**ANNA UNIVERSITY, CHENNAI**
**AFFILIATED INSTITUTIONS**
**B.E. ELECTRONICS AND INSTRUMENTATION ENGINEERING**
**REGULATIONS – 2017**
**CHOICE BASED CREDIT SYSTEM**
**OPEN ELECTIVES (Offered by Other Branches)**

**V SEMESTER**
**OPEN ELECTIVE I**

| S.No | COURSE CODE | COURSE TITLE | CATEGORY | CONTACT PERIODS | L | T | P | C |
|---|---|---|---|---|---|---|---|---|
| 1. | OCY551 | Advanced Engineering Chemistry | OE | 3 | 3 | 0 | 0 | 3 |
| 2. | OCE551 | Air Pollution and Control Engineering | OE | 3 | 3 | 0 | 0 | 3 |
| 3. | OAT551 | Automotive Systems | OE | 3 | 3 | 0 | 0 | 3 |
| 4. | OIT551 | Database Management Systems | OE | 3 | 3 | 0 | 0 | 3 |
| 5. | OIT552 | Cloud Computing | OE | 3 | 3 | 0 | 0 | 3 |
| 6. | OMF551 | Product Design and Development | OE | 3 | 3 | 0 | 0 | 3 |
| 7. | OME552 | Vibration and Noise Control | OE | 3 | 3 | 0 | 0 | 3 |

**VII SEMESTER**
**OPEN ELECTIVE II**

| S.No | COURSE CODE | COURSE TITLE | CATEGORY | CONTACT PERIODS | L | T | P | C |
|---|---|---|---|---|---|---|---|---|
| 1. | OBT751 | Analytical Methods and Instrumentation | OE | 3 | 3 | 0 | 0 | 3 |
| 2. | OEC752 | Communication Networks | OE | 3 | 3 | 0 | 0 | 3 |
| 3. | OME751 | Design of Experiments | OE | 3 | 3 | 0 | 0 | 3 |
| 4. | OME754 | Industrial Safety | OE | 3 | 3 | 0 | 0 | 3 |
| 5. | OCS752 | Introduction to C Programming | OE | 3 | 3 | 0 | 0 | 3 |
| 6. | OMF751 | Lean Six Sigma | OE | 3 | 3 | 0 | 0 | 3 |
| 7. | OCH751 | Process Modeling and Simulation | OE | 3 | 3 | 0 | 0 | 3 |
| 8. | OEC753 | Signals and Systems | OE | 4 | 4 | 0 | 0 | 4 |
| 9. | OML751 | Testing of Materials | OE | 3 | 3 | 0 | 0 | 3 |

# Jaya Engineering College, Thiruninravur-602024

**Department of Electronics and Instrumentation Engineering**

**III YEAR/V SEM Batch 2017-2020-Elective list**

| S.No | Register No. | Name | OCY551 | OCE551 | OAT551 | OIT551 | OIT552 | OMF551 | OME552 |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 110817107001 | Adhira. R.K | | ✓ | | | | | |
| 2 | 110817107002 | Ajay Gowtham .M | | ✓ | | | | | |
| 3 | 110817107003 | Arun.T | | ✓ | | | | | |
| 4 | 110817107004 | Deepak R.B | | ✓ | | | | | |
| 5 | 110817107005 | Deepak.S | | ✓ | | | | | |
| 6 | 110817107006 | Gokul .G | | ✓ | | | | | |
| 7 | 110817107007 | Hariharaharan C.S.G | | ✓ | | | | | |
| 8 | 110817107008 | Lena Swathi .P | | ✓ | | | | | |
| 9 | 110817107009 | Mohammed Sadique C.H | | ✓ | | | | | |
| 10 | 110817107010 | Monica .A | | ✓ | | | | | |
| 11 | 110817107011 | Nandhini .K | | ✓ | | | | | |
| 12 | 110817107012 | Naveen .R | | ✓ | | | | | |
| 13 | 110817107014 | Pradeep Kumar.S | | ✓ | | | | | |
| 14 | 110817107015 | Reshma.S | | ✓ | | | | | |
| 15 | 110817107016 | Revathi.R | | ✓ | | | | | |
| 16 | 110817107017 | Sheeba.A | | ✓ | | | | | |

| | |
|---|---|
| OCY551 | Advanced Engineering Chemistry |
| OCE551 | Air pollution and control Engineering |
| OAT551 | Automotive system |
| OIT551 | Database Management System |
| OIT552 | Cloud Computing |
| OMF551 | Product Design And Development |
| OME552 | Vibration and Noise Control |

