H.K.E. Society's Sir M. Visvesvaraya College of Engineering

UG Course Outcomes for 2023-24 Courses	
Department of Electronics & Communication and Engineering	
Table 1: Course Outcomes	
Class	**Electronics & Communication Engineering**
Semester	**VII**
Course Name	**Computer Networks**
Course Code	**18EC71**
Course Outcome #	**Course Outcome**
CO1	Understand the concept of networking.
CO2	Describe the various networking architectures.
CO3	Identify the protocols and services of different layers.
CO4	Distinguish the basic network configurations and standards associated with each network.
CO5	Analyze a simple network and measure its parameters.
Table 1: Course Outcomes	
Class	**Electronics & Communication Engineering**
Semester	**VII**
Course Name	**VLSI Design**
Course Code	**18EC72**
Course Outcome #	**Course Outcome**
CO1	Demonstrate understanding of MOS transistor theory, CMOS fabrication flow and technology scaling.
CO2	Draw the basic gates using the stick and layout diagrams with the knowledge of physical design aspects.
CO3	Demonstrate the ability to design combinational, sequential and dynamic logic circuits as per the requirements.
CO4	Interpret memory elements along with timing consideration.
CO5	Interpret testing and testability issues in VLSI design.
Table 1: Course Outcomes	
Class	**Electronics & Communication Engineering**
Semester	**VII**
Course Name	**Digital Image Processing**
Course Code	**18EC733**
Course Outcome #	**Course Outcome**
CO1	Describe the fundamentals of digital image processing.
CO2	Understand image formation and the role human visual system plays in perception of Gray and color image data.
CO3	Apply image processing techniques in both these spatial and frequency(Fouruer) domains.
CO4	Design and evaluate image analysis techniques.

CO5	Conduct independent study and analysis of image enhancement and restoration techniques.
Table 1: Course Outcomes	
Class	**Electronics & Communication Engineering**
Semester	**VII**
Course Name	**IoT Wireless Sensor Networks**
Course Code	**18EC741**
Course Outcome #	**Course Outcome**
CO1	Understand choice and application of IoT & M2M communication protocols.
CO2	Describe Cloud computing and desgin principles of IoT.
CO3	Relate to MQTT server and its programming.
CO4	Describe the architectures and its communication portocols of WSNs.
CO5	Identify the uplink and downlink communication protocols associated with specific application of IoT/WSNs.
Table 1: Course Outcomes	
Class	**Electronics & Communication Engineering**
Semester	**VII**
Course Name	**Computer Networks LAB**
Course Code	**18ECL76**
Course Outcome #	**Course Outcome**
CO1	Choose suitable tools to model in network.
CO2	Use the network simulator for learning and practice of networking algorithms.
CO3	Illustrate the operations of network protocols and algorithms using C programming.
CO4	Simulate the network with different configurations to measure the performance parameters.
CO5	Implement the data link and routing protocols using C programming.
Table 1: Course Outcomes	
Class	**Electronics & Communication Engineering**
Semester	**VII**
Course Name	**VLSI LAB**
Course Code	**18ECL77**
Course Outcome #	**Course Outcome**
CO1	Design and simulate combinational and sequential digital circuits using Verilog HDL.
CO2	Understand the synthesis process of digital circuits using EDA tool.
CO3	Perform ASIC design flow and understand the process of synthesis, synthesis constraints and evaluating the synthesis reports to obtain optimum gate level netlist.

CO4	Design and simulate basic CMOS circuits like inverter, common source amplifier and differential amplifiers.
CO5	Perform RTL-GDSII flow and understand the stages in ASIC design.
Table 1: Course Outcomes	
Class	**Electronics & Communication Engineering**
Semester	**VIII**
Course Name	**Wireless and Cellular Communication**
Course Code	**18EC81**
Course Outcome #	**Course Outcome**
CO1	Understand the communication theory both physical and networking associated with GSM, CDMA and LTE 4G systems.
CO2	Explain concepts of propagation mechanisms like reflection, diffraction, scattering in wireless channels.
CO3	Develop a scheme for ideal mode, call set up, call progress handling and call tear down in GSM cellular network.
CO4	Develop a scheme for ideal mode, call setup, call progress handling and call teardown in a CDMA cellular network.
CO5	Understand the Basic operations of Air interface in a LTE 4G system.
Table 1: Course Outcomes	
Class	**Electronics & Communication Engineering**
Semester	**VIII**
Course Name	**Radar Engineering**
Course Code	**18EC823**
Course Outcome #	**Course Outcome**
CO1	Describe the radar fundamentals.
CO2	Analyze the radar signals.
CO3	Explain the working principle of pulse doppler radars, their applications and limitations.
CO4	Describe the working of various radar transmitter and recceivers.
CO5	Analyze the range parameters of pulse radar system which affect the system performance.
Table 1: Course Outcomes	
Class	**Electronics & Communication Engineering**
Semester	**I**
Course Name	**Mathematics-I for EES**
Course Code	**BMATE101**
Course Outcome #	**Course Outcome**
CO1	apply the knowledge of calculus to solve problems related to polar curves and learn the notion of partial differentiation to compute rate of change of multivariate functions
CO2	analyze the solution of linear and nonlinear ordinary differential equations

