School of Engineering

Department of Electronics & Communication Engineering

(B. Tech-Electronics & Communication Engineering)

Department Vision:

To be a center of excellence in Electronics & Communication Engineering by delivering quality education, fostering innovative research, and promoting industry and community engagement to develop competent, ethical, and socially responsible professionals who contribute to regional, national, and global technological advancement.

Department Mission:

Mission 1: To provide a dynamic and inclusive learning environment that imparts strong theoretical knowledge, practical skills, and multidisciplinary competencies in Electronics, Communication, VLSI Design and Embedded Systems through outcome-based education.

Mission 2: To foster innovation, research, entrepreneurship, and lifelong learning by promoting collaborative research, industry interaction, and the development of sustainable technological solutions addressing societal and industrial needs.

Mission 3: To nurture ethical values, leadership qualities, professional responsibility, and effective communication skills, enabling graduates to excel in higher education, research, and global engineering careers while serving society.

Programme Educational Objectives (PEOs):

PEO1: Graduates will establish successful careers in Electronics & Communication Engineering and related interdisciplinary fields by applying their technical knowledge and professional skills.

PEO2: Graduates will analyze, design, develop, and implement innovative hardware and software solutions using modern tools and technologies to address industrial and societal challenges.

PEO3: Graduates will demonstrate lifelong learning, ethical and professional responsibility, leadership, and effective communication skills while pursuing higher education, research, entrepreneurship, or professional advancement.

Programme Outcomes (POs):

PO	Statement
PO1:	Apply knowledge of Mathematics, Natural Science, Computing, Engineering fundamentals and an Engineering Specialization as specified in **WK1 to WK4** respectively to develop to the solution of **complex engineering problems.**
PO2:	Identify, Formulate, Review research literature and analyze ***complex engineering problems*** reaching substantiated conclusions with consideration for ***sustainable development***. (**WK1 to WK4**)
PO3:	Design creative solutions for ***complex engineering problems*** and design/develop systems/components/processes to meet identified needs with consideration for the **public health and safety, whole-life cost, net zero carbon, culture, society and environment** as required. **(WK5)**
PO4:	Conduct investigations of ***complex engineering problems*** using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions. **(WK8).**
PO5:	Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve ***complex engineering problems***. **(WK2 and WK6)**
PO6:	Analyze and evaluate societal and environmental aspects while solving ***complex engineering problems*** for its **impact on Sustainability** with reference to economy, health, safety, legal framework, culture and environment. **(WK1, WK5, and WK7)**.
PO7:	Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to National & International laws. **(WK9)**
PO8:	Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.
PO9:	Communicate effectively and inclusively within the Engineering Community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences
PO10:	Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.
PO11:	Recognize the need for, and have the preparation and ability for i) Independent and life-long learning ii) Adaptability to new and emerging technologies and iii) Critical thinking in the broadest context of technological change. **(WK8)**