HOD/EIE

Mrs. G. Kalarani. H.O.D.
Dept. of Electronics & Instrumentation
Jaya Engineering College,
Thiruninravur, Chennai-602 024.

**AFFILIATED INSTITUTIONS**

**B.E. ELECTRONICS AND INSTRUMENTATION ENGINEERING**

**R - 2013**

## PROGRAM EDUCATIONAL OBJECTIVES :

1. To prepare the students have successful career in industry and motivate for higher education.
2. To provide strong foundation in basic science and mathematics necessary to formulate, solve and analyze Electronics and Instrumentation problems
3. To provide strong foundation in circuit theory, control theory and signal processing concepts.
4. To provide good knowledge of Instrumentation systems and their applications.
5. To provide knowledge on basic electronics and their applications in Instrumentation engineering
6. To provide an opportunity to work in inter disciplinary groups
7. To promote student awareness for life long learning and inculcate professional ethics
8. To provide necessary foundation on computational platforms and software applications related to the respective field of engineering.

## PROGRAM OUTCOMES :

a) Ability to understand and apply differential equations, integrals, matrix theory, probability theory and Laplace, Fourier and Z transformations for engineering problems
b) Ability to understand and apply basic science, circuit theory, control theory and signal processing concepts to engineering problems.
c) Ability to model and analyze transducers.
d) Ability to understand and analyze Instrumentation systems and their applications to various industries.
e) Ability to understand and analyse process control engineering problems.
f) Ability to understand and analyse, linear and digital electronic circuits.
g) Ability to review, prepare and present technological developments
h) Ability to form a group and develop or solve engineering hardware and problems
i) To understand and apply computing platform and software for engineering problems.
j) To understand ethical issues environmental impact and acquire management skills.

| **Program Educational Objective** | | | | | **Program Outcome** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | a | b | c | d | e | f | g | h | i | j |
| 1 | | x | | x | | x | x | | x | x |
| 2 | x | | | | | | | | | |
| 3 | | x | | | | | | | | |
| 4 | | | | x | | | | | | |
| 5 | | | | | | x | | | | |
| 6 | | | | | | | | x | | |
| 7 | | | | | | | x | x | | |
| 8 | | | | | | x | | | x | |

**ANNA UNIVERSITY, CHENNAI**

**AFFILIATED INSTITUTIONS**

**R – 2013**

**B. E. ELECTRONICS AND INSTRUMENTATION ENGINEERING**

**I TO VIII SEMESTERS CURRICULUM AND SYLLABUS**

**SEMESTER I**

| S.NO. | COURSE CODE | COURSE TITLE | L | T | P | C |
|---|---|---|---|---|---|---|
| **THEORY** | | | | | | |
| 1. | HS6151 | Technical English - I | 3 | 1 | 0 | 4 |
| 2. | MA6151 | Mathematics - I | 3 | 1 | 0 | 4 |
| 3. | PH6151 | Engineering Physics - I | 3 | 0 | 0 | 3 |
| 4. | CY6151 | Engineering Chemistry - I | 3 | 0 | 0 | 3 |
| 5. | GE6151 | Computer Programming | 3 | 0 | 0 | 3 |
| 6. | GE6152 | Engineering Graphics | 2 | 0 | 3 | 4 |
| **PRACTICAL** | | | | | | |
| 7. | GE6161 | Computer Practices Laboratory | 0 | 0 | 3 | 2 |
| 8. | GE6162 | Engineering Practices Laboratory | 0 | 0 | 3 | 2 |
| 9. | GE6163 | Physics and Chemistry Laboratory - I | 0 | 0 | 2 | 1 |
| | | | **17** | **2** | **11** | **26** |

