | 100 | — | — | — | 100 |
| 410443 | Object Oriented Modeling & Design | 04 | 02 | 100 | 25 | — | 50 | 175 |
| 410444 | Elective-I | 03 | 02 | 100 | 25 | — | 50 | 175 |
| 410445 | Elective-II | 03 | | 100 | — | — | — | 100 |
| 410446 | Computer Laboratory-I | — | 04 | — | — | 50 | — | 050 |
| 410447 | Project Work | — | 02 | — | 50 | — | — | 050 |
| | Total | 18 | 10 | 500 | 100 | 50 | 100 | 750 |
| | Total of Part I (A) | 28 Hrs | | 750 | | | | |

| Subject Code | Subject | Term II | | | | | | Total Marks |
|--------------|--------------------------------|-----------------|-----------|--------------------|------------|-----------|------------|-------------|
| | | Teaching Scheme | | Examination Scheme | | | | |
| | | Lect. | Pract | Th | TW | Pr | Or | |
| 410448 | Distributed Operating Systems | 04 | — | 100 | — | — | — | 100 |
| 410449 | Advanced Computer Architecture | 04 | | 100 | | | | 100 |
| 410450 | Elective-III | 04 | 02 | 100 | 50 | — | 50 | 200 |
| 410451 | Elective-IV | 04 | — | 100 | — | — | — | 100 |
| 410452 | Computer Laboratory II | — | 04 | — | 50 | 50 | — | 100 |
| 410447 | Project Work | — | 06 | — | 100 | — | 50 | 150 |
| | Total | 16 | 12 | 400 | 200 | 50 | 100 | 750 |
| | Total of Part II (B) | 28 Hrs | | 750 | | | | |
| | Grand Total (A+B) | | | 1500 | | | | |

Th: Theory TW: Term Work

Pr: Practical Or: Oral

Elective I

- 1) Image Processing
- 2) Design & Analysis of Computer Networks

Elective II

- 1) Multimedia Systems
- 2) Mobile Computing

STRUCTURE OF

B.E. (ELECTRONICS & TELECOMMUNICATIONS) 2008 COURSE

TERM - I

| SUBJECT CODE | NAME OF SUBJECT | TH | PR | TUT | PP | TW | OR | PR | TOTAL MARKS |
|--------------|----------------------------|----|----|-----|-----|-----|----|-----|-------------|
| 404181 | ELECTRONICS PRODUCT DESIGN | 3 | | 1 | 100 | 25 | | | 125 |
| 404182 | VLSI DESIGN & TECHNOLOGY | 4 | 2 | | 100 | | | 50 | 150 |
| 404183 | COMPUTER NETWORK | 4 | 2 | | 100 | | 50 | | 150 |
| 404184 | ELECTIVE-I | 4 | 2 | | 100 | 25 | | 50 | 175 |
| 404185 | ELECTIVE-II | 4 | | | 100 | | | | 100 |
| 404186 | PROJECT (PART-1) | | 2 | | | 50 | | | 50 |
| | | 19 | 8 | 1 | 500 | 100 | 50 | 100 | 750 |

Elective -I

1. Digital Image Processing
2. Embedded System and RTOS
3. Industrial Drives Control
4. Microwave Communication and Radar

Elective-II

1. Entrepreneurship Development
2. Joint Time Frequency Analysis
3. Micro-electromechanical-system and System on chip (MEMS and SOC)
4. Mobile Communication

TERM - II

| SUBJECT CODE | NAME OF SUBJECT | TH | PR | TUT | PP | TW | OR | PR | TOTAL MARKS |
|--------------|--------------------------------------|----|----|-----|-----|-----|-----|-----|-------------|
| 404187 | TELECOMMUNICATION & SWITCHING SYSTEM | 4 | 2 | 1 | 100 | | 50 | | 150 |
| 404188 | OPTICAL FIBER COMMUNICATION | 4 | 2 | | 100 | 25 | | 50 | 175 |
| 404189 | ELECTIVE-III | 4 | 2 | | 100 | 25 | | 50 | 175 |
| 404190 | ELECTIVE-IV | 4 | | | 100 | | | | 100 |
| 404191 | PROJECT (PART-II)*** | | 6 | | | 100 | 50 | | 150 |
| | | 16 | 12 | 0 | 400 | 150 | 100 | 100 | 750 |

Elective-III

1. Soft Computing
2. Speech Processing
3. Television and Video Engineering
4. Test and Measurement Systems

Elective-IV

1. Artificial intelligence
2. Automotive Electronics
3. Nanotechnology
4. PLC and Industrial Process Automation
5. Any one subject from the list of Elective IV of Computer/IT/Electrical/Instrumentation OR institute can offer an elective-IV based on any industry need with prior approval of BOS (Electronics)

Note:

- 1) All Theory papers are three hours duration
- 2) Practical/Oral shall be based on term-work
- 3) Term-work of Project Part I consist of project report based on project
- 4) *** Exam at the end of II term

