

Paper 2B

	Marks
1. (a) (i) 4	1
(ii) The network is just a LAN without a direct access path to another network (e.g. Internet).	1
(b) (i) He should use WPA2 as it is more difficult to crack the encryption.	1+1
(ii) IPsec (or SSL)	1
(c) (i) IP addresses can be automatically assigned when notebook computers connect to the network. (IP address management)	1
Unused IP addresses can be automatically re-assigned. (re-use)	1
(ii) The notebook computers can quickly fetch the local copies of web pages cached in the proxy server without the need of download. This can alleviate the loading of the 3G network.	2
① temporary storage	
① network loading	
(d) (i) Collisions cannot be detected (low signal energy) in the wireless environment (radio frequency).	1
(ii) A collision occurring on the sending side can be detected before sending data.	1
(e) (i) Use the same SSID for all APs.	1
(ii) The additional AP may interfere with the existing AP with channel 1.	1
These two APs should be separated in a suitable distance.	1
2. (a) (i) Concept of encapsulation (header/trailer) ① Function of the header ①	2
(ii) Application	1
(b) (i) TCP	1
(ii) UDP	1
(iii) TCP	1
(iv) UDP	1
(c) (i) Noise/interference of signal exists in the communication channel.	1
(ii) CRC is better as it can detect multiple error bits (burst errors).	1+1
(d) (i) 2^{128}	1
(ii) IPv6 supports applications to request handling packets without delay (priority handling/low latency)	2
(iii) multicasting: more video data can be streamed as repeated data transmitted to different computers is reduced	1+1
/ Jumbogram: larger packet to reduce packet loss rate	

