PROFESSIONAL ENGINEER

Summary Statement

Competency Element	A brief summary of how you have applied the element	Paragraph number in the career episode(s) where the element is addressed
PE1 KNOWLEDGE AND SKILL BASE		
PE1.1 Comprehensive, theory-based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline	I used my mechanical engineering knowledge and application of engineering calculation to provide verified designs that would meet the client requirements. I evaluated my design functionalities through engineering simulation software.	CE1.9, CE2.9, CE3.8
	I used my knowledge of engineering modelling techniques to determine the required input parameters and used pertinent engineering formulas to finalize my designs.	CE1.19, CE2.15, CE3.9
PE1.2 Conceptual understanding of the mathematics, numerical analysis, statistics and computer and information sciences which underpin the engineering discipline	I designed, verified and analysed my projects using STAAD Pro, SAP 2000, ETABS and IdeaStatica software used by Mechanical Engineers.	CE1.20, CE2.22, CE3.15
	I used software to simulate multiple scenarios to design the correct stress distribution to find the parameters required to determine loading requirements and correct/optimal loading plan	CE1.22, CE2.21, CE3.18
PE1.3 In-depth understanding of specialist bodies of knowledge within the engineering discipline	I analysed the structural validity of steel structure, and constituted appropriate interventions to ensure that structure would conform to the client requirements.	CE1.10, CE2.19, CE3.17
	I resolved issues and technical problems that I faced with in the projects by introducing innovative resolutions or implementing modifications in the existing designs to ensure required compliance	CE1.18, CE2.24, CE3.18, CE3.19
PE1.4 Discernment of knowledge development and research directions within the engineering discipline	I researched engineering forums, read speciality engineering publications and browsed through engineering sites and blogs to learn about the latest techniques applicable to my projects	CE1.36, CE2.29, CE3.26
	I enhanced my knowledge in my field by participating in several training programs.	CE1.29, CE1.30, CE2.28, CE3.25
PE1.5 Knowledge of engineering design practice and contextual factors impacting the Engineering discipline.	I made sure that the necessary safety precautions were done, I ensured that safety instructions to all hires was given and that safety inspections were conducted before commencement of work	CE1.32, CE2.31, CE3.28
	I ensured that work in progress conformed to quality and safety standards. I made sure that the projects were compliant with the industrial HSE regulations and standards.	CE1.33, CE2.36, CE3.30
PE1.6 Understanding of the scope, principles, norms, accountabilities and bounds of contemporary engineering practice in the specific discipline	I followed best engineering practices, performed my work to the best of my abilities, and come with solutions conforming to the engineering standards.	CE1.31, CE2.30, CE2.32, CE3.26, CE3.27
	I ensured following the industry-specific codes for safety and quality. I was fully committed to safety and ensured that the projects were in full compliance with the company's HSE regulations.	CE1.28, CE2.29, CE2.32, CE2.34, CE3.25
PE2 ENGINEERING APPLICATION ABILITY		