**SEMESTER II**

| S.NO. | COURSE CODE | COURSE TITLE | L | T | P | C |
|---|---|---|---|---|---|---|
| **THEORY** | | | | | | |
| 1. | HS6251 | Technical English - II | 3 | 1 | 0 | 4 |
| 2. | MA6251 | Mathematics - II | 3 | 1 | 0 | 4 |
| 3. | PH6251 | Engineering Physics - II | 3 | 0 | 0 | 3 |
| 4. | CY6251 | Engineering Chemistry - II | 3 | 0 | 0 | 3 |
| 5. | GE6251 | Basic Civil and Mechanical Engineering | 4 | 0 | 0 | 4 |
| 6. | EE6201 | Circuit Theory | 3 | 1 | 0 | 4 |
| **PRACTICAL** | | | | | | |
| 7. | GE6262 | Physics and Chemistry Laboratory - II | 0 | 0 | 2 | 1 |
| 8. | GE6263 | Computer Programming Laboratory | 0 | 1 | 2 | 2 |
| 9. | EE6211 | Electric Circuits Laboratory | 0 | 0 | 3 | 2 |
| | | **TOTAL** | **19** | **4** | **7** | **27** |

**SEMESTER III**

| S.NO. | COURSE CODE | COURSE TITLE | L | T | P | C |
|---|---|---|---|---|---|---|
| **THEORY** | | | | | | |
| 1. | MA6351 | Transforms and Partial Differential Equations | 3 | 1 | 0 | 4 |
| 2. | GE6351 | Environmental Science and Engineering | 3 | 0 | 0 | 3 |
| 3. | EE6301 | Digital Logic Circuits | 3 | 1 | 0 | 4 |
| 4. | EC6202 | Electronic Devices and Circuits | 3 | 1 | 0 | 4 |
| 5. | EE6303 | Linear Integrated Circuits and Applications | 3 | 0 | 0 | 3 |
| 6. | EI6301 | Electrical Measurements | 3 | 1 | 0 | 4 |
| **PRACTICAL** | | | | | | |
| 7. | EC6361 | Electronics Laboratory | 0 | 0 | 3 | 2 |
| 8. | EE6311 | Linear and Digital Integrated Circuits Laboratory | 0 | 0 | 3 | 2 |
| | | **TOTAL** | **18** | **4** | **6** | **26** |

**SEMESTER IV**

| S.NO. | COURSE CODE | COURSE TITLE | L | T | P | C |
|---|---|---|---|---|---|---|
| **THEORY** | | | | | | |
| 1. | MA6459 | Numerical Methods | 3 | 1 | 0 | 4 |
| 2. | CS6456 | Object Oriented Programming | 3 | 0 | 0 | 3 |
| 3. | EI6401 | Transducer Engineering | 3 | 0 | 0 | 3 |
| 4. | EE6403 | Discrete Time Systems and Signal Processing | 3 | 0 | 0 | 3 |
| 5. | EI6402 | Electrical Machines | 3 | 1 | 0 | 4 |
| 6. | EI6403 | Applied Thermodynamics and Fluid Dynamics | 3 | 1 | 0 | 4 |
| **PRACTICAL** | | | | | | |
| 7. | CS6461 | Object Oriented Programming Laboratory | 0 | 0 | 3 | 2 |
| 8. | EI6411 | Electrical Machines Laboratory | 0 | 0 | 3 | 2 |
| | | **TOTAL** | **18** | **3** | **6** | **25** |

