## SAVITRIBAI PHULE PUNE UNIVERSITY

# **EQUIVALENCE OF COURSES**

## IN

# **B.Sc. ELECTRONIC SCIENCE**

## **BOARD OF STUDIES, ELECTRONIC SCIENCE**

#### **UNDER**

### **FACULTY OF SCIENCE AND TECHNOLOGY**

- F. Y. B. Sc. Electronic Science
- S. Y. B. Sc. Electronic Science
- T. Y. B. Sc. Electronic Science

## F. Y. B. Sc. Electronic Science

# Equivalence of Courses and Transitory Provision (2013-14 pattern to 2019-20 pattern)

| 2013 Pattern |                 |   | 2019 Pattern |                         |   |  |
|--------------|-----------------|---|--------------|-------------------------|---|--|
|              | Course Title of |   | Semester     | Course                  | Title of  |  |
|              | code            | course/paper                            |              | code                    | course/paper                                      |  |
|              | EL 101          | Principles of<br>Analog<br>Electronics  |              | EL 111<br>and<br>EL 122 | Basics of Applied Electronics  Analog and Digital |  |
|              |                 | I and II                                |              | device Applications     |   |  |
| Yearly       | EL102           | Principles of<br>Digital<br>Electronics |              | EL 121<br>and<br>EL 112 | Fundamentals of Digital Electronics Devices       |  |
| Pattern      |                 |   |              |                         | and Circuits                                      |  |
|              | EL 103          | Practical<br>Course                     |              | EL 113<br>and<br>EL 123 | Electronics Lab IA Electronics Lab IB             |  |

### **Equivalence of mark system**

|             | 2013 F                                |   | 2019 Pattern |  |                                   |                              |
|-------------|---------------------------------------|---|--------------|--|-----------------------------------|------------------------------|
|             | Internal Examination Per Course Marks | University Examination Per Course Marks | Sem          | Internal<br>CIE Per<br>Course<br>Marks | University<br>Per Course<br>Marks | Total<br>Credits<br>allotted |
| Yearly      | 20                                    | 80                                      | I            | 15/per                                 | 35/per course                     | 5.5                          |
| Examination |                                       |   |              | course                                 |                                   |                              |
|             |                                       |   | Ш            | 15/per                                 | 35/per course                     | 5.5                          |
|             |                                       |   |              | course                                 |                                   |                              |
|             |                                       |   |              |  | Total Credits                     | 11                           |

- 2013 Pattern is Yearly pattern for Theory and practical courses
- 2019 Pattern is semester course of Theory and practical courses so the student has to appear for two corresponding courses from Sem I and II
- 2019 Pattern is Choice Based Credit System (CBCS) pattern (Total 11 credits for the subject Electronic Science)

## S. Y. B. Sc. Electronic Science

### **Equivalence of Courses and Transitory Provision**

(2014-15 pattern to 2020-21 pattern)

|                   | 2014 Patt       | ern                           | 2020 Pattern |                  |  |  |
|-------------------|-----------------|-------------------------------|--------------|------------------|--|--|
| Semester          | Course Title of |                               | Semester     | Course           | Title of course/paper                      |  |
|                   | code            | course/paper                  |              | code             |  |  |
|                   | EL 211          | Analog Circuit                |              | EL 241           | Analog Circuit Design                      |  |
|                   |                 | Design                        |              |                  |  |  |
| '                 | EL 212          | Digital Circuit<br>Design     | III          | EL 232           | Digital System Design                      |  |
|                   | EL 221          | Electronic<br>Instrumentation |              | EL 366B          | Sensors and Systems                        |  |
| 11                | EL 222          | Communication<br>Electronics  | IV           | EL 231           | Analog Communication                       |  |
| Yearly<br>Pattern | EL 203          | Practical<br>Course           |              | EL 233<br>EL 243 | Electronics Lab IIA<br>Electronics Lab IIB |  |

### **Equivalence of mark system**

|                    | 2014 F                                | Pattern                                 | 2020 Pattern                        |                                   |                              |  |
|--------------------|---------------------------------------|---|-------------------------------------|-----------------------------------|------------------------------|--|
| Semester           | Internal Examination Per Course Marks | University Examination Per Course Marks | Internal CIE<br>Per Course<br>Marks | University<br>Per Course<br>Marks | Total<br>Credits<br>allotted |  |
| l                  | 10/per                                | 40/per                                  | 15/per                              | 35/per                            | 6                            |  |
|                    | course                                | course                                  | course                              | course                            |                              |  |
| II                 | 10/per                                | 40/per                                  | 15/per                              | 35/per                            | 6                            |  |
|                    | course                                | course                                  | course                              | course                            |                              |  |
| Practical (Yearly) | 20                                    | 80                                      |                                     | Total<br>Credits                  | 12                           |  |

