

SHIVAJI UNIVERSITY, KOLHAPUR- Syllabus w.e.f. 2019-20



**DEPARTMENT OF TECHNOLOGY
FINAL YEAR B.TECH**

Scheme of Teaching and Examination
Semester – VII (Electronics & Communication Technology)

| Course code | Course | Teaching Scheme (Hours / Week) | | | | Examination Scheme (Marks) | | | | | |
|--------------|---|--------------------------------|-----------|-----------|-----------|----------------------------|------------|--------------|-----------|------------|--------------|
| | | L | T | P | Credit | Theory | | | Practical | | |
| | | | | | | Scheme | Max. marks | Min. Passing | Scheme | Max. marks | Min. Passing |
| EC 411 | Audio and Video Engineering | 3 | - | - | 3 | CIE | 50 | 20 | ----- | ----- | ----- |
| | | | | | | SEE | 50 | 20 | ----- | ----- | ----- |
| EC 412 | Industrial and Power Electronics | 3 | - | - | 3 | CIE | 50 | 20 | ----- | ----- | ----- |
| | | | | | | SEE | 50 | 20 | ----- | ----- | ----- |
| EC413 | VLSI Design | 3 | - | - | 3 | CIE | 50 | 20 | ----- | ----- | ----- |
| | | | | | | SEE | 50 | 20 | ----- | ----- | ----- |
| EC 414 | Microwave Engineering | 4 | - | - | 4 | CIE | 50 | 20 | ----- | ----- | ----- |
| | | | | | | SEE | 50 | 20 | ----- | ----- | ----- |
| EC 415 | Elective-I | 3 | - | - | 3 | CIE | 50 | 20 | ----- | ----- | ----- |
| | | | | | | SEE | 50 | 20 | ----- | ----- | ----- |
| EC 416L | Major project (Phase-I) | - | - | 2 | 4 | ----- | ----- | ----- | IPE | 50 | 20 |
| EC 411L | Audio and Video Engineering Laboratory | - | - | 2 | 1 | ----- | ----- | ----- | EPE | 50 | 20 |
| EC 412L | Industrial and Power Electronics Laboratory | - | - | 2 | 1 | ----- | ----- | ----- | EPE | 50 | 20 |
| EC 413L | VLSI Design Laboratory | - | - | 2 | 1 | ----- | ----- | ----- | EOE | 50 | 20 |
| EC 414L | Microwave Engineering Laboratory | - | - | 2 | 1 | ----- | ----- | ----- | IPE | 50 | 20 |
| EC 415L | Elective-I Tutorial | - | 1 | - | 1 | ----- | ----- | ----- | IOE | 50 | 20 |
| Total | | 16 | 01 | 10 | 25 | ----- | 500 | ----- | ----- | 300 | ----- |

Audit Course III

| | | | | | | | |
|--------|---------------------|----|-----|-----|-----|---|--|
| HS 411 | Professional Ethics | 02 | --- | --- | --- | Evaluation at institute/ department level | Based on total marks obtained out of 50, the grade to be given by the course auditor (teacher) |
|--------|---------------------|----|-----|-----|-----|---|--|

Total contact hours per week: 27+02=29

- CIE : Continuous Internal Evaluation
- SEE : Semester End Examination
- IPE : Internal Practical Evaluation
- IOE : Internal Oral Evaluation
- EPE : External Practical Evaluation
- EOE : External Oral Evaluation

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Note : Tutorials and Practical shall be conducted in batches with batch strength not exceeding 18 students.



**DEPARTMENT OF TECHNOLOGY
FINAL YEAR B.TECH**

Scheme of Teaching and Examination
Semester – VIII (Electronics & Communication Technology)

| Course code | Course | Teaching Scheme (Hours / Week) | | | | Examination Scheme (Marks) | | | | | |
|-------------|--|--------------------------------|-----------|-----------|-----------|----------------------------|------------|--------------|-----------|------------|--------------|
| | | L | T | P | Total | Theory | | | Practical | | |
| | | | | | | Scheme | Max. marks | Min. Passing | Scheme | Max. marks | Min. Passing |
| EC421 | Broadband Communication | 3 | - | - | 3 | CIE | 50 | 20 | ----- | ----- | ----- |
| | | | | | | SEE | 50 | 20 | ----- | ----- | ----- |
| EC422 | Satellite and Radar Engineering | 3 | - | - | 3 | CIE | 50 | 20 | ----- | ----- | ----- |
| | | | | | | SEE | 50 | 20 | ----- | ----- | ----- |
| EC423 | Optical Fiber Communication | 3 | - | - | 3 | CIE | 50 | 20 | ----- | ----- | ----- |
| | | | | | | SEE | 50 | 20 | ----- | ----- | ----- |
| EC424 | Wireless Networks | 4 | - | - | 4 | CIE | 50 | 20 | ----- | ----- | ----- |
| | | | | | | SEE | 50 | 20 | ----- | ----- | ----- |
| EC425 | Elective-II | 3 | - | - | 3 | CIE | 50 | 20 | ----- | ----- | ----- |
| | | | | | | SEE | 50 | 20 | ----- | ----- | ----- |
| EC426 | Major Project (Phase-II) | - | - | 2 | 4 | ----- | ----- | ----- | EPE | 50 | 20 |
| EC421L | Broadband Communication Tutorial | - | 1 | - | 1 | ----- | ----- | ----- | IOE | 50 | 20 |
| EC422L | Satellite and Radar Engineering Laboratory | - | - | 2 | 1 | ----- | ----- | ----- | EPE | 50 | 20 |
| EC423L | Optical Fiber Communication Laboratory | - | - | 2 | 1 | ----- | ----- | ----- | IPE | 50 | 20 |
| EC424L | Wireless Networks Laboratory | - | - | 2 | 1 | ----- | ----- | ----- | EOE | 50 | 20 |
| EC425L | Elective –II Tutorial | - | 1 | - | 1 | ----- | ----- | ----- | IOE | 50 | 20 |
| | Total | 16 | 02 | 08 | 25 | ----- | 500 | ----- | ----- | 300 | ----- |