**SEMESTER V**

| S.NO. | COURSE CODE | COURSE TITLE | L | T | P | C |
|---|---|---|---|---|---|---|
| **THEORY** | | | | | | |
| 1. | EE6502 | Microprocessors and Microcontrollers | 3 | 0 | 0 | 3 |
| 2. | IC6501 | Control Systems | 3 | 1 | 0 | 4 |
| 3. | EE6503 | Power Electronics | 3 | 0 | 0 | 3 |
| 4. | EI6501 | Analytical Instruments | 3 | 0 | 0 | 3 |
| 5. | EI6502 | Industrial Instrumentation – I | 3 | 0 | 0 | 3 |
| 6. | | Elective – I | 3 | 0 | 0 | 3 |
| **PRACTICAL** | | | | | | |
| 7. | EE6612 | Microprocessors and Microcontrollers Laboratory | 0 | 0 | 3 | 2 |
| 8. | EI6511 | Transducers and Measurements Laboratory | 0 | 0 | 3 | 2 |
| 9. | GE6674 | Communication and Soft Skills- Laboratory Based | 0 | 0 | 4 | 2 |
| | | **TOTAL** | **18** | **1** | **10** | **25** |

## SEMESTER VI

| S.NO. | COURSE CODE | COURSE TITLE | L | T | P | C |
|---|---|---|---|---|---|---|
| **THEORY** | | | | | | |
| 1. | EI6601 | Modern Electronic Instrumentation | 3 | 0 | 0 | 3 |
| 2. | EI6602 | Process Control | 3 | 1 | 0 | 4 |
| 3. | EI6603 | Industrial Instrumentation – II | 3 | 0 | 0 | 3 |
| 4. | EC6651 | Communication Engineering | 3 | 0 | 0 | 3 |
| 5. | EE6602 | Embedded Systems | 3 | 0 | 0 | 3 |
| 6. | | Elective –II | 3 | 0 | 0 | 3 |
| **PRACTICAL** | | | | | | |
| 7. | EI6611 | Industrial Instrumentation Laboratory | 0 | 0 | 3 | 2 |
| 8. | EI6612 | Process Control Laboratory | 0 | 0 | 3 | 2 |
| | | **TOTAL** | **18** | **1** | **6** | **23** |

## SEMESTER VII

| S.NO. | COURSE CODE | COURSE TITLE | L | T | P | C |
|---|---|---|---|---|---|---|
| **THEORY** | | | | | | |
| 1. | EI6701 | Industrial Data Networks | 3 | 0 | 0 | 3 |
| 2. | EI6702 | Logic and Distributed Control System | 3 | 0 | 0 | 3 |
| 3. | EC6601 | VLSI Design | 3 | 0 | 0 | 3 |
| 4. | EI6703 | Fibre Optics and Laser Instruments | 3 | 0 | 0 | 3 |
| 5. | EI6704 | Biomedical Instrumentation | 3 | 0 | 0 | 3 |
| 6. | | Elective – III | 3 | 0 | 0 | 3 |
| **PRACTICAL** | | | | | | |
| 7. | EC6612 | VLSI Design Laboratory | 0 | 0 | 3 | 2 |
| 8. | EI6711 | Instrumentation System Design Laboratory | 0 | 0 | 3 | 2 |
| 9. | EI6712 | Comprehension | 0 | 0 | 2 | 1 |
| | | **TOTAL** | **18** | **0** | **8** | **23** |

## SEMESTER VIII

| S.NO. | COURSE CODE | COURSE TITLE | L | T | P | C |
|---|---|---|---|---|---|---|
| **THEORY** | | | | | | |
| 1. | MG6851 | Principles of Management | 3 | 0 | 0 | 3 |
| 2. | EI6801 | Computer Control of Processes | 3 | 0 | 0 | 3 |
| 3. | | Elective – IV | 3 | 0 | 0 | 3 |
| **PRACTICAL** | | | | | | |
| 4. | EI6811 | Project Work | 0 | 0 | 12 | 6 |
| | | **TOTAL** | **9** | **0** | **12** | **15** |

**TOTAL CREDITS: 190**

**ELECTIVES - I**

| S.NO. | COURSE CODE | COURSE TITLE | L | T | P | C |
|---|---|---|---|---|---|---|
| 1. | CS6659 | Artificial Intelligence | 3 | 0 | 0 | 3 |
| 2. | CS6303 | Computer Architecture | 3 | 0 | 0 | 3 |
| 3. | CS6401 | Operating Systems | 3 | 0 | 0 | 3 |
| 4. | EI6001 | Data Structures and Algorithms | 3 | 0 | 0 | 3 |

