Beijing-Dublin International College

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SEMESTER I RESIT EXAMINATION - 2016/2017
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School of Electrical and Electronic Engineering

EEEN3008J Wireless Communications

HEAD OF SCHOOL: Dr. Andrew Kean
MODULE COORDINATOR: Dr. Hamed Ahmadi

Time Allowed: 90 minutes

Instructions for Candidates

BJUT Student ID: _____   **UCD Student ID:** _____

I have read and clearly understand the Examination Rules of both Beijing University of Technology and University College Dublin. I am aware of the Punishment for Violating the Rules of Beijing University of Technology and/or University College Dublin. I hereby promise to abide by the relevant rules and regulations by not giving or receiving any help during the exam. If caught violating the rules, I accept the punishment thereof.

Honesty Pledge： _____ **(Signature)**

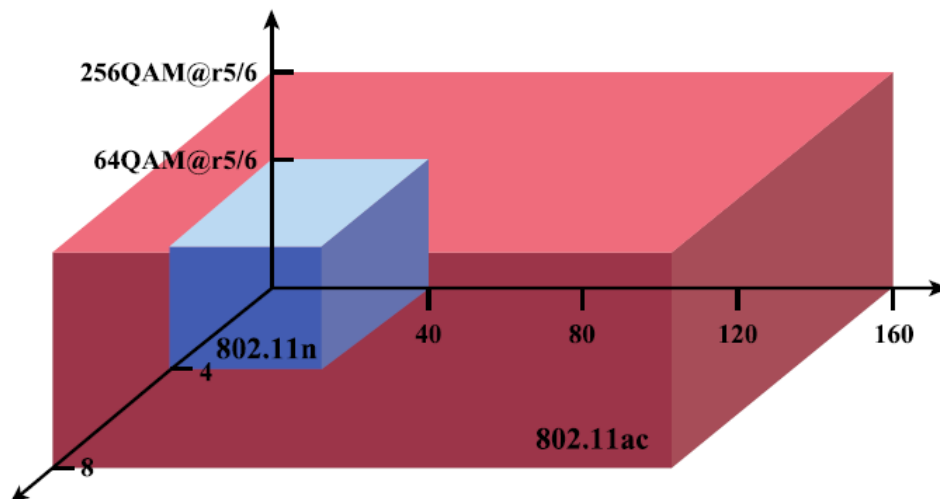| Obtained score |
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| 15 |

Question 1:

   A. Name (or write center frequency of) three license free band. (5)
   B. Explain circuit switching and packet switching, and write the advantages and disadvantages of packet switching (10)

Obtained score
20

Question 2:

   A. Name three multiple access schemes (5)
   B. Explain the error detection process in a communication system (5)
   C. The picture below shows the 802.11ac aims to increase its transmitted data rate compared to 802.11n by pushing the limits in three dimensions. Name those dimensions and explain how they help increasing the data rate. (5)

   D. Write the name and the frequency of the frequency band that Bluetooth is using (3).
   E. IEEE standard 802.15.6 is used for which type of communications/networks (2)

Obtained score
15

Question 3:

   A. Explain the concept of frequency reuse (5)
   B. Explain Software Radio and Cognitive radio, and name the desirable features of a software radio platform. (10)