BE (E & TC) Structure
2012 Course w.e.f. June 2015

Semester-I

| Subject Code | Subject | Teaching Scheme | | | Examination Scheme | | | | Marks | |
|--------------|-------------------------------------|-----------------|----------|----------|--------------------------------|-----------|------------|------------|------------|-----------------------------------|
| | | LECT | TUT | PR | In Semester Assessment Phase I | PR | OR | TW | | End Semester Examination Phase II |
| | | | | | | | | | | |
| 404181 | VLSI Design & Technology | 3 | | | 30 | | | | 70 | 100 |
| 404182 | Computer Networks | 3 | | | 30 | | | | 70 | 100 |
| 404183 | Microwave Engineering | 4 | | | 30 | | | | 70 | 100 |
| 404184 | Elective I | 3 | | | 30 | | | | 70 | 100 |
| 404185 | Elective II | 3 | | | 30 | | | | 70 | 100 |
| 404186 | Lab Practice I (CN & MWE) | | | 4 | | | 50 | 50 | | 100 |
| 404187 | Lab Practice II (VLSI & Elective I) | | | 4 | | 50 | | 50 | | 100 |
| 404188 | Project Phase I | | 2 | | | | 50 | | | 50 |
| | Total | 16 | 2 | 8 | 150 | 50 | 100 | 100 | 350 | 750 |

Elective I

- Digital Image Processing
- Embedded Systems & RTOS
- Software Defined Radio
- Industrial Drives and Control

Elective II

- Multi rate & Adaptive Signal Processing
- Electronic Product Design
- PLCs and Automation
- Artificial Intelligence

Semester-II

| Subject Code | Subject | Teaching Scheme | | | Examination Scheme | | | | Marks | |
|--------------|---------------------------------|-----------------|----------|----------|--------------------------------|------------|-----------|------------|------------|-----------------------------------|
| | | LECT | TUT | PR | In Semester Assessment Phase I | PR | OR | TW | | End Semester Examination Phase II |
| | | | | | | | | | | |
| 404189 | Mobile Communication | 4 | | | 30 | | | | 70 | 100 |
| 404190 | Broadband Communication Systems | 4 | | | 30 | | | | 70 | 100 |
| 404191 | Elective III | 3 | | | 30 | | | | 70 | 100 |
| 404192 | Elective IV | 3 | | | 30 | | | | 70 | 100 |
| 404193 | Lab Practice III(MC & BCS) | | | 4 | | | 50 | 50 | | 100 |
| 404194 | Lab Practice IV(Elective III) | | | 2 | | 50 | | 50 | | 100 |
| 404195 | Project Phase II | | 6 | | | 50 | | 100 | | 150 |
| | Total | 14 | 6 | 6 | 120 | 100 | 50 | 200 | 280 | 750 |

Elective III

- Speech & Audio Signal Processing
- RF Circuit Design
- Audio Video Engineering
- Soft Computing

Elective IV

- Biomedical Signal Processing
- Nano Electronics & MEMS
- Detection & Estimation Theory
- Wireless Networks
- Open Elective*

*Any one subject from the list of Elective IV of computer/IT/Electrical/Instrumentation or Institute can offer elective IV based on any industry need with prior approval from BoS(Electronics). Repetition of subjects or topics is to be avoided.

Dr. D. S. Bormane
 Chairman, BOS(Electronics)

University of Pune, Pune
B. E. (Mechanical) Structure (2008 Course)
 With effect from June 2011

| Code | Subject | Teaching Scheme | | Examination Scheme | | | | |
|-----------------------------|-----------------------------|-----------------|-----------|--------------------|------------|------------|-----------|------------|
| | | L | P/D | P | TW | Or | Pr | Total |
| Semester I | | | | | | | | |
| 402041 | CAD/CAM Automation | 4 | 2 | 100 | 25 | -- | 50 | 175 |
| 402042 | Dynamics of Machinery | 4 | 2 | 100 | 25 | 50 | | 175 |
| 402043 | Industrial Fluid Power | 4 | 2 | 100 | 25 | 50 | | 175 |
| 402044 | Elective I *** | 4 | 2 | 100 | 25 | | | 125 |
| 402045 | Elective II | 4 | | 100 | | | | 100 |
| 402046 A | Project Work | | 2 | | | | | |
| Total of Semester I | | 20 | 10 | 500 | 100 | 100 | 50 | 750 |
| Semester II | | | | | | | | |
| 402046 B | Project Work | | 6 | | 100 | 50 | | 150 |
| 402047 | Power Plant Engineering | 4 | 2 | 100 | 25 | 50 | | 175 |
| 402048 | Mechanical System Design ** | 4 | 2 | 100 | 25 | 50 | | 175 |
| 402049 | Elective III *** | 4 | 2 | 100 | 50 | | | 150 |
| 402050 | Elective IV | 4 | | 100 | | | | 100 |
| Total of Semester II | | 16 | 12 | 400 | 200 | 150 | | 750 |

** Theory paper of 4 hours duration

*** The term work marks shall be based on assignments / seminar as prescribed by subject syllabus.

*** 402050D Open Elective – BoS Mechanical will declare the list of subjects which can be taken under open electives or any other Electives that are being taught in the current semester as Elective – IV under engineering faculty or individual college and Industry can define new elective with proper syllabus using defined framework of Elective IV and GET IT APPROVED FROM BOARD OF STUDIES AND OTHER NECESSARY STATUTORY SYSTEMS IN THE UNIVERSITY OF PUNE BEFORE 30th DECEMBER.

