

系所組別：電信管理研究所乙組

考試科目：通訊導論

考試日期：0306 · 節次：3

※ 考生請注意：本試題 可 不可 使用計算機

1. Please explain the following terms in detail. (20%)
 - (a)FDD
 - (b)TDD
 - (c)spread spectrum
 - (d)OFDM
2. Describe in detail the ALOHA algorithm for wireless communications. (20%)
3. Given the dataword 1010011110 and the divisor 10111, (20%)
 - (a) Show the generation of the codeword at the sender site.
 - (b) Show the checking of the codeword at the receiver site.
4. ADSL technology uses 224 channels for downstream transmission and 24 channels for upstream transmission. Each channel uses 4 kHz bandwidth. As a telecommunication operator would provide 2M/640K ADSL service, what is the possible modulation scheme which the operator can adopt? (20%)
5. (a) Calculate the minimum required bandwidth for a noncoherently detected orthogonal binary FSK system. The higher frequency signaling tone is 1 MHz and the symbol duration is 1 ms (10%)
(b) What is the minimum required bandwidth for a noncoherently MFSK system having the same symbol duration? (10%)