PE2.1 Application of established engineering methods to complex engineering problem solving	I was able to use my in-depth engineering knowledge to propose alternate solutions and improvements in the designs.	CE1.10, CE1.11, CE2.22, CE3.16
	I investigated problems using engineering simulations based on the fundamental engineering principles	CE1.21, CE1.22, CE2.9, CE3.15
	I modelled my solutions using advanced engineering software and tested multiple feasible solutions to come up with substantiated solutions.	CE1.19, CE2.15, CE2.19, CE3.18
PE2.2 Fluent application of engineering techniques, tools and resources	I utilized the available resources for the projects. I used my my proficiency in performing complex engineering calculations to find viable solutions.	CE1.11, CE1.23, CE2.17, CE3.12
	I used a variety of tools and software applications like STAAD Pro, SAP2000, Prokon, IDEASStatica, SMath and ETABS software for estimation and design validation.	CE1.26, CE1.27, CE2.22, CE3.18
	I applied experimental procedures to help ensure engineering material compliance within the required thresholds and applicable standards; I developed Engineered Solution.	CE1.9, CE1.10, CE2.21, CE3.22, CE3.32
PE2.3 Application of systematic engineering synthesis and design processes	I designed effective solution that ensured implementation of the user requirements.	CE1.16, CE1.24, CE2.24, CE3.26
	I did relevant calculations to ensure structural integrity when stresses and loads were applied.	CE1.11, CE1.23, CE2.7, CE2.17, CE3.12
	I modelled multiple design parameters to find the optimum solution that best fit within the project constraints and design requirements.	CE1.20, CE1.26, CE2.19, CE2.20
PE2.4 Application of systematic approaches to the conduct and management of engineering projects	I worked as a team lead supervising subcontractors and liaising with other team members. I conducted regular meetings with relevant managers to coordinate activities to keep project on schedule.	CE1.33, CE1.34, CE2.27, CE3.29
	I helped manage the projects to the required completion. I managed project schedules and helped in reducing completion time	CE1.28, CE1.38, CE2.33, CE2.34
	I efficiently utilized all the resources tackled obstacles and adhered to procedures regarding safety and quality.	CE1.33, CE1.35, CE3.29, CE3.32
PE3 PROFESSIONAL AND PERSONAL ATTRIBUTES		
PE3.1 Ethical conduct and professional accountability	I demonstrated my commitment by performing my duties and obligations with full dedication. I ensured due diligence in compliance with engineering standards, training and risk management	CE1.4, CE1.28, CE1.31, CE2.30, CE2.32, CE3.26, CE3.27
	I encouraged team spirit and ensured equitable work distribution. I efficiently utilized all the resources and adhered to procedures regarding safety and quality.	CE1.33, CE1.35, CE2.34, CE3.30
PE3.2 Effective oral and written communication in professional and lay domains	I engaged with my team regularly, provided periodic reporting and I am proficient in oral and written communication.	CE1.34, CE1.35, CE2.34, CE3.29, CE3.30

	I prepared various periodic and ad hoc reports for management and stakeholders. I also gave presentations to client and management to keep them updated of the progress	CE1.37, CE2.35, CE2.36, CE3.33
PE3.3 Creative innovative and proactive demeanor	Using a proactive approach, I developed innovative solutions and interventions. I discussed key takeaways with stakeholders. I integrated new techniques in the project and identified new technological opportunities to develop innovative and cost-effective solutions.	CE1.18, CE2.9, CE3.8 CE1.9, CE1.19, CE2.19, CE3.9
PE3.4 Professional use and management of information	I engaged in research from secondary sources, engineering forums and read various journal articles and publications to keep myself updated on the cutting edge technologies. I prepared project-related reports and managed documentation of my findings and results. I developed checklist to monitor activities required for meeting tolerance thresholds.	CE1.36, CE2.29, CE3.26 CE1.4, CE1.37, CE2.17, CE3.16, CE3.33
PE3.5 Orderly management of self, and professional conduct	I managed efficiently managed my time and utilized available resources My professional engineering knowledge increased by studying the projects and proposing solutions that fitted the project constraints. I proactively learnt from training courses I attended and applied the information to the projects I was working on I was fully committed to quality work. I ensured full compliance to standards and quality benchmarks by adhering to procedures regarding safety, regulations, and standards.	CE1.33, CE1.38, CE2.27, CE2.34, CE3.35 CE1.4, CE1.30, CE1.31, CE2.28, CE2.29, CE3.25
PE3.6 Effective team membership and team leadership	I worked with team members and effectively got my work done. I efficiently utilized all the resources and adhered to procedures regarding safety and quality. I completed all my responsibilities in the project through dedication and hard work. I provided leadership role for completing the project tasks timely.	CE1.34, CE1.35, CE2.34, CE3.29 CE1.39, CE2.33, CE3.32, CE3.26, CE3.30