CO3	apply the concept of change of order of integration and variables to evaluate multiple integrals and their usage in computing area and volume
CO4	make use of matrix theory for solving the system of linear equations and compute eigenvalues and eigenvectors
CO5	familiarize with modern mathematical tools namely MATHEMATICA/ MATLAB/ PYTHON/SCILAB
Table 1: Course Outcomes	
Class	**Electronics & Communication Engineering**
Semester	**I**
Course Name	**Chemistry for EES**
Course Code	**BCHEE102**
Course Outcome #	**Course Outcome**
CO1	Identify the terms processes involved in scientific and engineering and applications.
CO2	Explain the phenomena of chemistry to describe the methods of engineering processes
CO3	Solve the problems in chemistry that are pertaining in engineering applications.
CO4	Apply the basic concepts of chemistry to explain the chemical properties and processes.
CO5	Analyze properties and multi processes associated with chemical substances in discilpinary situations.
Table 1: Course Outcomes	
Class	**Electronics & Communication Engineering**
Semester	**I**
Course Name	**Computer-Aided Engineering Drawing**
Course Code	**BCEDK103**
Course Outcome #	**Course Outcome**
CO1	Drawand communicate the objects with definite shape and dimensions
CO2	Recognize andDraw the shape and size of objects through different views
CO3	Develop the lateral surfaces of the object
CO4	Create a Drawing views using CAD software.
CO5	Identify the interdisciplinary engineering components or systems through its graphical representation.
Table 1: Course Outcomes	
Class	**Electronics & Communication Engineering**
Semester	**I**
Course Name	**Introduction toC Programming**
Course Code	**BESCK104E**
Course Outcome #	**Course Outcome**

CO1	Elucidate the basic architecture and functionalities of a computer and also recognize the hardware parts.
CO2	Apply programming constructs of C language to solve the real world problem
CO3	Explore user-defined data structures like arrays in implementing solutions to problems like searching and sorting
CO4	Explore user-defined data structures like structures, unions and pointers in implementing solutions
CO5	Design and Develop Solutions to problems using modular programming constructs using functions
Table 1: Course Outcomes	
Class	**Electronics & Communication Engineering**
Semester	**I**
Course Name	**Introduction to Internet of Things (IOT)**
Course Code	**BETCK105H**
Course Outcome #	**Course Outcome**
CO1	Describe the evolution of IoT, IoT networking components, and addressing strategies in IoT.
CO2	Classify various sensing devices and actuator types.
CO3	Demonstrate the processing in IoT
CO4	Explain Associated IOT Technologoes
CO5	Illustrate architecture of IOT Applications
Table 1: Course Outcomes	
Class	**Electronics & Communication Engineering**
Semester	**I**
Course Name	**Communicative English**
Course Code	**BENGK106**
Course Outcome #	**Course Outcome**
CO1	Understand and apply the Fundamentals of Communication Skills in their communication skills.
CO2	Identify the nuances of phonetics, intonation and enhance pronunciation skills.
CO3	To impart basic English grammar and essentials of language skills as per present requirement.
CO4	Understand and use all types of English vocabulary and language proficiency.
CO5	Adopt the Techniques of Information Transfer through presentation.
Table 1: Course Outcomes	
Class	**Electronics & Communication Engineering**
Semester	**I**
Course Name	**Indian Constitution**
Course Code	**BICOK107**

Course Outcome #	Course Outcome
CO1	Analyse the basic structure of Indian Constitution.
CO2	Remember their Fundamental Rights, DPSP's and Fundamental Duties (FD's) of our constitution.
CO3	know about our Union Government, political structure & codes, procedures.
CO4	Understand our State Executive & Elections system of India.
CO5	Remember the Amendments and Emergency Provisions, other important provisions given by the constitution.
Table 1: Course Outcomes	
Class	**Electronics & Communication Engineering**
Semester	**I**
Course Name	**Scientific Foundations of Health**
Course Code	**BSFHK158**
Course Outcome #	**Course Outcome**
CO1	To understand and analyse about Health and wellness (and its Beliefs) & It's balance for positive mindset.
CO2	Develop the healthy lifestyles for good health for their better future.
CO3	Build a Healthy and caring relationships to meet the requirements of good/social/positive life.
CO4	To learn about Avoiding risks and harmful habits in their campus and outside the campus for their bright future.
CO5	Prevent and fight against harmful diseases for good health through positive mindset.
Table 1: Course Outcomes	
Class	**Electronics & Communication Engineering**
Semester	**II**
Course Name	**Mathematics-II for EES**
Course Code	**BMATE201**
Course Outcome #	**Course Outcome**
CO1	Understand the applications of vector calculus refer to solenoidal, irrotational vectors, lineintegral and surface integral.
CO2	Demonstrate the idea of Linear dependence and independence of sets in the vector space, and linear transformation
CO3	To understand the concept of Laplace transform and to solve initial value problems.
CO4	Apply the knowledge of numerical methods in solving physical and engineering phenomena.
CO5	Get familiarize with modern mathematical tools namely MATHEMATICA/MATLAB/PYTHON/ SCILAB
Table 1: Course Outcomes	
Class	**Electronics & Communication Engineering**
Semester	**II**