**ELECTIVE – II**

| S.NO. | COURSE CODE | COURSE TITLE | L | T | P | C |
|---|---|---|---|---|---|---|
| 5. | EI6002 | Power Plant Instrumentation | 3 | 0 | 0 | 3 |
| 6. | EI6003 | Instrumentation in Petrochemical Industries | 3 | 0 | 0 | 3 |
| 7. | IT6005 | Digital Image Processing | 3 | 0 | 0 | 3 |
| 8. | IC6601 | Advanced Control System | 3 | 0 | 0 | 3 |
| 9. | EE6003 | Optimisation Techniques | 3 | 0 | 0 | 3 |

**ELECTIVE - III**

| S.NO. | COURSE CODE | COURSE TITLE | L | T | P | C |
|---|---|---|---|---|---|---|
| 10. | EE6007 | Micro Electro Mechanical Systems | 3 | 0 | 0 | 3 |
| 11. | EE6008 | Microcontroller Based System Design | 3 | 0 | 0 | 3 |
| 12. | EE6006 | Applied Soft Computing | 3 | 0 | 0 | 3 |
| 13. | IC6701 | Digital Control System | 3 | 0 | 0 | 3 |
| 14. | GE6081 | Fundamentals of Nanoscience | 3 | 0 | 0 | 3 |
| 15. | IC6002 | System Identification and Adaptive Control | 3 | 0 | 0 | 3 |
| 16. | GE6083 | Disaster Management | 3 | 0 | 0 | 3 |

**ELECTIVE - IV**

| S.NO. | COURSE CODE | COURSE TITLE | L | T | P | C |
|---|---|---|---|---|---|---|
| 17. | GE6757 | Total Quality Management | 3 | 0 | 0 | 3 |
| 18. | GE6075 | Professional Ethics in Engineering | 3 | 0 | 0 | 3 |
| 19. | IC6003 | Principles of Robotics | 3 | 0 | 0 | 3 |
| 20. | EC6002 | Advanced Digital Signal Processing | 3 | 0 | 0 | 3 |
| 21. | GE6084 | Human Rights | 3 | 0 | 0 | 3 |

# JAYA ENGINEERING COLLEGE-THIRUNINRAVUR
## Department of Electronics and Instrumentation Engineering

### III year / VI Sem Batch 2016- 2020 – Elective List

| S.No | Reg_No | Name | EI 6002 | EI 6003 | IT 6005 | IC 6601 | EE 6003 | Signature |
|---|---|---|---|---|---|---|---|---|
| 1 | 110816107002 | Gowri Priya.S | ✓ | | | | | |
| 2 | 110816107003 | Jayashree.N | ✓ | | | | | |
| 3 | 110816107004 | Karthik.S | ✓ | | | | | |
| 4 | 110816107005 | Kaviya Manjari.M | ✓ | | | | | |
| 5 | 110816107006 | Lokesh Kumar.K | ✓ | | | | | |
| 6 | 110816107007 | Mohammed Arslan | ✓ | | | | | |
| 7 | 110816107008 | Naveen.S | ✓ | | | | | |
| 8 | 110816107009 | Vedanayaki.V.G | ✓ | | | | | |
| 9 | 110816107010 | Vinoth Kumar.N | ✓ | | | | | |
| 10 | 110816107501 | Surati Survya Nishitha | ✓ | | | | | |

**Elective II**

| COURES CODE | COURSE TITLE |
|---|---|
| EI 6002 | Power Plant Instrumentation |
| EI6003 | Instrumentation In Petrochemical Industries |
| IT6005 | Digital Image Processing |
| IC6601 | Advanced Control System |
| EE6003 | Optimization Techniques |

**HOD /EIE**

Mrs. G. Kalarani, H.O.D.
Dept. of Electronics & Instrumentation
Jaya Engineering College,
Thiruninravur, Chennai-602 024.

**PRINCIPAL**

Dr. K.SAMIDURAI B.E. M.Tech., Ph.D., MISTE FIE, C.Eng(I)
PRINCIPAL
JAYA ENGINEERING COLLEGE
THIRUNINRAVUR CHENNAI - 602 024