- 2014 Pattern is semester pattern for Theory courses and yearly pattern for Practical course
- 2020 Pattern is semester pattern for Theory and practical courses
- 2020 Pattern is Choice Based Credit System (CBCS) pattern (Total 12 credits for the subject Electronic Science)

# T. Y. B. Sc. Electronic Science

## **Equivalence of Courses and Transitory Provision**

(2015-16 pattern to 2021-22 pattern)

| 2015 Pattern |                            |   | 2021 Pattern |                |  |  |
|--------------|----------------------------|---|--------------|----------------|--|--|
| Semester     | Course<br>code             | Title of<br>course/paper                              | Semester     | Course<br>code | Title of course/paper                          |  |
|              | EL 331                     | Advanced Digital<br>System<br>Design                  |              | EL 351         | Digital Design using<br>Verilog                |  |
|              | EL 332                     | Microcontrollers                                      |              | EL 352         | Microcontroller Architecture and Programming   |  |
|              | EL 333                     | Analog Circuit Design and Applications of Linear IC's |              | EL 353         | Analog circuit Design and Applications         |  |
|              | EL 334                     | Principles of<br>Semiconductors<br>Devices            | V            |                |  |  |
| III          | EL 335                     | 'C' Programming                                       | V            | EL 242         | Microcontroller and Python programming         |  |
|              | EL 336A                    | Optics and Fiber Optic Communication                  |              | EL 356A        | Optics and Fiber Optic<br>Communication        |  |
|              | EL 336B                    | Electronic Product Design and Entrepreneurship        |              | EL 356B        | Electronic Product Design and Entrepreneurship |  |
|              | EL-347 Pr                  | actical Course I                                      |              | EL 357         | Practical Course I                             |  |
|              | EL-348 Pra                 | actical Course II                                     |              | EL 358         | Practical Course II                            |  |
|              | EL-349 Practical Course II |   |              | EL 359         | Practical Course III (Project)                 |  |
|              |                            |   |              |                |  |  |
|              |                            |   |              |                |  |  |

|         | EL 341  | Advanced<br>Communication<br>Systems                               |    | EL 361  | Modern<br>Communication<br>Systems            |  |
|---------|---------|--|----|---------|---|--|
| IV      | EL 342  | Microcontroller<br>and its<br>Applications                         |    | EL 362  | Embedded System Design using Microcontrollers |  |
|         | EL 343  | Power Electronics  |    | EL 363  | Industrial Electronics                        |  |
|         | EL 344  | Foundations of<br>Nanoelectronics                                  |    | EL 354  | Nanoelectronics                               |  |
|         | EL 345  | Mathematical<br>Methods<br>and Circuit<br>Analysis using<br>MATLAB | VI | EL 365  | Process Control<br>Systems                    |  |
|         | EL 346A | Industrial<br>Automation   |    | EL 366A | PLC SCADA                                     |  |
|         | EL 346B | Consumer<br>Electronics  |    |         |   |  |
| Yearly  | EL 347  | Practical Course I   |    | EL 367  | Practical Course I                            |  |
| pattern | EL 348  | Practical Course   |    | EL 368  | Practical Course II                           |  |
|         | EL 349  | Practical Course III(Project)                                      |    | EL 369  | Practical Course III(Project)                 |  |
|         |         |  |    |         |   |  |
|         |         |  |    |         |   |  |

### **Equivalence of mark system**

|                    | 2015 F                                | Pattern                                 | 2021 Pattern                        |                                   |                              |  |
|--------------------|---------------------------------------|---|-------------------------------------|-----------------------------------|------------------------------|--|
| Semester           | Internal Examination Per Course Marks | University Examination Per Course Marks | Internal CIE<br>Per Course<br>Marks | University<br>Per Course<br>Marks | Total<br>Credits<br>allotted |  |
| I                  | 10/per                                | 40/per                                  | 15/per                              | 35/per                            | 22                           |  |
|                    | course                                | course                                  | course                              | course                            |                              |  |
| II                 | 10/per                                | 40/per                                  | 15/per                              | 35/per                            | 22                           |  |
|                    | course                                | course                                  | course                              | course                            |                              |  |
| Practical (Yearly) | 20                                    | 80                                      |                                     | Total<br>Credits                  | 44                           |  |

- 2015 Pattern is semester pattern for Theory courses and yearly pattern for Practical course
- 2021 Pattern is semester pattern for Theory and practical courses
- 2021 Pattern is Choice Based Credit System (CBCS) pattern (Total 44 credits)