Task 6

HMAC-MD5
Command: openssl dgst -md5 -hmac "112233" sample_text.txt
Generated hash: HMAC-MD5(sample_text.txt)=
ff55f72591f1d68f8cd8227bcfced686

HMAC-SHA256
Command: openssl dgst -sha256 -hmac "1234" sample_text.txt
Generated hash: HMAC-SHA2-256(sample_text.txt)=
54d85ec53063b0a84c81fcfd1c0734922af5a4cf7d84de05435161a00f493065

HMAC-SHA1
Command: openssl dgst -sha1 -hmac "12345" sample_text.txt
Generated hash: HMAC-SHA1(sample_text.txt)=
edae3671d3e07a3de480bdc6f586fa91637e2656

While there's no fixed key size mandated for HMAC, it's generally recommended to use a key size that matches or exceeds the output size of the underlying hash function. For example, if HMAC-SHA256 is used, a key size of 256 bits (32 bytes) or larger is typically recommended.