

國立成功大學
110學年度碩士班招生考試試題

編 號： 261

系 所： 電信管理研究所

科 目： 網路概論

日 期： 0202

節 次： 第 3 節

備 註： 不可使用計算機

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第1頁，共1頁

※ 考生請注意：本試題不可使用計算機。請於答案卷(卡)作答，於本試題紙上作答者，不予計分。

1. (20%) What advantage does a circuit-switched network have over a packet-switched network? What advantages does TDM have over FDM in a circuit-switched network?
2. (10%) Describe how a botnet can be created and how it can be used for a DDoS attack.
3. (10%) What is the difference between half-duplex and full-duplex transmission modes?
4. (20%) What do the Shannon capacity and the Nyquist theorem respectively have to do with communications?
5. (10%) Typically, two types of networks, datagram and virtual-circuit, need a routing or switching table to find the output port from which the information belonging to a destination should be sent out, but a circuit-switched network has no need for such a table. Give the reason for this difference.
6. (10%) Assume that a voice channel occupies a bandwidth of 4KHz. We need to multiplex 12 voice channels with guard bands of 500 Hz using FDM. Calculate the required bandwidth.
7. (20%) Compare and contrast the following two technologies: cloud computing and fog/edge computing.