注意事項：

1.答案依序書寫於答案卷上，不必抄題。

2.答案卷不可書寫任何可辨別個人姓名或特殊標記，違者不予計算。

3.請於試題紙上填寫准考證號碼，繳卷時「試題」、「答案卷」一併繳回。

Please answer the following questions (20 points each)

1. Consider the three coefficients which are computed for finding the approximation of Euclidean distance in Step 2 of HAC algorithm. Which coefficient has the best approximation if the three-dimensional Euclidean distance is used instead of the two-dimensional one?

2. (a)Describe the clustering method in DHAC algorithm. (b)What are the criterions for picking up the nodes in a cluster?

3. Both the free space and the multi-path fading channel models are used in this paper. The distance between the transmitter and receiver is D, and electronics energy dissipation (E_{elec}) depends on coding, modulation, filtering and spreading of the signal. Please show the free space and the multi-path fading channel models for transmitting L bits energy dissipation.

4. To deal with the qualitative data, there are various ways to calculate the resemblance coefficients. What are the ways?

5. What is the difference between LEACH and LEACH-C for selecting cluster head method?