

Graduate Attribute Profiles (GA) References included are to the Knowledge and Attitude Profile		Program Outcomes (PO) (As per National Board of Accreditation (NBA))
Differentiating Characteristic	Engineer Graduate	Engineer Graduate
Engineering Knowledge: Breadth, depth and type of knowledge, both theoretical and practical	WA1: Apply knowledge of mathematics, natural science, computing and engineering fundamentals, and an engineering specialization as specified in WK1 to WK4 respectively to develop solutions to complex engineering problems	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 .
Problem Analysis Complexity of analysis	WA2: Identify, formulate, research literature and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences with holistic considerations for sustainable development* (WK1 to WK4)	PO2: Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development . (WK1 to WK4)
Design/development of solutions: Breadth and uniqueness of engineering problems i.e., the extent to which problems are original and to which solutions have not previously been identified or codified	WA3: Design creative solutions for complex engineering problems and design systems, components or processes to meet identified needs with appropriate consideration for public health and safety, whole-life cost, net zero carbon as well as resource, cultural, societal, and environmental considerations as required (WK5)	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)
Investigation: Breadth and depth of investigation and experimentation	WA4: Conduct investigations of complex engineering problems using research methods including research- based knowledge, design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions (WK8)	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).
Tool Usage: Level of understanding of the appropriateness of technologies and tools	WA5: Create, select and apply, and recognize limitations of appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex engineering problems (WK2 and WK6)	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)
The Engineer and the World: Level of knowledge and responsibility for sustainable development	WA6: When solving complex engineering problems , analyze and evaluate sustainable development impacts* to: society, the economy, sustainability, health and safety, legal frameworks, and the environment (WK1, WK5, and WK7)	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).
Ethics: Understanding and level of practice	WA7: Apply ethical principles and commit to professional ethics and norms of engineering practice and adhere to relevant national and international laws. Demonstrate an understanding of the need for diversity and inclusion (WK9)	PO7: Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws. (WK9)
Individual and Collaborative Team work: Role in and diversity of team	WA8: Function effectively as an individual, and as a member or leader in diverse and inclusive teams and in multi-disciplinary, face-to-face, remote and distributed settings (WK9)	PO8: Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.

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Communication: Level of communication according to type of activities performed	WA9: Communicate effectively and inclusively on <i>complex engineering activities</i> with the <i>engineering community</i> and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, taking into account cultural, language, and learning differences.	PO9: Communicate effectively and inclusively within the <i>engineering community</i> 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
Project Management and Finance: Level of management required for differing types of activity	WA10: 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.	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.
Lifelong learning: Duration and manner	WA11: 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)	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)

***Represented by the 17 UN Sustainable Development Goals (UN-SDG)**

Note :

SDGs are mandatory for PO2, PO6, and WK7. They may also be included in PO3, WK5, and WP2 (good to have).