Course Name	Applied Physics for EES
Course Code	BPHYE202
Course Outcome #	Course Outcome
CO1	Describe the fundamental principles of the Quantum Mechanics and the essentials of Photonics.
CO2	Elucidate the concepts of conductors, dielectrics and superconductivity
CO3	Discuss the fundamentals of vector calculus and their applications in Maxwell's Equations and EM Wave
CO4	Summarize the properties of semiconductors and the working principles of semiconductor devices.
CO5	Practice working in groups to conduct experiments in physics and Perform precise and honest measurements.
Table 1: Course Outcomes	
Class	Electronics & Communication Engineering
Semester	II
Course Name	Basic Electronics
Course Code	BBEE203
Course Outcome #	Course Outcome
CO1	Develop the basic knowledge on construction, operation and characteristics of semiconductor devices.(Level: C3)
CO2	Apply the acquired knowledge to construct small scale circuits consisting of semiconductor devices (Level: C3)
CO3	Develop competence knowledge to constructbasic digital circuitby make use of basic gate and its function.(Level: C3)
CO4	Construct the conceptual blocks for basic communication system. (Level: C3)
CO5	Apply the knowledge of various transducers principle in sensor system. (Level: C3)
Table 1: Course Outcomes	
Class	Electronics & Communication Engineering
Semester	II
Course Name	Introduction to Electrical Engineering
Course Code	BESCK204B
Course Outcome #	Course Outcome
CO1	Understand the concepts of various energy sources and Electric circuits.
CO2	Apply the basic Electrical laws to solve circuits.
CO3	Discuss the construction and operation of various Electrical Machines.
CO4	Identify suitable Electrical machine for practical implementation.

CO5	Explain the concepts of electric power transmission and distribution, electricity billing, circuit protective devices and personal safety measures.
Table 1: Course Outcomes	
Class	**Electronics & Communication Engineering**
Semester	**II**
Course Name	**Introduction to Python Programming**
Course Code	**BPLCK205B**
Course Outcome #	**Course Outcome**
CO1	Demonstrate proficiency in handling loops and creation of functions.
CO2	Identify the methods to create and manipulate lists, tuples and dictionaries.
CO3	Develop programs for string processing and file organization
CO4	Interpret the concepts of Object-Oriented Programming as used in Python.
Table 1: Course Outcomes	
Class	**Electronics & Communication Engineering**
Semester	**II**
Course Name	**Professional Writing Skills in English**
Course Code	**BPWSK206**
Course Outcome #	**Course Outcome**
CO1	To understand and identify the Common Errors in Writing and Speaking.
CO2	To Achieve better Technical writing and Presentation skills.
CO3	To read Technical proposals properly and make them to Write good technical reports.
CO4	Acquire Employment and Workplace communication skills.
CO5	To learn about Techniques of Information Transfer through presentation in different level.
Table 1: Course Outcomes	
Class	**Electronics & Communication Engineering**
Semester	**II**
Course Name	**Samskrutika Kannada/ Balake Kannada**
Course Code	**BKSKK207/ BKBKK207**
Course Outcome #	**Course Outcome**
CO1	Awareness about Kannada language, literature and Kannada culture will be developed
CO2	Pre-modern and modern poetry, which is a major part of Kannada literature, is symbolically learned and inspired for further reading and knowledge.
CO3	increase awareness and interest in literature and culture among students.

CO4	the curiosity to know about other people of the country increases by knowing the introduction of technical persons and their achivements.
CO5	to introduce cultural, folk and travel stories.
Table 1: Course Outcomes	
Class	**Electronics & Communication Engineering**
Semester	**II**
Course Name	**Innovation and Design Thinking**
Course Code	**BIDTK258**
Course Outcome #	**Course Outcome**
CO1	Appreciate various design process procedure
CO2	Generate and develop design ideas through different technique
CO3	Identify the significance of reverse Engineering to Understand products
CO4	Draw technical drawing for design ideas