Each examiner must complete this form independently, and then hand it over to the convener.

Student

Initials and surname	W. Viljoen	SU number	22877169
Project title	Battery management system		

Internal examiner

Initials and surname	Signature	Role (*tick one*)
		☐ Supervisor ☐ 2nd examiner

Grading assessment

Only for Case 2: *Tick if the* ***oral presentation slides*** *provide* ***necessary evidence*** *in order to achieve certain GAs, and list those GA numbers (in this case a mark of ≤50% must be awarded)* ☐ GA(s): _____	
Preliminary mark • *Provide a percentage, or percentage range* • *Failed GA(s) ⇒ ≤45%*	
Comments in support of the preliminary assessment:	

Graduate attribute (GA) assessment

Recorded evidence requirements, for GA achievement at the level expected of a recent graduate	*Tick one in each row*			
	Student satisfies the GA criteria, taken as a whole		Student fails to satisfy the GA criteria, taken as a whole	
	Satisfied	Marginally satisfied	Marginally not satisfied	Not satisfied

• ***GAs 1–5, 8 and 9:***
  ○ ***Case 1:*** *The project report provides the evidence. The internal oral exam's contribution is only to aid internal examiners' understanding of the evidence on record (i.e. the report).*
  ○ ***Case 2:*** *Some GAs are not achieved with the report, but the presentation slides provide evidence for their achievement. These GAs may be marked as achieved, provided that a copy of the slides is attached to the report. A maximum mark of 50% applies.*
• ***GA 6:*** *The project report (written communication) AND a satisfactory oral (oral communication)*				

GA 1: Problem solving (identify, formulate, analyse and solve complex engineering problems creatively and innovatively) • Solving complex engineering problems requires in-depth fundamental and specialized engineering knowledge; and problems have one or more of the characteristics: 1. are ill-posed, under- or over-specified, or require identification and refinement; 2. are high-level problems including component parts or sub-problems; 3. are unfamiliar or involve infrequently encountered issues; • The solutions have one or more of these characteristics: 1. are not obvious, require originality or analysis based on fundamentals; 2. are outside the scope of standards and codes; 3. require information from variety of sources that is complex, abstract or incomplete; 4. involve wide-ranging or conflicting issues: technical, engineering and interested or affected parties.	◯	◯	◯	◯
GA 2: Application of scientific and engineering knowledge (apply knowledge of mathematics, natural sciences, engineering fundamentals and an engineering speciality to solve complex engineering problems) • Mathematics, natural science and engineering sciences are applied in formal analysis and modelling of engineering situations, and for reasoning about and conceptualizing engineering problems.	◯	◯	◯	◯
GA 3: Engineering design (perform creative, procedural and non-procedural design and synthesis of components, systems, engineering works, products or processes) • The design problem must conform to the definition of a complex engineering problem (refer to GA 1) and should be a major electrical and/or electronic engineering design problem.	◯	◯	◯	◯
GA 4: Investigations, experiments and data analysis (demonstrate competence to design and conduct investigations and experiments) • The balance of investigation and experiment should be appropriate to electrical and/or electronic engineering. Research methodology to be applied in research or investigation where the student engages with selected knowledge in the research literature of electrical and/or electronic engineering.	◯	◯	◯	◯
GA 5: Engineering methods, skills and tools, including information technology (demonstrate competence to use appropriate engineering methods, skills and tools, including those based on information technology) • A range of methods, skills and tools appropriate to electrical and/or electronic engineering including: 1. Discipline-specific tools, processes or procedures; 2. Computer packages for computation, modelling, simulation, and information handling; 3. Computers and networks and information infrastructures for accessing, processing, managing, and storing information to enhance personal productivity.	◯	◯	◯	◯
GA 6: Professional and technical communication (demonstrate competence to communicate effectively, both orally and in writing, with engineering audiences and the community at large) • Material to be communicated is in an academic or simulated professional context. The audience for the report and presentation is engineering peers and management, while the poster is aimed at lay persons, using appropriate academic or professional discourse. The long written report (10 000 to 15 000 words plus tables, diagrams and appendices) covers material at exit-level. Methods of providing information include the conventional methods of electrical and/or electronic engineering.	◯	◯	◯	◯
GA 8: Individual work (demonstrate competence to work effectively as an individual)	◯	◯	◯	◯
GA 9: Independent learning ability (demonstrate competence to engage in independent learning through well-developed learning skills) • Operate independently in complex, ill-defined contexts requiring personal responsibility and initiative, accurately self-evaluate and take responsibility for learning requirements; be aware of social and ethical implications of applying knowledge in particular contexts.	◯	◯	◯	◯