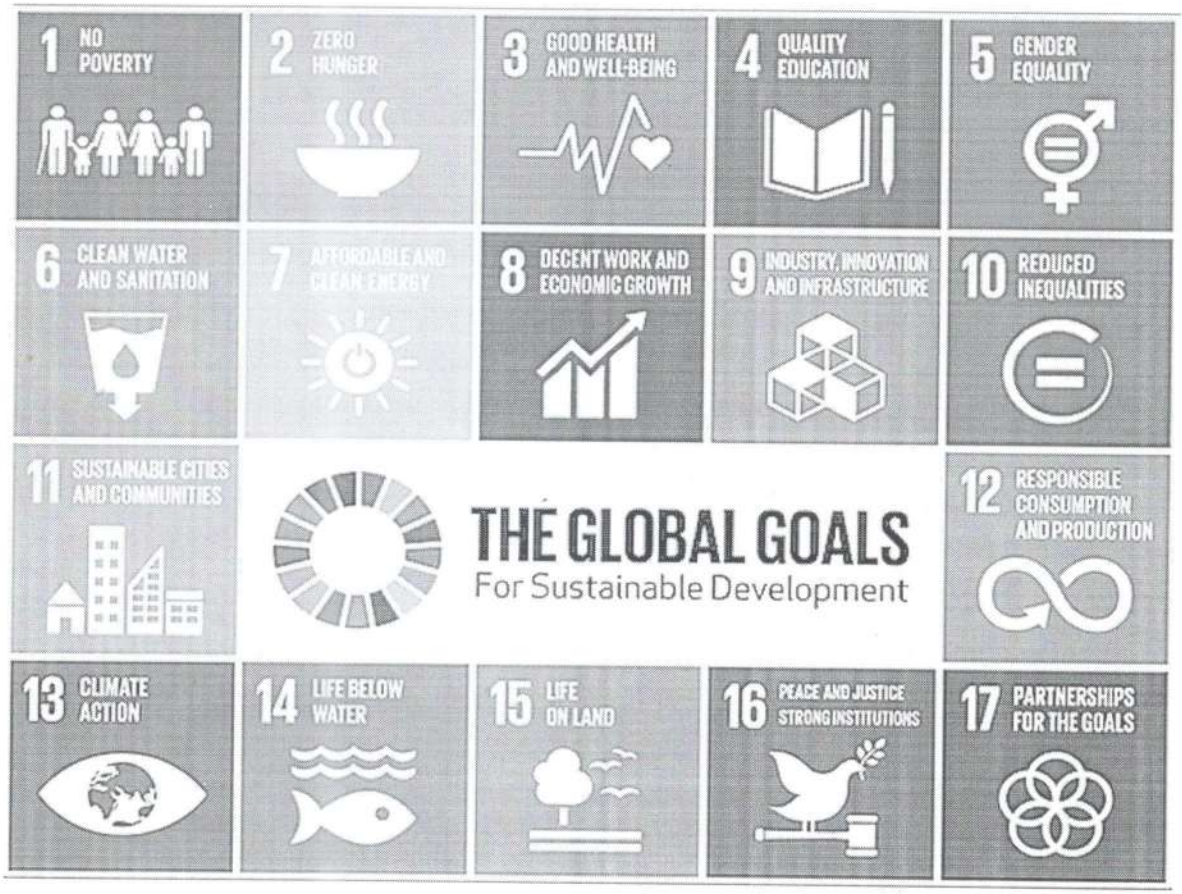
Knowledge and Attitude Profile (WK)

A Washington Accord program provides:

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WK1: A systematic, theory-based understanding of the **natural sciences** applicable to the discipline and awareness of relevant **social sciences**
WK2: Conceptually-based **mathematics**, numerical analysis, data analysis, statistics and formal aspects of computer and information science to support detailed analysis and modelling applicable to the discipline
WK3: A systematic, theory-based formulation of **engineering fundamentals** required in the engineering discipline
WK4: Engineering **specialist knowledge** that provides theoretical frameworks and bodies of knowledge for the accepted practice areas in the engineering discipline; much is at the forefront of the discipline.
WK5: Knowledge, including efficient resource use, environmental impacts, whole-life cost, re-use of resources, net zero carbon, and similar concepts, that supports **engineering design and operations** in a practice area
WK6: Knowledge of **engineering practice** (technology) in the practice areas in the engineering discipline
WK7: Knowledge of the role of engineering in society and identified issues in engineering practice in the discipline, such as the professional responsibility of an engineer to public safety and **sustainable development***
WK8: Engagement with selected knowledge in the current **research literature** of the discipline, awareness of the power of critical thinking and creative approaches to evaluate emerging issues
WK9: Ethics, inclusive behavior and conduct. Knowledge of professional ethics, responsibilities, and norms of engineering practice. Awareness of the need for diversity by reason of ethnicity, gender, age, physical ability etc. with mutual understanding and respect, and of inclusive attitudes

* *Represented by the 17 UN Sustainable Development Goals (UN-SDG) : https://sdgs.un.org/goals*

Sustainable Development Goals:



Program Specific Outcomes (PSOs):

PSO1: Design, analyze, and implement electronic and communication systems using the fundamental principles of Electronics and Communication Engineering.

PSO2: Apply VLSI Design, Embedded Systems, IoT, and modern design tools to develop innovative solutions for industrial and societal applications.

PSO3: Analyze and develop intelligent hardware and software solutions in communication, signal processing, and semiconductor technologies using modern engineering practices and lifelong learning.

Head of Department

(Signature & Seal)

Head of the Department
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