Key objectives

To obtain a bare pass in the examination, candidates should be able to:

- Define error-detecting and error-correcting codes, explain their significance and construct simple examples, such as repetition and parity-check codes;
- Define the constants $A_q(n, d)$ and calculate small examples;
- Understand the definition and advantages of linear codes;
- Define, construct and manipulate generator matrices and parity-check matrices;
- Decode linear codes via Slepian arrays and syndrome decoding;
- Give bounds on the sizes of codes: the Hamming, Singleton, Plotkin bounds.