# COs (2022-23)

## 3rd SEM

| S. No. | Paper Code | Paper/COs |
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| | **ES-201** | **Computational Methods** |
| | ES-201.1 | Ability to develop mathematical models of low level engineering problems. |
| | ES-201.2 | Ability to apply interpolation methods and numerical integration. |
| | ES-201.3 | Ability to solve simultaneous linear equations and curve fitting by splines. |
| **1** | ES-201.4 | Ability to numerically solve ordinary differential equations that are initial value or boundary value problems . |
| | **HS-203** | **Indian Knowledge System** |
| | HS-203.1 | Ability to understand the Indian knowledge System. |
| | HS-203.2 | Ability to understand and apply foundational concepts for science and technology. |
| | HS-203.3 | Ability to understand and apply ancient Indian mathematics and astronomy. |
| **2** | HS-203.4 | Ability to understand ancient Indian engineering and technology. |
| | **ECC-205** | **Signal and system** |
| | ECC-205.1 | Ability to understand about various types of signals and systems, classify them, analyze them, and perform various operations on them. |
| | ECC-205.2 | Ability to understand use of transforms in analysis of signals and system. |
| | ECC-205.3 | Ability to carry out simulation on signals and systems for observing effects of applying various properties and operations |
| **3** | ECC-205.4 | Ability to create strong foundation of communication and signal processing to be studied in the subsequently. |
| | **EEC-209** | **Electrical Materials** |
| | EEC-209.1 | Ability to understand properties and applications of conducting materials. |
| | EEC-209.2 | Ability to understand properties and applications of insulating materials. |
| | EEC-209.3 | Ability to understand properties and applications of magnetic materials. |
| **4** | EEC-209.4 | Ability to understand properties and applications of special materials. |
| | **EEC-211** | **Electrical Machine-1** |
| | CIC-211 .1 | Ability to understand the magnetic circuit and working of EMEC devices. |
| | CIC-211 .2 | Ability to understand the working and applications of DC motors. |
| | CIC-211 .3 | Ability to analyse of single phase transformer and solution of numerical problems. |
| **5** | CIC-211 .4 | Ability to analyse of three phase transformer and solution of numerical problems. |

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| | **ECC-213** | **Electromagnetic Field Theory** |
| | ES-251.1 | Ability to understand the basic laws of electrostatics. |
| | ES-251.2 | To understand the basic laws of electromagnetics. |
| | ES-251.3 | Ability to provide solution of real life plan wave problems for various boundary conditions. |
| **6** | ES-251.4 | To understand the characteristics and impudence transformation on high frequency transmission lines |
| | **ECC-215** | **Electronics-I** |
| | ECC-215.1 | The students are able to understand the working of various diodes. |
| | ECC-215.2 | The students are able to understand the working of transistor and their applications. |
| | ECC-215.3 | The students are able to understand the function of logic gates and design of combinational logic circuis |
| **7** | ECC-215.4 | The students are able to understand the function and design of sequential logic circuits. |
| | **ES-251** | **Computational Method Lab** |
| | ECC-251.1 | Ability to develop mathematical models of low level engineering problems. |
| | ECC-251.2 | Ability to apply interpolation methods and numerical integration. |
| | ECC-251.3 | Ability to solve simultaneous linear equations and curve fitting by splines. |
| **8** | ECC-251.4 | Ability to numerically solve ordinary differential equations that are initial value or boundary value problems . |
| | **EEC-257** | **Electrical Machines-I Lab** |
| | ECC-257.1 | Ability to understand the magnetic circuit and working of EMEC devices. |
| | ECC-257.2 | Ability to understand the working and applications of DC motors. |
| | ECC-257.3 | Ability to analyse of single phase transformer and solution of numerical problems. |
| **9** | ECC-257.4 | Ability to analyse of three phase transformer and solution of numerical problems. |
| | **EEC-259** | **Electrical Engineering Workshop** |
| | EEC-259.1 | o Impart the knowledge components and design of DC power supply. |
| | EEC-259.2 | To Impart the knowledge of components and accessories used in electrical installations. |
| | EEC-259.3 | To Impart the knowledge of various illumination devices. |
| **10** | EEC-259.4 | To Impart the knowledge of fabrication of transformer and its testing. |
| | **ECC-261** | **Electronic-I Lab** |
| | CIC-257.1 | The students are able to understand the working of various diodes. |
| | CIC-257.2 | The students are able to understand the working of transistor and their applications. |
| | CIC-257.3 | The students are able to understand the function of logic gates and design of combinational logic circuis |
| **11** | CIC-257.4 | The students are able to understand the function and design of sequential logic circuits. |

