※ 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. (28%) Wireless communication is becoming more and more important in information exchange. Brief describe the following terms in wireless communication: (a) Bluetooth (b) RFID (c) Wi-Fi (d) 4G LTE

2. (12%) Describe the major differences between: (a) CPU register vs. RAM (b) Hard disk drive vs. Solid-state drive

3. (30%) Write a program (function) which **randomly** generates 3 **different** integer numbers between 1 to 30. You should call the rand( ) function in your program. This rand( ) function randomly generate a floating random number between 0 to 1. (You can use C, Java, Basic or Pseudocode language. But note the language you are using in the comment of your program.)

4. (15%) Write down the procedures in transferring **-72** (base of 10) to its 8-bit two's-complement representation.

5. (15%) The following Boolean operation is equivalent to_____ gate.