Audit Course IV

| | | | | | | | |
|-------|-------------------------------------|----|-----|-----|------|---|---|
| HS421 | Introduction to Indian Constitution | 02 | --- | --- | ---- | Evaluation at institute/ department level | Based on total marks obtained out of 50,the grade to be given by the course auditor |
|-------|-------------------------------------|----|-----|-----|------|---|---|

Total contact hours per week: 26+02=28

CIE : Continuous Internal Evaluation
SEE : Semester End Examination

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IPE : Internal Practical Evaluation
IOE : Internal Oral Evaluation
EPE : External Practical Evaluation
EOE : External Oral Evaluation

Note : Tutorials and Practical shall be conducted in batches with batch strength not exceeding 18 students.

Equivalence of Final Year B.Tech (Electronics and Communication Technology) Semester VII and VIII

The above detailed syllabus is a revised version of the Final Year B.Tech (Electronics and Communication Technology) Program being conducted by the Shivaji University at the Technology Department of the University. This syllabus is to be implemented from June 2019. (Academic year 2019-20)

The Equivalence for the courses/courses of Electronics and Communication Technology at Final Year B Tech Semester VII and VIII pre-revised Program under the faculty of Engineering and Technology is as follows.

Final Year B.Tech Semester VII (Electronics and Communication Technology)

| Sr.No | Final Year B.Tech (Electronics and Communication Technology) Semester VII Pre-revised syllabus | Final Year B.Tech(Electronics and Communication Technology) Semester VII Revised syllabus | Remark |
|-------|--|---|--|
| 1. | Audio and Video Engineering | Audio and Video Engineering | No Change |
| 2. | Industrial and Power Electronics | Industrial and Power Electronics | No Change |
| 3. | Microwave Engineering | Microwave Engineering | No Change |
| 4. | Mobile and cellular communication | | Course removed |
| 5. | Elective-I | Elective-I | Few more electives added |
| 6. | Major Project (phase-I) | Major Project (phase-I) | Performance of Industrial training undergone at the end of Sem. VI will be considered along with major project (phase-I) work in sem. VII. |
| 7. | | VLSI Design | Course removed from sem. VI and added in Sem. VII |
| 8. | Professional Ethics | Professional Ethics | No Change |
| 9. | | | |
| 10. | | | |

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Final Year B.Tech Semester VIII (Electronics and Communication Technology)

| Sr. No | Final Year B. Tech (Electronics and Communication Technology) Semester VIII Pre-revised syllabus | Final Year B. Tech (Electronics and Communication Technology) Semester VIII Revised syllabus | Remark |
|--------|--|--|---|
| 1. | Broadband Communication | Broadband Communication | No Change |
| 2. | Satellite Communication | | Course removed |
| 3. | Antennas and Radar Engineering | | Course removed |
| 4. | ARM and Embedded Systems | | Course removed from sem. VIII and included in sem. VI |
| 5. | Elective-II | Elective-II | More elective courses added. |
| 6. | Major Project (Phase-II) | Major Project (Phase-II) | No Change |
| 7. | | Optical Fiber Communication | Course removed from sem. 6 and added to sem. 8. |
| 8. | | Wireless and Mobile Communication | Course removed |
| 9. | | Satellite and Radar Communication | Course removed |
| 10. | Constitution of India | Constitution of India | No change |

Audit course have not been assigned any credits. The students will be evaluated for these courses by the concerned course in charge. There will be grade conferred to the student. The grade will be based on conversion of marks obtained out of 50. (Obtaining passing grade is essential). Please refer to chart in the detail examination scheme. The chart shows the marks range and the respective grade.

LIST OF ELECTIVES

| Sr. No. | Elective-I |
|---------|----------------------------------|
| 1 | Automotive Electronics |
| 2 | Speech and audio processing |
| 3 | Real Time Operating Systems |
| 4 | Mechatronics |
| 5 | Micro Electro Mechanical Systems |
| 6 | Wireless sensor networks |
| 7 | Robotics |
| 8 | PLC and automation |

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| Sr. No. | Elective II |
|---------|---|
| 1 | Fuzzy logic and applications |
| 2 | High speed digital design |
| 3 | Digital Image Processing |
| 4 | Biomedical Instrumentation and Technology |
| 5 | Remote Sensing and GIS |
| 6 | RF circuit design |
| 7 | Artificial Intelligence & Neural Networks |
| 8 | Software Defined Radio |