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Faculty of Information Technology
First Examination Paper

Wireless and Mobile Networks **First Exam** **2nd.** Semester of academic year 2014-2015
Section: 1 **Date**: 1/04/2015 **Time**: 50 Mins

Information for Candidates
1.This examination paper contains 6 questions.
2.The marks for parts of questions are shown in round brackets.

I. Basic Notions
Objectives: the aim of these questions is to evaluate your knowledge concerning with the basic concepts of Wireless and Mobile Networks

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Q1: What is the difference between the channel capacity, the bandwidth and the throughput concepts? (3 Marks)

Q2: Mention three of the Wireless Communication Limitations?(3 Marks)

II. Familiar Questions

Objectives: The aim of these questions is to evaluate you knowledge about the familiar issues in the wireless network .

Q3: If the receiver host received the following values from the sender which used the Cyclic Redundancy Scheme Code
Data (D): 101110
Polynomial Generator (G): 1001
Reminder (R): 010
Quoitent (Q): 101011.
Show if the received data is correct or not in details and Justify your answer. (4 Marks)

Q4: Draw the layers of the OSI, TCP/IP and the Combination architectures. After that, mention the main functionality of each layer in the Combination architecture. (6 Marks)

III- unfamiliar:

Objectives: the aim of this part is evaluate your understanding of DSSS Model.

Q5: Using the Direct-Sequence Spread Spectrum (DSSS) if the Received Signal are represented by "0110 0110 0110 1011 1010" and the locally generated PN-Code is
" 0110 1001 0110 1011 0101" show if the following generated Output data " Out: 0 0 1 0 0" at the receiver side is correct or wrong by detail explanations an what is the correct Output data if OUT is wrong. (4 Marks)

Good Luck!!!