| 4th SEM | | |
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| | **BS-202** | **Probability, Statistics and Linear Programming** |
| | BS-202.1 | Ability to solve probability problems and describe probability distributions. |
| | BS-202.2 | Ability to describe and summarize data. |
| | BS-202.3 | Ability to use test for hypothesis. |
| **12** | BS-202.4 | Ability to formulate and solve linear programming problems. |
| | **HS-204** | **Technical Writing** |
| | HS-204.1 | Ability to improve grammar and sentence structure and build vocabulary. |
| | HS-204.2 | Ability to write different types of writings with clarity. |
| | HS-204.3 | Ability to write different types of business documents. |
| **13** | HS-204.4 | Ability to apply business ethics and enhance personality. |
| | **EEC-206** | **Network nalysis and synthesis** |
| | EEC-206 .1 | Ability to determine function from waveform. |
| | EEC-206 .2 | Ability to determine transient respond of circuit. |
| | EEC-206 .3 | Ability to determine two port parameter of circuit. |
| **14** | EEC-206 .4 | Ability to realize the circuit from their transfer function. |
| | **EEC-210** | **Electrical Machines-II** |
| | EEC-210.1 | Ability to analyse the synchronous generator. |
| | EEC-210.2 | Ability to analyse ofthree phase induction motor |
| | EEC-210.3 | Ability to analyse ofsynchronous motor. |
| **15** | EEC-210.4 | Ability to analyse ofsingle phase motor. |
| | **EEC-212** | **Power System-1** |
| | EEC-212.1 | Ability to calculate the transmission line parameters. |
| | EEC-212.2 | Ability to analyse performance of transmission line. |
| | EEC-212.3 | Ability to understand working of cables. |
| **16** | EEC-212.4 | Ability to solve load flow in power system. |
| | **ECC-218** | **Electronics-II** |
| | ECC-218.1 | Ability to solve problems related to amplifier circuits. |
| | ECC-218.2 | Ability to apply the amplifiers circuits in real world. |
| | ECC-218.3 | Ability to analyse various operational amplifier circuits. |
| **17** | ECC-218.4 | Ability to understand the function of various waveform generators. |

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| | **BS-252** | **Probability, Statistics and Linear Programming Lab** |
| | BS-252 .1 | Ability to solve probability problems and describe probability distributions. |
| | BS-252 .2 | Ability to describe and summarize data. |
| | BS-252 .3 | Ability to use test for hypothesis. |
| **18** | BS-252 .4 | Ability to formulate and solve linear programming problems. |
| | **EEC-256** | **Electrical Machine-II Lab** |
| | EEC-256.1 | Ability to analyse the synchronous generator. |
| | EEC-256.2 | Ability to analyse ofthree phase induction motor |
| | EEC-256.3 | Ability to analyse ofsynchronous motor. |
| **19** | EEC-256.4 | Ability to analyse ofsingle phase motor. |
| | **EEC-260** | **Power System-1 Lab** |
| | EEC-260.1 | Ability to calculate the transmission line parameters. |
| | EEC-260.2 | Ability to analyse performance of transmission line. |
| | EEC-260.3 | Ability to understand working of cables. |
| **20** | EEC-260.4 | Ability to solve load flow in power system. |
| | **EEC-262** | **Network nalysis and synthesis Lab** |
| | EEC-262.1 | Ability to determine function from waveform. |
| | EEC-262.2 | Ability to determine transient respond of circuit. |
| | EEC-262.3 | Ability to determine two port parameter of circuit. |
| **21** | EEC-262.4 | Ability to realize the circuit from their transfer function. |
| | **EEC-264** | **Electronics-II Lab** |
| | EEC-264.1 | Ability to solve problems related to amplifier circuits. |
| | EEC-264.2 | Ability to apply the amplifiers circuits in real world. |
| | EEC-264.3 | Ability to analyse various operational amplifier circuits. |
| 22 | EEC-264.4 | Ability to understand the function of various waveform generators. |