

「無線通訊與行動網路」 期末考

1. Please draw the hardware architecture of the GSM system. Also give a short description for each hardware component that is included in the GSM architecture. [15 points]
2. Please describe the logical channels defined in the GSM systems. Give a short description for the usage of each type of logical channels. [14 points]
3. Please draw the hardware architecture of the GPRS system. Compared that to the GSM-system, what hardware components are absent from the GSM? Also give a short description for each hardware component that is included in the GPRS architecture but not in the GSM architecture. [15 points]
4. Please give four major differences between GSM and GPRS in terms of traffic, switching, charging, and bandwidth. [16 points]
5. Explain how do the IFS and backoff procedure work in the IEEE 802.11. [12 points]
6. What is a piconet? What is a scatternet in Bluetooth? What is an ACL? What is a SCO? Draw pictures and give description to each of the question. [16 points] (include state duration & each state, show ID/clock).
- ⑦ Please draw pictures to illustrate the following six MA/DDs. a) TDMA/TDD, b) TDMA/FDD, c) FDMA/TDD, d) FDMA/FDD, e) CDMA/TDD, f) CDMA/FDD. [12 points]
- ✓ 8. describe two types of links defined in the base band of bluetooth.
9. Explain how CA & CW work in the IEEE 802.11
10. For both FCA & DCA, give two Alg. and compare adv. & disadv.
11. TDMA, FDMA, CDMA Figure, illustrate the way of Fdd & ADD.
 FDD = Frequency Division Duplex 以 Time or fre 做切割後再將 channel 分
 TDD = Time " 上傳和下載
 ex. Fre. A & B 同時使用 2.41 ~ 2.42 GHz
 A 使用 2.41 ~ 2.415 GHz 頻帶發話, B 收
 B 使用 2.415 ~ 2.42 GHz " A 收