Faculty of Engineering

Admission Selection Exam Announcement

Electrical Engineering (Power and Machines)

Program: **Bridging Program for Bachelor of Science in Electrical Engineering (Power and Machines)**	
Date	Monday, July 13, 2026
Time	2:00 PM – 3:30 PM
Exam Duration	90 minutes
Location	Male Applicants: Building 29, KAU (https://maps.app.goo.gl/v4Yuve7nMnjThwem9), Female Applicants: Building G064, Room G4 & G17 (https://maps.app.goo.gl/iSCXVxhFW2oGeEMM6?g_st=aw)
Exam Format	In-person, closed-book, multiple-choice exam
Number of Questions	45 multiple-choice questions

Important Instructions

- Applicants must bring a pen and pencil, eraser, sharpener, **a non-programmable scientific calculator**, and a valid National ID.
- Mobile phones, smart watches, textbooks, notes, and electronic sharing devices are not allowed during the exam.
- The exam is closed-book and must be taken in person.
- Applicants must arrive at the exam location at least 30 minutes before the scheduled start time.

Exam References and Topics

The table below summarizes the recommended general references and the main topics covered in the exam. The exam is based on core technical knowledge normally covered in electrical diploma programs.

Main Area	Topics Covered	Suggested References
Electrical Circuits and Electrical Quantities	DC/AC circuits, Ohm's law, KCL, power, impedance, power factor, voltage division, capacitive reactance, and three-phase power.	Fundamentals of Electric Circuits, 7th Edition; Hughes Electrical and Electronic Technology, 12th Edition
Electrical Machines and Transformers	Transformers, transformer tests, core losses, DC motors, induction motors, synchronous speed, slip, and star-delta starting.	Electrical Machines with MATLAB, Turan Gonen, CRC Press; Electric Machinery, A. E. Fitzgerald et al.
Power Systems, Distribution, and Protection	Power factor; complex power; transmission and distribution concepts; voltage regulation; short-circuit current; current transformers; basic distribution equipment.	Power System Analysis, Hadi Saadat;
Electrical Measurements and Safety	Measuring instruments, Megger, continuity test, clamp meter, meter accuracy, safe isolation, RCD, PPE, and electrical safety.	Hughes Electrical and Electronic Technology, 12th Edition; Brian Scaddan, Electrical Installation Work, 10th Edition, Routledge
Power Electronics, Control, and Motor Circuits	Rectifiers, inverters, SCRs, choppers, PWM, VFDs, PLC basics, interlocking, overload relays, and motor-control circuits.	Power Electronics, Daniel W. Hart; Hughes Electrical and Electronic Technology, 12th Edition