Elective I

402044 A Energy Audit and Management
 402044 B Product Design and Development
 402044 C Design of Pumps, Blowers and Compressors
 402044 D Tribology

Elective II

402045 A Automobile Engineering
 402045 B Machine Tool Design
 402045 C Quantitative and decision making Techniques

Elective III

402049 A Computational Fluid Dynamics
 402049 B Finite Element Method
 402049 C Robotics
 402049 D Advanced Air Conditioning and Refrigeration

Elective IV

402050 A Industrial Heat Transfer Equipments
 402050 B Management Information System
 402050 C Reliability Engineering
 402050 D Open Elective ✓

Legend: L Lecture
 P/D Practical/ Drawing
 P Paper

TW Term work
 Or Oral
 Pr Practical

Dean, Faculty of Engineering

Chairman, BOS
 Mechanical Engineering

Savitribai Phule Pune University, Pune 2012 Course

B. E. (Mechanical) Semester – I

(w. e. f. Academic year 2015 - 16)

| Code | Subject | Teaching Scheme (Weekly Load in hrs) | | | Examination Scheme(Marks) | | | | | |
|-----------------------|------------------------------------|---|-----|-----------|---------------------------|---------|-----|-----------------|-----------------|-------|
| | | Lect. | Tut | Practical | In-Sem | End-Sem | TW | PR ⁺ | OR ⁺ | Total |
| 402041 | Refrigeration and Air Conditioning | 3 | -- | 2 | 30 | 70 | 25 | -- | 50 | 175 |
| 402042 | CAD/ CAM Automation | 3 | -- | 2 | 30 | 70 | -- | 50 | -- | 150 |
| 402043 | Dynamics of Machinery | 4 | -- | 2 | 30 | 70 | 25 | -- | 50 | 175 |
| 402044 | Elective – I | 3 | -- | -- | 30 | 70 | -- | -- | -- | 100 |
| 402045 | Elective –II | 3 | -- | -- | 30 | 70 | -- | -- | -- | 100 |
| 402046 | Project –I | -- | 2 | -- | -- | -- | 50* | -- | -- | 50 |
| Total of Semester – I | | 16 | 2 | 6 | 150 | 350 | 100 | 50 | 100 | 750 |

B. E. (Mechanical) Semester – II

| Code | Subject | Teaching Scheme (Weekly Load in hrs) | | | Examination Scheme(Marks) | | | | | |
|------------------------|--------------------------|---|-----|-----------|---------------------------|---------|-----|-----------------|-----------------|-------|
| | | Lect. | Tut | Practical | In-Sem | End-Sem | TW | PR ⁺ | OR ⁺ | Total |
| 402047 | Power Plant Engineering | 4 | -- | 2 | 30 | 70 | 25 | -- | 50 | 175 |
| 402048 | Mechanical System Design | 4 | -- | 2 | 30 | 70 | -- | -- | 50 | 150 |
| 402049 | Elective-III | 4 | -- | -- | 30 | 70 | -- | -- | -- | 100 |
| 402050 | Elective- IV | 4 | -- | 2 | 30 | 70 | 25 | -- | -- | 125 |
| 402051 | Project – II | -- | 6 | -- | -- | -- | 150 | -- | 50 | 200 |
| Total of Semester – II | | 16 | 6 | 6 | 120 | 280 | 200 | -- | 150 | 750 |

+ For all Oral/Practical heads: Examination will be based on term work and Theory Subject

* Assessment should be carried out by panel of examiners from same Institute

| Elective-I | | Elective-II | |
|--------------|---|-------------|--|
| Code | Subject | Code | Subject |
| 402044 A | Energy Audit Management | 402045 A | Gas Turbine Propulsion |
| 402044 B | Tribology | 402045 B | Product Design and Development |
| 402044 C | Reliability Engineering | 402045 C | Operation Research |
| 402044 D | Machine Tool Design | 402045 D | Advanced Manufacturing Processes |
| Elective-III | | Elective-IV | |
| Code | Subject | Code | Subject |
| 402049 A | Refrigeration and Air Conditioning Equipment Design | 402050 A | Computational Fluid Dynamics |
| 402049 B | Robotics | 402050 B | Finite Element Analysis |
| 402049 C | Industrial Engineering | 402050 C | Design of Pumps, Blowers and Compressors |
| 402049 D | Open Elective ** | | |

** : Open Elective – Board of studies (BoS) - Mechanical will declare the list of subjects which can be taken under open electives or any other Electives that are being taught in the current semester, to the same level, as Elective – III under engineering faculty or individual college and Industry can define new elective with proper syllabus using defined framework of Elective III and GET IT APPROVED FROM BOARD OF STUDIES AND OTHER NECESSARY STATUTORY SYSTEMS IN THE SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE, BEFORE 30th NOVEMBER. Without approval from University statutory system, no one can introduce the open elective in curriculum.